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THE 2nd INTERNATIONAL CONFERENCE OF HEALTH SCIENCE 2015

Optimizing The Life Quality of Children Under SDGs

POLTEKKES KEMENKES YOGYAKARTA

PROCEEDING BOOK

October, 11th, 2015
Inna Garuda Hotel Yogyakarta

Email: ichs@poltekkesjogja.ac.id

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THE 2nd INTERNATIONAL CONFERENCE ON HEALTH SCIENCE 2015

“Optimizing The Quality of Life Children Under SDGs” (Sustainable Development Goals)

October 11st, 2015
INNA GARUDA HOTEL YOGYAKARTA, INDONESIA

HEALTH POLYTECHNIC OF HEALTH MINISTRY YOGYAKARTA
Jl. Tata Bumi 3, Banyuraden, Gamping, Sleman, Yogyakarta 55293
Telp./Fax. (0274) 617601, Email: ichs@poltekkesjogja.ac.id

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INNA GARUDA HOTEL YOGYAKARTA, INDONESIA
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Address from the Chairman of the Conference

Dear honorary guests and participants,

It is our great pleasure to invite you in The International Conference on Health Sciences Named "*Optimizing the life quality of children under* Sustainable Development Goals (*SDGs)".* This event is held annualy to improve the quality of Yogyakarta Health Polytechnic as a referral institution.

Sustainable Development Goals (SDGs) will not separate from continuing effort to achieve the MDGs. This is accomplished by a number of approaches were considered necessary. Every institution should participate actively to improve the development result for the wider achievement. There are many goals of MDGs such as reducing child mortality and improving maternal health. We hope this conference can give contribution to develope the role of institution supporting Sustainable Development Goals (*SDGs).*

In this meeting we present great qualification scientists to share knowledge and experiences in health sciences such as midwifery, nursing, dental health, enviromental health, health analyst and nutrition. Health practitioners, students and lecturer are also welcome to the conference. They can share and improve their knowledge in a harmonic science atmosphere to get another viewof health science.

We hope this conference can be one of tools to communicate and interact between those who related to health science. We hope you all enjoy this conference, and we would like welcome you in Yogyakarta.

Sincerely,

Sari Hastuti, S.SiT, MPH
Chairman of the Conference

Address from the Director of Health Polytechnic of Health Ministry Yogyakarta

Dear honorary guests and participants,

Welcome to the International Conference which is heald annualy in our institution Yogyakarta Health Polytechnic. This is our second event of International Conference and of course there will be the third, the fourth and so on. We hope this event can be our place to share knowledge from many field study realted to health science.

In accordance with our vision as a referral institution, it is a great pleasure to invite you in The International Conference on Health Sciences Named "*Optimizing the life quality of children under* Sustainable Development Goals (*SDGs)".* We have missions to improve education, research and community service. This conference is one of the way to achieve our vision and mission. Yogyakarta Health Polytechnic should play significant role in the development of health science.

We have a great expectation that this conference can be our good enviroment to develop knowledge, to share experience, to have interaction between us and of course to give contribution for our health world. We do hope the succes of the conference and we hope you all enjoy it.

Sincerely,

Abidillah Mursyid, SKM, MS

The Director of Health Polytechnic of Health Ministry Yogyakarta

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ORAL PRESENTATION SCHEDULE ON THE 2ND INTERNATIONAL CONFERENCE ON HEALTH SCIENCE 2015

October, 11st 2015

TIME	ROOM I : SAMBISARI Main Moderator : Tri Siswati, SKM, M.Kes	
	AUTHOR	*TITLE*
14.00-14.45	1. Th. Ninuk Sri Hartini	Complementary Foods For Children 6-23 Months of Age In Jogjakarta: Energy Adequacy And Age of Introduction of Complementary Foods
	2. Irianton Aritonang	The Knowledge Attitude And Practice of Hygiene Sanitation Food Handler As Risk Factors of Stunted on Children 0-24 Months
	3. Muji Rahayu	The Hepatoprotective Effect of Red Watermelon *(Citrullus Vulgaris)* Juice Against Alt Enzyme of *Rattusnorvegicus* Induced By Paracetamol
	Moderator: Dra. Elza Ismail SKM, M.Kes	
14.45-15.45	1.Bedjo Santoso	Disharmony Analysis Between Performance And Competence For Dental Nurse Competence Reorientation
	2. Wiworo Haryani	The Effects of Formula Feeding Methods On Caries Among Preschoolers
	3. Quroti A'yun	The Influence of Oral Cavity Condition And Behavior On Caries Risk In Children
	4. Herastuti S	Effect of Roselle Calyx Extract On Oral Pathogenic Bacteria And Biofilm Formation *In Vitro*
	Moderator : Suharjono, SSiT, M.Kes	
TIME	**ROOM II : PRAMBANAN Main Moderator : Tri Prabowo, SKp, M.Sc**	
	AUTHOR	*TITLE*
14.00-14.30	1. R.H. Kristina, SKM, M. Kes	Mapping Model of Ecology Plants, Physical Environmental Factors And Breeding Places of Malaria Mosquito In Malaria Endemic Areas In Oesao Village, Kupang District
	2. Nor Wijayanti	The Influence of Knowledge, Attitude And Personal Protective Equipment Availability On Safety And Health Behaviour Officer of Laboratory In STIKES Surya Global Yogyakarta
	Moderator : Desy Rochmawati, SS	
14.30-15.15	1. Suyami	The Application of Myra E. Levine Conservation Model on Pediatric Care for Children with The Risk of Impaired Skin Integrity at Infection Room Building A First Floor RSUPN Dr. Cipto Mangunkusumo Jakarta
	2. Ice Yulia Wardani	The Relationship Between Self Esteem And Quality of Life In School Dropout Adolescence
	3. Romdzati	Parental Practice In Adolescents With Video Game Playing In Yogyakarta Municipality
	Moderator : Rosa Delima Ekwantini, S.Kp,M.Kes	

15-15-16.15	1. Livana PH	The Effect of Generalist And Specialist Therapies (Thought Stopping And Progressive Muscle Relaxation) In Reducing Anxiety Response of Clients With Physical Illness In Dr.H.Marzoekihospital Of Bogor
	2. Subroto	Analysis of Factors Affecting Post Cardiac Catheterization Hematoma Transradial In Dr. Sardjito Hospital Yogyakarta
	3. Sri Setyowati	Ergonomic Exercises And Low Back Pain For Working Woman CRAKERS Lempeng Makers In Bantul Yogyakarta
	4. Yuyun Setyorini, Ns.,M.Kep	Elementary School Student's Experience In Dealing With Menarche
	Moderator : Rosa Delima Ikwantini, S.Kp,M.Kes	

TIME	**ROOM III : KALASAN Main Moderator : Asmar Yetti Zein, SPd, SKM, MSc**	
	AUTHOR	***TITLE***
14.00-14.45	1. Suherni	Premarital Class And Pregnancy Planning Practice
	2. Munica Rita Hernayanti	Correlation Between Combination of Yoga And Classical Music Therapy Mozart With The Level of Dysmenorrhea
	3. Rofiqoh Rachmah A	The Relationship Between Activity Andnutrition In Adolescent Girls And Fluor Albusincidents On Female Students of SMA Negeri 7 Cirebon In 2015
	Moderator : Hesty Widyasih, SST, M.Keb	
14.45-15.45	1. Eko Mardiyaningsih	Development of Informational Media On Pregnancy Care For Prenatal Classes
	2. Tri Setiowati	The Relationship Between Phase of Contraception Selection With Long Term Contraception Method For Family Planning Acceptors In Talaga Bodas Public Health Center Lengkong District Bandung 2014
	3. Sumarah	Effect Of Warm Compress To Decrease The Level Of Labor Pain Women In Prmary Health Care Mergangsan Yogyakarta In 2012
	4. Sri Yuniarti, S.Psi, SST.,MKM	Psychological Response On Pregnant Women With HIV/AIDS In Bandung (A Phenomenological Study), 2014
	Moderator : Hesty Widyasih, SST, M.Keb	

List of Keynote Speakers

NO.	SPEAKER	TITLE
I-1	Suhardjono, SE.,MM (The Head of Pusdiklat Aparatur BPPSDM Division of Ministry of Health)	The Policy of The Ministry of Health in Improving the Quality of Life Children Under SDGs”
I-2	Wantanee Wiroonpanich, Ph.D (RN Pediatric Nursing Departement Prince of Songkhla University, Thailand)	Early Detection, Screening and Treatment of HIV/AIDS for Children
I-3	Han Wee Meng, RD (UK), PhD (Head & Senior Principal Dietitian, Nutrition & Dietetics KK Women’s and Children’s Hospital Singapore)	Nutri-Booster During Critical Periods Of Growth And Development
I-4	Prof. Dr. drg. AL. Supartinah, SU., Sp.KGA(K) Professor at Faculty of Dentistry,Gadjah Mada University	Strategy to Prevent Child Caries
I-5	DR. Miswar Fatah, M.Si (DPP Patelki)	Role of Pediatric Laboratory Medicine for Better Next Generation
I-6	Dik Doang/Raden Rizki Mulyawan Kartanegara Hayang Denada Kusuma	The Strategy to Provide Environment for Optimizing Child’s Growth and Development

List of Oral Presentation

NO.	AUTHOR	TITLE
O-01	Th. Ninuk Sri Hartini	Complementary Foods For Children 6-23 Months Of Age In Jogjakarta: Energy Adequacy And Age Of Introduction Of Complementary Foods
O-02	Irianton Aritonang	The Knowledge Attitude And Practice Of Hygiene Sanitation Food Handler As Risk Factors Of Stunted On Children 0-24 Months
O-03	Muji Rahayu	The Hepatoprotective Effect Of Red Watermelon *(Citrullus Vulgaris)* Juice Against Alt Enzyme Of *Rattusnorvegicus* Induced By Paracetamol
O-04	Bedjo Santoso	Disharmony Analysis Between Performance And Competence For Dental Nurse Competence Reorientation
O-05	Wiworo Haryani	The Effects Of Formula Feeding Methods On Caries Among Preschoolers
O-06	Quroti A'yun	The Influence Of Oral Cavity Condition And Behavior On Caries Risk In Children
O-07	Herastuti Sulistyani	Effect Of Roselle Calyx Extract On Oral Pathogenic Bacteria And Biofilm Formation *In Vitro*
O-08	R.H. Kristina, SKM, M. Kes.	Mapping Model Of Ecology Plants, Physical Environmental Factors And Breeding Places Of Malaria Mosquito In Malaria Endemic Areas In Oesao Village, Kupang District
O-09	Nor Wijayanti	The Influence Of Knowledge, Attitude And Personal Protective Equipment Availability On Safety And Health Behaviour Officer Of Laboratory In Stikes Surya Global Yogyakarta
O-10	Suyami	The Application of Myra E. Levine Conservation Model on Pediatric Care for Children with The Risk of Impaired Skin Integrity at Infection Room Building A First Floor RSUPN Dr. Cipto Mangunkusumo Jakarta
O-11	Ice Yulia Wardani	The Relationship Between Self Esteem And Quality Of Life In School Dropout Adolescence
O-12	Romdzati	Parental Practice In Adolescents With Video Game Playing In Yogyakarta Municipality
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O-16	Yuyun Setyorini, Ns., M.Kep	Elementary School Student's Experience In Dealing With Menarche
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O-01

COMPLEMENTARY FOODS FOR CHILDREN 6-23 MONTHS OF AGE IN JOGJAKARTA: ENERGY ADEQUACY AND AGE OF INTRODUCTION OF COMPLEMENTARY FOODS

Th. Ninuk Sri Hartini, Joko Susilo, Slamet Iskandar

Departmen of Nutrition Health Polytechnic of Health Ministry Yogyakarta, Indonesia
Email : ninuk_sh@yahoo.co.uk

ABSTRACT

To assess the energy adequacy and age of introduction of complementary foods. The data was collected from a sample of 388 children aged 6 to 23 months in 2013. The study was conducted in 5 villages in Gamping Subdistrict,Yogyakarta. The data was collected by 95 students of Nutrition Department, MOH. Enumerators visited each household 3 times during the survey period to record 24 hour recalls food intakes. The energy needs from complementary foods for children with "average" breast milk intake in Indonesia are approximately 250 kcal per day at 6-11 months of age and 500 kcal per day at 12-23 months of age. Socioeconomic (SES) data were collected on all sample households. By 12 months 94% of the Honduran women weremonths 94% of the Honduran women wer By 12 months, 93.8% of the mothers were still breast-feeding their infants. Almost 68.3% of the mothers introduced other after 6 months; the mean number of months other milks were given was 5.4 ± 1 .5. Other liquids such as plain water, juice, and honey were generally given on a daily basis after 6 months postpartum. In our study, the staple food is rice. The estimated mean daily energy intake of 6-11 and 12-23 months of age were 416 + 246 and 713 + 350 kcal. Sixty point one percent children be able to adequate their energy needs from complementary foods. The average daily energy A intake of the children who were not breast fwwd was below the safe level.

Keywords: Complementary feeding, breast-feeding, age of introduction of Complementary foods, children 6-23 months of age

INTRODUCTION

The importance of child feeding practices for child nutrition and health is well recognized in the scientific literature.[1] In low- and lower-middle-income countries, more than one-third of child deaths occur due to undernutrition.[2,3] Infant and young child feeding practices (IYCF) during 6-23 months of age play a critical role. Faulty breastfeeding and poor complementary feeding can lead to undernutrition. In Indonesia, the rate of exclusive breastfeeding in the first 6 months was 38.0%.[4]However, when the infant reaches 6 months of age, breast milk needs to be supplemented by appropriate foods. The weaning foods should be introduced in appropriate age and prepared under hygienic conditions. The objective was to assess the energy adequacy and age of introduction of complementary foods.

Methods

A cross-sectional survey in fives villages identified as priority nutrition program. The villaes were located in Gamping Subdistrict, Sleman District, Jogjakarta Province Four hundreds and ten households with children aged 6-23 months of age in eligible communities were administered. Visits were paid to eligible respondents in each of the selected households to conduct interviews. Written consent was sought from each respondent before the assessment.

Furthermore, three 24-hour recalls were repeated in all children. The data of socioeconomics, breastfeeding practices (BP), as well as age of introduction of Complementary foods (CF), were recorded by the students of Nutrition Department, Health Politecnic, MOH, Yogyakarta in Februari 2013. Energy requirements differed by the child's age, feeding practice (breastfed or nonbreastfed),and sex.[5] The energy needs from complementary foods for children with "average" breast milk intake in Indonesia are approximately 250 kcal per day at 6-11 months of age and 500 kcal per day at 12-23 months of age.[6] Table 1 provides the estimates of the amount of energy required from complementary foods.

Table 1

Energy requirements from complementary foods according to age group, based ontotal energy requirements proposed by Indonesia Ministry of Health

Age group (mo)	Total energy requirements (kcal/day)	Milk energy Intake (kcal/day)	Energy required from complementary foods (kcal/day)
6-11	650	400	250
12-23	850	350	500

Sources: Indonesia MOH (2006)

Descriptive statistics for daily energy intakes for CF are presented by age group. Distribution of quantitative variables was analysed using $\chi 2$ test. All the test variables were considered significant for a p value <0.05.

RESULT

Caracteristics of mothers and children

The mean age of mothers was 29.4 ± 5.8 years. One-fourth of mothers (25.4%) in the study had completed basic level (9 years), 57.3% completed high schooling and 17.3% completed university. Seventy two percent of mothers were working. In this study, 33.3% of the children were aged 6-11 months and 28.2% were aged 4-6 months. The mean age of the children was 15.2 ± 5.5 months of age and 49.1% being male and 50.9% being female.

Breastfeeding practices

In this study, 52.9% children were exclusively breast-fed during the first 6 months of life. Factors significantly associated with exclusive breastfeeding until six months of age were maternal education (p= 0.047) and family size (p= 0.048). The proportion of children who were fed breast milk decreased from 80.9% at 6-11 months to 65% at 12-23 months of age. Overall, 70.2% children who were breast-feeding. Table 2 provides breastfeeding practices according to age group.

Table 2.
Proportion of children 6-23 months of age who were fed breast milk

Age group (mo)	Children who were fed breast milk				Total
	Yes		No		
	n	%	N	%	
6-11	110	80.9	26	19.1	136
12-23	178	65.0	96	35.0	274
Total	288	70.2	122	29.8	410

Timing of introduction of complementary solids

The children began to receive first nonbreastmilk or solid foods at 5.5 + 3.4 months of age. In the same sample 9% of the children before 1 month of age, 1% of the children 1 month of age, 3.9 % of the children 2 months of age, whereas 58.8% introduced solids after 6 month of age. Figure 1 provides the cummulative percent of children who received first solid foods according to age groups.

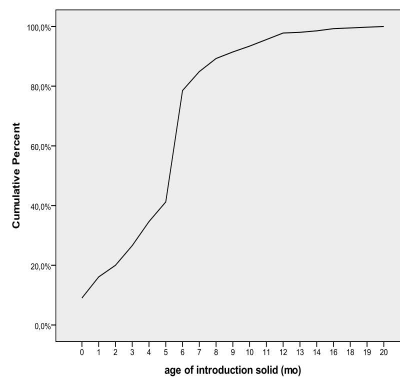

Figure 1. The cummulative percent of children who received first solid foods according to age.

The overall introduction proportion of cow's milk, plain water, tea and fruit juice were, respectively, 46.8%, 37.6%, 8.3% and 6%. Approximately 30.7% of the infants had received their first foods by 5.5 + 1.6 month of age. This study showed that 1.5% infants of less than 1 month of age had started consuming foods, 57.6% infants had started consuming foods at 6 months of age, and only 11.7% infants had started consuming foods at > 6 months of age. The cummulative percent of children who received foods according to age are shown in figure 2.

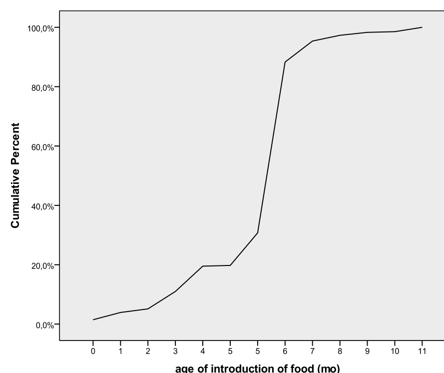

Figure 2. The cummulative percent of children who received foods according to age

The proposition of children who consumed first foods in descending order, were: 1) commercial baby food (64.1%); 2) pureed fruits (12.4%); 3) rice porridge (10%) ; 4) porridge rice flour and milk (6.1%); 5) steam rice (4.1%); 6) soft rice (2.2%); 7) busquit and vegetables (0.9%).

Energy intake

Descriptive statistics for estimated daily energy intake for breastfeed and non breastfeed is presented by age groups.

Table 2.
Average energy intake per day (n=410).

Age group (mo)	Mean energy intake from complementary foods (kcal/day)	
	Breastfed	nonbreastfed
6-11	410 + 242	615 + 293
12-23	642 + 301	848 + 374

The mean daily energy intake of children 6-11 and children 12-23 months of age who breastfed were 410 + 242 and 642 + 301 kcal.

Table 3.
Proportion of Children with an energy intake below Indonesian Energy required from complementary foods (n=410).

Age group (mo)	proportion of Children with level of energy intake required from complementary foods				Total
	adequate		Inadequate		
	n	%	N	%	
6-11	90	66.2	46	33.8	136
12-23	161	58.8	113	41.2	274
Total	251	61.2	159	38.8	410

Overall, 38.8% of the children had inadequate energy intake. With regard to age group, the proportion of children 6-11 months of age who had inadequate energy intake was lower than children 12-23 months of age; this was significant.

DISCUSSION

Breast milk is an important source of energy and nutrients in children 6–23 months of age. Breast milk can provide one half or more of a child's energy needs between 6 and 12 months of age, and one third of energy needs between 12 and 24 months,[7,8] recommed that an infant should be exclusively breastfed for the first 6 months of life. Unfortunately, half of mothers had provided exclusive exclusively breastfed for the first 6 months of life. Maternal education had a positive effect on exclusive breastfeeding in this study. This suggests that government increase mothers awareness about the benefits of exclusive breastfeeding.

Even with optimum breastfeeding, children will become stunted if they do not receive an adequate quantity and quality of complementary foods after six months of age.[2] In this study, the proportion of children had stopped breast-feeding was 29.8%. Therefore the children who not receiving breast milk or dairy products, and the food sources of energy may be at higher risk of developing undernutrition.

The intake of breast milk decreased with age, therefore the amounts and the types of supplementary foods should be improved. Various aspects of early feeding patterns have the potential to impact on the development of obesity and other noncommunicable diseases.[9] Aproximately half of the children introduced solids after 6 month of age. These figures are similar to those reported by the study in Cambodia where 50% of the infants were fed solids after 6 month of age.[10]

These findings support other studies in rural Bangladesh that three percent of the infants had been given plain water by 1 month.[11] This result similar with the study in Vietnam that about 5% of infants are already eating complementary foods at one week of age.[12]

Overall, 38.8% of the children had inadequate energy intake, one third of study had stopped breast-feeding and two-third of hildren were exclusively breast-fed during the first 6 months of life this study indicate that complementary feeding fails to make up the energy deficit and exclusive breast-feeding is a very infrequent practice. Cow milk, plain water, tea and other fluids, were introduced to young infants at early age. Consequently, contaminated weaning food increase the risk of getting infectious diseases.

CONCLUSION

Two-third children were exclusively breast-fed during the first 6 months of life. More than one-third of children had inadequate energy intake. The average age the children consummed first food or beverages was less than six months of age.

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O-02

THE KNOWLEDGE ATTITUDE AND PRACTICE OF HYGIENE SANITATION FOOD HANDLER AS RISK FACTORS OF STUNTED ON CHILDREN 0-24 MONTHS

Irianton Aritonang, Tri Siswati, Yuka Fellicia

Departmen of Nutrition Health Polytechnic of Health Ministry Yogyakarta, Indonesia
email: iriantonan@yahoo.co.id

ABSTRACT

The prevalence of stunted in Indonesia is still high, that the indirect factors affecting the high prevalence of malnutrition is childcare. Childcare includes mother's way to feed, mother's way to take care, keep mother and child's hygiene and how to care. This research aims to find out the level of knowledge, attitude, practice of hygiene and sanitation food handler and also the correlation with stunted incidence in children aged 0-24 months. This type of study was an observational study with case-control design. Research done was carried out in 2013, that located in Moyudan subdistrict Sleman. The samples of this study were children aged 0-24 months with food handler as responden. There were 50 children as sample of this study each for cases and controls. Control decision based on match by sex and age. The data of this study included level of knowledge, attitude, practice of hygiene and sanitation of food handler. Data were collected through interviews and observations using a questionnaire and check list. The results of research showed that 95% of the food handlers have good knowledge, 51% have a negative attitudes, and 52% have a less practices about hygiene and sanitation. The study showed that knowledge, attitudes, and practices to stunted incidence are as the folowing: (1) knowledge OR 1,53 (95% CI = 0,25-9,59; and p = 0,50), (2) attitude OR 1,08 (CI 95 % = 0,49-2,37; and p = 0,84), (3) practices OR 3,167 (95% CI = 1,40 to 7,17; and p = 001). This research conclution that no correlation between knowledge and attitude of hygiene sanitation food handler to stunted incidence, but any correlation between practice of hygiene sanitation food handler to stunted incidence in children aged 0-24 months.

Keywords: knowledge, practice, food handler, stunted, children aged 0-24 months

BACKGROUND

The prevalence of short children (stunted) in Yogyakarta (DIY) based on the Basic Health Research (Riskesdas) of approximately 22.3%. Moyudan the districts that the prevalence of stunted children are second highest in Sleman district in 2010. The latest data per-February 2012 in children aged 0-11 months in children stunted figure of 25.1% which is above the prevalence of DIY (22.3%). While the nutritional status of H/A index for toddlers 1-5 years in the district Moyudan of 26.2% with the highest incidence region stunted his village Sumbersari with a prevalence of 25.9%. The cause of the high prevalence of nutritional problems directly is the nutrient intake consumed not fit between the needs of the body as well as the existence of infectious diseases. Nutrient intake is not directly influenced by parenting of children given by the mother, parenting include how mothers feed, care for, maintain the health and hygiene of children and mothers as well as mothers how to give affection to their children. [1] Basic care and personal hygiene provide a greater contribution to nutritional status. Usually people just know that malnutrition is caused by lack of food. Actually, the problem is very complex. The main factors that also have a role is environmental hygiene factors and parenting or childcare. Negligence on three factors, namely food, personal and environmental hygiene and child care will lead to reduced inputs

of nutrients and is an infection so that children end up suffering from malnutrition.[2] UNICEF presented the conceptual framework which was developed further by Engle et al emphasize that the three components of food-health-care are all factors that play a role in supporting the growth and development of children were optimal. Engle *et al* suggested that upbringing includes 6 things: attention / support mother to child, breastfeeding or complementary foods in children, stimulation psychosocial against children, preparation and storage of food, hygiene or hygiene and environmental sanitation and treatment of children in sickness like health care seekers. Breastfeeding and complementary feeding in children as well as the preparation and storage of food covered in feeding practices.[3] This study conducted a study to determine the level of knowledge, attitude, practice sanitary hygiene of food handlers do with the problem of stunted children aged 0-24 months.

MATERIALS AND METHODS

Observational study with a case-control design (case-control study), which examines stunted children aged 0-24 months with risk factors for knowledge, attitudes and practices of food handlers. The risk factor traced retrospectively in the case group and the control group were compared.[4] The control group with the criteria of age and gender are relatively similar to the case group. The experiment was conducted in May-June 2013 in the District Moyudan, which is a sample of children aged 0-24 months with family food handlers as respondents, the number of comparable between cases and controls (50 cases and 50 controls). Inclusion criteria for the status of the case group was stunted children, food handlers willing to become respondents, while the inclusion criteria for the control group was normal status, food handlers willing to become respondents. Exclusion criteria for case and control groups include: children suffering from chronic infectious disease, the child in a state of paralysis or have skeletal abnormalities, and a twins.

The independent variable consists of knowledge, attitude, sanitation and hygiene practices of food handlers, while the dependent variable was the incidence of stunted children aged 0-24 months. Primary data collected include food handlers identity data and the child, the data length or the height of children, level of knowledge, attitudes and practices of food handlers on food hygiene-sanitation. Data were collected by interview and observation using a questionnaire and a check list.

RESULTS

Children and Respondent Characteristics

Characteristics of children according to sex, consisting of 27 boys were stunted and 27 children were not stunted. Characteristics of children by age mostly aged 7-12 months, consisting of 16 children suffer from stunted and 16 children not stunted. Respondents are food handlers family, that is, those that are directly related to the child's relation to food and equipment, ranging from preparation, cleaning, processing, transportation up to the presentation (5). Respondents are women, mostly aged 21-30 years, which is 50% in the group of children stunted and 48% in the group of children not stunted, graduated from high school formal education as much as 58% in the group of children stunted and 62% in the group of children not stunted, do not work as much as 62% in the group of children stunted and 74% in the group of children not stunted. Characteristics of the status of food handlers in most of the family is the mother, which is as much as 96% in the group of children stunted and 92% in the group of children not stunted.

Knowledge, Attitude and Practice Sanitation Hygiene of Food Handlers

The average score almost the same level of knowledge, in the group of children stunted by 89.66% while the group is not stunted 89.15%. The average score of respondents also almost the same attitude, the stunted group 80.36%, while the group is not stunted 80.33%. The average score of respondents in the group practice stunted 78% lower than the group not stunted 82.1%. Most respondents have a level of hygiene knowledge of food handlers good sanitation is as much as 94% in the group of stunted and 96% in the group is not stunted. Most respondents to the stunted group being negative about sanitation hygiene of food handlers, which is about 52%. While the group is not stunted the number of respondents who had a negative attitude and positive alike. Sanitary hygiene practices of food handlers in the group stunted most of the criteria is less (66%), while the group is not stunted the majority (62%) good practice.

Results of the analysis of the correlation between knowledge of hygiene and sanitation of food handlers with the incidence of stunted values obtained odds ratio (OR) of 1.53 which indicates there is a positive association between risk factors and disease. That is, children who are less knowledgeable family food handlers on food sanitation hygiene, had 1.53 times the risk for experiencing stunted, compared with children whose families are knowledgeable good food handlers. But the relationship was not statistically significant ($p > 0.05$).

Results of analysis of the relationship attitude hygiene and sanitation of food handlers with the incidence of stunted values obtained odds ratio (OR) of 1.08, which indicates there is a positive association between risk factors and disease. Child family food handlers negative attitudes toward food sanitation hygiene risk as much as 1.08 times to experience stunted, compared with baduta the family food handlers to be positive. However, the relationship is not statistically significant ($p > 0.05$).

Results of analysis of the relationship of hygiene and sanitation practices of food handlers with the incidence of stunted obtained odds ratio (OR) of 3.16, which indicates that there is a positive association between risk factors and disease. That is, children whose families are still lacking food handlers in food sanitation hygiene practices amounted to 3.16 times the risk for experiencing stunted compared to children whose family food handlers practice good hygiene by food sanitation ($p < 0.05$).

DISCUSSION

Hygiene and Sanitation Knowledge of Food Handlers

These findings are in contrast to studies conducted that food handlers knowledge about hygiene and sanitation of food will affect whether or not a healthy food product produced. Cases of food-borne illness often occurs because in general the food is prepared and served with hygiene and poor sanitation. The condition occurs due to a lack of knowledge about sanitation hygiene of food handlers, so that the food contains bacteria, toxic bacteria, or contain dangerous chemicals (contaminated) so it will have an impact on health.[6] Knowledge of food sanitation hygiene is important for food handlers who have young children under five year old. On this golden period of the child vulnerable to all kinds of infectious diseases that could hamper the growth process. That is, the role of food handlers is also great for the survival of the child.[7]

Knowledge of food handlers are largely classified as either could be affected by several things, including the education level of the majority of food handlers who graduated from high school. Education is needed to obtain information for example the things that support

health so as to improve the quality of life. According to Mantra education can affect a person, including a person's behavior will be the pattern of life, especially in motivating to participate in the development attitude in general, the higher the education a person more easily receive information.[8] The results showed that some respondents did not know the food handling requirements, namely with regard to the following matters: (1) Not suffering from contagious diseases such as coughs, colds, influenza, diarrhea and stomach ailments like because according to respondents flu-like illness will not greatly affect food contamination; (2) Do not use gold ornaments, according to respondents wear jewelry such as rings when cooking does not have to be avoided because it has no effect. Yet according to the theory of direct food handlers are not allowed to use the ring, well-eyed or not, also watches because bacteria can be left in the ring that could not be cleaned at work; (3) There is a conversation when handling food and drinks because in the mouth there is a lot of bacteria that would allow the contamination when food handlers chatted while preparing food; (4) Do not scratch the body when treating food as before and during the work a food handler should not be scratching your nose and other body parts that can cause germs. This is because many infections will be transmitted.

One respondent who still think that the bathrooms and toilets in clean condition at all times, not one way to prevent contamination, as well as poor environmental sanitation kitchen will cause children more susceptible to infectious diseases. This is not in accordance with the opinion that poor environmental sanitation will result in the child more susceptible to infectious diseases that can ultimately affect the nutritional status.[9] Environmental sanitation is closely related to the availability of clean water, availability of toilets, type of floor of the house and hygiene utensils in every family. The more available water for daily needs, then the smaller the risk of children affected by disease or malnutrition.[10]

Attitudes Relationship Hygiene and Sanitation Food Handlers with Stunted

Processing activities and the presentation of food and environmental hygiene environment, especially food handlers attitude towards sanitation hygiene is very important. Good or bad the food products produced during processing is highly dependent on the attitude of food handlers. Food handlers are expected to be positive about sanitation hygiene in the processing and presentation of food, thus producing quality food products and safe for consumption.

Attitudes towards sanitation hygiene of food handlers include personal hygiene sanitation, hygiene sanitation and hygiene while the food processing environment. The analysis showed that 52% of respondents from the group stunted and 50% of respondents from stunted groups were not included in the negative category. This means that there are still many who responded negatively regarding food sanitation hygiene. Results of research conducted showed that most respondents have a negative attitude towards the following: (1) food handlers have an important role to the possibility of contamination of the food served. Whereas handle the food or personal hygiene personal hygiene is very important; (2) Do not scratch the body during food processing; (3) There is a conversation when handling food and beverages; (4) Do not use gold ornaments or assesories; (5) The bathroom and toilet in clean condition *at all* times is one way to prevent contamination; (6) Poor sanitation of the kitchen causes the child more susceptible to infectious diseases. Negative attitude towards food sanitation hygiene is the role of social influence, such as the norms and culture, the personality traits of individuals as well as information received.

Hygiene and Sanitation Practices Relation Food Handlers with Stunted

According to the WHO's behavior is influenced by the knowledge.[11] Nevertheless, the results of this study indicate that the majority of food handlers ber knowledge of good, was not followed by hygiene practice good sanitation. This is evident from the number of respondents who earn more categories of sanitary hygiene practices that are less than the respondents who earn good practice category. Observations indicate that food handlers do not wash their hands often, using only water without using soap after coming out of the toilet, resulting in children's food can be contaminated with germs. In addition, there are respondents who do not keep clean nails let your nails grow long, but long nails are a source of dirt. Some respondents also ignores the requirement in food handling activities related to the following: (1) Keep cooking while suffering from contagious diseases such as coughs, colds, influenza, diarrhea (disease and the like); (2) Using gold jewelry, because the bacteria can be left in the ring that could not be cleaned at work; (3) Conversing when handling food and drinks, so there are a lot of bacteria that would allow the contamination when preparing food; (4) Scratching parts of the body when processing foods that can cause germs, since many infections will be transmitted; (5) Do not use an apron when preparing food, while the apron serves to keep food is not contaminated by dirt on everyday clothing worn respondents either while cooking or not.

Matters relating to the food distribution is still sometimes overlooked is holding a food that has been cooked without using a tool (eg a spoon). Currently there are observations made respondents to mix foods that take vegetables and side dishes directly by hand. It is likely the contamination of the food served, especially before food handlers do not wash their hands with soap. Observations of environmental conditions, also found the state of the kitchen dirty and messy, there is even a kitchen into one with storage of goods that may already be in use. The unavailability of a closed trash can in the kitchen is also still to be found, so that the garbage left open and is a source of contamination when rubbish is left piled up in the kitchen.

Sanitary hygiene practices are also still being ignored by food handlers, ie, respondents who were breastfeed the child does not clean the nipples before breastfeeding to children. Similarly, after the breastfed child's mouth is not cleaned, as well as breast-feeding should not in any place. The observation is still a lot of respondents lacking in food sanitation hygiene practices, so as to fix the necessary education on the importance of sanitation and hygiene effects on health. In general, people only know that malnutrition occurs due to lack of food, but the infection can also interact with food intake less against malnutrition in children. The problem is very complex, which if neglect to factor food, personal and environmental hygiene, and child care will result in reduced nutrient inputs and easily arise infection so that children end up suffering from malnutrition.[2]

The conclusion of this study there were no significant relationship between the level of knowledge and attitudes about sanitation hygiene of food handlers with stunted children aged 0-24 months. But there is a significant correlation between sanitation hygiene practices of food handlers with the incidence of stunted children aged 0-24 months. Advice for health workers should provide guidance sanitation hygiene practices of food handlers children 0-24 months, so that food handlers more attention to personal hygiene and environmental cleanliness.

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O-03

THE HEPATOPROTECTIVE EFFECT OF RED WATERMELON *(CITRULLUS VULGARIS)* JUICE AGAINST ALT ENZYME OF *RATTUSNORVEGICUS* INDUCED BY PARACETAMOL

Muji Rahayu, Bambang Supriyanto, Naning Hayu Aryani

Medical Laboratory Technology Department of Poltekkes Kemenkes Yogyakarta, Ngadinegaran MJ III/ 62 Yogyakarta, Indonesia
Email : hayuningpuji@gmail.com

ABSTRACT

Every day the body produces free radicals as a product of metabolic reactions. Human body has its own antioxidant system to prevent damage caused by free radicals. However, the enhancement exposure of free radicals caused by pollution and chemicals such as food additives, may lead to an increased need of antioxidant. Watermelon contain lycopene, beta carotene and vitamin C, which are antioxidants. This study aims to determine the effect of watermelon juice protection against liver cell damage as measured by the activity of the ALT enzyme. This study is pre and post-test with control group design, using 20 male rats divided into 4 groups: group K as a control group, the treatment group C1, C2, C3, to each is given the watermelon juice at a dose of 2.7 g/200 g bwt, 5.4 g/200 g bwt and 8.1 g/200 g bwt for 14 days, on the last day were given paracetamol at a dose of 291.6 mg/kg. The average value of the ALT enzyme activity on pre-test group C1, C2, and C3 respectively are 22.19 U/L, 22.68 U/L, and 22.12 U/L. On post-test, the average value of ALT enzyme in group C1, C2, and C3 are 38.98 U/L, 28.64 U/L, and 23.79 U/L respectively. The result shows that watermelon juice can lower the activity of the ALT enzyme level significantly ($p<0.05$), varied in a dose dependent manner.

KEYWORDS: watermelon juice, ALT, paracetamol.

INTRODUCTION

Every day the body produces free radicals as a byproduct of metabolic reactions. The body's own antioxidant system to prevent damage caused by free radicals. But with increased exposure to free radicals caused by pollution and chemicals such as food additives, the antioxidant needs are also increasing. Pollution is increasing along with lifestyle changes that tend almost instantaneous has made people vulnerable to various diseases hati[1]. Liver tissue damage can be caused by inflammation, which is largely the result of a viral infection, exposure to alcohol, drugs or poisoning kimia[2] material. Liver damage can be determined by performing a test of liver function or liver biochemical examination. Alanine aminotransferase is an enzyme that is effective in diagnosing hepatocellular destruction. This enzyme AST increased more typical than in the case of necrosis of the liver and hepatitis akut[4]. An increase in liver enzyme activity can be controlled by antioxidants. Watermelon is very rich in vitamin C, iron, calcium, niacin, phosphorus, vitamin B1 and B2, beta-carotene and lycopene[5]. Lycopene is an antioxidant that is superior to vitamin C and the E[6]. This study aims to determine the effectiveness of antioxidants of red watermelon juice on liver cells as measured by inhibition of an increase in the activity of the enzyme alanine transferase (ALT) in rats induced by paracetamol.

METHODS

This research was conducted with pre-posttest design with control group, using 20 rats (Rattus norvegicus) Wistar male, age ± 2 months, weight ± 200 grams. Rats were divided into four groups: control group (K) and the treatment group C1, C2, C3. Adapted mice for one week, then measuring the activity of ALT (pre-test).

Positive control (K) only induced by paracetamol orally at a dose of 291.6 mg / 200g of body weight. The treatment group C1, C2, and C3 are given red watermelon fruit juice with each dose of 2.7 g, 5.4 g and 8.1 g / 200 g bwt for 14 days orally. On day 14th, rat given paracetamol dose of 291.6 mg / 200 g of bwt. After 24 hours and then the blood drawn through orbital vein and measuring the activity of the enzyme ALT after treatment (post-test).

RESULT

The mean activity of the enzyme ALT pre test group K, C1, C2 and C3 are respectively 22.40 U / L, 22.19 U / L, 22.68 U / L, 22.12 U / L. While the average activity of the enzyme ALT post test group K, C1, C2 and C3 are respectively 42.93 U / L, 38.98 U / L, 28.64 U / L, 23.79 U / L (Figure 1).

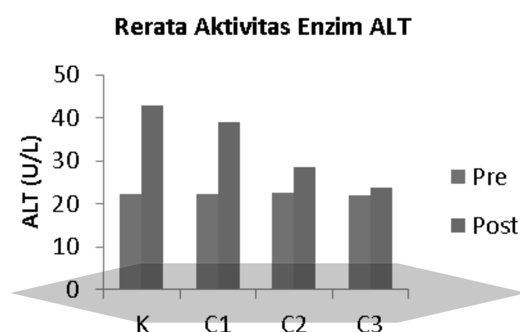

Figure 1. Graph Mean ALT Enzyme Activity Pre- Post Test

DISCUSSION

ALT enzymes contained in the cells - the cells of body tissues but the majority and as the main source of liver cells [8]. Increased activity of the enzyme ALT is an indication specific to liver damage, because very few conditions other than the heart that influence the activity of this enzyme in serum[9]. Giving toxic dose of paracetamol is intended to cause damage to liver cells. In normal conditions of paracetamol is absorbed by the body conjugated with glucuronic acid and sulfuric acid, a fraction hydroxylated by cytochrome P - 450 into metabolites N - acetyl - p - benzo quinonimin (NAPQI) [4]. This NAPQI metabolite by hepatic glutathione is converted to cysteine and merkapturat metabolites which are then excreted through the urine. If the amount of paracetamol consumed far exceed the therapeutic dose, then glucuronic acid and sulfuric acid in the liver will be depleted reserves, then formed NAPQI excessive reactive metabolites. During glutathione to detoxify NAPQI available, there will be no reaction hepatotoxicity. However, when glutathione prevail, however, it finally happened discharge glutathione and accumulation of toxic metabolites and reactive NAPQI. N-acetyl-p-benzoquinonimin (NAPQI) is a minor metabolite of parasetamol which very reactive and toxic to the liver and kidneys. This metabolite reacts with nucleophilic cluster contained in hepatic

cell macromolecules, such as proteins, cause hepatotoxicity caused nekrosis[4]. ALT increase in enzyme activity can be controlled by antioxidants. Antioxidants have the functionality to stop or terminate the chain reaction of free radicals found in the body, so it can save the cells from radical damage bebas[10]. Lycopene is a powerful antioxidant. His ability to control the singlet oxygen (oxygen in the form of free radicals) is 100 times more efficient than vitamin E or 12500 times on gluthation5. Lycopene is one of them found in watermelon. The amount of lycopene found in watermelon about 4,100 micrograms per 100 g semangka[5].

Thus, it can be concluded that the administration of watermelon juice was shown to significantly prevent liver damage induced by paracetamol shown to decrease the activity of the enzyme ALT white mice. It can be applied to humans by the consumption of 450 grams of watermelon juice without any water, because watermelon has lots of water.

CONCLUSION

These results indicate that watermelon juice can inhibit the activity of the enzyme ALT increase in rats induced paracetamol . Watermelon juice has the effect of protecting liver cells (hepatoprotective) against damage caused by paracetamol metabolites .

RECOMENDATION

Further studies are needed to identify the active substances contained in the fruit red watermelon which have antioxidant activity and effect to other organs such as the kidney .

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O-04

DISHARMONY ANALYSIS BETWEEN PERFORMANCE AND COMPETENCE FOR DENTAL NURSE COMPETENCE REORIENTATION

Bedjo Santoso[1], Hari Kusnanto[2], Al Supartinah[3], Niken Sriyono[4]

[1]Dental Nurse Department, Health Polytechnic of Semarang.
[2]Faculty of medicine, University of Gadjah Mada, Yogyakarta
[3]Faculty of dentistry, University of Gadjah Mada, Yogyakarta
[4]Faculty of dentistry, University of Gadjah Mada, Yogyakarta
bedjosantoso27@gmail.com, harikusnanto@yahoo.com
bu_nikensri@yahoo.com, partinah_sts@yahoo.com

ABSTRACT

Dental nurse's competence set in Kepmenkes No. 378 / Menkes / SK / III / 2007, with eight core competencies, and Permenkes No. 58/2012 governing dental nurse's authority into four. Preliminary studies showed that 96.2% of district public health centre dental nurse in Central Java province carry out work beyond the competence and in urban areas as much as 78.2%. Incompatibility between the performances of the competency assessment needs to be done to determine the cause of disharmony, because competence is the controlling performance. Assessment of the performance as an input in an effort to reorient the competence, as it gives a picture of the scope of competence required by the community.The purpose of this research to determine the factors that cause disharmony, as well as the identification of performance and competence for the reorientation of competence. It is qualitative research with case study method as study of contemporary phenomena that can not be separated from its context, as an approach to research through the collection of quantitative and qualitative data. Selection of cases performed in snowball method to obtain information from those cases, until no new information obtained or saturation has occurred in the information gathered.The results shows that the cause of dental nurses perform extra roll action is about the attitude of the superiors that do not concern towards dental nurses actions beyond their competence, thus develops confidence that what have they done is correct and appropriate. Javanese culture "ewuh pekewuh" affect performance; embarrassment to the dentist encourages dental nurses finish the job completely. Another factor is affected by the limited number of dentists. Educational curriculum does not teach dental medical procedures such as conducted by dental nurse at the public health centre, but gained from the experience, which is correlated with educational background. The identification results of competence as an input to reorient dental nurse's competence is an epidemiological survey of oral disease and forming Posdaya dental health, subgingival tartar cleaning under the dentists' supervision and command, and PPGD plus dental emergency. It was concluded that disharmony due to lack of dental health workers in public health centres, the attitude of the leadership who did not concern to the actions performed by dental nurse, the sense ewuh pekewuh to the dentist. Dental nurse's ability to act on the extra roll of experience gained while studying in SPRG and non-formal training in the workplace. Recommended actions to reorient competence is an epidemiological survey, Posdaya dental health, subgingival tartar scaling under the supervision of a dentist, PPGD plus dental emergency

Keywords: performance, competency, dental nurses

INTRODUCTION

Health development is focused on realizing the highest health status for the public, through the efforts of maintenance, improvement (promotion), disease prevention (preventive),

the healing of disease (curative), and recovery (rehabilitative) carried out thoroughly, integrated and continous[1]. Each implementation of health measures is always related to human resources or health workers who are competent in accordance with his work. Health workers are grouped into seven types, one of which is the nursing staff are nurses, midwives and dental nurses[2].

Dental nurse education in Indonesia was initially SPG, and then in 1958 became SPRG. Referring to the Indonesian Government Regulation Number 32 Year 1996 on health personnel, health education must be at least D3, so that in 1998 SPRG converted into AKG. In its development, educational dental nurses proceed to a higher level, namely D4 and the Bachelor of Dental Nursing, with the aim of more closely follow the development of dental science and the demands of society towards improving the quality of dental health services.

Dental nurses D3 and D4 education systems aimed to produce graduates who have the competence promotive preventive and simple curative, although competency based education is not regulated in standard competence. Until 2011, dental nurses D4 education in Indonesia which organized by health education institutions are dental health community, dental specialist assistance, oral surgery dental assistance, and Prosthodontics[3]. Faculty of Dentistry, University of Gadjah Mada in Year 2000-2007 organized D4 dental nurse educators with the core competencies as a dental nurse educator.

Competence is a smart action, the full responsibility of a person to be considered capable by people in certain occupations[4]. Dental nurse competence is stipulated in the Decree of the Minister of Health No. 378 / Menkes / SK / III / 2007, with eight core competencies, then renewed by the Minister of Health Regulation No. 58 of 2012 governing dental nurse's authority into four and divide educational qualifications into three, namely: SPRG, D3 and D4 dental nursing. Preliminary studies have shown that 96.2% dental nurses in district public health centers in Central Java Province carry out work beyond their competence, 54.43% of the work done by D3 dental nurse; 39.24% SPRG graduates, and 6.33% D4 graduates. In urban areas, 78.2% dental nurses act beyond the competence, 74% of the work is done by a D3 dental nurse graduates, 13% SPRG graduates, and 13% D4 graduates[5].

Incompatibility between the performances toward competency have to be asseessed to determine the cause of disharmony, because competence is the controlling dental nurse performance, it means that any action taken related to the work must be based on standard competence. Assessment of the performance can be used as input in the competence reformulation efforts and professional reorientation, because it gives a clear picture of the scope of competence required by the community. Reorientation of the profession is necessary to take a stand to put the position as a dental nurse who does not get caught in the act of care and treatment.

RESEARCH METHOD

It is qualitative research with case study method. Case study is a study of contemporary phenomena that can not be separated from its context, as an approach to research through quantitative and qualitative data collection is possible in this research method[6]. The data examined are integralistic, covering the whole situation in a working atmosphere that includes dental nurse's performance and competence implementation. Sampling along with a selection of cases conducted in snowball method on public health center dental nurse in Central Java province to obtain information from those cases, until no new information obtained or saturation has occurred in the information gathered[6].

The workings of the study, to obtain data on the performance analysis of dental nurse, was obtained by using in-depth interviews were conducted to dental nurses, dentists and heads of public health centers. Data on the performance obtained through the identification of performance with the observation method is direct observation of the work performed by dental nurse at the public health center. Data about the competence acquired through the identification of dental nurse's competency based performance, with Delpi engineering methods that identify competencies done through a panel of experts and a comparative assessment of the regulations governing competence dental nurse. Analysis of the data in this study include matching between performance (based on information obtained from dental nurse and observation work) and dental nurse competence as revealed from data collection using Delpi techniques.

RESULT AND DICUSION

Performance Analysis

The results shows that the attitude of the head of the public health center and dentist support the extra roll acts performed by dental nurse, it can be seen in Table 1.

Table 1.
Description of attitudes of respondents to the action undertaken beyond the competence of dental nurses

Question	Answer			
	Dental Nurse		Dentist	Public Health Center Head
	D 3	D 4		
Dental nurse's attitude and the attitude of public health center head and dentist about dental nurse action beyond the competence in public health centers	No problem, because : 1. It is dental nurse's duty to help peo-ple 2. Job done quickly	No problem, because : 1. Serves people who come to public healt center for medical service 2. Dentist is absent and service must keep running 3. To avoid patient's disappointment for they have spare their time and money 4. Helps and serves the people	No problem, because : 1. Dentist has outside activity, so the patient become the dental nurse's respnsibility 2. No dentist, or only three days in a week 3. A lot of patient 4. There is oral authority delegation 5. Accustomed, since the dental nurse is more senior than the dentist is. 6. People's demand	No problem, because: 1. Limited workforce and a lot of patient. 2. No dentist 3. People's demand to be served 4. No complaint from people

Head of the public health center and dentist are not concerned to the acts performed beyond the competence of dental nurses at the public health center. It shows a lack of good attitude, as it seemed to support dental nurses perform actions not within the competence and authority. Unfavorable superior's attitude build a belief that what have been done was considered appropriate and correct.

Actions taken by dental nurse is not a private initiative, but indirectly by a dentist command so that the responsibility for such action is the dentist. Medical measures (curative) done by nurses and known by doctors, then the task is the extension of doctor's hand, so the doctor is responsible to the action. Dentists as a responsible to the public health center dental clinic, took the initiative to divide tasks properly and do not let the dental nurses do

work beyond their competency. In certain circumstances, when a medical action is urgently needed and done by dental nurses, it should be given a letter of delegation of authority[7].

In addition to the superior's attitude, the cause of dental nurses do all the work including dental medical action is due to the unclear division of tasks, the sense of ewuh pekewuh and health workforce inadequate number in public health center. According to Sastrohadiwiryo (2002) and Nur (2012), the intent and purpose of the division of tasks is to put employees in a position to match the capacities, skills, and expertise[8],[9].

Javanese culture "ewuh pekewuh" affect the performance of dental nurses, embarrassment to the dentist when silent in the working atmosphere; encouraging dental nurses always trying to finish the job completely. Ewuh pekewuh are shy or feel reluctant attitude and uphold respect to superiors[10].

Another influential factor is the limited number of dentists; put dental nurses in a condition to hold responsibility and do their own dental health services and forces to act beyond the competence. Shortage of health human resources will increase the workload affecting the quality of patient care and professionalism of health workers in delivering health services. Direktur Bina Upaya Kesehatan Dasar Kementerian Kesehatan acknowledges that they currently unable to meet the needs of dentists and dental nurses, so that the spread of dentists and dental nurses is uneven[11].

The study on competence based on performance

Based on the review of the curriculum and graduate standard competence, shows that the educational curriculum does not teach dental medical procedures like found in the performance of dental nurse at the public health center. If in the process of education is not taught, it is possible that action is the ability gained from the experience, which is connected to educational backgrounds and employment.

D3 dental nursing organized in 1998 through two pathways that track regular program with students from a high school graduate and a special line (extension) with graduate students from SPRG, D4 dental nursing education is continuing D3 education. SPRG education curriculum in Central Java from 1987 to 1997, teaches subjects to achieve competency program graduates who are able to help the government to overcome the problem of dental and oral diseases, as the number of dentists at those days was very less. SPRG dental nurse graduates were tought to be able to do medical procedures performed by dentists, such as: 1) diagnosing dental diseases, 2) extraction teeth of the upper jaw and lower jaw anterior and posterior, both crown and residual root by using infiltration or mandibular anesthesia, 3) perform dental fillings with amalgam and tooth-colored material on some classes of cavity, 3) perform the date pulp and dental mummification care, 4) cleaning supra and subgingival tartar. Another capability that was taught is injecting sub-cutaneous and intra-cutaneous, prescribing and dispensing medicine, do sewing stitches on the wound and elevate scars.

Experience gained by high school dental nurses graduates, performing medical dental procedures gained from non-formal training given by the dentist when working in the public health center, the reason why dentists do this are: 1) the large number of patients and the limited time, so it is impossible if the treatment is only performed by dentist , 2) the limited number of dentists, so that the dentists often leave a job because of double job, while services must still moving on, 3) people's demands to get a faster service, thus not considering action taken by a dentist or dental nurses, 4) the attitude of dentists that are less empathy to the patient, so that patients prefer taken care by a dental nurse.

Based on those reasons, the dentist providing non-formal training of dental medical act according to the needs of society. Training method begins with the following: 1) the dentist provide knowledge about the medical dental action that will be taught, 2) dental nurses were asked to look at the actions taken by dentist until deemed able to perform, 3) dental nurse was asked to try to act to patients under the supervision of a dentist, 4) do their own dental nurses with supervision or without supervision.

Dental nurses' experience in doing immunizations (children, pregnant women, BIAS) and dispensing medicine in P, for SPRG education base dental nurses obtained from the educational process and for high school education base dental nurses received training non-formal from nurses and pharmacists by the reason that the public health center does not have the adequate health workforce and have obtained permission from the dentist and head of the public health center. The method used is similar to the training process conducted by dentists, starting from providing knowledge, try, and do by themself.

Based on the study, it can be concluded that the ability of dental nurses to perform medical and dental medical action, is based on experience gained during SPRG education and non-formal training by dentists, nurses, and pharmacists while working at the public health center. Dental nurses can perform dental medical act, when serving in remote areas and in pulic health centers that do not have a dentist. To acquire these capabilities, they must obtain formal training related to the required action and obtain a delegation of authority issued by the District Health Office / City. According to Fakih (2012) emergencies that can be used as justification for nurses to perform medical procedures, because: 1) the geographical aspect, because local conditions are quite difficult to reach health facilities or the presence of a doctor, 2) personal aspect which is the presence of a doctor as a service provider health, the distribution is uneven so there is an area that does not have a doctor, or there is a doctor but the doctor is absent[7].

Incompatibility between performance and competence is a phenomenon that is prone to lawsuits, because it cannot be accounted for in a professional manner. The scarcity of workforce and public demand for dental service, forcing the dental nurses perform a dual role to do the work according to their competence and authority (in role) and do work beyond the competence and authority (extra role). The organization citizenship behavior is divided into two: the performance in the role and extra role[12]. The performance of intra role is often referred to as task performance means the expected behavior for the fulfillment of tasks and work or actions performed according to its competence and authority, extra role is the action taken is not in accordance with the position or role within the organization. Dental nurse acts according to its competence and authority (intra role), impacts on the safety and comfort of patients in dental care (patient safety) and protected from lawsuits[13].

Action beyond the competence (extra role) have different dimensions, from the organization of the action taken dental nurse positive and beneficial impact on the public health center because current services and is an solution attempts to the problems being faced. Extra role action by dental nurse proves[12], which says that organizations need employees who can do more than just the mundane tasks that will provide the performance exceeded expectations, organizations need employes who have citizenship behavior organizational well like helping individuals and volunteer themselves to doing extra work.

Competence reorientation.

Table 2 shows that the competence reformulation result which is the ratio between regulatory, performance and Delpi technique method competency identification is Posdaya dental health and oral disease surveys. Both of those activities are not a program of public health center dental health services and the is not yet contained in Kepmenkes No. 378 / Menkes / SK / III / 2007 and Permenkes 58 tahun 2012

Table 2.

Description of competence reformulation effort to improve oral health based on a comparison between the regulatory, performance and Delpi techniques method competency identification

Efforts to improve oral health	Performance	Delpi techniques method competency identification	Competence reformulation
1. Cadre training	1. Held youth doctor training in elementary school 2. Held UKGMD cadre training in villages 3. Make activities plans	1. Forming dental health cadres in school and society level 2. Held dental health cadre training in schools and societies 3. Able to form and run UKGS 4. Form, run, and evaluate independent UKGMD 5. For dental health Posdaya 6. Make UKGS and UKGMD plans 7. Make activities evaluation	1. Make plans, form, run, and evaluate UKGS and UKGMD 2. Held dental health cadre in scools and societies 3. Form Posdaya dental health .
2. Oral and dental health desease epidemiology survey		Dental and oral disease survey (data collection, data interpretation, problem identification, alternative problem siolving, and problem solving)	Dental and oral disease survey (data collection, data processing, data interpretation, problem identification, alternative proble solving, problem solving)

Posdaya dental health is not the main activity of the public health center dental clinics, the function is to dig and empower potential in the family to have knowledge about oral health, ultimately have the ability to solve problems and care for the maintenance independently of oral and dental health. Currently, the dental nurse at the public health center attempts to achieve self-reliance in the field of oral and dental health maintenance, to provide counseling and preventive measures in Posyandu (table 5). The activity is less effective, because it gets a share of a very short time, integrated with other activities and depend on the schedule of activities of the public health center.

Posdaya is a gathering forum, advocacy, communication, information, education and could be developed into coordination of activities to strengthen the functions of an integrated family. In certain cases, it could also be a container in integrated family services, which is family development services on an ongoing basis, in various fields, mainly religion,

education, health, entrepreneurship, and the environment, so that the family harmony can grow independently in the village[14].

Posdaya establishment purpose is to strengthen the functions of the family, encourages families to be able to build itself, thereby increasing the ability of families to cope with the problems it faces. This will encourage improvement of the quality of family, encourage the maintenance of social infrastructure based on local wisdom, thus strengthening the unity as a nation of Indonesia.

When implemented on oral and dental health, advocacy and empowerment program in Posdaya are programs that support refresher family functions, one of which is a self-contained dental health. It is expected of each member of the family has a consciousness to maintain dental health, take precautions and able to cope with dental health problems in the family is self-sufficient, so it has a degree of optimal dental health.

Based on the above explanation, it can be concluded that the dental health Posdaya become the main activity of dental nurses, these activities can be incorporated as an effort to support oral and dental health in the public health centers, as an integrated part of the basic program and the development of public health nursing in particular Puskesmas (public health care). The emphasis of these activities on promotive and preventive efforts through the community's active role in the family. According to the Minister of Health Decree No. 279 / Menkes / SK / IV / 2006, public health nursing activities in schools and communities can be implemented in the form of health screening, maintaining health and hygiene education.

The ability of dental nurses conducted a survey of dental and oral diseases are needed to obtain information about dental and oral diseases in order to determine the interventions. Usually, dental nurses in public health centers collecting data through screening. The achievement of prevention and dental health promotion activities are effective and efficient, necessary background information about the target, the ins and outs of the disease, the state and the spread of disease and the factors that influence in the community, so it is necessary to survey oral and dental disease.

A survey of the disease is continual monitoring of everything that affects the occurrence and spread of diseases that required for the control and prevention of the disease[15]. Main surveillence activities include: collecting data on people in such areas, tabulation, analysis and interpretation of data, publication and distribution of the data analysis on a periodic basis as feedback to the community and relevant agencies. A survey of dental and oral diseases are also performed by dental hygienist and dental therapist.[16], [17].

Table 3 shows that 1) the cariogram identification, 2) examination of saliva, including: pH, viscosity and buffer saliva, 3) cleans tartar subgingival, as the result of the reformulation of competence which is the ratio between regulatory, performance and identifying competency Delpi technique methods and not contained in Kepmenkes No. 378 / Menkes / SK / III / 2007 and Permenkes 58 tahun 2012.

Table 3.
Description of reformulating competence prevention of dental and oral diseases based on a comparison between the regulatory, performance and Delpi techniques method competency identification

Dental and oral diseases prevention effort	Performance	Delpi techniques method competency identification	Competence reformulation
1. Conduct dental and oral examination		1. Index identification: OHIS, DMFT, deft, PTI, and CPITN, gingiva index, plaque index 2. Cariogram identification	1. Index identification : OHIS, DMFT, deft, PTI, and CPITN, gingiva index, plak index 2. Cariogram identification
3. Saliva Examination		Saliva examination (pH, viscosity, bufer)	Pemeriksaan saliva (pH, viskositas, bufer)
4. Tatars cleanin	1. Melakukan skaling supra gingiva 2. Melakukan skaling subgingiva dengan manual dan elektrik	1. Extrincic plaque cleaing, staining 2. Cleaning tatars supra and sub gingiva by manual and electric	1. Extrincic p;aque cleaning, staining 2. Cleaning tatars supragingiva dan polis correctly and safe 3. Cleaning tatars subgingiva with manual and electric, also polis correctly and sase

Cariogram graphically illustrates the risk of caries, about the chances of avoiding caries, dietary factors, bacterial factors, environmental factors or other circumstances that influence and susceptibility factors associated with fluorine and saliva. Cariogram can provide a common interpretation and some actions that need to be done relating to the prevention of dental caries. Predictions, solutions and graphic description of the factors that cause dental caries are packaged in cariogram software using the computer, so dentists and dental nurses can carry it out. The program implementation is privatized, so it takes a long time.

The purpose of cariogram is to: 1) describe the interaction between caries with factors related, 2) describe the chance of avoiding caries new, 3) describe the risk of caries graphically, 4) recommending the proper precautions, 5) can be used for purposes clinic. Cariogram can provide an estimate of the risk factors of new caries, because cariogram can describe the percentage of caries-free, combination type and frequency of diet, plaque and bacteria, fluoridation and saliva, and caries experience with a disease that has to do with caries, each combination will be illustrated in percentage[18].

To get an overview of cariogram, at least six points must be examined from nine points required, which are: 1) the experience of dental caries, 2) diseases that are related to caries, 3) content of foods, 4) frequency of eating, 5) the amount of plaque, 6) Streptococcus mutans, 7) fluorine programs, 8) the volume of saliva, 9) the capacity of the buffer. For any score between 0-3 points, the higher the scores obtained, the worse the situation[19].

Based on the above explanation, it is concluded that the program has many advantages. Some of the considerations that the implementation of the program is not appropriate implemented in public health centers, because: 1) does not include the competence of dental nurse as stipulated in the Minister of Health Decree No. 378 / Menkes / SK / III / 2007 and Permenkes 58 tahun 2012), 2) to operationalize the program takes a long time, so that when

there is a lot of patient and the number of personnel is inadequate, implementation of the program is difficult to achieve, 3) program implementation is privatized, 4) the necessary software and computer peripheral devices that require high procurement and maintenance costs. While it can not be accepted as the competence, knowledge of cariogram is necessary because it deals with the prevention of caries, so that dental nurses need to acquire knowledge about cariogram through education curriculum.

Examination of saliva is an action that is identified as a dental nurse competency, because saliva is one of the risk factors of dental and oral diseases (Table 13). In practice, the effect of saliva on dental caries is part of the cariogram program. Examination of the patient's saliva is privatized so it takes quite a long time.

Saliva is a risk factor for caries, there are several ways saliva affects dental caries, which are: 1) in salivary flow can reduce the accumulation of plaque on the tooth surfaces and increase the rate of clearance of carbohydrates on the surface of the teeth, 3) system buffer in saliva can support and neutralize the decrease in salivary pH, 4) some components of saliva that are included in non-immunological components have anti-bacterial power directly against microba[20].

Based on several considerations, an examination of saliva is less precise implemented in public health centers, because: 1) does not include the competence dental nurse as stipulated in Kepmenkes No. 378 / Menkes / SK / III / 2007 and Permenkes 58 tahun 2012, 2) examination of saliva is the privatization of the patient so it takes a long time, when there is a lot of patient with inadequate number of personnel, it is difficult to realize, 3) the necessary instruments so that the necessary checks saliva procurement cost of such instruments, 4) more appropriate activities needed for research purposes. While it can not be accepted as the competence, knowledge of the theory is necessary because it deals with prevention efforts, so that dental nurses need to acquire knowledge about the examination of saliva through the educational curriculum.

Subgingival tartar cleaning, the basic skills identified in this study (Table 3). Such actions should not be done by dental nurse, because not listed in Kepmenkes No. 378 / Menkes / SK / III / 2007 and Permenkes 58 tahun 2012. The fact, at the public health center, tartar subgingival affects many people, especially middle-aged and the elderly, patients who come in a very bad condition. When the case met, the cleaning action of tartar usually done by dental nurse.

Tartar is hard deposits result of mineralization of dental plaque, attached tightly around the crown and root of the tooth. Calculus subgingival characteristics are firmly attached to the surface of the tooth root below the gingival margin is usually in the pockets of the gums and can not be seen at the time of the examination, accompanied by inflammation of the gums, resulting in the formation of pockets of gum, dark green or blackish attached tightly to the surface of teeth, calculus attachment to surface roots will affect the ease of tartar removed from the surface of the teeth and subgingival tartar is more difficult to clean than supragingival[21].

Based on some of the above considerations, it can be concluded that the tartar subgingival cleaning by dental nurses can be done, but under the supervision and command of the dentist. Given the characteristics of the subgingival tartar is usually accompanied by inflammation of the gums resulting in bleeding and often occurs in older people who mostly have a degenerative disease.

Research results as shown in Table 4, show that pulp mummification is the act found in of dental nurse performance and PPGD is recommended activity as a competency. Both of these actions are not contained in Kepmenkes No. 378 / Menkes / SK / III / 2007 and

Permenkes 58 tahun 2012. People who come to the public health center to make pulp canal treatment is not much, but when encountered such cases, usually acts performed by dental nurse from devitalization until pulp fixation.

Table 4.

Description of reformulating basic medical action competence in case of limited dental disease based on the comparison between the regulatory performanceand Delpi techniques method competency identification

Basic medical action in case of limited dental disease	Performance	Delpi techniques method competency identification	Competence reformulation
1. Dental fillings one or two areas with glass ionomer, amalham materials, and other materials	1. Conduct preparation and amalgam filling 2. Conduct ART filling 3. Conduct preparation and glass ionomer filling 4. Conducnt pulpa capping 5. Conduct neural treatment/ mummification	1. Cavita prearation on the tooth with one surface area caries 2. Dental filling with glass ionomir, amalgam material, and or other materials. 3. Conduct *pulpa capping* 4. Conduct neural treatment/ mummification	1. Conduct preparation and amalgam filling or tooth coloured material. 2. Conduct preparation and ART filling 3. Conducnt preparation and glass ionomer filling. 4. Conducnt preparation and pulpa capping treatment. 5. Manage rubber dum installation 6. Manage cleaning and polish tooth and tumpatan 7. Conduct neural treatment/ mummification
2. Emergency action in common dental case and condition	1. Conduct eugenol filling on temporary tumpatan 2. Conducnt acute dental cavity treatment with cotton eugenol 3. Conduct dental trepanation in an abses inside oral cavity	1. Manage and assist medical dental and oral emergency act 2. Conduct first aid to reduce painin acute dental disease 3. Identify and manage emergency situation during and after dental treatment. 4. Give first aid in maxilo facial trauma, abses, periodontitis 5. Conduct trepanation by opening pulp cavum using bur, filled with cotton, and not give temporary tumpatan in the case of dental gangraen with periapical abses. 6. Conduct PPGD	1. Conduct dental medical emergency act in the cases like acute pulpitis, abses, gingivitis, periodontitist, pericronitist, dry socket,. Manage dental medical emergency act 2. Conduct first aid to reduce pai in acute dental disease 3. Identify and manage dental situation during and after dental treatment. 4. Conduct trepanation by opening pulp cavum using bur, filled with cotton, and not give temporary tumpatan in denta gangrene (periapical abses) case 5. Conduct blood pressure measurement and *vital sign*. 6. Conduct PPGD

Pulp mummification is maintaining the teeth with pulp canal treatment after experiencing inflammation, the stages are carried out in the process pulp mummification is devitalization, irrigation, sterilization, fixation and dental fillings[22]. Devitalized pulp tissue in the pulp mummification process using arsenic trioxide in various forms, if done inadvertently would leak through the cavity walls close to the gingiva, so it will affect the health of periodontal tissue[23].

The advantages of using arsenic is the easy application and free of pain, whereas the weaknesses are: 1) non-self-limited effect (has the effect of infinite), 2) it is difficult to control, 3) can cause damage to the surrounding tissue in the event of a leak, 4) the unpredictable effect, 5) if the patient does not return within 48 hours, it can seriously damage the tissues [23].

Based on the explanation above, it can be concluded that in order to undertake mummification accuracy and prudence are necessary, given the side effects caused by the materials used are very dangerous, and often, there is a failure to act. Therefore, it is not appropriate competence performed dental nurse.

From this research, the dental nurse at the public health center did not perform emergency action, because the curriculum not taught it and have never received PPGD training. Permenkes 58 tahun 2012, stipulates that dental nurses as health professionals working in health care facilities should be able to take action in general and dental emergencies. To gain the knowledge and necessary skills, they need to attend special education and training that PPGD certified.

CONCLUSION

Based on the research results, it can be concluded as follows:

1. Incompatibility between performance and competence of dental nurse is caused by:
   a. Lack of health workforce in public health center
   b. Head of public health center and dentist do not concern to dental nurses that acts beyond their competencies
   c. The sense of ewuh pekewuh dental nurse towards dentists
2. Dental nurse's ability to act beyond their competencies obtained from experience while studying in SPRG and non formal training in the workplace
3. Performance and competence identification through interviews, task analysis, engineering delpi, comparation the existing regulations resulted in few actions asdental nurse competence reformulation input, which are:
   a. Dentaland oral disease epidemiological survey and forming dental health Posdaya.
   b. Subgingiva tartar cleaning under supervision and order of denstist.
   c. Emergency patients countermeasures (PPGD) *plus dental emergency.*

SUGGESTION

Based on the research results, it is suggested the following matters::

1. To overcome the incompatibility between performance and competece City Health Department / District, in cooperation with relevant agencies in order to conduct formal training competencies according to community needs. Planning the need for dental health workers, meet the shortage of dentists and dental health personnel distribution in proportion.
2. Dental nurse education institutions need to develop curricula according to the needs of society.
3. PPGI professional organizations in order to evaluate the performance of dental nurse and the reformulation of competencies that are tailored to the needs of the community to dental nurse services.

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O-05

THE EFFECTS OF FORMULA FEEDING METHODS ON CARIES AMONG PRESCHOOLERS

Wiworo Haryani, Nilam Alvica Augustia, Sutrisno

Dental Nursing, Health Polytechnic of Yogyakarta, Kyai Mojo Street No. 56, Pingit, Yogyakarta, Indonesia
Email: haryaniwiworo@gmail.com

ABSTRACT

Dental caries or cavity in Indonesia is experienced by approximately 85% of under-five children, and one reason is the habit of drinking milk with a bottle by preschoolers. If it is not addressed properly, it will degrade the quality of child growth and development. This study was conducted to determine the effect of formula feeding methods to figure out caries among preschoolers. The study was observational with a cross sectional design. The population was children aged 3-5 years in RA Choirul Fikri, Ngemplak, Sleman, Yogyakarta. The sampling technique was saturated sampling with a sample of 35 children. The independent variable is formula feeding method, while the dependent variable was dental caries. Results showed that more children consumed milk formula using a bottle more than glass (51.4%). Ten children (28.6%) who used a bottle turned out to have caries in more than their 5 teeth, in comparison with 9 children (25.7%) who used glass with a number of caries in less than 3 teeth. Spearman Rho test showed there was an effect in formula feeding using either bottles or glass against child caries (p = 0.028 and p = 0.034, respectively). In conclusion, formula feeding using bottles was more influential in increasing child caries than using glass.

Keywords: formula feeding, caries, preschoolers

INTRODUCTION

Oral health is part of general health aspects that are important to children; it also affects the quality of life of children.[1] Preschoolers are one group that is susceptible to caries, because at this age children still have a poor diet, have the low level of knowledge of dental health, and are still dependent on their parents in maintaining healthy teeth and mouth.

Caries is the dental hard tissue disease characterized by inorganic substance demineralization and organic substance destruction. The prevalence of caries among preschoolers is still high, due to, among others, lack of attention and care of milk teeth (deciduous teeth or primary teeth). Many parents assume that the milk teeth do not need to be treated because they will be replaced by permanent teeth. The functions of milk teeth are not only to chew food as the initial process of food digestion, help to speak, or beautify the face, but also to act as guides for the permanent teeth that lie below.[2]

Nutritious food is one of the main needs in every process of human life in order to grow and develop, including teeth formation. It begins from the fetal age of 6-8 months in the womb to all of the child's teeth growing completely where the growth requires calcium, phosphorus, protein, fat, minerals and vitamins in sufficient quantities. One food source that can supply all of these nutrients is milk formula. The more varied daily menu received by preschoolers will lead to the more fulfilled adequacy of all the nutrients the children need.[3]

Formula milk is made from cow's milk or artificial milk in which its composition is modified so that it can be used as a substitute for breast milk. The number of calories,

vitamins, and minerals in milk formula should be appropriate to increase endurance and optimal development of children. The use of multiple brands of age-appropriate infant formula is allowed as long as does not cause gastrointestinal disorders in children.[4,5]

Dental caries or cavity has early signs of the appearance of white spots like chalk on the surface of the tooth which will then be turned into chocolate. Dental caries is a disease of dental hard tissue due to bacterial activity resulting in a softening of hard tissue of teeth followed by the formation of cavity. Many preschoolers still consume milk formula using a bottle. The drinking habits can lead to child caries called Nursing Bottle Caries, Nursing Bottle Mouth, Baby Bottle Caries, and Early Childhood Caries (ECC). [6,7]

The causes of tooth decay in toddlers can happen because of the habit of drinking milk formula in the bottle or a sweet drink when they fall asleep for a few hours and sometimes all night. The bacteria that play a role in the occurrence of caries are *Streptococcus mutants*, *Streptococcus sanguis* and some *Lactobacillus* species, and, especially for caries for deciduous teeth, *Streptococcus mutants* are very instrumental. [8]

The prevalence of dental caries among children aged 3-5 years is 1.3 times higher in children who have the habit of drinking milk with a bottle in a bedtime than those who are not used to drinking milk without a bottle. Frequency of bottle-feeding two or more times per day also increases the risk of child caries 2.27 times higher. The role of parents is quite large in preventing caries in children.[6,8] The results of a preliminary study on children in Raudatul Athfal (RA) Choirul Fikri, Ngemplak, Sleman, Yogyakarta showed that all children consumed milk formula, and the examination of the teeth and mouth found that more than 20 children suffered from dental caries.

METHODS

This was an observational study with a cross sectional study design.[9] The study population was children in RA Choirul Fikri in Ngemplak Sub-District, Sleman, Yogyakarta. The inclusion criterion was children aged 3-5 years with a habit of drinking milk formula. The sampling technique was saturated sampling, with a sample size of 35 children. The independent variable was formula feeding method and the dependent variable was dental caries.

The methods of formula feeding was divided to two, i.e., by glass and bottle. Formula feeding using a glass was categorized into little (<2 glasses per day), moderate (2-3 glasses per day), and much (> 3 glasses per day), whereas with a bottle it was categorized into little (<2 bottles per day), moderate (2-3 bottles per day), and much (> 3 bottles per day). Caries test results were based on a number of caries grouped into the criteria of few (<3 teeth), moderate (3-5 teeth), and many (> 5 teeth).

The research instrument was a dental diagnostic tool (sonde, excavators, mouth mirror, and tweezers), frequency recording form, the methods of formula feeding, and child dental examination card. The data analysis technique used Spearman Rank test to determine the effect of the methods of formula feeding to figure child caries. This study had received a letter worthy of ethics from Health Research Ethics Committee of Health Polytechnic of Yogyakarta No. LB.01.01/KE/XXIII/343/2015.

RESULTS AND DISCUSSION

The respondents in this study consisted of 35 children and the majority of respondents aged 5 years (15 children). Of the respondents, four were boys (11.4%) and 11 were girls

(31.4%). Table 1 shows that 18 children used bottle-feeding and 10 children (28.6%) had a drinking frequency of more than 3 bottles per day. In contrast, of 17 children with glass-feeding, only 3 children (8.6%) had a drinking frequency of more than 3 glasses per day.

Deciduous teeth are more susceptible to caries than permanent teeth because deciduous teeth enamel contains more organic matter and water and less amount of mineral than permanent teeth. Habits of bottle-feeding among children to sleep can increase the risk of caries, because the ingested fluid will be inundated in the mouth around the surface of the teeth and demineralization can occur, and a decrease in the rate of saliva when the child is asleep will exacerbate the cleanliness of child's mouth. [3,6]

Table 1.
Respondent Criteria by the Methods of Formula Feeding

Method	Frequency	Children (n)	Percentage (%)
Bottle	Little	10	28.6
	Moderate	2	5.7
	Much	6	17.1
Glass	Little	3	8.6
	Moderate	5	14.3
	Much	9	25.7
Total		35	100

Drinking milk using a bottle can cause increasingly severe dental caries in children, when the time to drink milk is especially at night. It is because the production of saliva is automatically reduced. Reduced saliva in the mouth can be a means for germs to grow and change milk to acid. It is this acid that would be the beginning of the formation of dental caries. [8,9]

Table 2.
Cross-tabulation between Formula Feeding Methods and Rate of Caries

Method	Caries Criteria						Total	
	Many		Moderate		Few			
	N	%	n	%	n	%	N	%
Bottle	10	28.6	2	5.7	6	17.1	18	51.4
Glass	3	8.6	5	14.3	9	25.7	17	48.6
Total	13	37.2	7	20.0	15	42.8	35	100.0

Infants and young children accustomed to drinking formula milk /sweet liquid in a bottle while sleeping are more likely to suck the bottle faster than the rate of ingestion, so often the milk in the mouth is collected too long.

Frequency of drinking milk with a bottle twice or more per day also increases the risk of caries 2.27 times higher compared not with the bottle. Early formula feeding will result in increased rates of child caries severity. Growth in the number of bacterial colonies of Streptococcus mutans in toddlers' plaque who drink formula milk is more than breast-fed infants.[8]

Saliva is the major defense system of the host against caries. Saliva serves to clean food debris and bacteria from the teeth and to provide a buffer against acid production. Individuals with decreased salivary flow will have an increased tooth susceptibility to caries.

One of the disadvantages in consuming formula milk, especially if the child is a toddler and formula feeding has been performed more than 1 year, is the possibility of nursing bottle caries. Extending the time of formula feeding that exceeds the transition of feeding liquid to solid food would cause early caries.[9]

Table 3.
Test result of *Spearman Rho*

	Bottle	Glass	Rate of Caries
Correlation coefficient	1.000	-.155	-.157
Sig. (2-tailed)	.	.551	.034
N	18	17	18
Correlation coefficient	-.155	1.000	-.044
Sig. (2-tailed)	.551	.	.028
N	17	17	17
Correlation coefficient	-.157	-.044	1.000
Sig. (2-tailed)	.034	.028	.

Spearman Rho test results showed there was an effect of formula feeding method using a bottle (p = 0.028) and glass (p = 0.034) against the number of caries (Table 3). The habit of drinking formula milk using a bottle can cause caries in children, especially at bedtime, because the milk will be leaving a deposition and attachment of carbohydrate on the surface of the tooth. [9,10]

The frequency of bottle feeding in children also affects the incidence of caries. Carbohydrate eaten bit by bit but repeatedly has the potential cariogenicity greater than eaten at once. Sucrose is a type of carbohydrate in milk that can provide sweetness and energy source for the body. Excessive amounts and long-term consumption of sucrose causes dental caries because sucrose in milk flooded in the mouth throughout the night will undergo hydrolysis process by plaque bacteria into acid. [4,9,11]

If feeding (breast milk or bottle) is done too often at night without cleaning the oral cavity, the risk of child caries will be higher. Some reports indicate that parents' behavior towards the ability to understand how to maintain oral hygiene of children has a positive correlation with the frequency of maintaining oral hygiene and oral health status of preschoolers.[2,3]

Another study states that only 68% of respondents were aware of the concept of oral health in children, 50% knew the signs of dental caries children, and only 4% were aware of the application of fluorine.[12] Programs of oral health promotion are effectively done as a preventive effort to improve the oral health status of children of preschool age.[13]

CONCLUSION

Formula feeding methods effect on the rate of child caries. The use of the bottle when formula feeding may increase the rate of caries compared to glass.

RECOMMENDATION

Some suggestions parents can do to reduce the risk of caries due to formula feeding are that formula feeding is not done for a long time and is not extended, children should not be allowed to sleep with a bottle filled with sweet liquids except water, and mothers should clean their child's teeth after drinking milk.

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O-06

THE INFLUENCE OF ORAL CAVITY CONDITION AND BEHAVIOR ON CARIES RISK IN CHILDREN

Quroti A'yun[1], Julita Hendrartini,[2] Al. Supartinah[2]

[1]Dental Nurse, Politeknik Kesehatan Kemenkes Yogyakarta
[2]Faculty of Dentistry, Universitas Gadjah Mada Yogyakarta
Correspondence: ayunquroti@yahoo.com

ABSTRACT

Caries prevalence on school children can be categorized as high at 1.4. Therefore, it was necessary to identify risk factors that affect it. Caries risk factors in children consist of direct risk factor, which include the condition of oral cavity, and indirect risk factor, that was the child's behavior. The study was to identify factors that influence the occurrence of caries in children. This was an observational research with cross-sectional design. The samples were 430 children between the ages of 10-12 years. The evaluated caries risk factors included pH level of saliva, the amount of plaque, caries experience, the child's knowledge about dental and oral health, the child's behavior in maintaining dental health, and dietary habit. The data were then analyzed using *chi-square test* and *multiple logistic regression*. Chi-square test showed that the condition of oral cavity and child's behavior were significantly related to caries risk factor, with p value of 0.000.The result of *multiplelogistic regressionanalysis* ndicated that the pH level of saliva (p=0.036;POR=1.923), the amount of plaque (p=0.005; POR=2.382), caries experience (p=0.000; POR=4.048), child's knowledge about dental and oral health (p= 0.016; POR= 2.107), child's behavior in maintaining dental health (p= 0.014; POR= 2.103), and child's dietary habit (p=0,000;POR=3.316) also significantly influenced the occurrence of caries. **C**The study showed that pH level of saliva, the amount of plaque, caries experience, the child's knowledge about dental and oral health, the child's behavior in maintaining dental health, and dietary habit influenced the risk of caries in children.

Keywords: condition of oral cavity, child's behavior, caries risk in children

INTRODUCTION

Dental caries is one of dental and oral diseases in children which is commonly caused by poor dental care that might affect a child's growth and development.[1] Poor dental care might be caused by lack of knowledge about dental and oral health care.[2]

Dental caries is a multifactor disease which can be caused by both direct and indirect factor.[3] Some of the factors that can directly influence caries are dental plaque, microorganism, and carbohydrate intake. It also takes time for caries to form. Indirect factors that can cause caries are dietary habit and dental care.[3] Children are not yet developed proper skill and habit to maintain dental health which can lead to high oral hygiene index.[4] It is essential to practice dental care in since early childhood so that children can learn the importance of dental hygiene to reduce the risk of caries in permanent teeth.[5]

Cognitive development in children starts with processing information, unraveling, making connection, and decision making. In normal growth, the thinking skill develops gradually until the age of 12. The memory becomes stronger and children can memorize at higher level. In this period, children will gain more knowledge and skills until they develop certain habits. Therefore, children can understand how caries forms, the effects, and how to prevent it.[6,7]

This study aimed to identify factors and behaviors which might influence the incident of caries in school children.

MATERIAL AND METHODS

This was an observational research with cross-sectional design. The samples were 430 children between the ages of 10-12 years in the Province of Yogyakarta. The data were collected with stratified random sampling. The inclusion criteria were children with caries who were willing to participate in the study and had received consent from the parents. The research was conducted after receiving ethical clearance from Ethics and Advocacy Unit of the Faculty of Dentistry UGM.

The materials to analyze the condition of oral cavity were 1) disclosing solutio, 2) Catton swab, and 3) toothpaste. The instruments were 1) pH meter, 2) small glass, 3) dental diagnostic tools such asdental tweezers, dental explorer, spoon excavator, and mouth mirror,and 4) DMF/def-t index scoring form and PHPM. Questionnaire was used as instrument to assess the child's behavior, in this case their knowledge about dental health which consisted of six question items, behavior in maintaining dental health which consisted of four question items, and dietary habit which consisted of five question items.

To identify factors that influenced caries risks, the data were analyzed with chi-square test and multiple logistic regression.

RESULT

The samples in this study were 430 children, which consisted of 218 boys (50.69%) and 212 girls (49.31%). The condition of oral cavity was focused on the pH level of saliva which was mostly base (53.73%), the amount of plaque (58.60%), and caries experience (51.86%). Based on chi-square test, there was significant relationship between pH level of saliva (p=0.000 and X^2= 12.160), the amount of plaque (p=0.000 and X^2= 22.304), and caries experience (p= 0.000 and X^2= 37.874*)* with the risk of caries in children (Table 1).

Table 1.
Result of Chi-square Analysis on the Condition of Oral Cavity Factor with Caries Risk in School-aged Children

Risk Factor	Criteria	Caries Risk				p-value (sig)	X^2
		Low		High			
		n	%	n	%		
pH level of saliva	High	58	25.11	173	74.89	0.000	12.160
	Low	12	12.06	173	87.94		
Amount of plaque	High	29	11.51	223	88.29	0.000	22.304
	Low	53	29.78	125	70.22		
Caries experience	High	18	8.07	205	91.93	0.000	37.874
	Low		30.92	143	69.08		

$p<0.05$

Based on the result of chi-square test, there was a significant relationship between the child's knowledge about dental health (p=0.000 and X^2=14.257), behavior in maintaining dental health (p=0.000 and X^2=12.294), and dietary habit (p= 0,000 and X^2=30.863*)* with the risk of caries in children (Table 2).

Table 2.
Relation between Behavior Factors and Caries Risk on School-aged Children

Risk Factor	Criteria	Risk Factor				p-value (sig)	X^2
		Low		High			
		n	%	n	%		
Child's knowledge about dental health	Good	54	26.60	149	73.40	0.000	14.257
	Poor	28	12.33	199	87.67		
Child's behavior in maintaining dental health	Good	42	28.97	103	71.03	0.000	12.294
	Poor	40	14.04	245	85.96		
Child's dietary habit	Good	64	29.09	156	70.91	0.000	30.863
	Poor	18	8.57	196	91.43		

P< 0.05

The result of logistic regression analysis indicated that the condition of oral cavity factors, which consisted of pH level of saliva (p=0.036 and POR=1.932), the amount of plaque (p=0.005 and POR=2.382), and caries experience (p=0.000 and POR=4.408), influence the risk of caries in children (Table 3).

The child's behavior factors, which consisted of the child's knowledge about dental health (p=0.016 and POR=2.107), behavior in maintaining dental health (p=0.014 and POR=2.103), and dietary habit (p=0.000 and POR=3.13*)* significantly influenced the risk of caries in children (Table 3).

Table 3.
The Result of Logistic Regression Analysis on the Condition of Oral Cavity and Behavior of School-aged Children

Variable	Coefficient	p	POR	95 % CI	
pH level of saliva	0.658	0.036	1.932	1.046	3.568
Amount of Plaque	0.868	0.005	2.382	1.301	4.365
Caries experience	1.398	0.000	4.048	2.137	7.668
Knowledge about dental health	0.745	0.016	2.107	1.151	3.858
Behavior in maintaining dental health	0.743	0.014	2.103	1.162	3.805
Dietary habit	1.199	0.000	3.316	1.742	6.315
Constantan	-2.335	0.000	-	-	-
-2Log likelihood = 146,7813					
R = 0.299					
R^2 = 0.026					

Additional notes:
POR : *Prevalence Odds Ratio*
CI : *Confidence internal*
p<0.05

The result of the research indicates that 57% of the children did not know that vegetables and fruits could help dental hygiene and 81% of the children did not know that removing plaque could prevent cavity (Table 4).

Table 4.
Child's Knowledge Distribution Regarding Dental Health

Question	Aware		Unaware	
	n	%	N	%
Dental caries is cavity on the surface of the tooth	327	76	103	24
Brushing teeth regularly can prevent dental caries	383	89	47	11
Over eating candies and chocolate can cause cavity	245	57	185	43
Fruits and vegetables help to keep the teeth clean	185	43	245	57
Brushing teeth before going to bed can prevent cavity	310	72	120	28
Removing plaque can prevent cavity	82	19	348	81

Child's behavior analysis concerning dental and oral health indicated that 46% of the children occasionally brushed their teeth after breakfast, 35% rarely brushed their teeth before bed, 98% always brushed their teeth with toothpaste, and 34% never went to the dentists with their parents for checkup.

Table 4.
Child's Behavior Distribution on Maintaining Dental and Oral Health

Behavior	Always		Occasionally		Rarely		Never	
	n	%	N	%	n	%	n	%
Brush teeth after breakfast	116	27	198	46	95	22	21	5
Brush teeth before going to bed	21	5	133	32	151	35	125	29
Brush teeth with toothpaste	421	98	9	2	0	0	0	0
Go with parents to the dentists for checkup	52	12	129	30	103	24	146	34

The result of the research indicates that 39% of the children consumed sweets and cookies more than three times per day, 54% rarely ate fruits, and 43% rarely ate vegetables. 53% of the children occasionally drank water after meal (Table 5).

Table 5.
Child's Behavior Distribution Concerning Dietary Habit

Perilaku	Always		Occasionally		Rarely		Never	
	n	%	n	%	n	%	n	%
Eat sweets more than three times per day	116	27	99	23	168	39	47	11
Eat cookies more than three times per day	99	23	133	31	151	35	47	11
Eat fruits after meal	108	25	65	15	231	54	26	6
Eat vegetables in every meal	65	15	52	12	185	43	128	30
Drink water after meal	95	22	228	53	56	13	51	12

DISCUSSION

The result of the research showed that 53.72% of saliva samples had pH level > 6.5. This was comparable to the preceding studies which stated that the pH level of saliva in 9 to 11 years old was base.[11] This is due to high saliva secretion in children also which results in

high saliva volume.[9] One of the functions of saliva is to serve as buffer which helps neutralize saliva pH level after meal. Hence, high saliva volume will balance the pH level and in turn will reduce demineralization.[10]

The high amount of plaque (PHPM index > 30) indicated that most of the children had poor oral hygiene.[4] The amount of plaque affects caries risk. Plaque is one of the risk factors of caries because it contains bacterial deposit and its product that forms and attaches to the surface of the tooth. Untreated plaque can lower the level of pH.[11] Plaque on the tooth surface is acidic, which takes 30-60 minutes to return to normal pH level of 7.[12] If it is not immediately and properly removed, plaque can reduce the pH of plaque. Sharp drop in the level of plaque pH can cause to the demineralization of the email in the form of white spots. If it is left untreated, it will lead to dental caries.[13]

Caries experience is the total of DMF-T and def-t index, which affects caries risk in children. This fits perfectly with the previous study which stated that children with high caries experience had bigger risk of dental caries when they grew up.[14] Teeth with caries contain more bacteria that produce acid which lowers the pH more compared to tooth that do not suffer from caries.[15]

55.58% or 227 of the children had poor knowledge about dental health. More than half the children (57%) rarely consumed fruits and vegetables because they did not think that fruits and vegetables help to clean the teeth. 72% of the children did not know the importance of brushing teeth before going to bed and 81% had poor knowledge about caries prevention through removing the plaque (Table 5). Poor knowledge about dental health resulted in poor behavior in maintaining dental health and dietary habit.[7]

Someone's knowledge is influenced by predisposition factors which include economy status, age, sex, and family structure. Age influences the ability to learn and think. Hence, the older someone is, the more developed their learning and thinking skills are. School-aged children have started to develop logic skill.[16]As the result, good knowledge will motivate them to develop good behavior as well. School-aged children with good knowledge about dental health will develop good behavior in maintaining dental and oral health. Health-conscious children tend to choose non-cariogenic food.[7]

Most of the children had poor behavior in maintaining dental and oral health. This was visible from the low number of children who brushed their teeth regularly after breakfast and before going to bed. It is necessary to brush teeth after breakfast and before bed.[13] Children with good behavior and motivation in dental care will have low oral hygiene index and low caries index.[17] Children who regularly go to the dentists for checkup will have excellent oral hygiene because they have developed the habit of brushing their teeth at least twice a day, after breakfast and before bed.[1] 46% of the children had poor dietary habit, which was noticeable from their habit of eating sweets and cookies more than three times a day (Table 6). The habit of consuming sweets more than three times per day as snack can lead to dental caries.[10] In addition to that, most of the children in this study rarely ate fruits after meal. Fruits contain high protein and water which can help clean food residue. Consuming fruits and vegetables can also stimulate mastication function and increase saliva secretion.[19]

The result of this study indicated that more than half of the children (53.72%) had poor dietary habit. This condition stems from one of the habits of children that can cause caries, that is the habit to consume cariogenic food.[20] A child's dietary habit affects their caries risk. Children who prefer sweet food will have higher risk of dental caries.[21] One of the caries risk factors in school-aged children is their dietary habit.[3] This habit might be influenced by the

food options in school cafeteria. The survey on snacks for elementary school students in the Province of Yogyakarta showed that 80% of children consumed cariogenic food every day.[22]

CONCLUSION

Based on the research, it can be concluded that the condition of oral cavity and child's behavior statistically affected caries risk in children. The condition of oral cavity factor measured the pH level of saliva, the amount of plaque, and caries experience. Behavioral factor assessed a child's knowledge about dental and oral health, behavior in maintaining dental health, and dietary habit.

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O-07

EFFECT OF ROSELLE CALYX EXTRACT ON ORAL PATHOGENIC BACTERIA AND BIOFILM FORMATION *IN VITRO*

Herastuti Sulistyani[1], Mari Fujita[1], Hiroshi Miyakawa[1], Futoshi Nakazawa[1*]

[1]Department of Oral Microbiology, Faculty of Dentistry,
Health Sciences University of Hokkaido, Hokkaido 061-0293, Japan
*Corresponding author: Prof. Futoshi Nakazawa, Department of Oral Microbiology,
Faculty of Dentistry, Health Sciences University of Hokkaido, 1757 Kanazawa,
Ishikari-Tobetsu, Hokkaido 061-0293, Japan
Tel: +81 133 23 2484, Fax: +81 133 23 1385 E-mail: nakazawa@hoku-iryo-u.ac.jp

ABSTRACT

To investigate the effect of the roselle calyx extract (*Hibiscus sabdariffa*L.) on oral pathogenic bacteria and biofilm formation *in vitro*. Roselle calyxextract (RCE) was prepared by soakingroselle calyx powder with ethyl alcohol for 24 h at room temperature.After centrifugation, the extract was lyophilized. Then, the extract was dissolved in phosphate- buffered saline (PBS), the pH was adjusted, and the extract was aseptically filtered. We used *Streptococcus mutans*, *Lactobacillus casei, Aggregatibacteractinomycetemcomitans*, and *Porphyromonasgingivalis*in this study. The minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) was determined using the micro dilution method, and the effect of the RCE on the biofilm formation was determined using a polystyrene micro plate assay.In addition, we used the WST-1 assay to determine the cytotoxicity of the RCEon HGF, Ca 9-22 and KB cells. The RCE had antibacterial activity against oralbacteria used in this study. The MIC and MBC were 7.2–28.8 mg/mL and 28.8 to >57.6 mg/mL.The RCEhad aninhibitory effect on biofilm formation at the MIC and sub-MIC levels. In addition, the RCE had low cytotoxic effects on HGF, Ca9-22 and KB cells. Thus, our results indicate that the RCEmay be used for preventing oral infectious diseases.

Keywords: oral bacteria, oral biofilm, oral cells, Roselle calyx extract

INTRODUCTION

Dental caries and periodontitis have become a global health problem. *Streptococcus mutans*, a gram-positive coccus, is the causative agent of dental caries; however, other bacteria, including *Lactobacillus*and *Actinomyces* may be involved in human dental caries. These species adhere and accumulate on the tooth surface by producing extracellular polysaccharides from sucrose in the oral cavity. Thisspecific characteristic of the bacterial species is essential for the formation and development of the biofilm[1,2]. Specific periodontopathic bacteria isolated from human dental biofilm such as *Porphyromonasgingivalis*, *Prevotellaintermedia*, *Fusobacteriumnucleatum*, and *Aggregatibacteractinomycetemcomitans*induce periodontitis[3]. These infections can be prevented by mechanical removal of the oral biofilm by brushing the teeth and flossing. However, someindividuals, particularly children and elderly, may not be able to achieve mechanical removal of the biofilm.[4]

Chlorhexidine (CHX) is generally accepted as the standard antibiofilm agent in the field of dentistry. However, the use CHX not only remains controversial but also has adverse effects, including staining of teeth, detrimental effect on vital tissues and development of hypersensitivity reactions.[2,5,6] Therefore, development ofnovel agents for inhibiting the growth

and ability of biofilm formation of bacteria is required as one of the strategies for the prevention of dental caries and periodontitis.

The use of plant extracts as alternative medical treatments has become popular in the recent years. The term “plant products” usually refers to secondary metabolites produced by plants. Typically, these subtances serve as the defence mechanism for the plant against predation by microorganisms, insects, and herbivores.[7] *Hibiscus sabdariffa* L(family Malvaceae), commonly known as roselle or red sorrel in English, is widely grown in Central and West Africa, Southeast Asia, and other regions. Roselle is an annual, erect, bushy, 2.4-m tall herbaceous subshrub. It grows widely in the tropical and subtropical areas. The thick, red and fleshy, cup- shaped part of the flower is known as calyx; the calyx has been used worldwide in cold and hot beverages, puddings and jellies, etc. [8,9,10]

Roselle calyxis rich in secondary metabolites, which have medicinal properties. Previous studies have shown that the calycescontain flavonoids such as gossypetine, hibiscetin and sabdaretine; alkaloids; and saponins.[11,12] In addition, roselle extract contain hibiscus acid, hydroxybenzoic acids, flavonols, anthocyanins and other polyphenolic compounds [13]. Roselle extract has been used in folk medicine. The extract has antihypertensive [14], hepatoprotective [15], antihyperlipidemic[16], antioxidant[17], anticancer[18], anti-inflamatory[19], antimicrobial properties.[12,20]. Although there werestudies have reportedthe effects of roselle as an herbal medicine, to date, only a few studies have examined the effects of roselle calyx extract (RCE)as an antibacterial agent, particularly in the field of dentistry. Thus, the purpose of our study was to investigate the effects of RCE on oral pathogenic bacteria, particularly the antibacterial effect on target organisms, inhibition of biofilm formation, and cytotoxic effect on human oral cells.

MATERIAL AND METHODS

Preparation of the RCE

Plant material was collected and identified by the Central Research and Development of Medicinal Plant and Traditional Medicine, Tawangmangu, Central Java, Indonesia. We soaked 16 g roselle calyx powder was soaked in 160 mL ethyl alcohol (Wako Pure Chemical Industries Ltd) with shaking for 24 h at room temperature. After centrifugation, the extract was lyophilized. Then, the extract was dissolved in phosphate-buffered saline (PBS), the pH was adjusted to 7.0, and the extract was aseptically filtered through a disposable membrane filter unit with a 0.45- µm pore size. The extract was stored in the freezer at - 20°C for the further experiments.

Bacterial strains and culture conditions

The bacteria used in this study were S. mutansIngbritt, Lactobacillus casei ATCC 4646, ,Aggregatibacteractinomycetemcomitans ATCC 29522 andPorphyromonasgingivalis ATCC 33277[T.]. S. mutans and L. caseiwere cultured in trypticase soy (TY; Difco, Detroit, MI, USA) agar supplemented with yeast extract (1 mg/mL). Brain-heart infusion-blood agar supplemented with hemin (BHI-HM) (10µg/mL; Sigma, St Louis, MO, USA), and menadione (5 µg/mL; Sigma) was used to culture AggregatibacteractinomycetemcomitansandP. gingivalis. All strains were cultured under anaerobic conditions (85% N_2, 10% H_2, and 5% CO_2) at 37°C for 72 h.

Minimum inhibitory concentration and minimum bactericidal concentration

The minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) were determined using microdilution methods [21]. Bacteria from overnight culture

were adjusted to an optical density (OD) of 1.0 at 600 nm, and then diluted in appropriate growth medium. Bacterial suspensions of each bacterium were plated on 96-well flat-bottom microplates (Sigma-Aldrich, USA) and were treated with different concentrations of the RCE to obtain final bacterial concentration of 1 X 10^5 to 5 X 10^6cfu/mL. Then, the plates were incubated at 37°C in anaerobic conditions for 24 h. The MIC was defined as the lowest concentration of the extract that completely inhibits the growth of the bacteria as detected by the unaided eye. For the determination of the MBC, we inoculated a 100-µL aliquot of the bacterial suspension on agar plate from those wells that contained the RCE at the MIC and at concentrationcs higher than the MIC. The MBC was defined as the lowest concentration at which bacteria did not grow on the agar plate after the incubation period.

Effect on biofilm formation

We examined the inhibitory effect of different concentrations of the RCE on the ability to form biofilm by using a polystyrene micro plate assay. The bacterial suspensions from overnight broth culturewere adjusted to an OD of 1.0 at 600 nm, and then diluted in BHI-broth supplemented with sucrose 1% to 2% (S. mutansand L. casei), BHI-broth (Aggregatibacteractinomycetemcomitas) or GAM-broth (P. gingivalis). Thereafter, the bacterial suspensions were treated with different concentrations of extract or PBS as a control in 96-well flat-bottom micro plate. The final concentration of bacteria was 1 x 10^5 cfu/mL to 5 x 10^6cfu/mL. The plates were then incubated in anaerobic condition for designated times appropriate for each bacterium (16 h–72 h). After incubation, the medium was removed, and then, the wells were gently washed with PBS and air-dried. The biofilm formed on the bottom of the plate was stained with 50 µL of 0.1% crystal violet (CV) for 15 min at room temperature, and the wells were gently washed and bound dye was extracted by adding 200 µL of ethyl alcohol. The amount of biofilm formed was quantified by measuring the resulting ethyl alcohol solution at 595 nm on a microtiter plate reader TECAN Infinite ™ 200 (Tecan Deutschland GmbH, Crailsheim, Germany). The inhibitory effect of RCE on biofilm formation was determined as a proportion of control (100%). All experiments were performed in triplicate.

Cytotoxicity

Human gingival fibroblast (HGFs) and human mouth epithelial cells (Ca9-22 and KB cells) were grown in Dulbecco's modified Eagle's medium (DMEM, Sigma-Aldrich) supplemented with 10% fetal bovine serum (FBS), penicillin (100 U/mL), streptomycin (100 µg/mL), and amphotericin B (100 µg/mL). The cells were cultured at 37°C in a 5% CO_2 incubator to obtain 90–100% confluence and used at 3–10 passages. After washing with PBS, the cells were detached from the culture plate by treatment with 0.05% trypsin-EDTA (GIBCO). The cells were counted using a haemocytometer (EKDS, Tokyo), and then diluted to obtain 1 x 10^5/mL. We cultured a 100 µL of the cell suspension in a 96-well plate and incubated it for 24 h at 37°C in a CO_2 incubator. Then, the cells were treated with 100 µL RCE, CHX, or PBS for 20 min. For measurement of viable cells, 10 µL of water-soluble tetrazolium salt, 4-[3-(4-iodophenyl)-2-(4-nitrophenyl)-2//-5-tetrazolio]-1,3-benzene disulfonate (WST-1, Roche, Germany) was added to the cells. They were incubated for 30 to 60 min at 37°C in a CO_2 incubator, and then the absorbance of each well was measured by using microtiter plate reader at a wavelength of 450 nm. Viable cells were evaluated as follows: [(OD_{450} of treated cells and reagent - OD_{450} of reagent without cell)/(OD_{450} control cells and reagent - OD_{450} of reagent without cell)] x 100. The decrease in viable cells was expressed as a percentage of control. All experimenstwere performed in triplicate.

Statistical analysis

Statistical analysis was performed using SPSS 21 software. Results were obtained in triplicates and were expressed as mean ± standard deviation (SD). The significance of the differences between groups was determined using independent *t*-test with a value of $P < 0.05–0.01$.

RESULTS

MIC and MBC

The RCE (pH 7.0) showed bacteriostatic and bactericidal effects against four oral pathogenic bacteria. The MIC and MBC values are shown in Table 1. The MIC ranged from 7.2 to 28.8 mg/mL and the MBC ranged from 28.8 to more than 57.6 mg/mL.*S. mutans*and *P. gingivalis* were the more sensitive bacteria (MIC= 7.2 mg/mL) than*L. casei,* and *Aggregatibacteractinomycetemcomitans* (MIC = 28.8 mg/mL).

Table 1.MIC and MBC of RCE against four oral pathogenic bacteria.

Bacterial strains	MIC (mg/mL)	MBC (mg/mL)
S. mutans	7.2	57.6
L. casei	28.8	>57.6
A. actinomycetemcomitans	28.8	57.6
P. gingivalis	7.2	28.8

Effect on biofilm formation

The effect of the RCE on the formation of biofilmby *S. mutans*, *L. casei*, *Aggregatibacteractinomycetemcomitas* and *P. gingivalis*is shown in Figure 1. RCE at the MIC and sub-MIC levels were used in these experiments. RCE inhibited biofilm formation by *S. mutans* ($P < 0.05$) and *P. gingivalis* at concentration of 0.9 mg/mL ($P < 0.01$), that by *L.casei* at 1.8 mg/mL ($P < 0.01$), and *Aggregatibacteractinomycetemcomitans* at 7.2 mg/mL ($P < 0.05$). The 50% inhibitory concentration of RCE on biofilm formation was 0.9 mg/mL for *S. mutans and P. gingivalis;* 7.2 mg/mL for *L. casei* and *Aggregatibacteractinomycetemcomitans*.

Cytotoxicity

To determine the cytotoxic effects caused by the RCE, we determined the viability of cells from the oral cavity by using WST-1 assay. Cell viability of all cell lines used in this study was ≥ 60% after treatment with the RCE for 20 min (Figure 2). HGF cells showed the highest viability (82.9%), whereas Ca9-22 cells showed the lowest viability (60.9%). Our results showed that the RCE was less cytotoxic to oral cells. The viability of cells treated with CHX was significantly different from that of the control cells ($P < 0.05$).

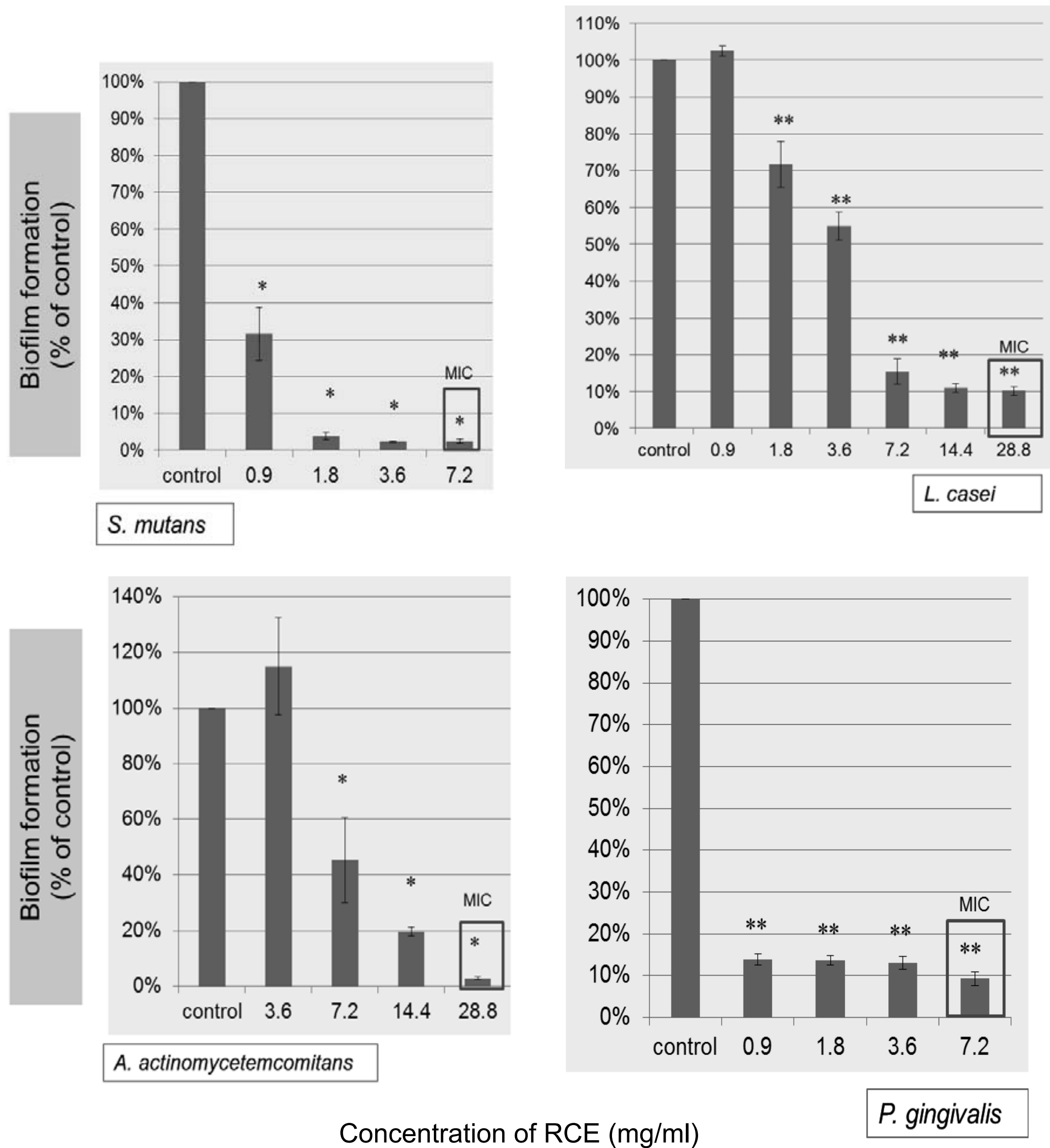

Figure 1. Inhibitory effect of RCE on biofilm formation of *S. mutans*, *L. casei*, *A. actinomycetemcomitans,* and *P. gingivalis*. Experiment used RCE at MIC and sub-MIC levels in triplicate. The biofilm formation was performed as percent of control. **P*< 0.05, ***P*< 0.01: significantly different from the control.

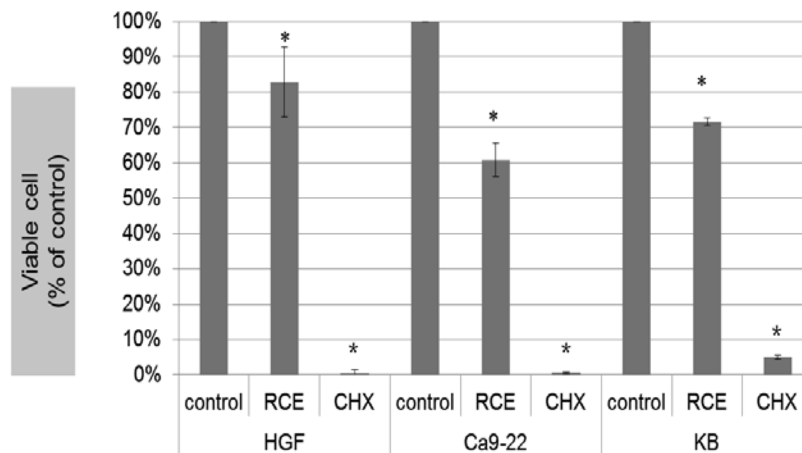

Figure.3. Cytotoxicity of RCE on human oral cells.
Control: PBS, CHX: chlorhexidine 0.05%, RCE: roselle calyx extract.
The viable cells were performed as percent of control.
*$P < 0.05$: significantly different from the control.

DISCUSSION

CHX is widely used in mouthwashes for the prevention and treatment of oral diseases because it can inhibit the growth of oral pathogenic bacteria. However, CHX is cytotoxic to human periodontal cells, inhibit protein synthesis, affects mitochondrial activity, and thus, has adverse effects on vital tissues.[5] Therefore,it is important to find the alternative agents that are less cytotoxic and can be used for prevention of oral diseases. In this study, we used the extract of roselle calyx, a plant that is known to have many medicinal properties.

We found that RCE had bactericidal activity against both cariogenic and periodontopathic bacteria. RCE showed strongest inhibitory activity against *P. gingivalis*, which indicated that RCE was more effective against gram-negative bacteria than gram-positive bacteria. The difference in the effect of RCE on gram-negative bacteria and gram-positive bacteria maybe because of the the differences in the bacterial cell wall structure. The peptidoglycan layer in the cell wall of gram-positive bacteria is thicker than that in the gram-negative bacteria, which inhibits the RCE from entering the cell membrane of gram-positive bacteria [21]. The MBC of RCE was different for gram-negative and gram-positive bacteria; the MBC was 28.8_57.6 mg/mL and 57.6 to >57.6 mg/mL, respectively. Our results are consistent with those of a previous study, which showed that the roselle extract had the highest zone of inhibition for *Escherichia coli*, a non-oral gram-negative bacterium. [23]The antibacterial activity observed in our study may be because of the main compound in the RCE, such as flavonoids. Flavonoids have the ability to bind with bacterial cell walls. In addition, with the number of hydroxyl groups present on the phenolic ring increase because of hydroxylation, which in turn leads to increase in the antimicrobial activity.[7]

Between the gram-negative bacteria, *Aggregatibacteractinomycetemcomitans* was the less sensitive against RCE; the MIC of *Aggregatibacteractinomycetemcomitans* approached to the MIC of the gram-positive bacteria. This finding was also reported in a previous study. *Aggregatibacteractinomycetemcomitans* was less sensitive than *Prevotellaintermedia*, *P. gingivalis* and *F. nucleatum*to garlic extract[22]. Moreover, *Aggregatibacteractinomycetemcomitans*was less sensitive to a combination of metronidazole

and amoxicillin.[24] These bacteria may modulate the aspect of virulence factor and control cellular adaption to growth under limiting conditions.[25]

Oral biofilm plays in important role in the pathogenesis of oral diseases, and the inhibiting the biofilm formation is one of the approaches for preventing oral diseases. For determining the effect of RCE on biofilm formation, the extract at sub-MIC level is used. Thus, the decrease of the amount of biofilm formed is not because of the inhibition of bacterial growth, but because of the inability of the bacteria to form biofilm. Our results showed that RCE at sub-MICs level could inhibit the formation of biofilmby eight bacteria in a dose-dependent manner (Figure 1). Although the mechanisms underlying the inhibitory effects of RCE on the ability to form biofilm are still unknown, the inhibitory effects may be due to flavonoid and tannins present in the RCE. The inhibitory effects of the extract on biofilm formation depend on the phenolic compounds present in the extract, because these compounds bind strongly to proteins and the enzymes, thus the bacteria are unable attached to the tooth surface. Adhesion and colonization are very important steps for biofilm formation.[2] We showed that the RCE at sub-MIC levels significantly inhibited biofilm formation by gram-positive and gram-negative bacteria. The effects of RCE on biofilm produced by a mixed culture of bacteria should be examined in future studies.

While developing novel agents as oral care products, their toxic effects on human oral cells should be carefully examined. An ideal oral care product should be an efficient antimicrobial agent but should not be toxic to human oral cells. Our results showed that the RCE had low toxicity against HGF, Ca9-22 and KB cells. Thus, RCE is safe to be used as an oral care product. Our findings are consistent with those reported previous study, which showed that the RCE was safe in brine shrimps lethality assay.[12]

CHX is chemical substance with excellent antimicrobial action. It is active against a wide range of microorganisms. However, a previous study showed that CHX at a concentration of more than 0.05% completely inhibits protein synthesis in human periodontal ligament cells. Thus, CHX may cause detrimental effects on vital tissues.[5] In addition, our study showed that CHX has cytotoxic effect against HGF, Ca9-22 and KB cells ($P < 0.05$). These results indicate that RCE is safer than CHX as an oral care product.

Our results indicate that RCE exerts antibacterial activity against gram-positive and gram-negative bacteria, with a strong activity against gram-negative bacteria. Moreover, at sub-MIC levels, RCE inhibits the formation of biofilm by gram-positive and gram-negative bacteria. In particular, RCE has lower cytotoxicity than CHX, a product widely used as mouthwashes. Therefore, because of the favorable bioactivity and a simple process involved in producing the extract from the plant, RCE has a high potential to be used as a novel agent for prevention oral infectious diseases. Further studies are required to investigate the effects of RCE in clinical practice and to examine the complexity of life span of oral bacteria in natural environments.

Conflict of interest statement

The authors report no declaration of interest.

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O-08

MAPPING MODEL OF ECOLOGY PLANTS, PHYSICAL ENVIRONMENTAL FACTORS AND BREEDING PLACES OF MALARIA MOSQUITO IN MALARIA ENDEMIC AREAS IN OESAO VILLAGE, KUPANG DISTRICT

R.H. Kristina, SKM, M. Kes.

Health Polytecnic of Health Ministry Kupang, Indonesia
Email : kristina_ragu@yahoo.co.id

ABSTRACT

Environmental risk factors, both physical and biological environment (ecology of plants/herbs, forest) equally are the risk factors for the proliferation of the mosquito *Anopheles sp.* The aim of the research was to determine the spatial mapping models of plant ecology, physical environment, and potential habitat of the mosquito *Anopheles sp.* The study was descriptive epidemiology research with Cross Sectional Study design. This study was conducted in Kupang district in the area of Oesao village in October until November 2014. The study population were plants ecology, physical environmental parameters, and all habitat of *Anopheles sp* in Oesao village, and the sample was total population. Methods of sampling technique used purposive sampling.

Mapping of plants ecology showed that were paddy fields (169 ha), coconut and banana trees (56,68 ha), maize (67,03 ha), vegetables (59,53 ha), bushes and grass (21,52 ha) and forest (16,24 ha). Mapping of physical environmental parameters showed the result pH 6.60 - 6.98 and water temperature 29.38°C - 31.27°C. Mapping of breeding places showed were : paddys fields, wetlands, puddle river, irrigation channels, and dam. Mapping of larvae densities of *Anophelles sp*, showed that were two species of mosquitos, *Anophelles vagus* had larvae density ranges between 1-3 tails per detention, and *Anophelles annularis* had larvae an average density of 1- 2 tail per detention. All mapped plants ecology were potential habitats as breeding sites and mosquito breeding *Anophelles sp*. pH and temperature of water condition were very supportive of growth and transmission of malaria in Oesao village.

Keywords**:** mapping of plant ecology, mosquito malaria

BACKGROUND

Malaria is a disease that causes a lot of deaths in developing countries, children and pregnant women are the most vulnerable. Approximately portion of the world's population at risk of malaria, and an estimated 225 million cases of malaria with 781 000 deaths due to malaria in 2009[1].

East Nusa Tenggara Province is one of the provinces with the highest number of malaria cases 3 in Indonesia, the number of confirmed cases of malaria by blood tests is 16.37%[2]. Based on the annual report the Provincial Health Office NTT figures Annual Parasite Incidence (API) to Kupang district during the last three years is quite high, namely the year 2009 with an API of 3.55 ‰, in 2010 with the API of 6.48 ‰ and in 2011 with API by 6.72 ‰[3].

In the province of NTT, risk factors for the environment, both the physical environment and biology (ecology of plants / herbs, forest) together into a risk factor for the proliferation of the Anopheles sp mosquito, it is because the deployment, grouping and plant species vary greatly, coupled with the temperature, light intensity, air temperature, humidity, wind speed and precipitation are very suitable or adequate for breeding of Anopheles sp mosquitoes[4].

Life bionomics mosquitoes that fits with the environment, as well as cultural factors of society and people's behavior become a reinforcing factor and enabling factors that also favor the proliferation of the Anopheles sp mosquito in NTT Province, so that cases of malaria are still high and it is becoming a major problem in the fight against malaria.

This time has not been done mapping of spatial (geographic) to the physical environmental factors and ecology of plants, as well as breeding places of mosquitoes, based on local area-specific by using the proper equipment and accurate technology-based, in order to obtain a picture of the physical environment, as well as patterns of ecology (type and extent of forest / crop / plant), and the description of the location of mosquito breeding sites by geography (rivers, finger bowl, dams, lakes, ditches).

This study aimed at mapping the risk factors associated with malaria, namely : plant ecology, physical environment, as well as the mapping of the potential habitat of the Anopheles sp mosquito. Further description of the mapping of the various risk factors are used as a basis for intervention of malaria in malaria-endemic areas in Kupang district.

METHODS

Study Design

The study was descriptive epidemiology research with ecology and geography survey method. Study design using Cross Sectional Study. This study was conducted in Kupang district in the area of Oesao village. This study was conducted for 2 months, in October-November 2014. The population in this study is the entire habitat of the Anopheles sp mosquito, Ecology plants as well as physical parameters such as pH and temperature in Oesao Village, Kupang.

Data Collection Method

Secondary data retrieval in health centers, the District Health Office and the Provincial Health Office to data of positive cases of malaria by blood tests.

Data of Mapping habitat, and habitat range, as well as plants Ecology mapping and measurement of physical environmental parameters, the third variable is measured together, at the same time period.

Mapping the larval habitats of Anopheles sp done by using GPS tracking on all of larval habitats of Anopheles at the sites. Buffer larval habitat or the distance to home use cases Arc.GIS application version 9.3. According Boewono and Ristiyanto (2004) distance between the larval habitat and home malaria cases were divided into three (3) zones, among other things: a). The potential red zone (red buffer zone), a home range of malaria cases are most adjacent to the larval habitats of Anopheles sp with a radius of 0-100 meters ; b). potential zone yellow (yellow buffer zone), a distance of malaria cases homes are some distance with a larval habitats of Anopheles sp with a radius of 100-200 meters ; c). the potential zone of green (green buffer zone), the incidence of malaria cases within the home is relatively far with a larval habitats of Anopheles sp with a radius of 200-300 meter[5].

Instruments

The equipment used in this study in the form of equipment was GPS(Global Positioning System) coordinates for retriev a land tracking where habitat at the study site and the Software Program and Arc-GIS gis 9.3 for data processing.

Data Analysis

The data obtained are presented in tabular form and spatial map images and then analyzed spatial and descriptive analysis. Spatial data processing (spatial) using spatial data analysis program.

RESULTS

Mapping Larvae Habitat, Plant Ecology and breeding places

Combined maps breeding places (Habitat larvae) and plant Ecology as illustrated in Figure 1 in the Sub District Oesao Kupang

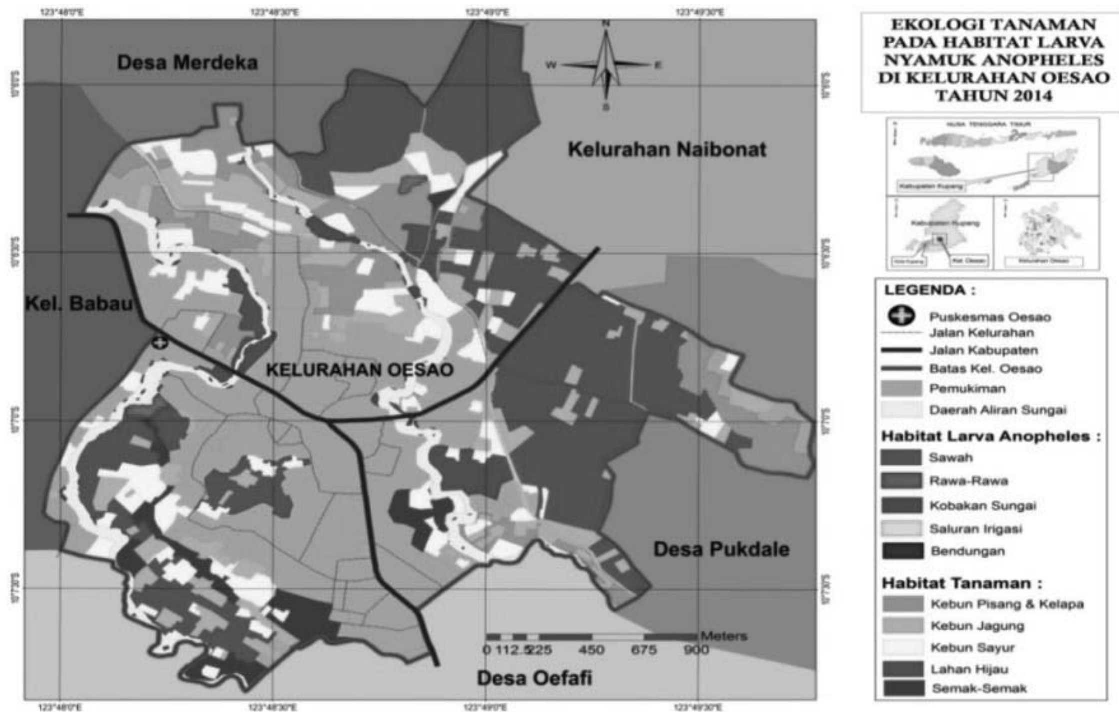

Figure 1.
Combined maps breeding places (Habitat of Larvae Anopheles sp) and the ecology of plants in Oesao Village

Map larval habitat consists of 4 types of habitat namely: rice field habitat, habitat marshes, rivers finger bowl habitat, habitat irrigation canals, dams and habitat.

Based on the Figure 1 above, it appears that habitat for the larvae of the rice fields (fields) has a larger area than the other larval habitats, habitat size rice (paddy) is: 169.00 Ha. Habitat larva in addition to the rice fields are: water dams, marshes, irrigation channels and rivers finger bowl. All the good habitat area of rice fields, water dams, marshes, irrigation canals and the river becomes a finger bowl for breeding larvae of Anopheles sp mosquito. From the overview map of the above it appears that all types of potential habitat for the growth and proliferation of larvae anopheles mosquito located in this region, with an area large enough.

Plant Ecology of Coconut and Bananas

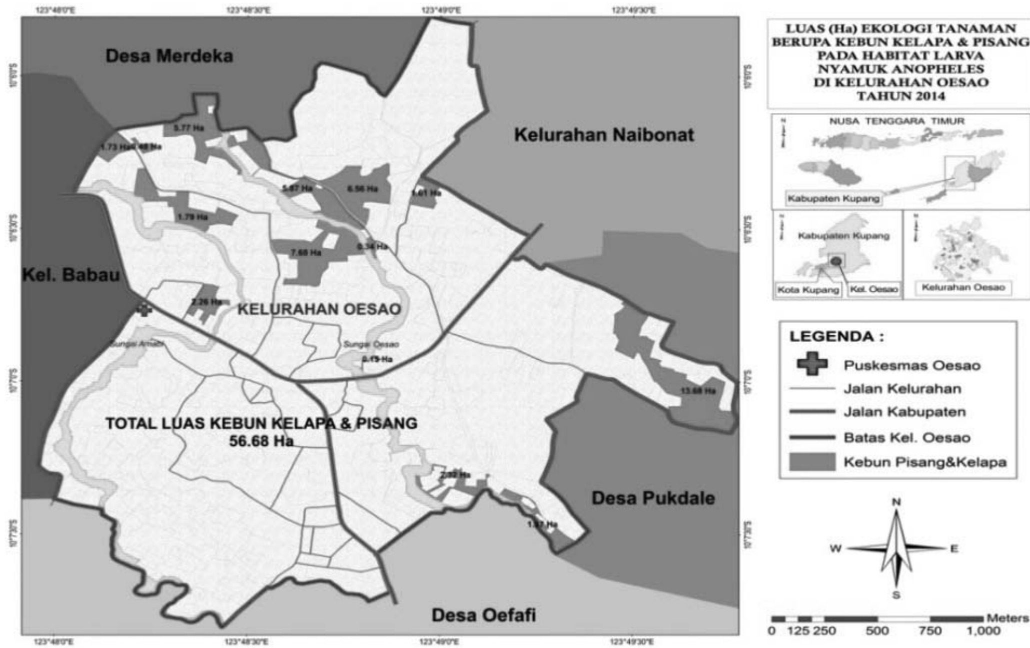

Figure 2.
Map of Plant Ecology Coconut and Bananas along with extensive area in Oesao Village

From Figure 2 above, the area of coconut groves and banana 56.68 are hectares. Coconut and banana are a type of plant tall trees, there is no research that shows that the leaves of palm trees and banana leaves area favorite place for Anopheles sp. mosquitoes resting place.

Plant Ecology of Maize

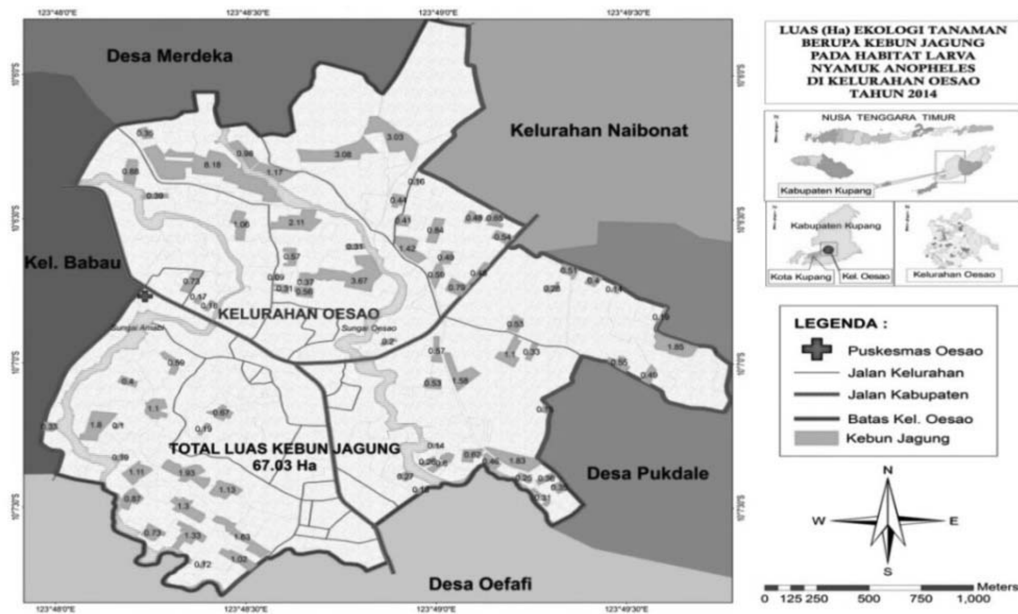

Figure 3.
Map Corn Plant Ecology along with the breadth in Oesao Village

Based on Figure 3 above, map the spread of the corn (types of plants are not high) is spread evenly on the entire territory of the village. Wide cornfield in the Oesao village was 67.03 hectares. From all types of plants, gardens of corn has the greatest area.
Vegetable cropswhich are foundin Oesao village is mustard greens, kale-kale/cabbage, cassava, sweet potatoes. The area of vegetable crops as much as 59, 53 hectares. Most of the in habitants work is short-term planting vegetables in the fast time can be directly harvested. Besides being used for own consumption is also for sale. Here is the spread of vegetable crops in Oesao village.

Plant Ecology of Vegetables

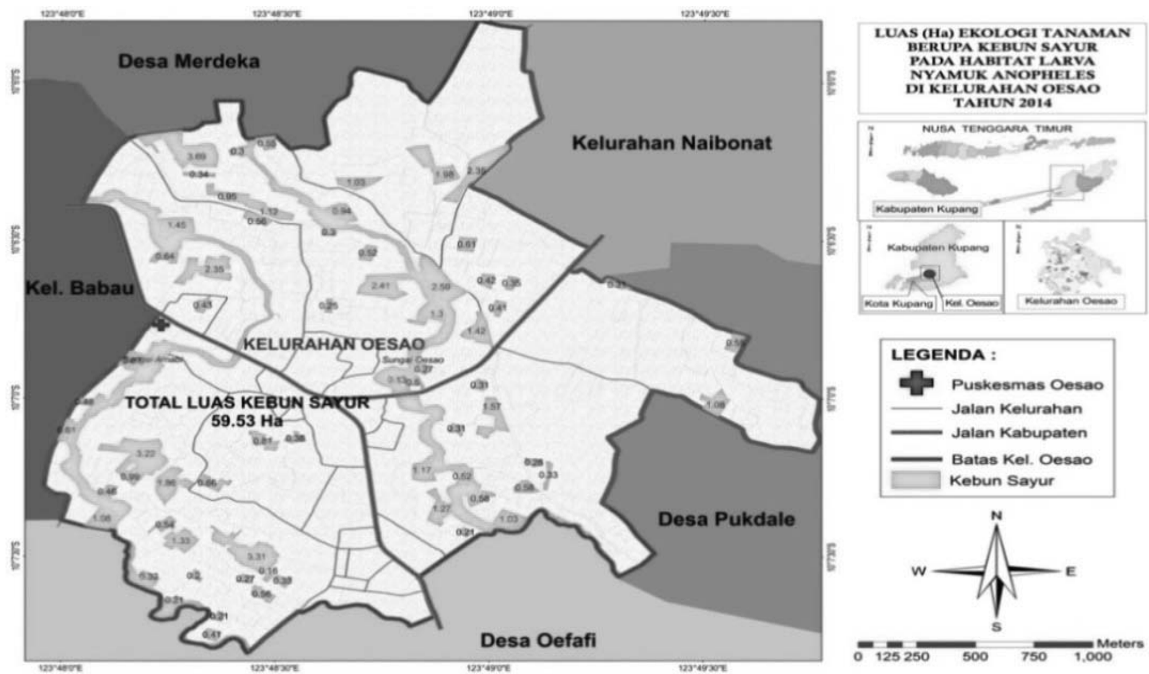

Figure 4.
Map of Ecological Vegetable and breeding places in Oesao village

Types of plants belonging shrubs include : reeds, grasses, shrubs are not high. Based on Figure 4 above shows that the area of the bushes 21,52 ha.

The water temperature on the larval habitat

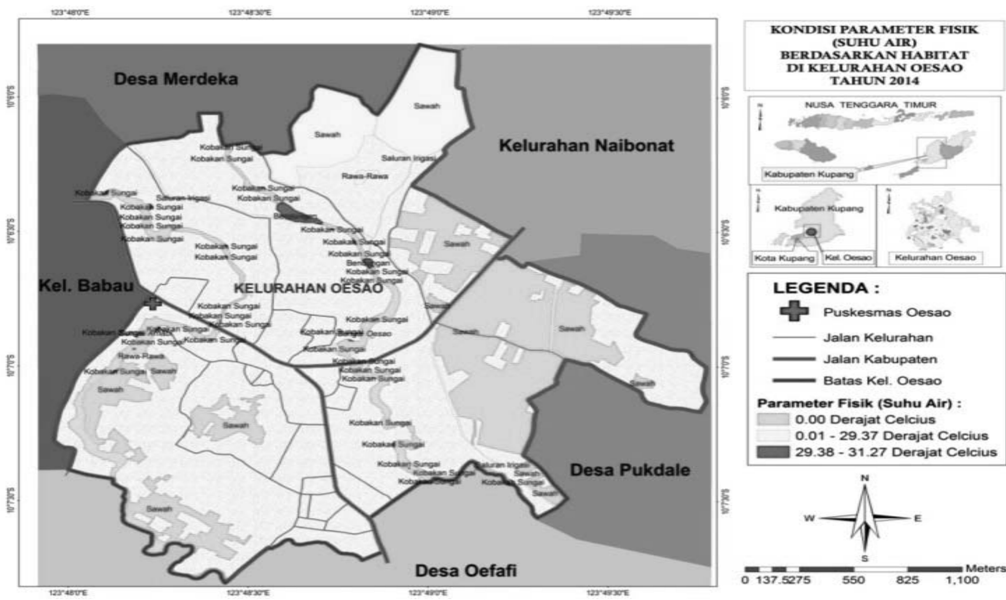

Figure 5.
Map Physical Environmental Conditions (Water Temperature) in Oesao village

The optimum water temperature for the growth and proliferation of the mosquito Anopheles spranging from 27^0C-29^0C, the temperature is more than just a few species of anopheles mosquitoes can breed.

Map Water pH conditions in the larval habitat

The optimum pH for the growth and proliferation of anopheles sp mosquitoes is ranged from 6.8 to 7. The following description of the pH of the water in the larval habitat in the Oesao village as follows:

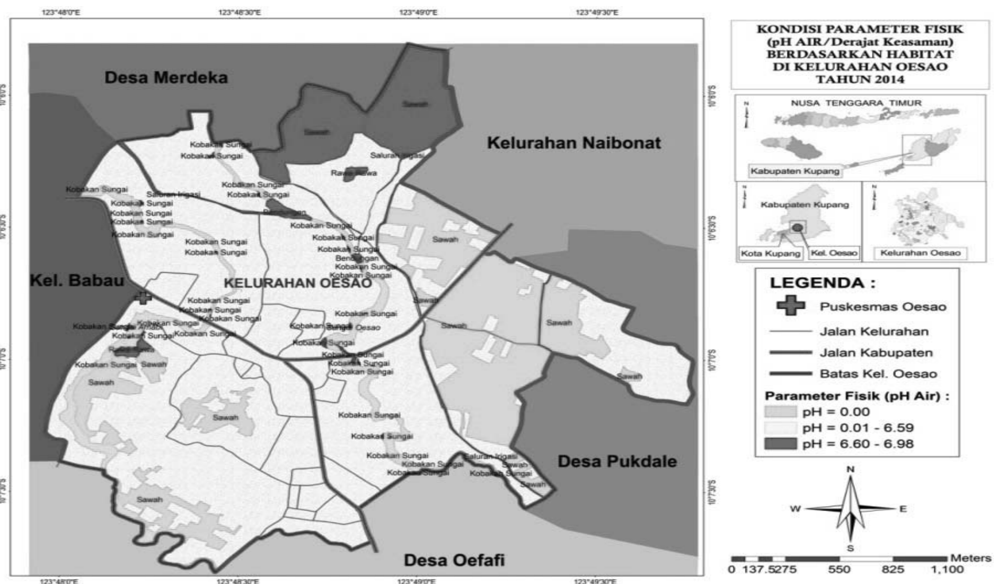

Figure 6.
Map Physical Environmental Conditions (pH Water) in Oesao Village

Based on Figure 6 above pH of water in rice fields where mosquito breeding locations are at normal pH conditions ranged from 6.60 to 6.98 or are in the normal pH of 6.60 to 7.00.

The larvae's density of Anopheles vagus

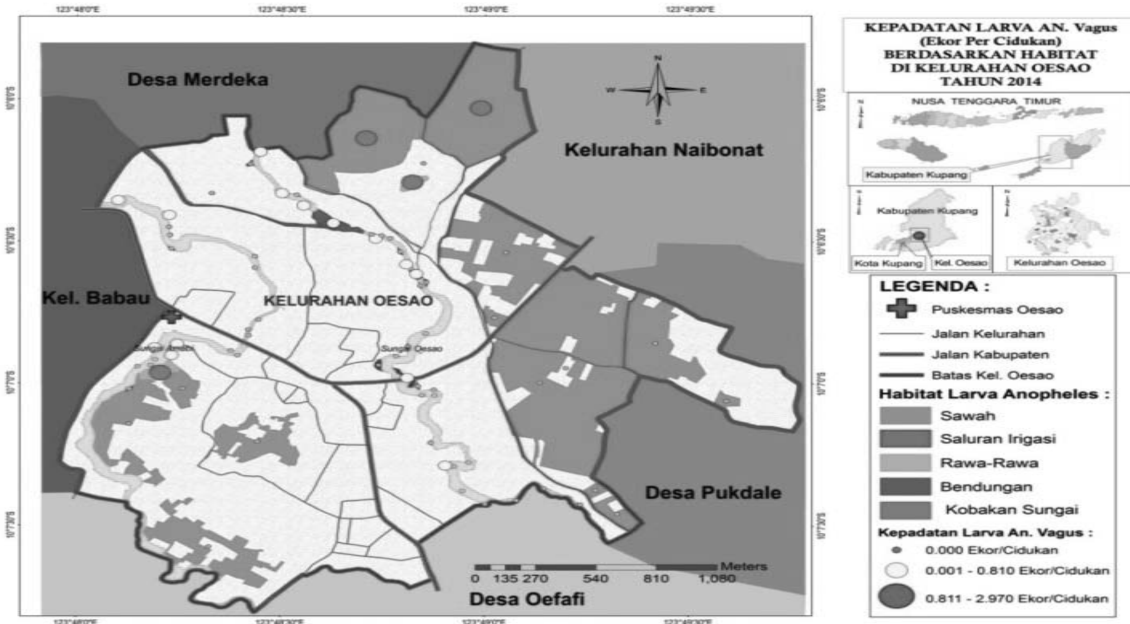

Figure 7.
The density of larvae of Anopheles vagus map by Habitat in OesaoVillage

Based on Fig. 7 above shows that the number density of larvae anopheles vagus ranged between1-3 cows per detention.

The larvae's density of Anopheles annularis

In addition to the Anopheles vagus species are also found in the village anularis kind anophelles Oesao. Both species have already become positive vector-borne diseases malaria in NTT Province. Here will be described the mapping of the location where larvae Anopheles anularis and density. Of the existing maps showed number of Anopheles annularis's larva an average density of 0.74 to 2.19 perdetention rounded tail 1 – 2 cows per detention.

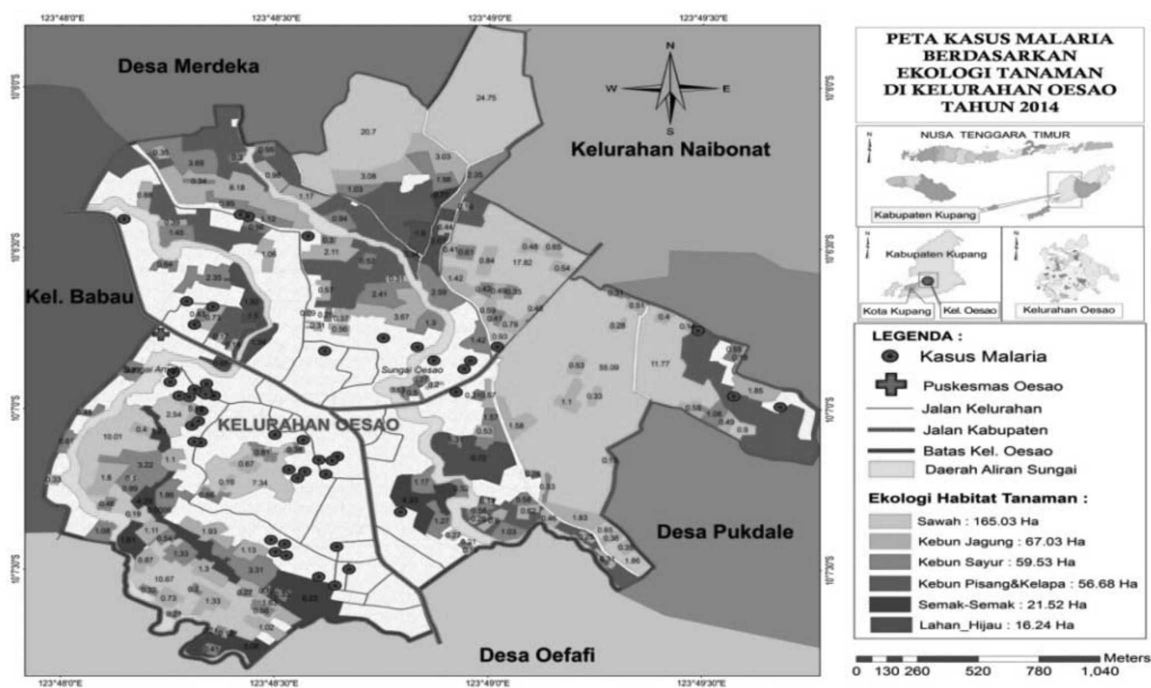

Figure 8.
Map Distribution of Malaria Cases and Plant Ecology in Oesao Village

From the description of the distribution of cases in the map looks spread evenly, and the type of plasmodium is falciparum and vivax.

DISCUSSION

Mapping of Plant Ecology

Ecology is a whole crop of plants according to the type and extent of supporting the growth and proliferation of the mosquito vector Anopheles sp, particularly for mosquito resting places, as well as producers for the supply of oxygen (O_2) for the survival of mosquitoes and other living beings[6].

In general there is a correlation between the presence of plants, plant species as well as the vast fields of crops on the growth and proliferation of mosquitoes Anopheles sp[7], type certain crops such as paddy, plant spinach, grass, bushes, shrubs which is not high into a suitable resting place for mosquitoes Anopheles sp. From the results of this study found larvae density of 1-3 individuals per detention in rice fields. If associated with an area of rice fields, the rice fields are the most widespread crop fields in Oesao village. This is because the geographical structure of the soil and climate and rainfall are suitable for rice cultivation, so the main livelihood of the people Oesao are planting rice in the paddy.

The ecology of rice fields along with a whole environment in which there is a sewer water for irrigation of rice fields, the flow of water that flows remains on the rice field, as well as areas where the water is stagnant with grass plants as a protector[8], it can be concluded paddy fields become breeding places were dominant for and mosquito larvae of Anopheles sp in Oesao village. Another fact that support is the result of the measurement of the temperature of the water in the rice field area average of 29.37°C range, measurements are made at the peak of the dry season with extremely hot ambient temperatures. The optimum

temperature for growth and proliferation of mosquito larvae Anopheles sp is 26-30°C[9]. On the other references mentioned temperature optimum for the development and growth of mosquitoes is 20°C-30°C[10]. Similarly thing with results pH measurements in the area of rice fields ranging between 6.6 - 6.98, pH optimum for larval development is 6-8[11].

Another fact of the ecology of this plant, researchers found in Oesao village there are all kinds of plants ranging from groups of shrubs (including reeds and grasses), a group of vegetables (collards, kale, eggplant, sweet potato, cassava), group crop rice (paddy), a group of tall plants (coconut and banana), until the forest area (green area). Some experts suggested that the vector of growth is closely related to the amount and type of vegetation[12]. Land area and crop influence the resting place and breeding ground, the bigger and the more the better types of plants for mosquitoes resting place than the area that is dry and barren[13]. From the aspect of environment (pH and temperature) contributed positively to the growth and proliferation of mosquitoes, humidity and rainfall coupled with adequate annually. Geography and meteorological factors (temperature, humidity, rainfall, altitude from sea level) is very favorable transmission of malaria[14]. This is the main factor why the cases of malaria in Oesao village quite high.

Mapping The mosquito brood (larvae Habitat)

Mapping picture on larval habitat consists of five types of habitat namely: rice field habitat, habitat marshes, rivers finger bowl habitat, habitat irrigation canals, dams and habitat. Place mosquito breeding habitats is a puddle of water on the rice paddy as well as the flow of water for irrigation of rice fields that flows continuously on the edge of rice fields. Fig.1 Based on the above, it appears that rice habitat has a greater area than the other larval habitats, habitat size rice (paddy) is 165.03 ha. In this study, paddy has two roles, namely as larval habitats as well as the ecology of the rice plant, so the researchers classified the rice fields as well as the ecology of plants and habitat for mosquito breeding places of malaria. In the discussion over rice habitat is closely associated with the life of the malaria mosquito bionomics[8].

Another factor that is found from previous studies in Sub Oesao is adult mosquitoes at rest happy resting on the ground excavation / mound / terraces in the field, most likely so that adult mosquitoes are not far from puddles, ditches, irrigation canals rice can reached when mosquitoes want to put their eggs in water[15]. Habitat larva in addition to the rice fields are: water dams, marshes, irrigation channels, and a finger bowl streams. All the good habitat area of rice fields, water dams, marshes, irrigation canals and the river becomes a finger bowl breeding mosquito larvae Anopheles sp[16].

From the overview map of the above it appears that all types of potential habitat for the growth and proliferation of mosquito larvae Anopheles sp an area large enough.

Parameter Mapping The physical environment (pH and temperature)

Results of pH measurement for water on mosquito breeding in rice fields in Oesao vilage locations are in normal conditions, the pH ranged from 6.60 to 6.98 or are at normal pH (6.60 to 7.00). Similarly, in other larval habitats such as dams and irrigation channels the average pH 6 - 7. According to Setyaningrum et al[11], study results the breeding ecology of malaria vectors in the village of MuliWai Village Rajabasa South Lampung pH to ditch the average water flow 6, pH 6 to swamps and stagnant ditch pH to average 7 is the optimum pH for malaria vector.

Likewise, the results of temperature measurements on the larval habitat averaging around 29,38-31,27°C. The optimum water temperature for the growth and proliferation of the mosquito Anopheles sp ranging between 20°C - 30°C, the temperature is more than just a few species of Anopheles mosquitoes can breed. Temperature affects the development of the parasite in the mosquito's body. The higher the temperature (to some extent) the shorter the incubation period (sporogoni), conversely the lower the temperature the longer the extrinsic incubation period[17].

Overview Larva Density

Anopheles larval density in Oesaovillageranged between 1-3 cows per detention. This figure is quite low when compared with measurements in 2012, this was due to the implementation of the research done at the peak of the dry season with extremely hot temperatures that in October and November 2014. In addition to the Anopheles vagus species are also found species of Anopheles anularis in Oesao village

Both species have already become positive vector-borne diseases malaria in NTT Province. Of the existing maps showed that number of anopheles annularis's larva were an average density of 0.74 to 2.19 per detention rounded tail 1- 2 cows per detention. While the Anopheles vagus species density 0,8- 2,9 per detention or rounded to 1-3 individuals per detention. The density of mosquito larvae is strongly influenced by the climate /season, temperature and precipitation[6]. Results of research in Oesao village find there are two species that survives at the height of the dry season with ambient temperatures are 32-34°C hot enough, these two species are anopheles vagus and anopheles annularis.

Overview Distribution of Malaria Cases

Rogaleli research results (2012) found the number of malaria patients as many as 52 cases of both falciparum and vivax malaria malaria. From the results of the mapping data and after combined with ecological data as well as plant breeding places of mosquitoes (larvae habitat) in Figure 8, the distribution of malaria seen in Oesao village spread evenly. Spatial mapping can be clearly illustrated the factors that contribute to the growth of mosquito larvae and malaria are the number and types of crops, land plants, the pH and temperature of breeding places, as well as spacious and types of breeding places itself. To ensure the relationship or the influence of these three factors is necessary to study more in-depth Analytics in the future.

RECOMMENDATIONS

The Government is expected to establish policy and commitment to the eradication of malaria with reference to the Model Eradication Strategy has been built, particularly in terms of financing and assign officers who are given the responsibility of oversight For regularly every month. Society for independently and jointly with conscious action officer larvae eradication (larvasiding and biological control with sowing the seeds of larvae-eating fish). Involve NGOs (UNICEF, WHO, Plan International, etc agency) to provide insecticide-treated nets since proved effective at killing mosquitoes, and funding / financing.

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O-09

THE INFLUENCE OF KNOWLEDGE, ATTITUDE AND PERSONAL PROTECTIVE EQUIPMENT AVAILABILITY ON SAFETY AND HEALTH BEHAVIOUR OFFICER OF LABORATORY IN STIKES SURYA GLOBAL YOGYAKARTA

Nor Wijayanti

Program Study of Public Health STIKES Surya Global Yogyakarta, Indonesia
Email : wijayantinor@gmail.com

ABSTRACT

Implementation of behaviour health and safety is one of the efforts to create a workplace that is safe, healthy, free from environmental pollution, so as to reduce and or free from workplace accidents and occupational diseases that can ultimately improve efficiency and productivity. Occupational accidents not only cause casualties and material losses for workers and employers, but also can interfere with the production process as a whole, the environmental damage that will ultimately have an impact on the wider community. The objectivies of research are influence of knowledge, attitude and personal protective equipment availability on behaviour health and safety officers of laboratory.Types of this research are analytic observational of quantitative with cross sectional design of research. Population was officer of laboratories in STIKES Surya Global Yogyakarta amount 54 people so the whole population was sampled with a total sampling technique. Collecting data use a questionnaire. Analysis used multiple linear regression. 1). There is influence of knowledge on the behavior of safety and health officer of laboratory (0.001<0.05). 2). There is influence attitude on behaviour of safety and health officer of laboratory (0.017<0.05). 3). There is influence availability of personal protective equipment on behaviours of the safety and health officers of laboratory (0.000<0.05). 4). There is influence of knowledge, attitude and personal protective equipment availability on behaviour health and safety officers of laboratory with a coefficient of determination of 58.4% and 41.6% as much influenced by other variables outside of this the model study. There is influence of knowledge on the behavior of safety and health officer of laboratory. There is influence attitude on behaviour of safety and health officer of laboratory. There is influence availability of personal protective equipment on behaviours of the safety and health officers of laboratory. There is influence of knowledge, attitude and personal protective equipment availability on behaviour health and safety officers of laboratory.

Key words: knowledge, attitude, personal protective equipment, behaviour, safety and healthy, officer of laboratory

BACKGROUND

Globalization era and free markets that will apply in 2020, health and safety is one of the prerequisites specified in the economic relations of trade in goods and services between countries which must be met by all member countries, including Indonesia. To anticipate this and realize the community protection of Indonesian workers, has been set Healthy Indonesia Vision 2015, namely description of the Indonesian community in the future, the inhabitants live in the environment and healthy behavior, obtain quality health services in a fair and equitable and has a degree of health highest[1].

According to Green (1990), human behavior departs from the level of health. That a person's health is influenced by two main factors, namely behavioral factors (behaviorcauses) and factors beyond the behavioral (non behavior causes). Behavioral factors determined or shaped by predisposing factors (predisposing factor), which is embodied in knowledge, attitudes, beliefs, beliefs, values and so on. Factors supporting (enabling factor), which is manifest in the physical environment, are available or unavailability of facilities or health facilities such as health centers, medicines, sterile instruments and so on. Factors enabling or supporting (enabling) the behavior is the facilities, equipment, or infrastructure menmdukung or facilitate the conduct of a person or society. Knowledge and attitude alone does not guarantee the behavior, it is still necessary means or facilities to enable or support such behavior. In terms of public health, so that people have healthy behaviors should be accessible (affordable) infrastructure or health care facilities.

Efforts to provide protection to workers is to implement the Occupational Safety and Health Management System. The main objective Safety and Safety is creating a workforce that is healthy and productive. These objectives can be achieved because there is a correlation between a high level of health with work productivity. the Occupational Safety and Health Management System implementation is one of the efforts to create a workplace that is safe, healthy, free of workplace accidents and occupational diseases that can ultimately improve efficiency and productivity. Workplace accidents not only cause loss of life and material for workers, but also can disrupt the production process, destroy the environment that will ultimately have an impact on society as well[2].

Practicum activities in laboratories must pay attention to safety aspects. Safety let viewed as a unified whole in the implementation of a practicum. Practicum safety and activity are two sides that can not be separated. Two things are a unity of equal importance to be considered and implemented. Implement one, means also have to carry out the other. That is if we are going to carry out practical activities in the laboratory it has become an obligation for us as well to carry out all matters relating to occupational safety in the laboratory. Every detail of the activities of practical implementation should look at the various possibilities that can be dangerous. All the possibilities that arise must be recorded and anticipated forms of safety. This means that safety has been the spirit in a person who is always associated with working in the chemistry laboratory. Safety is very important switched on in every person who directly carry out the practical as well as those who are around the implementation of the chemistry laboratory[3].

Based on preliminary studies in STIKES Surya Global Yogyakarta at the beginning of Odd Semester, Academic Year 2013/2014 in April 2014, the Occupational Safety and Health Management System obtained in the laboratory analysis of the situation, the program that has not been done is the use of personal protective equipment (gloves and masks) are not used to the full, examination Periodic health (periodic medical examination) have not been performed on laboratory personnel, unavailability of fire extinguisher (fire extinguisher) at each laboratory and there are not functioning properly, there are no warning signs for materials and dangerous tool as well as a special room for escape if there is a fire, laboratory personnel often do not wear a lab coat is due to wear lab coats feel less provide freedom of movement in the works, accidents that occur in the laboratory are not reported due to the lack of economic value but immediately went to the Health Clinic at the campus. Accidents often happen is pierced by a needle, hit by flying glass preparations, burns and contact with chemicals containing a strong acid, laboratory workers often complain of dizziness and the

waist is sore when working in a laboratory all day (8 hours), averaged at least 10 students in each semester fainted because of inadequate air circulation, laboratory staff had not received training on occupational health and safety, especially on the Occupational Safety and Health Management System in the laboratory, and the absence of SOPs (standard operating procedures) in conducting laboratory experiments.

PURPOSE

Research purposes include general purpose is to determine the influence of knowledge, attitudes and availability of personal protective equipment on the behavior of safety and health officer of laboratory in STIKES Surya Global Yogyakarta. Specific purposes include ; 1). Knowing the influence of knowledge on the behavior of safety and health officer of laboratory in STIKES Surya Global Yogyakarta, 2). Knowing the influence of attitudes on behavior of safety and health officer of laboratory in STIKES Surya Global Yogyakarta, 3). Knowing the influence of availability of personal protective equipment on the behavior of safety and health officer of laboratory in STIKES Surya Global Yogyakarta.

METHOD

Type quantitative analytic observational study with cross sectional study design. The study population was a laboratory officer in STIKES Surya Global Yogyakarta as many as 54 people so that the entire population being sampled with a total sampling technique. Collecting data using questionnaires. Data were analyzed using multiple linear regression.

RESULTS AND DISCUSSION

Results characteristics of respondents note that the majority of respondents were female as many as 43 respondents (79.6%). Majority aged less than 30 years as many as 34 respondents (49.3%). The majority of respondents educated bachelor as many as 35 respondents (64.8%). The majority of respondents are lecturers were 38 respondents (70.4%) with tenure of less than 5 years were 38 respondents (70.4%).

Results of descriptive statistics on knowledge known that the highest score = 29.00, the lowest score = 9.00, mean = 18.92, median = 18.00, mode, and standard deviation = 18.00 = 5.09. Descriptive statistics attitude known that the highest score = 105, the lowest score = 80.00, mean = 94.59, median = 96.00, mode = 100.00 and standard deviation = 6.60. Descriptive statistics availability of personal protective equipment is known that the highest score = 18, lowest score = 3.00, mean = 11.28, median = 11.50, mode, and standard deviation = 12.00 = 3.72. Descriptive statistics behavior of safety and health officer of laboratory in mind that the highest score = 104, the lowest score = 60.00, mean = 84.44, median = 84.00, mode, and standard deviation = 80.00 = 10.19.

Results obtained correlation there is a positive relationship between knowledge and behavior of safety and health officer of laboratory (0.001 <0.05) means that there is a positive correlation with the knowledge of the behavior which means that the better knowledge of the better behavior of safety and health officer of laboratory.

Safety and health officer of laboratory behavioral attitudes relationship with laboratory staff obtained p value (0.006 <0.05) so that there is a positive relationship between attitude and behavior of safety and health officer of laboratory. The relationship is positive, which means that the better the attitude, the better the behavior of safety and health officer of laboratory.

Personal protective equipment availability relationship with behavior of safety and health officer of laboratory obtained p value (0.000 <0.05) means that there is a positive relationship between the availability of personal protective equipment with behavior of safety and health officer of laboratory. The relationship is positive, which means that the better availability of personal protective equipment, the better the behavior of safety and health officer of laboratory.

Results of multiple linear regression analysis obtained by a constant value (a) of 22.287 and is positive, it means that if the knowledge, attitudes and availability of personal protective equipment held constant, the behavior of safety and health officer of laboratory is positive. The coefficient of knowledge (b1) of 0.611 and is positive, it means the better knowledge of one unit of the behavior of safety and health officer of laboratory increased by 0.611 units. Attitude coefficient value (b2) of 0.345 and is positive, then the better the attitude of one unit of the behavior of safety and health officer of laboratory has increased by 0.345 units. The coefficient of availability of personal protective equipment (b3) of 1,590 and is positive, it means increasing the availability of personal protective equipment by one unit then the behavior of safety and health officer of laboratory increased by 1,590 units.

Knowing the influence of knowledge on the behavior of safety and health officer of laboratory in STIKES Surya Global Yogyakarta

The research concludes that there is the influence of knowledge on the behavior of safety and health officer of laboratory with significant p value 0,001 <0,05. Knowledge variable regression coefficient value is 0.611, this means that the influence of the variables is positive which means the better knowledge of the behavior of safety and health officer of laboratory is also getting better.

The results support the research conducted by the Rais, Prabamurti and Widjasena (2009) [(4)] with the result there is a significant association of behavior safety and health of knowledge workers with labor practice loading and unloading. These results also support the research Widyaningsih (2007) [(5)] that there is a relationship of knowledge with the use of masks to workers and cutting section smoothing PT Waroeng Batok Industry Cilacap. Ruhyandi and Chandra (2008)[6] in his research stating that knowledge has a significant relationship (p = 0.000) on the compliance behavior of workers in the use of personal protective equipment. Ruhyandi and Chandra (2008) in his study also states that the attitude has a significant relationship to the compliance behavior of workers in the use of personal protective equipment.

Notoatmodjo (2012)[7] states that knowledge to give information to someone who studied it so that if applied in life can bring changes in behavior or behavior. Besides pengetahuaanya, behavior or behavior is also supported by the positive attitude and the support of other parties, people can take a decision in determining how to simplify resolve the issue. Knowledge will form certain beliefs a person will behave in accordance with convictions. Or cognitive domain knowledge is very important for the formation of a person's actions or behavior ovent.

Mangkunagara (2012) states that health and safety is a thought and effort to ensure the completeness and perfection of both physical and mental labor in particular, and humanity in general, work and cultural towards just and prosperous society, so that the behavior of the safety and occupational health it is expected that the laboratory staff could behave to keep his behavior so it does not have an accident at work[8]. This is consistent with the statement of the Green in Notoatmodjo (2012)[7] states that a person's behavior can be influenced by predisposing factors or predisposing (predisposing factors).

Knowing the influence of attitudes on behavior of safety and health officer of laboratory in STIKES Surya Global Yogyakarta

The research concludes that there is the influence of attitudes on behavior of safety and health officer of laboratory with significant p value 0,017 <0,05. Attitude variable regression coefficient value is 0.345, this means that the influence of the variables is positive which means the better the attitude of the behavior of safety and health officer of laboratory, the better.

The results support the research of Dahlawy (2008) showed no significant relationship between attitude and behavior of safety and health[8]. These results also support the research Widyaningsih (2007)(5) that there is a correlation attitude with the use of masks to workers and cutting section smoothing PT. Waroeng Batok Industry Cilacap. Ruhyandi and Chandra (2008)[6] in his research stating that attitude has a significant relationship to the compliance behavior of workers in the use of personal protective equipment.

This is consistent with the statement of Notoatmodjo[7] that attitude is a mental and neural state of readiness, organized through experience providing dynamic influence or directed against an individual's response to all objects and situations related to it. Attitude is a reaction or response is still closed from someone to a stimulus or object. Green in Notoatmodjo (2012), which says that behavior is determined in part by factors supporting/amplifier (reinforcing factor) which is manifested in the attitudes and behavior of health workers, community leaders.

Knowing the influence of availability of personal protective equipment on the behavior of safety and health officer of laboratory in STIKES Surya Global Yogyakarta

The research concludes that there is an influence on the behavior of safety and health personal protective equipment availability officer of laboratory with significant p value 0,000 <0,05. The value of the variable regression coefficient is 1.590 personal protective equipment availability this means that the influence of the variables is positive which means the complete availability of personal protective equipment then behavior of safety and health officer of laboratory is increasing. These results support the research Suryati (2012) that the variables that proved to be statistically significantly related to the behavior of hygiene during menstruation is the availability of facilities cleaning tool.

Human behavior is all activities or human activity, both of which can be observed directly, and which can be observed by outsiders (Notoatmodjo, 2012), where the behavior is divided into three domains, namely knowledge (cognitive), attitudes (affective), and action (psychomotor). One form of action is the use of personal protective equipment, personal protective equipment availability can change the behavior of safety and health officer of laboratory to behave safety and health officer.

Knowing the influence of knowledge, attitudes and availability of personal protective equipment on the behavior of safety and health officer of laboratory in STIKES Surya Global Yogyakarta

The results showed that there was influence knowledge, attitudes and behavior of safety and health availability of personal protective equipment to officer of laboratory, 0,000 p value <0.05. These results were confirmed with a determination coefficient of 0.584, which means that knowledge, attitudes and availability of personal protective equipment has an influence on the behavior of safety and health officer of laboratory by 58.4%, while 41.6% is influenced by other variables outside the research model.

Behavior according Notoatmodjo (2012) is an internal activity such as thought, perception, and emotion. In occupational health and safety, is more focused on the behavior of unsafe behavior (unsafe act). This is because the fundamental causes for the accidents is unsafe behaviors that form the mistakes made by humans. There are three factors that influence individual behavior. The first factor is the basic factors (predisposing factors), includes the knowledge, attitudes, habits, social norms, worker involvement, communication and other elements contained within the individual in society embodied in motivation. A second factor contributing factor (enabling factors), include the resources or the potential of society, manifested in training, the availability of facilities or means behavior of safety and health, physical environment, and the work environment. The third factor is factor of the amplifier (reinforcing factors) includes attitudes and behaviors of others are manifested in social support. As an example of reinforcing factors are management commitment, monitoring, laws, regulations and procedures behavior of safety and health[7]. Implementation the program f safety and health officer is a form of protection to workers who aim to achieve optimal productivity, and protect workers from risks to their health and safety. Law No.36/2009 on Health, that the work shall hold occupational health effort if the workplace has risks and health hazards or workers have at least 10 people. And the occurrence of disease and accidents in a workplace, not only due to environmental conditions and unsafe acts of workers, but also due to the failure of risk management in controlling. In the behavior of safety and health officer program implementation in industry or services can not be separated from the role of management through an approach that shaped the policy manager in the implementation of behavior of safety and health officer.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

a. There is the influence of knowledge on the behavior of safety and health officer of laboratory (0.001 <0.05).
b. There is the influence of attitudes on behavior of safety and health officer of laboratory (0.017 <0.05).
c. There is the influence of the availability of personal protective equipment on the behavior of safety and health officer of laboratory (0.000 <0.05).
d. There is the influence of knowledge, attitudes and availability of personal protective equipment together to conduct behavior of safety and health officer of laboratory with coefficient of determination of 58.4%, while as many as 41.6% are influenced by other variables outside of this kind of research. Availability personal protective equipment has a dominant influence on the behavior of safety and health officer of laboratory (with a significance p value 0.000 <0.05, the value of the variable regression coefficient is 1.590 personal protective equipment availability).

Implications

Based on the conclusions obtained that knowledge, attitudes and behavior influence the availability of personal protective equipment behavior of safety and health officer of laboratory. Under these conditions, implication or managerial commitment that needs to be done by STIKES Surya Global Yogyakarta management is to increase the involvement of workers in safety can be realized in the form of participation in the program and liveliness behavior of safety and health officer of laboratory. One example is in the preparation of work

procedures. If the workers are involved in the preparation of work procedures, it will arise a sense of inner laboratory workers that the procedures that have been developed are the responsibility of officers laboratory, because officer participate in the drafting process. The result officers will behave safely in accordance with the procedures they have made and agreed upon.

Recommendation

STIKES Surya Global Yogyakarta should improve the management commitment to jointly prepare laboratory personnel working jointly agreed procedures and the provision of appropriate personal protective equipment is the designation and the quantity so as to improve the behavior of safety and health officer of laboratory.

Officers should remain increasingly cautious in working to reduce accidents, while officials also use personal protective equipment that has been provided in accordance with the allocation to improve health and safety at work.

Researchers should conduct further research on other factors that can influence the behavior of laboratory officers or also to combine research with a mix design method by observation is not just a one time only and in-depth interviews with officials about the behavior of safety and health officer of laboratory.

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O-10

THE APPLICATION OF MYRA E. LEVINE CONSERVATION MODEL ON PEDIATRIC CARE FOR CHILDREN WITH THE RISK OF IMPAIRED SKIN INTEGRITY AT INFECTION ROOM BUILDING A FIRST FLOOR RSUPN Dr. CIPTO MANGUNKUSUMO JAKARTA

Suyami[1], Nani Nurhaeni[2], Elfi Syahreni[2]

[1]Pediatric Nursing Department, STIKES Muhammadiyah Klaten, Jawa Tengah, Indonesia
[2]Pediatric Nursing Department, Faculty of Nursing Sciences, Universitas Indonesia, Jakarta, Indonesia
E-mail: suyamiragil@yahoo.co.id

ABSTRACT

Children who have to undergo hospitalization in general are at risk of suffering traumatic experience due to exposure to various stressors, from physical aspect to psychological, social, and environmental aspect[1]. During hospitalization, children are prone to suffer from several health issues, including impaired skin integrity due because their skin structure, system, and function are still adjusting and yet to optimally function [2]. Children's skin will experience several changes during the first 18 years [3]. Morphologically and functionally, children's skin is different to that of adult [4,5]. This research aims to give a description about the application of Levine Conservatio Model in pediatric nursing as well as overall performance and roles of nurses in providing pediatric care for children with the risk of impaired skin integrity. Data were collected through case studies and literature studies. The subjects in this research were inpatients with the risk of impaired skin integrity at infection room at building A first floor, RSUPN Dr. Cipto Mangunkusumo, Jakarta. The data were analyzed consecutively with Norton scale and Braden Q. scale. The measured variables were skin integrity by observing the occurrence of rashes, blisters, and capillary refill time assessed from patients' record during hospitalization. Skin integrity in all cases under the research could be maintained, confirmed by no proves of rashes, blisters, and capillary refill time of less than two seconds. Levine Conservation Model could be implemented on patients with the risk of impaired skin integrity.

Keywords: conservation model application, skin integrity

BACKGROUND OF THE PROBLEMS

Children who have to undergo hospitalization in general are at risk of suffering traumatic experience due to exposure to various stressors, from physical aspect to psychological, social, and environmental aspect.[1] During hospitalization, children are prone to suffer from several health issues, including impaired skin integrity due because their skin structure, system, and function are still adjusting and yet to optimally function [2]. Children's skin will experience several changes during the first 18 years.[3] Morphologically and functionally, children's skin is different to that of adult.[4,5] Physiologically, electrolyte and fluid disorders are frequently happened and increased faster in infants and children compared to elder children and adults. Greater fluid level proportion and surface area which is relatively wider than their bodies increase the risk of dehydration because the increasing of metabolic need while getting fever, so it causes the skin becomes moist and easy to get pressure ulcers.[6]

Impaired skin integrity can occur faster than expected. Pressure ulcers can occur in 2-6 hours after getting acute care.[7] A survey identifies that pressure ulcers experienced by

children when being hospitalized mostly on stage I ulcer (61%) and stage II ulcer (13%), and generally were located on occiput (31%), sacrum (20%), and heels (19%).[8]

Maintaining skin integrity is often ignored since nurses more focus on life threatening problem that is seen as the most priority problem, however skin is the widest body organ and has a complex function.[9] Skin receives one third of blood circulation from the body and serves a lot of functions including protection, immunity, thermoregulation, metabolism, communication, identification and sensation.[9] Nurses have an important role and responsibility in preventing pressure ulcers. Thus, early detection of pressure ulcer risks in inpatient children is important to know, so prevention and early intervention can be conducted to prevent further complication.

The role of pediatric nurses are promoting diseases prevention, health promotion and health education, building therapeutic relation, giving support and counseling, coordinating and collaborating, being family advocate, making ethical decision and conducting research.[1] Those roles are integrated in providing comprehensive nursing care. According to[10], there are three areas of main nursing intervention in preventing pressure ulcers. The first is skin treatment including hygiene treatment and topical application. Second is mechanical prevention and surface support including position arrangement and bed utilization, and the third is education.

Nurses' role in giving nursing care is conducted based on nursing model. Nursing model is used as guidance in conducting nursing proses and optimizing nursing care in children and family. One of nursing models that can be applied in providing pediatric care for children with the risk of impaired skin integrity is conservation model that is developed by Myra E. Levine which is known as Levine's Conservation Model.

PURPOSE

To give a description about the application of Levine Conservatio Model in pediatric nursing as well as overall performance and roles of nurses in providing pediatric care for children with the risk of impaired skin integrity.

METHOD

Data were collected through case studies and literature studies. The subjects in this research were inpatients with the risk of impaired skin integrity at infection room at building A first floor, RSUPN Dr. Cipto Mangunkusumo, Jakarta. The data were analyzed consecutively with Norton scale and Braden Q. scale. The measured variables were skin integrity by observing the occurrence of rashes, blisters, and capillary refill time assessed from patients' record during hospitalization.

RESULT

Skin integrity in all cases under the research could be maintained, confirmed by no proves of rashes, blisters, and capillary refill time of less than two seconds.

DISCUSSION

The assessment is conducted by considering Levine's conservation principals. Risk factors of pressure ulcers are intensity, pressure duration, and tissue tolerance as the main factor of pressure ulcer.[11] The study in patients with the risk of impaired skin integrity

includes assessment of the risk of impaired skin integrity and physical condition of skin. The assessment of impaired skin integrity risks can be done by using instruments such as Norton scale, Braden scale, Braden Q scale, and Glamorgan scale.[12,13] ;while the assessment of the skin condition includes skin color, temperature, and sensory perception disturbance.

The result of pressure ulcer risk assessment in five cases under the research that was conducted using Norton scale is on the 12-14 span, it means all cases under the research has a medium risk of pressure ulcer. In reality, those five cases did not experience pressure ulcer. It may happen because the nurses had conducted prevention based on the protocol of pressure ulcer prevention management well. This condition is in line with the research result which gives information that there is no significant relation between the Braden Q scale score and the occurrence of pressure ulcer.[14] Another research result also gives information that identifying person with the risk of pressure ulcer is the first step in conducting effective pressure ulcer prevention.[15]

The assessment of pressure ulcer risk in the five cases under the research was conducted using the existing instrument in the room, it was Norton scale. However, in the application, using Norton scale created different interpretation since the unclear operational definition in the aspect of mobility and incontinency assessment, so residents also used Braden Q scale to compare. The study of pressure ulcer in children using Braden Q scale supported by a research result that showed the use of Braden Q scale[16], Glamorgan scale[17], and Neonatal Risk Assessment Skin[18] to review pressure ulcer risk in children.

The research result gives information that Braden Q can predict individual with the risk of pressure ulcer, even individual without the risk of experiencing pressure ulcer because having higher sensitivity/specificity than Norton scale. Besides that, Braden Q scale can be used for all ages in children, including neonates and children above 8 years old. Braden Q scale has high, objective, structured and measurable inter-rater reliability so Braden Q scale can give consistent result even though it is used in different care setting such as: acute care, chronic care, palliative care, PICU, NICU, home care, even in adult patients care.[19,20]

The factor of pressure ulcer in age is at the lifespan of 10 months to 15 years old. In fact, the five cases under the research did not experience pressure ulcer. It may happen because the nurses had provided optimum nursing care, even though age is one of pressure ulcer factors. This condition is not in line with the research result which informs that age will increase the risk of pressure ulcer; those are movement and pressure intensity, humidity, nutrition status, anemia, infection, fever, peripheral circulatory disorder, obesity and cachexia.[10] The increase of pathologic frequency related to age is influenced by various mechanisms like bad nutritional status, ferocity, mineral and vitamin deficiency, anemia, immune disorder, cardiovascular and respiratory disorder, peripheral vascular disease, systemic disease, and chronic infection.

Younger children are at the high risk to experience pressure ulcer.[21,23,24] Another research also gives information that baby skin has a high risk in experiencing impaired skin integrity because the thin and immature epidermis.[22] The structure of baby skin is thin and the cells are smaller than adults' skin.[24] Baby skin also has higher absorption than adults. The difference of the absorption level is a predisposition of the dry and scaly skin.[24]

The risk of pressure ulcer in nutrition shows that in in the five cases under the research it was found good nutritional status and low nutritional status. In reality, there is no pressure ulcer in the five cases under the research. This condition is in line with the research result that shows there is no significant relation between nutritional status and pressure ulcer

occurance.[14] It may be caused of the patients get nutrition as they need. This condition is not in line with the research result which says that lack of nutrition is a risk factor of pressure ulcer occurrence.[21,25,26] Another research also identifies that there is a relation between insufficient calorie and protein intake from food and the risk of pressure ulcer occurrence.[28,29,30]

Good nutrition is important to optimize body function and immunity.[31] Malnutrition can harm body function overall by changing metabolism, obstructing tissue regeneration, and influencing inflammation response.[32] A research reports that there is a strong relation between nutritional status and hydration to pressure ulcer occurrence.[33] This research is in line with the research result which shows that adequate nutrition and hydration have important roles in preventing pressure ulcer and maintaining tissue integrity.[34,35,36,37,38,39] The research result also gives information that malnutrition patients have twice greater risk for pressure ulcer occurrence.[32]

As seen from the risk factor of pressure ulcer in the form of decreasing mobilization and activities, the five cases under the research experience decreasing mobilization and activities. In reality, those five cases did not get pressure ulcers, even though the research result reports that the mobilization decrease is caused by movement and activity decrease so it increases the risk of soft tissue compression occurrence. Impaired tissue happens when soft tissue is compressed between bone bulging and external surface in long time, so the arteriole and capillary are under external pressure.[13,40] This might be caused by optimal prevention intervention from nurses, like changing patient position regularly at least once in two hours. This action is supported by research result which informs that position arrangement is conducted to reduce pressure on bones that bulge which is done every 2 hours.[41] Blood vessel compression causes blood supply decreased, so oxygen supply that contains important nutrition to maintain the cells becomes lower. Thus, it causes hypoxia, cell death, injury in the around areas and finally occurring pressure ulcers.[42,43]

Pressure ulcer risk factor in the form of patient, in 4 cases under the research are related to neurologic problem and 1 patient is related to immunosuppressive problem and persistent diarrhea without dehydration. In fact, those five cases under the research did not experience pressure ulcer even though the research result shows that patient with neurological problem is in high risk to experience repetitive pressure ulcer.[44] Another research result also informs that children with neurological disorder increase the risk of pressure ulcer.[27] This is also in line with the research result which informs that pressure ulcer risk factor in infants and children is increased in neurological disorder, malnutrition, tissue perfusion, inadequate oxygenation, and long exposure of medical equipment exposure.[45] It might be caused by nurses have conducted pressure ulcer prevention intervention correctly.

One of the cases under the research is persistent diarrhea without dehydration. In reality, the case of diarrhea without dehydration do not experience pressure ulcer, even though diarrhea is a condition that can cause humidity, in which humidity is the risk factor of pressure ulcer, as stated in the research result which shows that skin humidity generally is caused by sweat, urine, feces, or wound drainage that decrease tissue tolerance. It is because urine and feces are irritating so it causes tissue damage easily.[46,47] Humidity can also reduce skin resistance to other physical factors like pressure.[48] Humidity increases pressure ulcer risk factor five times bigger.[10] Another research informs that in diarrhea condition, the feces contain bacteria and enzyme that can disrupt normal flora balance in skin. Skin has average pH 5,5 that is a little bit sour and act as a natural protector to prevent bacterial growth.[47] It might be because parents have cleaned their infants' butts and changed the wet diapers to prevent humidity.

Risk factor of pressure ulcer in the form of length of stay shows that the five cases under the research is from 8 to 10 days. In fact, those cases did not experience pressure ulcer. It might be because nurses have given intervention optimally, even though the research result shows that children with length of stay more than 4 days have high risk of pressure ulcer.[21, 22] This condition is supported by research result which informs that there is no significant relation between length of stay and pressure ulcer occurrence.[14] Another research also reports that length of stay can cause pressure ulcer depending on intensity and pressure duration toward body areas. There is no scientific agreement on the length of pressure before pressure ulcer occurrence. Light pressure for prolonged periods of time is as dangerous as hard pressure in short periods of time.[47]

Risk factor of pressure ulcer in the form of reduced consciousness shows that two cases under the research come with reduced consciousness (somnolence). In fact, cases under research which experience reduced consciousness do not get pressure ulcer.[10] Patients with confused condition, disorientation or decreasing consciousness is not able to feel pressure, but do not able to understand how to remove the pressure. Comma patients cannot feel pressure and are not be able to change position so it increases the risk of pressure ulcer occurrence.[10] It might be because the nurses have given prevention nursing intervention correctly like conducting reposition every 2 hours to reduce pressure and protect pressure area by putting pillow under the legs.

Skin physical assessment in the form of body temperature shows that those five cases are in range 36.4^{0}C-38.3^{0}C. There are two cases under the research that experience hyperthermia (38^{0}C-38,3^{0}C). In fact, two cases under the research with hyperthermia do not experience pressure ulcer, even though increasing body temperature is a risk factor of pressure ulcer.[49] This condition might happen because nurses have given optimal intervention to lower the risk of pressure ulcer by reducing body temperature. Those interventions are Water Tepid Sponge (WTS*)*, giving fever reducer, and suggesting the patients and their families to increase the fluid intake. A research gives information that the increasing of body temperature is related to the occurrence of pressure ulcer.[48] The increasing of body temperature can also increase perspiration, so skin condition will be more humid because of sweat and it can be a predisposition of impaired skin.[48]

Water Tepid Sponge (WTS) conducted in cases with hyperthermia is an independent nursing action to reduce body temperature. This action is supported by research result which gives information that WTS is effective to reduce fever by triggering vasodilatation which can increase the releasing of body heat. WTS action is recommended as a combination therapy with antipyretic to reduce body temperature.[50] Another research also states that there is a significant relation between giving WTS and the decreasing of body temperature.[51] This result is in line with the research that shows there is a significant influence between giving WTS and the decreasing of body temperature in hyperthermia patient.[52]

Patients under the research consist of 4 male and 1 female. In fact, the five cases under the research do not experience pressure ulcer. This might happen because gender is not a risk factor of pressure ulcer occurrence. This is supported by research result that show gender is no related to pressure ulcer occurrence.[22] This condition is in line with the research which gives information that there is no significant relation between gender and pressure ulcer occurrence.[14]

Evaluation is conducted by assessing the patients' organismic response to the intervention given. The results in the five cases under the research generally are skin is intact,

there is no rashes, blisters, and capillary refill time of less than two seconds so impaired skin integrity does not occur.

CONCLUSION

Nursing care in cases under the research of children with the risk of impaired skin integrity is conducted in patients whose ages are 10 months to 15 years, most of them are male, with malnutrition and inadequate nutrition, with neurological disorder and diarrhea, with length of stay 8-10 days, and have a medium risk to experience impaired skin integrity with Norton score 12-14. The evaluation result shows those five cases do not experience impaired skin integrity.

SUGGESTIONS

1. Service
   Nurses have to improve the competence in conducting assessment of pressure ulcer risk to all patients since entering hospitals for early detection of pressure ulcer risk and assessment of pressure ulcer risk conducted in every shift to find out the development of pressure ulcer as an effective prevention effort, besides the ability to empower patients' family by involving the family during the children's stay and giving education for patients and family about pressure ulcer prevention as a part of discharged planning so the sustainable nursing care can be conducted.
2. Research
   The application of Levine Conservation Model can become the design, evaluation of theory based intervention and development of knowledge to support nursing practices.

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O-11

THE RELATIONSHIP BETWEEN SELF ESTEEM AND QUALITY OF LIFE IN SCHOOL DROPOUT ADOLESCENCE

Ice Yulia Wardani[1], Mustikasari[1], Poppy Fitriyani[1] ,Tantri Widyarti Utami[2], Rahma Fadillah Sopha[3]

[1]Department of psychiatric nursing, Faculty of Nursing, Universitas Indonesia, FIK UI campus, Depok, 16424, Indonesia

[2]Health Polytechnic, Health Ministry, Bandung, West Java, Indonesia

[3]Faculty of Nursing, Universitas Indonesia, FIK UI campus, Depok, 16424

Email: iceyulia@ui.ac.id/iceyulia1@yahoo.com

ABSTRACT

Adolescences arerisky transition period which makes them have to fulfill development task to get life satisfaction. School dropout in adolescence gives impact not only in cognition aspect but also in psychological aspect. This study aimed to determine the relationship between self-esteem and quality of life in school dropout adolescence. This study evaluated 92 adolescences that were dropped out from primary, senior, or high school in Bogor. In order to determine adolescence's self-esteem, we used self-esteem questionnaire which has reliability score0.76. To assess quality of life, we used WHOQOL-BREF questionnaire whichhas reliability score between 0.64 – 0.79. This study had passed ethical clearance test with number 0281/UN2. F12.D/HKP.02.04/2015. The result was analyzed by using the chi-square test. There was a significantdifference between self-esteem and quality of life in school dropout adolescence (p value ≤ 0.05). It meant by using 95% alpha, there was a significantdifferenceof quality of life between adolescences who had low self-esteem and those who had high self-esteem. This result indicated that adolescence who had high self-esteem tend to had high quality of life. On the other hand, adolescence who had low self-esteem tend to had low quality of life. Summary, there was a relationship between self-esteem and quality of life in school dropout adolescences, especially in psychological health and environmental domain. Further research about the effects of those variables toward development stage in life span is important in order to get information about long term impact of low self-esteem in school dropout adolescences.

Keywords**:** adolescence, quality of life, self-esteem.

INTRODUCTION

Adolescence is one of life period which is started by biological changes during puberty and finished by the time when they have come into adult. Adolescence period is divided into two periods. They are early adolescence period which is started in 12 until 16 years old and late adolescence period which is started in 16 until 18 years old[1]. Adolescence has several development tasks, such as finding self identity, achieving education about value and ethical system that can lead them on how to conduct their behavior, achieving emotional freedom and independence, and achieving body image effectively[2.] Education is an aspect that has to be concerned by society.

Education for adolescence is a must. This is in line with UNICEF program (2010) to achieve *Millennium Development Goals* (MDGs). But in reality nowadays, around 63 million adolescences 12 until 15 years old in this world have to be dropouts from school. It also happens in Indonesia, around 2.5 million adolescences 7 until 15 years old do not go

to school. Moreover, most of them were dropout when they were in transition period from primary school to junior high school[3]. Prevalence of school dropout increases by age. In 7 until 12 years old age group, there are 0.67% adolescence that have been dropout, in 13 until 15 years old, there are 2.21%, and in 16 until 17 years old, there are 2.32% [4]. This high prevalence of school dropout in adolescence nowadays has become a thing that have to be realized.

School dropout gives impacts not only in cognitive aspect but also in psychological aspect of adolescence, for example on how the adolescences give score about themselves and their capabilities. It is named as self-esteem[5]. Self-esteem is divided into two dimensions. There are competence and valuation. Adolescences who have high self-esteem believe that they have capabilities to do something like the society thinks about everything that they can do. When social environment valued that the adolescence had advantages for society, in that time adolescence would feel that they were valuable. This cause the adolescence achieves more self-esteem[6,7].

Adolescences with high self-esteem tend to be emotionally stable, extrovert, careful, friendly, and also have desire to try positive[6,7]. On the other hand, adolescences with low self-esteem are predicted to have poor mental and physical health, bad economical well being, and high criminality behavior. Adolescenceswith low self-esteem tend to isolate from society, depression, and also have a desire to suicide. On top of that, low self-esteem is believed as the causes of all evil behavior from adolescences[8,6].

Self-esteem and satisfaction about self can be indicators of one's quality of life. Quality of life is defined by one's perception about their position in life by looked it from cultural context and value system where they live that have correlation with goal, expectation, and life standardization[9]. Adolescences with low self-esteem are in risk to have low quality of life. Based on this consideration, it is important to study about the relationship between self-esteem and quality of life in school dropout adolescence.

MATERIAL AND METHOD

This study used cross sectional method that was implemented in Bogor in 2015. Study's sample used purposive sampling. This study evaluated 92 adolescences in 12 until 18 years old who were dropped out from elementary, junior, or senior high school, did not go to work, and had the willingness to become respondesnt. This study had passed ethical clearance test from Faculty of Nursing Universitas Indonesia on April 21st, 2015 with ethic number 0281/UN2.F12.D/HKP.02.04/2015. In order to determine adolescence's self-esteem, it was used self-esteem questionnaire from Sorensen (2015) that had 50 statements which has reliability score 0.76. To assess quality of life, we used WHOQOL-BREF questionnaire that has 26 statements which has reliability score between 0.64 – 0.79.

Both reliability score of self-esteem questionnaire and quality of life questionnaire was taken from the previous researches because those questionnaires were common to be used in many countries. Grouping of low self-esteem and high self-esteem was based on scoring from original questionnaire with some modifications from four categoriesinto two categories. We divided it into two categories based on nursing interventions theory that dividedself-esteem into low andhighself-esteem. Score for self-esteem was ranged between 0 – 50. We divided into two categories that range 0-40 for low self-esteem and 41-50 for high self-esteem. While quality of life was grouping by using of mean score from Malaysia based on WHOQOL-BREF from Skevington, Lotfy, & O'Connell (2004) questionnaire study. It was ranged based on each

domain. For physical health domain, we used 15.6 to be cut-off point, for psychological health domain we used 13.9, for social relationship domain, we used 12.7, and for environment we used 13.5. To analyze the data, we used chi-square to determin the relationship between self-esteem and quality of life in school dropout adolescences with alpha 5% (0.05).

RESULTS

Characteristics of 92 respondents that participated in this study aredescribed in Table 1 and 2.

Table 1

Distribution frequency of respondent based on age in 2015 (n=92)

Variable	Mean	SD	Min-Max	95%CI
Age	14.58	1.929	11 – 18	14.18 – 14.98

Analysis result describes that mean of school dropout adolescences' age is 14,58 years old. From interval estimation result, it is concluded that 95% school dropout adolescences' age is between 14,18 and 14,98 years old.

Table 2

Distribution frequency of respondents based on respondents' characteristics in2015 (n=92)

Characteristic	Sub Characteristic	N	%
Gender	1. Female	41	44.6
	2. Male	51	55.4
Level of education	1. Elementary dropout	58	63.0
	2. Junior high school dropout	33	35.9
	3. Pass from elementary, not continue	1	1.1
Causes of dropout	1. Lesson problems	46	50.0
	2. Long distance	12	13.0
	3. Poverty	34	37.0
Parents' occupation	1. Private	12	13.0
	2. Laborer	63	68.5
	3. No occupation	17	18.5
Family income	1. < Regional Minimum Fee	71	77.2
	2. ≥ Regional Minimun Fee	21	22.8
Sister/ brotherhood amount	1. 2 – 4 people	77	83.7
	2. One and only – 1	15	16.3

Analysis results describe that most of adolescences are male. Most of them have been dropout from elementary school. It is caused by lesson problems. More than 50% parents work as laborer with income below regional minimum payment. Majority of adolescences have 2 until 4 sisters or brothers. More than half of adolescences have low self-esteem. It can be seen from Table 3.

Table 3

Distribution frequency of respondents based on self-esteem in 2015 (n=92)

Variable	Sub variable	n	%
Self-esteem	1. Low self-esteem	89	96.7
	2. High self-esteem	3	3.3

Data describes most of school dropout adolescence have low self-esteem. Most of them have low quality of life. It is showed in Table 4.

Table 4

Distribution frequency of respondents based on quality of life in 2015 (n=92)

Domain	Category	n	%
Physical health	1. Low	91	98.9
	2. High	1	1.1
Psychological health	1. Low	69	75.0
	2. High	23	25.0
Social relation	1. Low	33	35.9
	2. High	59	64.1
Environment	1. Low	74	80.4
	2. High	16	17.4

Result based in statistic test between self-esteem and quality of life in school dropout adolescence concludes that there is relationship between self-esteem and psychological health quality of life's domain. It can be seen in Table 5.

Table 5

Relationship between self-esteem and quality of life in 2015 (n=92)

Quality of life	Self-esteem				P value
	Low		High		
	n	%	N	%	
Physical health					
Low	88	98.9	3	100	0.967*
High	1	1.1	0	0	
Psychological health					
Low	69	77.5	0	0	**0.014***
High	20	22.5	3	100	
Social relation					
Low	33	37.1	0	0	0.259*
High	56	62.9	3	100	
Environment					
Low	74	85.1	0	0	**0.005***
High	13	14.9	3	100	

*some cells have expected count less than 5. Fisher's exact test was used.

DISCUSSION

Adolescence period is a period when someone created their perception about life and one's self. Based on development task that has been promoted by Havighurst (1972), adolescences should achieve meaningful life through a continue education process and also value ethical system learning which can help adolescences to find their identity. School dropout in adolescences makes some problems for them. School dropout potentially causes adolescences cannot fulfill their development tasks. As the result, adolescences tend to do some deviations like doing criminality behavior, having low self-esteem, isolating from social environment, and depression..

This study shows that most of school dropout adolescences have low self-esteem. In line with their quality of life which majority in low quality of life category. Self-esteem is an experience to have ability in facing life challenges(10). Adolescences with high self-esteem have more social supports rather than adolescences with low self-esteem have. They usually get easy to interact in social life. It makes them become easy to reduce stress and then make their health statue increased[8].

Self-esteem, both high and low, correlates with depression, anxiety, motivation, and life satisfaction. Adolescence with low self-esteem, which happens in this study, will be more dependent with surrounding. They usually do not have clear life goals. They fail to find their identity[6] Adolescences, who should have an ability to complete their development tasks to think about career and future, at the end of the day cannot complete it because of their psychological problems like low self-esteem. This statement is strength by study from Huebner & Gilman (2006) who said that adolescences with high self-esteembelieve that they had been able to complete their development task[6]. On the contrary, adolescences with low self-esteem always think everything that they have to do is heavier than reality so they will feel anxiety, stressful, and not passionate in life. It makes them always feel dissatisfaction in life. They will also think that they do not have meaningful life.

Quality of life is defined as someone's perception about his position in life from cultural context and value system where they live that correlate with goal, expectation, and life standardization[9]. Indicators that determine quality of life are personal belonging, level of freedom, opportunity, participation in community, life satisfaction, and self engagement (12). It can say that someone have high quality of life if the hope is appropriate with reality. By the contrary, low quality of life means that there are differences between hope and reality.

Statistical test analysis between self-esteem and quality of life in school dropout adolescence describes that there is relationship between self-esteem and health psychological quality of life's domain. Based on WHOQOL-BREF questionnaire which was studied by Skevington, Lotvy, & O'Connel (2004), statements that include in psychological domain are positive thinking ability in enjoy this life, feeling of having meaningful life, ability to reduce negative thinking, ability to learn, memorize, and concentrate, ability to accept body's performance, life satisfaction and self-esteem, and also feeling of blue, anxiety, and depression.

While environmental domain have 8 statements, there are financial resources, freedom, physical safety and security, health and social care, home environment, opportunities for acquiring new information and skills, participation in and opportunities for recreation, physical environment, and transport. From this study, it is concluded that school dropout adolescences who have low self-esteem will also have low quality of life. This conclusion is in line with composition of self-esteem statements in psychological health and environment domain.

School, including teachers, peer group, learning process, and extracurricular activity, becomes protection mechanism and effective coping to protect adolescence psychological health. School gives opportunity to adolescences in order to get academic and social experience. School is believed as one of environmental component that gives impact to quality of life. Researched by Lande, et al. (2007) showed that adolescences who had connected to school tend to avoid psychological problem such as desire to commit suicide, criminal behavior, drugs, sexual behavior, and bullying. School can be a place to protect adolescences' behavior, improve quality of life, increase academic performance, and distribute adolescences' energy in positive way[13]. School dropout can erase this effective coping mechanism so adolescence cannot get life satisfaction based on their developmental stages.

This study is strength by research from Pavot & Diener (2008) who said that life satisfaction was a core dimension of subjective well being and also key of psychological health. If there was no life satisfaction in adolescence, it would potentially disturb their behavior[(14)]. It would create risky behavior, psychopathological symptoms, and unhealthy attitude. Huebner & Gilman (2006) also have the same idea about relationship between life satisfaction, hope, social relation, and personal balance. Stress, anxiety, and depression can be created from unsatisfaction in life. Life satisfaction is one of statements in psychological domain from WHOQOL-BREF questionnaire. Adolescences who cannot enjoy and love their life will think that they are not valuable. So it can conclude that self-esteem has relationship with life satisfaction as an indicator of adolescence quality of life.

CONCLUSION AND SUGGESTION

This study shows that there is relationship between self-esteem and quality of life in school dropout adolescence specialty in psychological health and environment domain. Adolescences with high self-esteem tend to have high quality of life. On the other hand, adolescence with low self-esteemtends to have low quality of life also. But unfortunately, there is no description about how those variables affect development stages in life span. Further researches about the effects of those variables toward development stage in life span is important to do in order to get information about long term impact from low self-esteem in school dropout adolescences.

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O-12

PARENTAL PRACTICE IN ADOLESCENTS WITH VIDEO GAME PLAYING IN YOGYAKARTA MUNICIPALITY

Romdzati[1*], Nilawan Chanthapreeda[2]

[1]Master of Nursing Science (International Program), Faculty of Nursing, Khon Kaen University; Lecturer, School of Nursing, Faculty of Medicine and Health Sciences, Universitas Muhammadiyah Yogyakarta, Indonesia
[2] Assistant Professor, Faculty of Nursing, Khon Kaen University, Thailand
*Email: romdzati@gmail.com

ABSTRACT

Video game playing has become a popular activity for all ages. Adolescents become part of that group. In around the world, including Asian countries, adolescents who play video game get increasing number. More than three quarters of video game players in Japan, Korea and China are children and adolescents.Many of the most popular video games have a negative impact, for instance aggressive thoughts, feelings and behaviors. In terms of video game playing, a parental practice is needed to prevent or protect adolescents from adverse effects of video games.The descriptive design study was conducted to describe demographic data and parental practice inadolescents with video game playing. Data was collected from 224 parents of adolescents who study in one primary, one secondary, and one high school in Yogyakarta municipality, Yogyakarta province, Republic of Indonesia. It was collected using parental practice in video game playing adolescents' questionnaires during April to May 2013. The results showed that the majority of parents were in good practice level. Parental practice in video game playing in adolescents was at a moderate practice (18.8%, n=42) and good practice (81.2%, n=182). There were no parents in bad practice level.

Keywords:video game playing, adolescent, parental practice

BACKGROUND AND SIGNIFICANCE

Nowadays, video game playing has become a popular activity for all ages.[1] The growth of video games as an entertainment form is larger than Hollywood movies.[2] People can play almost anywhere since there are a range of devices that can be played including console, personal computers (PC), and handheld devices such as mobile phones. Based on a press release from the Interactive Software Federation of Europe,[3] in the UK, 37% of population aged between 16 and 49 describe themselves as "active gamers". Adolescents clearly are part of that group. Moreover, the number of American children aged 2 to 17 years playing video games had increased up to nine percent when compared to 2009.[3] Asian countries also have high numbers of adolescents playing video games. More than three quarters of video game players in Japan, Korea and China are children and adolescents.[4] The exact numbers are 84.7%, 94.8% and 78.1% in each country, respectively.

One research conducted in America and also nationally representative sample showed the prevalence of pathological video gaming among American youth. In this research, it was found that 8.5% of video gamers age 8-18 exhibit pathological pattern of videogame play.[2] In Thailand, 23.1% of adolescents were computer game addicted.[5] Four adolescents in one district of Indonesia were brought to a psychiatric hospital because of video game addiction.

Many of the most popular video games have a negative impact.[1] Children and adolescents may become overly involved and even obsessed with video games. Adolescents will display aggressive thoughts, feelings and behaviors after too much exposure to video games, especially violent video games.

Actually, during adolescence, the parental practice is important. Parents can influence on adolescent's life. According to Resnick[6] there is a connection between parent and adolescent relationship with less violent behavior. To illustrate, parental support has positive correlation with positive mental and physical health.[6]

In terms of video game playing, a parental practice is needed to prevent or protect adolescents from adverse effects of video games. They may involve checking video game contents, controlling when or where the adolescents can play,[7] monitoring gaming behavior, reading content description, banning certain video games, gathering information on games, pointing out bad or good things in games, explain what happens in games and evaluating game contents.

Based on above explanation, parental practice in controlling video games impact is noteworthy, in Indonesia, some parents do it well, but some do not. Parents just know that their child plays video games, but some of them do not know what kind of video games they play.

This research was done to identify parental practice and problem video game playing in adolescents.

METHODS

The research design of this study was a descriptive study. Data were collected from 224 parents of adolescents who study in Yogyakarta municipality. Multi stage random sampling was used to determine the sample size.A parental practice in video game playing questionnaire was used in this study.

The data was analyzed using the Statistical Package for Social Sciences (SPSS) PC +16.

RESULTS

Table 1.
The Frequency of Demographic Characteristics of Parents (n=224)

Demographic characteristics	Non problematic playing	Problematic playing
Age (year)		
20-40	50	7
41-65	138	28
>65	1	0
Gender		
Male	68	9
Female	121	26
Religion		
Moslem	174	32
Christian/Catholic	15	3

Marital status		
Married	174	34
Divorced	4	0
Widowed	11	1
Education level		
High school	86	10
Diploma	28	4
Bachelor degree	53	15
Master degree	9	3
Doctoral/PhD	1	1
Others	12	2
Occupation		
Civil servant	30	6
Teacher/lecturer	13	5
Private employee	80	11
Others	66	13
Giving money for playing game		
Yes	37	10
No	152	25

Based on Table 1.most of parents were middle adulthood age (74.1%, n=166). The gender of parents mostly was female. Parents' religions were two types: Moslem and Christian/Catholic. There were 208 (92.0%) and 16 (8.0%), respectively.

Most of parents had marital status (92.9%, n=208. Educational level of parents were dominated with parents graduated from high school (42.9%). Based on parents' information, most of parents gave information that they did not give money for playing video game to their child.

Table 2

The Level of Parental Practice in Adolescentw with Video Game Playing

Parental practice in video game playing in adolescents	Frequency	Percentage (%)
Bad practice	0	0
Average practice	42	18.8
Good practice	182	81.2

The data showed that there is no bad practice level. Most of them was in the good practice (81.2%, n=182), meanwhile average practice level is about 18.8% (n=42).

DISCUSSION

Parental practice in adolescents with video game playing

Parental practice in video game playing in adolescents had four domains. In general, the result showed that most of parents were in good practice. One hundred and eighty two parents (81.2%) did good practice, while 42 parents (18.8%) did average practice. There was no presented parental practice in bad practice level.

In this study, the percentage of female parents was more than male. It was 65.6% female (n=147), while the rest of them were male. Females could be better in taking care

of family include their child.[8]The majority of respondents were also middle adulthood age (74.1%, n=166). Compared with other stages, the development of middle adulthood gave more support to adolescents. One of middle adulthood task was helping teenage to become responsible adults.[8]

Moreover, all respondents had religion. Most of them were Moslem. In this religion, parents had responsibility to educate and take care of them.[9] It contributed to help parents be good practice.

CONCLUSION

The conclusions of this study are thus; the majority parents were in good practice level (81.2%, n=182).

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O-13

THE EFFECT OF GENERALIST AND SPECIALIST THERAPIES (THOUGHT STOPPING AND PROGRESSIVE MUSCLE RELAXATION) IN REDUCING ANXIETY RESPONSE OF CLIENTS WITH PHYSICAL ILLNESS IN DR.H.MARZOEKI HOSPITAL OF BOGOR

Livana PH, Budi Anna Keliat, Yossie Susanti Eka Putri

Ners Specialist Program of Mental Health Nursing,
Faculty of Nursing, Universitas Indonesia
Email: livana.ph@gmail.com

ABSTRACT

Physical illness defined as a state resulted from the lost of equilibrium in one or several organs and may cause psychosocial alteration, including anxiety. The anxiety of clients who admitted to public hospital because of physical illness signed with discomfort, sad, anxiety and worried. The study aimed to report the application of generalist and specialist therapies (thought stopping and progressive muscle relaxation) to reduce signs and symptoms of anxiety in clients with physical illness. This study used the concept of 'Caring' by Swanson and 'Stress adaptation model' by Stuart as the intervention for 90 clients who with anxiety in Dr.H.Marzoeki Mahdi Hospital of Bogor. The application of Thought Stopping had reduced cognitive, affective and social responses in clients with anxiety (n=34). The application of Progressive Muscle Relaxation had reduced affective, physiological and behavioral responses in clients with anxiety (n=11). Combining both of Thought Stopping and Progressive Muscle Relaxation resulted in reduction of cognitive, affective, physiological, behavioral and social responses in clients with anxiety (n=45). The combination of Thought Stopping and Progressive Muscle Relaxation as generalist and specialist therapies recommended as given intervention to overcome the anxiety of clients with physical illness in public hospital.

Keywords: Thought Stopping, Progressive muscle relaxation, Clients with physical illness.

BACKGROUND

Physical illness defined as a state resulted from the lost of equilibrium in one or several organs and may cause psychosocial alteration, including anxiety. Person who is currently suffering from physical illness would experience some psychosocial alterations which one of them is anxiety anxiety [1].Anxiety is confusion or worried about particular thing without any specific reason, normally related to helplessness and uncertain feeling as the result of personal estimation about an object [2]. Every people actually has experienced in dealing with anxiety that makes it a familiar problem in human's life. Anxiety also defined as mental health problem belongs to a group of mental-emotional alteration.

Prevalence of anxiety in adult population in Developing Countries is about 50%. Prevalence of mental-emotional alteration in Indonesia, including anxiety, is about 6% of population. Bogor becomes one of the city in West Java with high prevalence of mental-emotional alteration and the incident reaches the number of 28,1%. Anxiety could be experienced by a person who is currently being hospitalized and requires a holistic and comprehensive intervention from mental health service.

A person who is currently suffering from anxiety could experience the lost of equilibrium (imbalance) in both of physical and emotional aspects[2]. Anxiety occurs when a person feels

afraid of not being able to fit in a certain environment or because of the existence of a threat related to self-integrity, such as disturbance in physiological or basic needs, and even because of a threat related to self concept: self identity, self esteem and role changing. Clients who are being hospitalized because of physical illness will feel anxiety. This statement gets along with the theory created and stated that one of phenomenon which can lead to anxiety is physical illness.

The signs and symptoms of anxiety consist of two components, mental component signed with worried or restless and physical component signs with increasing of respiration rate, tachycardia, dry mouth, gastric grievance, cold extremities and muscle spasm. These components have reciprocal association that will lead to different kind of anxiety experienced by different person.

Nurse, as a health practitioner, who has the highest frequency of interaction with clients as individual and also clients as family, required to have ability in giving appropriate interventions based on clients' responses, one of them is to be able to overcome psychosocial problem such as anxiety which frequently experienced by clients in public hospital. Nursing intervention that can be given by nurses related to anxiety diagnose is providing intervention to prevent, education or information associated with anxiety, and also education about managing anxiety with deep breath technique, distraction, spiritual activities and 5 hands hypnosis. Nursing interventions for clients with anxiety can be given optimally as specialist nursing intervention through Thought Stopping and Progressive Muscle Relaxation therapies (Stuart, 2009).

Nursing intervention by combining thought stopping and progressive muscle relaxation can also reduce anxiety in client with physical illness ranged from moderate to mild anxiety. The data above proves that generalist and specialist therapies (thought stopping and progressive muscle relaxation) are efficient to reduce anxiety symptoms related to adaptation with stimulus accepted so that the given intervention could be done effectively prior to the concept of stress and adaptation by Stuart and the intervention could influence the patients to reach optimal prosperity based on the concept of 'caring'.

Nursing intervention can be given optimally by maintaining appropriate management of service using professional nursing practice management also known as MPKP. Nursing ability in giving professional and holistic interventions in Antasena Ward is used as approachment so-called Counseling Liasson Mental Health Nursing (CLMHN) by applying psychosocial and physical intervention and management to create a comprehensive nursing intervention with stress adaptation concept by Stuart and concept of 'Caring' by Swanson for client as individual.

The number of clients involved in this study is about 90 clients with anxiety and suffer from following physical illness: chronic kidney disease (17,6%), heart failure (13,7%), diabetes mellitus (7,8%), dyspepsia (7,8%), appendicitis (6,9%), stroke (5,9%), typhoid fever (5,9%) and Dengue fever (3,9%).

Clients with anxiety who are involved in this study show signs and symptoms or estimation about stressor through the theory and concept of stress and adaptation by Stuart with different responses, i.e cognitive, affective, physiological, behavioral and social responses. Cognitive response (25,2%) characterized by focusing only to one thing at the moment and difficulty in concentration. Affective response (56,5%) characterized by sadness, worried, unconfident and confusion. Physiological response (38,6%) characterized by losing appetite, muscle spasm, tachycardia, increasing blood pressure and sleeping disturbance.

Behavioral response (42,3%) characterized by alert, unproductive and tend to ask question. Social response (46%) characterized by the need of others and has less social interaction.

Nursing interventions that have been given are generalist therapy to 90 clients, specialist therapy: thought stopping to 34 clients, specialist therapy: progressive muscle relaxation to 11 clients and combination of thought stopping and progressive muscle relaxation to 45 clients.

METHOD

This study is done by reporting intervention of generalist therapy to 90 clients with anxiety and physical illness. The researcher did measurement of signs, symptoms and also the ability of clients before generalist and specialist therapies (thought stopping and progressive muscle relaxation) was given.

CHARACTERISTICS OF PARTICIPANTS

Most of clients involved in this study are male (53 clients), adults with age range from 25 to 60 years old (70 clients), graduated with High School certificate (35 clients), employment (50 clients), married (71 clients), Islam (87 clients), never have experiences being hospitalized before (56 clients), length of stay at the hospital around 5 days and length of stay or get interventions by researcher around 3 days (2-8 days).

Precipitation factor of anxiety is biological aspect affected by physical alteration and medical diagnoses (90 clients) and invasive intervention (63 clients). Psychological aspect caused by worrying the illness (90 clients), role changing (34 clients), fear of death (19 clients), being burdensome for family members (16 clients) and the fear of complication of the illness (11 clients). Socio cultural aspect is a result of being hospitalized or not being able to do daily activities (84 clients) and financial problems (11 clients).

Final evaluation reports that all of clients show reduction in anxiety responses: cognitive, affective, physiological, behavioral and social responses after accepting generalist therapy, there is a difference or gap between pre and post assessment of cognitive response in 25 clients, affective response in 57 clients, physiological response in 38 clients, behavioral response in 42 clients and social response in 46 clients. Generalist therapy has higher efficacy in reducing affective, social and behavioral responses compared to the other anxiety responses.

Final evaluation after additional therapy of thought stopping is given to 34 clients shows that the gap between pre and post intervention of cognitive response occurs in 16 clients, affective response in 15 clients, physiological response in 8 clients, behavioral response in 11 clients and social response in 12 clients. Thought stopping therapy that had been given to clients showed the reduction in cognitive, affective and social responses compared to the other responses.

Final evaluation after additional therapy of progressive muscle relaxation in 11 clients shows that the gap between pre and post intervention in cognitive therapy occurs in 4 clients, affective response in 6 clients, physiological response in 7 clients, behavioral response in 4 clients and social response in 5 clients. Progressive muscle relaxation has been proven more efficient in reducing physiological, affective and social responses compared to the other responses of anxiety.

Final evaluation after additional therapy of thought stopping and progressive muscle relaxation shows that the gap between pre and post intervention of cognitive response occurs

in 22 clients, affective response in 24 clients, physiological response in 19 clients, behavioral response in 20 clients and social response in 21 clients. Combination of thought stopping and progressive muscle relaxation therapies has been proven more efficient in reducing cognitive, affective, physiological, behavioral and social responses of anxiety.

Application of generalist and specialist therapies (thought stopping and progressive muscle relaxation) using ‘stress and adaptation model’ by Stuart and ‘concept of caring’ by Swanson is effective in reducing signs and symptoms of anxiety characterized by cognitive, affective, physiological, behavioral and social responses. The result can increase knowledge of clients and families to overcome and manage anxiety in clients with physical illness.

DISCUSSION

The number of clients with anxiety admitted to Antasena ward ia around 100 clients and most of them (90 clients) suffer from moderate to severe anxiety. Result of responses between pre and post intervention shows that generalist therapy reduces cognitive response in 25 clients, affective response in 57 clients, physiological response in 38 clients, behavioral response in 42 clients and social response in 46 clients. This result approves the opinion stated by [3]. that had proven generalist therapy for anxiety using deep breath technique, distraction, spiritual activities and 5 hands hypnosis can reduce anxiety responses characterized by cognitive, affective, physiological, behavioral and social responses. Research conducted showed that stress or physiological response of anxiety can be lessened around 60% by using 5 hand hypnosis. Based on evaluation, experts’ opinions and previous researches, Researcher can conclude that generalist therapy for anxiety can reduce anxiety responses experienced by clients with physical illness.

The Influence of Generalist and Specialist Therapies to The Ability of Clients with Physical Illness

Application of generalist therapy for clients can improve their ability in demonstrating deep breath technique in 76 clients, distraction technique in 60 clients, spiritual activities in 12 clients and 5 hands hypnosis in 78 clients.

This result also approves the research conducted by [4],about the efficacy of 5 hands hypnosis in reducing stress of family members in taking care of clients with mental illness. The result shows that there is association between 5 hands hypnosis in reducing physical response around 60%. Based on the result of previous research and the application of generalist therapy in clients with anxiety and physical illness, Researcher can conclude that these therapies can increase ability in 57 clients.

The Influence of Generalist and Specialist Therapies (Thought Stopping) to Signs and Symptoms of Anxiety

Application of generalist and specialist therapies (thought stopping) resulted in reducing signs and symptoms of anxiety. Most of clients show less signs and symptoms after accepting generalist therapy related to cognitive (11 clients), affective (10 clients), physiological (15 clients), behavioral (4 clients) and social responses (5 clients). The reduction of signs and symptoms of anxiety after accepting thought stopping therapy observed in following responses: cognitive (20 clients), affective (15 clients), physiological (8 clients), behavioral (11 clients) and social responses (22 clients). The differences of responses between pre and post intervention are significant especially in cognitive, affective and social responses.

The result of these therapies gets along with the research conducted which stated that thought stopping therapy can reduce anxiety in clients with physical illness. Another research conducted by [1], approves the result of this study and stated that thought stopping therapy can reduce physiological, cognitive, behavioral and emotional responses in clients with anxiety. This result proves that the concept of psycho-neuro-immunology shows important effect through eliminating negative thought and maintaining positive thought in order to nervous system can work optimally and immune system can develop its function to make clients healthier or regain health status. Previous research and application of these therapies have high capability in overcoming anxiety in clients with physical responses related to cognitive, affective and social responses although they do not eliminate the signs and symptoms completely. This happens because physical illness of clients has not been categorized by researcher.

The Influence of Generalist and Specialist Therapy (Progressive Muscle relaxation) to Signs and Symptoms of Anxiety

Application of generalist and specialist therapies resulted in reduction of signs and symptoms of anxiety after progressive muscle relaxation is given in following responses: cognitive (4 clients), affective (6 clients), physiological (7 clients), behavioral (4 clients) and social responses (5 clients). The differences between pre and post intervention are observed in the changes of signs and symptoms of anxiety.

This result approved by previous research which stated that progressive muscle relaxation reduced anxiety and depression significantly in clients with cancer. The Application of this therapy also approves the opinion of which stated that progressive muscle relaxation has significant effect in reducing physiological response of anxiety.

Pronounced that people with adaptive mechanism of coping tend to suffer from mild anxiety, while people with maladaptive mechanism of coping tend to suffer from moderate to severe anxiety. This opinion gets along with the result of progressive muscle relaxation that had been given in 4 days continuously and the result showed that the stress level decreased about 71 % compared to stress level before the therapy was given.

Based on the results of therapies, theories and related researches, Researcher find that progressive muscle relaxation which done routinely could reduce anxiety compared to 'do nothing' and the results show the reduction of physiological, affective and social responses. After clients accepting progressive muscle relaxation therapy, there is significant reduction in physiological, affective and social responses.

The Influence of Generalist and Specialist Therapies (Thought Stopping and Progressive Muscle Relaxation) to Signs and Symptoms of Anxiety in Clients with Physical Illness

Generalist and Specialist therapies as given intervention consist of thought stopping and progressive muscle relaxation. Signs and symptoms found in pre and post intervention were compared with calculating the distribution of frequency of the data. Result shows that signs and symptoms between pre and post intervention characterized by following responses: cognitive (11 clients), affective (24 clients), physiological (19 clients), behavioral (20 clients) and social responses (21 clients). Physiological response is identified in all of clients involved in this study without considering the effect of physical illness medications consumed by clients, therefore there are still signs and symptoms related to physiological response of anxiety observed. The following researches or studies can use the results of this study as consideration in measurement of physiological response of anxiety.

The results also get along with the research conducted by [1], which stated that the combination of thought stopping progressive muscle relaxation can reduce anxiety in clients with physical illness from moderate to mild level and also reduces the responses of cognitive, affective, physiological, behavioral and social significantly. Based on these researches and the results of therapies, Researcher concludes that thought stopping therapy and progressive muscle relaxation that had been given after generalist therapy could reduce the responses of anxiety: cognitive, affective, physiological, behavioral and social responses. Researcher does not identify the level of anxiety using Depression Anxiety Stress Scale 42 (DASS 42) as valid indicator. This becomes the limitation and weakness of this study, therefore Researcher does not understand anxiety level of clients after applying generalist therapy, thought stopping and progressive muscle relaxation.

CONCLUSION

Generalist therapy is efficient in reducing affective, social and behavioral responses compared to other anxiety responses. Thought Stopping Therapy that had been given to clients could reduce cognitive, affective and social responses compared to other anxiety responses. Progressive Muscle Relaxation Therapy is efficient in reducing physiological, affective and social responses compared to other anxiety responses. Combination of thought stopping and progressive muscle relaxation is efficient in reducing cognitive, affective, physiological, behavioral and social responses of anxiety.

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ANALYSIS OF FACTORS AFFECTING POST EVENT CARDIAC CATHETERIZATION HEMATOMA TRANSRADIAL IN DR. SARDJITO HOSPITAL YOGYAKARTA

Subroto[1], Tri Wahyu Murni Sulisetyowati[2], Aan Nuraeni,[2]

[1]Dr. Sardjito Hospital Yogyakarta, Indonesia
[2]Master of Nursing, University of Padjadjaran in Bandung, Indonesia
Email :brotowae@gmail.com

ABSTRACT

Management clients with Coronary Heart Disease (CHD) one of them is the method of coronary angiography and percutaneous ie Percutaneous Coronary Intervention (PCI), which can be done through the femoral artery and the radial artery. Hematoma often occurs as complications of coronary angiography and Percutaneous Coronary Intervention (PCI) through the radial artery. Procedure taken in the transradial cardiac catheterization is always the anticoagulant drug administration, using a certain size sheath, a certain value of systolic blood pressure, the frequency of puncturewhich is not always one and using the radial artery constriction device TR Band, as well as in patients with a certain body mass index. Hematoma can cause pain and its intervention can delay the return of the patient. The aim of this research is to analyze the factors that affect the incidence of hematoma as anticoagulant drug delivery, sheath size, systolic blood pressure values, frequency puncture, TR Band pressure and body mass index and determine the most dominant factor on the incidence of hematoma in transradial cardiac catheterization in Dr. SardjitoHospital. This study was observational study with cross sectional method. Sampling technique in this research was consecutive sampling. There were 69 samples in six weeks period. Chi square and logistic regression was utilized in data analysis. These results indicate that the administration of the type of anticoagulant drugs is more than one, the size of the sheath that large, the value of systolic blood pressure> 140 mmHg, the frequency of punctures is more than one and a pressure of TR Band <13 cc affect on the incidence of hematoma in patients with transradial Cardiac Catheterization procedures in Dr. Sardjito Hospital (p value = 0.00; <0.05). The most influencing variable on the incidence of hematoma is an anticoagulant drug administration with OR = 19.115. The factors that most influence on the incidence of hematoma is the anticoagulant drug delivery of more than one drug at the action procedures transradial cardiac catheterization in Dr. Sardjito Hospital. Suggestion.Preparing a patient care standard operating procedure after transradial cardiac catheterization to minimize the incidence of hematoma by taking into account factors that influence.

Keywords: radial artery, hematoma and cardiac catheterization.

BACKGROUND

Coronary Heart Disease (CHD) is a disorder caused by the narrowing and blockage of the coronary arteries that supply blood to the muscles jantung1. heart disease is the number one cause of death in the world and 60% of all causes of death are heart disease and ischemic heart disease at least 17.5 million, equivalent to 30.0% of deaths worldwide are caused by disease jantung[2].

Management clients with Coronary Heart Disease (CHD) one of which is the percutaneous method, ie coronary angiography and Percutaneous Coronary Intervention (PCI) / Percutaneous Transluminal Coronary Angioplasty (PTCA)[1]. Cardiac catheterization

action in peripheral vascular access has several options including the femoral artery, brachial or radial. Options femoral artery is a common or traditional access that has long been used in the cardiac catheterization procedure, there are some studies say that the femoral access has tinggi3 risk of complications. Some press hemostatic devices have been introduced that have been proven safe and effective in achieving hemostasis such as TR Band, but there is still a small local hematoma incidence of 5.4% and 2.2% large hematoma[4]. Emphasis artery can be done manually by providing direct pressure the radial artery or using compression tools, compression tools used to work unilaterally in order to maintain blood flow to the distal arterial and venous blood flow. If the pressure is too strong it will disrupt either a partial or total blood flow which would trigger a process of trombosis[5].

The process of pricking or radial artery cannulation might fail, so it requires repeated cannulation action.This action can cause damage to blood vessels and lead to continued occurrence hematoma artery stenosis[6].

Factors increasing the risk of vascular complications in coronary angiography are the using of anticoagulants, and stiffness hardening of the arteries, age, gender and hipertensi[7].

Treatment of patients after coronary angiography and PCI action is vital signs monitoring, patient complaints and monitoring the area where the catheter access to the complications of bleeding and hematoma as well as a gradual mobilization ektrimitas a catheter access. The important thing to be observed isvital signs every 15 minutes in 1 hour and 30 minutes in the next 2 hours until stable, observations on the incidence of hematoma by evaluating the area of the former puncture sheath radial, patency use tool presses the radial artery, observation of signs and a side effect of the contrast agent, observation for signs of infection, as well as the observation of signs of impaired circulation to perifer[8].

METHODS

The design of this study was an observational study with cross sectional research methods. The population was around the patient men and women. The design of this study was an observational study with cross sectional research methods. The population was around the patient men and women who performed transradial cardiac catheterization action at Hospital Dr. Sardjito May s.d. June 2015. The subjects in this study were patients who underwent transradial cardiac catheterization action at Hospital Dr. Sardjito May s.d. June 2015 with consecutive sampling technique. **Inclusion criteria**: 1) patients were men and women who performed transradial cardiac catheterization in Hospital Dr. Sardjito, 2). Age> 20 years to <70 years, 3). Willing to be patient. **Exclusion criteria**: 1). Thrombocytopenia (AT ¬ <70 rb / mm3), 2). Patients diagnosed with peripheral vascular disease, 3). Patients diagnosed with DM are ulcers. Sample size. In this study, the observed risk factors there are 5 variables. Approximate sample size was based on the proportion of each risk factor. Sample size calculations based on the proportion of each factor of 9: 1) Drug anticoagulation, with the proportion of 17.5%, bringing the total number of samples 53; 2) Size sheat, with a proportion of 11%, bringing the total number of samples 38; 3) blood pressure, with a proportion of 21%, bringing the total number of samples 63; 4) Frequency of punctures, with the proportion of 15.8%, bringing the total number of samples 52; 5) TR Band, with the proportion of 4%, so that the number of samples [15]. Estimates of the number of samples in this study was 64. Researchers from the time set for 6 weeks of study subjects obtained as many as 69 people.

RESULTS

Research subjects in this study amounted to 69 people who are the observation group without intervention. More description as set forth in Table 1 below.

1. BivariatAnalysis.

Table 1
Distribution of Patients by Sex and Genesis Hematoma Patients transradial Cardiac Catheterization at Dr. Sardjito Hospital (n = 69)

SEX	Hematoma				Total		OR (95 % CI)	P *Value*
	Not Hematoma		Hematoma					
	n	%	N	%	N	%		
Female	7	58,3	5	41,7	12	100		
Male	36	63,2	21	36,8	57	100	0,00	0,754
Amount	43	62,3	26	37,7	69	100		

Based on Table 1 shows that hematoma did not occur in the majority of female patients. While it appeared to a small percentage of male patients. Based on the analysis by the Chi-Square data showed that there is no difference between the incidence of hematoma proportion with gender (p value = 0.754;> 0.5), with OR = 0 means female patients has no effect on the possibility of hematoma incidence than in patients with men.

Table 2
Distribution of Patients According to Age and Genesis Hematoma Patients transradial Cardiac Catheterization at Dr. Sardjito Hospital (n = 69)

Age	Hematoma				Total		OR (95 % CI)	P *Value*
	Not Hematoma		Hematoma					
Year	n	%	n	%	N	%		
40-54	15	65,2	8	34,8	23	100	0,00	
55-69	28	60,9	18	39,1	46	100		0,796
Amount	43	62,3	26	37,7	69	100		

Based on Table 2 shows that hematoma did not occur in the majority of patients aged 40-54 years. While it occurred in a small percentage of patients aged 55-69 years. Based on the analysis by the Chi-Square data showed that there is no difference between the incidence of hematoma proportion to the age group (p value = 0.796;> 0.5), with OR = 0 means that patients 40-54 years of age did not have an influence on the possibilities hematoma incidence than in patients aged 55-69 years.

Table 3
Distribution of Patients According Number Type Dispensing Anticoagulants and Genesis Hematoma Patients transradial Cardiac Catheterization at Dr. Sardjito Hospital (n = 69)

The number of anticoagulant drugs	Hematoma				Total		OR (95 % CI)	P *Value*
	Not Hematoma		Hematoma					
	n	%	N	%	n	%		
One type	31	91,2	3	8,8	34	100	19,81	
≥ twoType	12	34,3	23	65,7	35	100	5,01-78,36	0,00
Amount	43	62,3	26	37,7	69	100		

Based on Table 3 shows that hematoma did not exist in most patients who obtained a type of anticoagulant drugs. While it occurred in most of the patients that received two or more types of anticoagulant drugs occurred hematoma. Based on the analysis by the Chi-Square data showed that there are differences in the incidence of hematoma between the proportion of patients who acquire one type of anticoagulant drugs to patients that received two or more types of medication (p value = 0.000; <0.5), with OR = 19, 81, meaning that patients receive two types of anticoagulant drugs or have the possibility of hematoma at 19.81 times compared with patients receiving one type of anticoagulant drug administration, while the lowest value 95% CI 5.01, and the highest 78.36 means that the use of two types of drugs a kind or more risk factors have a strong influence on the occurrence of hematoma.

Table 4
Distribution of Patients According to the size and Genesis Sheath Hematoma Patients transradial Cardiac Catheterization at Dr. Sardjito Hospital (n = 69)

Sheath Size	Hematoma				Total		OR (95 % CI)	P *Value*
	Not Hematoma		Hematoma					
Frent	N	%	n	%	n	%		
5F	24	96,0	1	4,0	25	100	31,6	0,00
6F	19	43,2	25	56,8	44	100	3,92 - 54,7	
Amount	43	62,3	26	37,7	69	100		

Based on Table 4 shows that most patients who use size 5 F sheath hematoma did not occur. While most patients who use size 6 F sheath hematoma occurs. Based on the analysis by the Chi-Square data showed that there are differences in the incidence of hematoma proportion among patients using 5F sheath size with the size of the patient using a 6F sheath (p value = 0.000; <0.5), with OR = 31.6, meaning patients using a 6F sheath size has the possibility of hematoma of 31.6 times compared with patients using 5F sheath size, while the value of 95%CI 3.92 lows and highs of 54.7 means that using a 6F sheath no risk factors have a strong influence to the occurrence of hematoma.

Table 5
Distribution of Patients According Systolic blood pressure and the incidence of hematoma Patients transradial Cardiac Catheterization at Dr. Sardjito Hospital (n = 69)

Systolic blood Pressure	Hematoma				Total		OR (95 % CI)	P *Value*
	Not Hematoma		Hematoma					
mmHg	N	%	N	%	n	%		
<140	32	82,1	7	17,9	39	100	7,9	0,00
≥ 140	11	36,7	19	63,3	30	100	2,6-23,8	
Amount	43	62,3	26	37,7	69	100		

Based on Table 5 shows that most patients whose blood pressure is less than 140 mm Hg did not happen hematoma. While the patients whose blood pressure 140 mm Hg or more occurred hematoma. Based on the analysis by the Chi-Square data showed that there are differences in the incidence of hematoma between the proportion of patients whose blood pressure less than 140 mmHg in patients whose blood pressure 140 mm Hg or greater (p value = 0.000; <0.5), with OR = 7.9, meaning that patients with a blood pressure of 140 mm

Hg or more have the possibility of hematoma by 7.9 times compared with patients with blood pressure less than 140 mm Hg, while the lowest value 95% CI 2.6 and 23.8 means that the highest pressure 140 or higher systolic blood are risk factors that have a strong influence on the occurrence of hematoma.

Table 6
Distribution of Patients According to Frequency Puncture and hematoma Patients transradial Cardiac Catheterization at Dr. Sardjito Hospital (n = 69)

Puncture Frequency	Hematoma				Total		OR (95 % CI)	P *Value*
	Not Hematoma		Hematoma					
	N	%	n	%	n	%		
1 time	22	81,5	5	18,5	27	100	4,4	
≥ 2 times	21	50	21	50	42	100	1,40 – 13,81	0,017
Amount	43	62,3	26	37,7	69	100		

Based on Table 6 shows that most patients do not puncture one hematoma. While patients performed two times or more puncture have opportunities for the possibility of hematoma or not hematoama. Based on the analysis by the Chi-Square data showed that there are differences in the incidence of hematoma between the proportion of patients with stab one time with a puncture twice or more (p value = 0.000; <0.5), with OR = 4.4, meaning that patients with twice or more puncture have the possibility of hematoma by 4.4 times compared to patients with stab one time, while the value of the 95% CI 13.81 lows and highs of 1.4 means that the puncture twice or more risk factors have a strong influence on the occurrence of hematoma.

Table 7
Distribution of Patients According to Pressure TR Band and Genesis Hematoma Patients transradial Cardiac Catheterization at Dr. Sardjito Hospital (n = 69)

TR Band Pressure	Hematoma				Total		OR (95 % CI)	P *Value*
	Not Hematoma		Hematoma					
	n	%	n	%	N	%		
13 cc	37	82,2	8	17,8	45	100	13,9	
<13 cc	6	25,0	18	75	24	100	1,18 – 46,02	0,000
Amount	43	62,3	26	37,7	69	100		

Based on Table 7 shows that hematoma did not happen in most patients given 13 cc pressure TR Band. While it did happen to most patients given TR Band pressure of less than 13 cc occurred hematoma. Based on the analysis by the Chi-Square data showed that there are differences in the incidence of hematoma between the proportion of patients with TR Band size 13 cc with TR Band size of less than 13 cc (p value = 0.000; <0.5), with OR = 13.9 meaning that patients with TR Band size less than 13 cc has the possibility of hematoma by 13.9 times compared with patients with TR Band size 13 cc, while the lowest value 95% CI 1.18, and the highest 46.02 means that the reduction pressure is less than TR Band 13 cc prematurely are risk factors that have a strong influence on the occurrence of hematoma.

Table 8
Distribution of Patients According to the Body Mass Index and Genesis Hematoma Patients transradial Cardiac Catheterization at Dr. Sardjito Hospital (n = 69)

Body Mass Index	Hematoma				Total		OR (95 % CI)	P *Value*
	Not Hematoma		Hematoma					
	n	%	n	%	N	%		
Normal	13	56,5	10	43,5	23	100	0,00	
Not normal	30	65,2	16	34,8	46	100		0,661
Amount	43	62,3	26	37,7	69			

Based on Table 8 shows that the majority of patients with BMI more did not happen hematoma. While a small percentage of patients whose normal BMI occurred hematoma. Based on the analysis by the Chi-Square data showed that there is no difference between the incidence of hematoma proportion with body mass index (p value = 0.661;> 0.5), with OR = 0 means that patients with abnormal BMI has no effect on the likelihood of occurrence hematoma compared to patients with normal BMI.

2. Multivariate Analysis

Multivariate analysis is done by looking at the results of the bivariate analysis had Odds Ratio and P value <0.05 as follows:

Table 9
Distribution of OR and pvalue results based on the analysis results of chi-square test

V Variabel	OR(95%CI)	P*value*
Sheath size	31,6	0,000
types of medicine	19,8	0,000
TR Band Pressure	13,9	0,000
Sistolic Blood Pressure	7,9	0,000
Puncture Frequency	4,4	0,017
Body Mass Index	0	0,661

Table 9 shows that all variables have a P value of less than 0.05 except IMT pvalue 0661> 0.05. It means that all variables can be inserted into the modeling analysis of multivariate test except IMT

Table 10
Distribution of variables that most influence on the incidence of hematoma Patients transradial Cardiac Catheterization at Dr. Sardjito Hospital.

Variable	Exp(B)	95% C.I.for EXP(B)	
		Lower	Upper
Types of medicine	19,115	1,547	236,117
Sistolic Blood Pressure	15,731	2,21	111,920
TR Band Pressure	9,096	1,453	56,961
Sheath size	2,055	1,116	36,303
PunctureFrequency	1,621	,247	10,632

Based on Table 10 shows that the results of the multivariate analysis associated with the incidence of hematoma significantly is the number of drug types, sheath size, blood pressure, puncture frequency, size TR Brand. Logistic regression analysis results with the greatest variables influence the occurrence of hematoma in patients undergoing catheterization action through the radial insertion in the Cardiac Catheterization Hospital Dr. Sardjito is a number of types of medication with Exp (B) = 19.115. This means that patients given anticoagulant drugs two or more types of 19.115 times have influence on the incidence of hematoma in patients who underwent cardiac catheterization via the radial space Hospital Cardiac Catheterization Dr. Sardjito, whereas most small variables that influence is the frequency puncture with (Exp (B) = 1.621.

DISCUSSION

1. Bivariate analysis.

a. Gender and Age

Sex of the patient both women and men have no effect on the incidence of hematoma on the action transradial cardiac catheterization. Gender is a risk factor for acute coronary syndrome which is indicative of the actions cardiac catheterization[10]. In this study, gender did not make influence on the incidence of hematoma.

In the age group 40-54 years and 55-69 years age group had no effect on the incidence of hematoma on the action transradial cardiac catheterization. Age is a risk factor for acute coronary syndrome which is indicative of the cardiac catheterization actions[10]. In this study age group does not render influence on the incidence of hematoma.

b. Number Type Dispensing of Genesis Hematoma

Patients who obtain two or more kinds of drugs effect on the incidence of hematoma (p value = 0.00), with 19.81 times the influence of the hematoma. Anticoagulation in action coronary angiography is a risk factor increases the incidence hematoma[7]. Administration of heparin and aspirin can increase the risk of bleeding in patients post catheterization jantung[11].

Administration of heparin as an anticoagulant during transradial cardiac catheterization procedure in general become standard operating procedure in the cardiac catheterization unit, cardiac katetrisasi transradial procedure using unfractionated heparin (UFH) at a dose of 2000-5000 IU, whereas for percutaneous coronary intervention dose of 10,000 IU [12]. Heparin is an anticoagulant where the main effect is to disable inhibits thrombin and factor X via antithrombin, by inactivating thrombin, the heparin not only prevents the formation of fibrin but also inhibits thrombin-induced activation of platelets and factors V and VIII [13].

Patients who underwent cardiac catheterization there are already getting drug Aspilet or clopidogrel antiplatelet or class, this class of drugs prevents adhesion and aggregation of platelets by inhibiting a receptor on the platelet membrane, preventing the interaction of platelets or platelet interactions premises chemicals lain14 blood clotting. So if the patient underwent cardiac catheterization have received drugs known as antiplatelet therapy, the impact of these drugs is going to increase bleeding and increase the risk of hematoma.

Some patients with acute coronary syndrome before action catheterization get thrombolytic agent drug where the drug works by activating plasminogen to plamin which then break up the threads of fibrin in the blood clot to dissolve clots darah[14]. Antitrombolitik the impact of the drug will also increase bleeding and increase the risk of hematoma after

transradial cardiac catheterization. Changes in the blood clotting in case of patients with cardiac catheterization action will increase the occurrence hematoma[11]. The amount of medication that could affect blood coagulation will affect the incidence of hematoma.

Care of post catheterization patients using more than one anticoagulant drugs requires monitoring of more stringent bleeding such as APTT and PPT serial examinations until the effects of the drug runs out compared to just one drug.

c. Sheath size and incidence of hematoma.

Katetrisasi patients who underwent heart by using a 6F sheath size can affect the incidence of hematoma (p value = 0.00), with the influence of 31.6 times the hematoma. The incidence of hematoma can be reduced by using the size of the catheter with a smaller diameter, such measures can reduce complications hematoma signifikan[15].

The size of the sheath catheter compared to the diameter of the artery becomes becomes unbalanced, the condition can be explained if the diameter of the outer sheath larger size may lead to increased blood vessel damage, the effect of stretching on the sheath size and effect when the sheath is in the arteries to be the cause of damage intima layer of the arterial wall and trigger hematoma[12].

In the transradial cardiac catheterization in using larger sheath sizes (6F) should be considered as an effect on the incidence of hematoma that if had to use large sized sheath, the post-heart catheterization need to be monitored in case of the incidence of hematoma, especially during sheath retraction.

Care of patients post cardiac catheterization using a 6F sheath size needs to be monitored intensely, especially at the insertion sheath puncture area is more intense than the size of the 5F sheath.

d. Systolic blood pressure and incidence of hematoma

Patients who underwent cardiac catheterization with systolic blood pressure> 140 mmHg effect on the incidence of hematoma (p value = 0.00), with 7.9 times the influence of the hematoma. Systolic blood pressure> 140 mmHg increase the incidence of hematoma after cardiac catheterization; Blood pressure above 150 mmHg can increase bleeding and hematoma at 17.5% [17].

Systolic blood pressure> 140 mmHg lowers the level of elasticity of blood vessels and in case of trauma to the blood vessels would be easier pecah[18]. In patients who performed transradial cardiac catheterization acts upon needle insertion at the radial artery where the value of systolic blood pressure> 140 mmHg, the blood vessels easily rupture rigid so it triggered the hematoma.

Patients will be taken to the cardiac catheterization systolic blood pressure> 140 mmHg insertions should be performed carefully in order to avoid repetition.

e. Puncture frequency and incidence of hematoma

Katetrisasi patients who underwent twice or more cardiac puncture influence on the incidence of hematoma (p value = 0.017), with 4.4 times the influence of the hematoma. Arterial puncture more than once during the cardiac catheterization procedure may increase the incidence of complications hematoma 7.9 times[16].

The act of repetition insertion or needle insertion on the action that failed catheterization can cause damage to blood vessels and increase the occurrence of hematoma[6]. Failure

and radial artery puncture repetition on the action of transradial cardiac catheterization can increase damage or injury to the blood vessels, causing bleeding and increase the incidence of hematoma.

Make sure the proper location before stabbing at the radial artery, use the touch pulsasinya clear and precise needle punctures so cultivated once successful, because in case of failure will increase the risk of hematoma.

f. TR Band and Genesis Hematoma

Patients who underwent cardiac catheterization with the use of TR Band with air pressure ofless than 13 cc may affect the incidence of hematoma (p value = 0.00), with the influence of 13.9 times the hematoma. There is no type of effective compression tool that can provide the proper pressure and does not cause complications hematoma[19].

The emphasis of the radial artery using TR Band with pressure 13 cc is not always safe because of a complaint against vascularization to the area distal from the radial artery as well as the pain that needs to be reduced pressure of 13 cc, with pressure reduction will lead to injury of blood vessels have not been returned or hemoestasis process has not been formed so bleeding and hematoma occurred[15].

TR pressure reduction Band performed before his time with the consideration in the event of disruption of blood flow to distal and pain resulting hemodynamic disturbances are likely due to the use of TR Band. Pengurakan pressure TR Band performed but is likely to occur hematomas so long as the reduction is to be monitored the occurrence of hematoma and circulation to the area distal to the ulnar artery pulsation felt so comfort of patients remain unnoticed.

g. Body mass index and incidence of hematoma

Patients who underwent cardiac catheterization with normal Body Mass Index and not normal no effect on the incidence of hematoma (p value = 0.661 greater than 0.05), with much influence the occurrence of hematoma 0 times. Based on the analysis by the Chi-Square data showed that there were no differences in the incidence of hematoma proportion with body mass index (p value = 0.661;> 0.5), with OR = 0 means that patients with a BMI over with normal BMI did not influence the occurrence of hematoma.

Body mass index indicates overweight where there will be a buildup of thick muscle mass which includes the area of the femoral and radial diradialis bit. The thickness of the muscle in the insertion area will affect the conduct arterial insertion in the cardiac catheterization action that will have difficulty in finding areas that will be in cannulation artery and the manipulation of the catheter during catheterization jantung action[20]. The thickness of the muscle in the femoral area is thicker than in the radial artery area, so that the difficulties at the femoral artery access is more difficult than the radial artery that obesity will affect hematoma in transfemoral compared transradial cardiac catheterization.

Based on the test results of the bivariate analysis with chi square test, there are five variables: the type of drug administration, the size of the sheath, the value of blood pressure, puncture and TR Band frequency, the effect on the incidence of hematoma, while variables body mass index showed no effect on the incidence of hematoma.

The variables that most influence on the incidence of hematoma with OR greatest value is variable sheath size is 31.6, while the smallest influence on the incidence of hematoma is the frequency factor puncture with an OR of 4.4.

2. Multivariate Analysis

Based on the results of the bivariate analysis with chi-square of five variables (administration of medication types, sheath size, systolic blood pressure values, frequency puncture and TR Band) obtained pvalue <0.05 means that five variables can continue to do the analysis for the logistic regression model determine the most dominant factor to the incidence of hematoma of these five factors.

Based on the results of the results of multivariate logistic regression analysis of the five variables significantly influence the incidence of hematoma, these five variables are the number of drug types, sheath size, blood pressure, puncture frequency, size TR Brand. Logistic regression analysis results of five variables that affect the occurrence of hematoma in patients undergoing transradial Cardiac Catheterization action at Hospital Dr. Sardjito is the amount of anticoagulant drug administration.

This means that after five factors that influence the incidence of hematoma tested simultaneously then showed that patients given anticoagulant drugs two or more kinds[19].115 times have influence on the incidence of hematoma in patients undergoing transradial cardiac catheterization in Hospital Dr. Sardjito compared to other variables. While the smallest effect on multivariate phase is the frequency puncture.

During cardiac catheterization action has been correlated unfractionated heparin, the dose and increased partial thromboplastin time to improve vaskular[17] complications. Anticoagulation drugs used during cardiac catheterization action is unfractionated heparin (UFH) [21].

Heparin is aprimary anticoagulant where the effect is to disable thrombin and inhibits factor X via antithrombin, by inactivating thrombin, the heparin not only prevents the formation of fibrin but also inhibits the activation of thrombin-induced platelet and factors V and VIII, UFH is thrombin inhibitor indirectly, and requires the presence of cofactor antithrombin to be effective. Heparin is a specific action and nonlinear, and each patient responds differently to heparin doses[13].

Active Heparin sometimes free to do more work on antithrombin. Heparin worksare in the same lane at work clotting factors (XIIa, Xa, and IXa) serine protease others. Binding of heparin on coagulation factors and antithrombin both very important in enhancing antithrombin. Work heparin on factor Xa are also mediated by increased affinity of antithrombin for clotting factors but did not bind factor Xa heparin. Factor Xa inhibiting improvement compared with lower levels of heparin that has been measured to inhibit thrombin. Heparin reduces platelet agresasi secondary to the reduction in thrombin (a potent cause of platelet aggregation). An increase in lipases cause increased plasma free fatty acids.

UFH anticoagulation and antiplatelet group aims to improve Activated Cloting Time (ACT) and Activated Thromboplastin Time (APTT). Improved ACT and APTT is required when the patient underwent cardiac catheterization to prevent blood clotting and thrombus occurrence, on the other hand with an increase in ACT may increase the risk of bleeding in patients post cardiac catheterization[11].

Patients who underwent cardiac catheterization have already got the drug Aspilet or clopidogrel or class of antiplatelet, this class of drugs prevents adhesion and aggregation of platelets by inhibiting a receptor on the membrane of platelets, preventing the interaction of platelets or the interaction of platelets premises chemicals blood clotting another [14]. The impact of these drugs is going to increase bleeding and increase the risk of hematoma.

Some patients with acute coronary syndrome before action catheterization get thrombolytic agent drug where the drug works by activating plasminogen to plamin which then break up the threads of fibrin in the blood clot to dissolve blood clots antitrombolitik [14]. The impact of this drug will also increase bleeding and improve the risk of hematoma after transradial cardiac catheterization.

Changes in the blood clotting in case of patients with cardiac catheterization action will increase the occurrence of hematoma[11]. The amount of medication that could affect blood coagulation will affect the incidence of hematoma.

In this study showed that the most dominant factor in the occurrence of hematoma on the action transradial cardiac catheterization is the anticoagulant drug delivery is more than one, it means that other factors are supporting the incidence of hematoma. Based on the results of this research will be done when the patient cardiac catheterization measures have gained anticoagulant therapy is more than one then it is a major factor in the catheterization team hematoma that officers remind each other of the factors that can be controlled so as not to increase the risk of hematoma

CONCLUSIONS AND SUGGESTIONS

Most of the patients who underwent catheterization via the radial action in space Hospital Cardiac Catheterization Dr. Sardjito sex male, mostly in the age group 55-59 years. Meanwhile, based on body mass index (BMI) of patients most patients the value of BMI> 25 kg / m2. prick with a frequency (Exp (B) = 1.621.

Based on the results of this study, there are five variables: the type of drug administration, the size of the sheath, the value of blood pressure, puncture and TR Band frequency, the effect on the incidence of hematoma, while variables body mass index showed no effect on the incidence of hematoma.

That the most dominant factor in the occurrence of hematoma on the action transradial cardiac catheterization is the anticoagulant drug delivery is more than one, it means that other factors are supporting the incidence of hematoma.

SUGGESTION

So prepared Standard Operating Procedure (SOP) Patient post Actions Cardiac Catheterization for monitoring complications incidence of hematoma after-action cardiac catheterization if there is a provision of anticoagulant drugs is more than one, use the size sheath large (6F), the value of patient's blood pressure> 140 mmHg, puncture performed more than once, the size of the TR Band pressure of less than 13 cc on the actions of cardiac catheterization.

Corespondensi:

Subroto, RSUP Dr. Sardjito Jln. Kesehatan Sekip No 1 Yogyakarta
No. Hp : 08122726609, email : brotowae@gmail.com

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O15

ERGONOMIC EXERCISES AND LOW BACK PAIN FOR WORKING WOMAN KERUPUK LEMPENG MAKERS IN BANTUL YOGYAKARTA

Sri Setyowati, Debby Yulianthi

Stikes Surya Global Yogyakarta
setyoku.sg@gmail.com

ABSTRACT

LBP (Low Back Pain) was commonly problem that shown on public, especially for housewife and working woman. About 5-20 % AS community and 25-45 % Europe community felt on LBP every year. Working woman, especially housewife who did house activity inclined felt on LBP that caused spasm. When they lifted up or moved things, they had bad posture habit that became LBP factor. Goals: to determine the difference before and after Ergonomic exercises treatment for working woman kerupuk lempeng makers in Bantul, Yogyakarta. This research used quasi experiment with one group pretest-posttest design with 6 times intervention in 3 weeks, it did twice a week. Post test did at fourth week for measuring pain using comparative pain scale (0-10) with 15 respondents as a sample. There was significant difference discovered statistically before and after LBP treatment for working woman kerupuk lempeng makers. It has t statistic value, 6,205 that bigger than t table 5% = 2.1448. There was significant difference before and after LBP treatment for working woman kerupuk lempeng makers.

Keywords: ergonomic exercises, Low Back Pain, working woman

BACKGROUND

LBP (Low Back Pain) was commonly problem that shown on public, especially for housewife and working woman. About 5-20 % AS community and 25-45 % Europe community felt on LBP every year. Working woman, especially housewife who did house activity inclined felt on LBP that caused spasm. When they lifted up or moved things, they had bad posture habit that became LBP factor[1].

In Indonesia, LBP complaining felt on housewife and working woman, especially for a work that needs the same position with wrong posture. However, they were not realized about this. The risk posture caused LBP was sitting with bended and lifted some heavy things for long period. These habits had been done by housewife and working woman kerupuk lempeng makers as they daily routine work for many years.

All women had significant part in family life or in community that was why LBP has bothered woman productivity if it was not cured comprehensively. In reality, the condition shown that LBP felt on housewife and working woman kerupuk lempeng makers treated by intake mefenamic acid and some traditional drink that only reduced pain for temporary. Besides, it just spent wasting cost.

Disorder and disease which were related with spine (vertebra, neck vertebra, and lumbar vertebra) could be cured with ergonomic experiences[2]. Furthermore, LBP could not treated with medical only but with ergonomic position either[2]. The aims of this researched was to determine the difference before and after Ergonomic exercises treatment for working woman kerupuk lempeng makers in Bantul, Yogyakarta. LBP was one of the musculoskeletal disorder

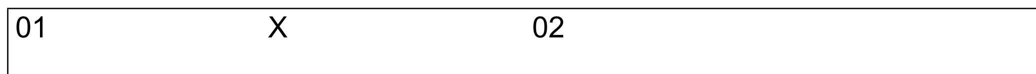
that caused by unfavorable body activity. Almost 80% of community felt on LBP in their live cycle and LBP was the second pain that almost happened following breathing disorder system as the first pain). LBP caused by several musculoskeletal disease, psychological disorder and incorrect mobilization[3].

Ergonomic exercises was an exercises that inspired by *sholat* step. Some ergonomic exercises movement also inspired from two verses in Al-quran, Ali Imron epistle, 190-191 verses. This was Ulul Albab characteristic an ingenious character which described as human that always aware while standing up, sitting, nor sleeping. Therefore, beginning ergonomic exercises movement called perfectly standing. First step is relieve movement, second step is gratitude obey, third step is sitting valorous, fourth step is combustion sitting and fifth step is submission laying. These steps can be done connectively as daily routine exercises at least 2 - 3 times a week. Each movement can be done separately either, among the other activity or while working.Hereby, the sequence ergonomic exercises[2]: Beginning movement, perfectly standing,Relieved movement,Gratitude obey,Valorous Sitting, Combustion Sitting,Submission Laying.

METHODS

This research used quasi experiment with one group pretest-posttest design. The experiment is a measuring respondent before and after treatment[4]. In this research used intervention such practice ergonomic exercises about six times practices for three weeks and it did twice a week. Thus, made post test at fourth week for measuring pain using comparative pain scale (0-10) with 15 respondents as a sample.

Picture 1.
Research Design



Notes :

O1 : Measuring LBP before ergonomic exercises treatment
O2 : Measuring LBP after ergonomic exercises treatment for 6 times in 3 weeks
X : Ergonomic exercises intervention

This research used univariate analysis for described respondent and related variabel with frequency distribution. Univariate analysis for described parametric LBP intensity difference before and after ergonomic exercise with paired Samples T Test.

RESULT AND DISCUSSION

Research result considered of respondent characteristic, the pain after and before ergonomic exercise, pain scale exchanged. Respondent characteristic insist of age, gender. Here below explanation for more:

Table 1.
Respondent characteristic Ergonomic exercises in Bantul Yogyakarta

No	Respondent characteristic	Frekuensi (f)n=15	Prosentase (%)
1	Ages (years)		
	a. 55-59	10	66,67
	b. 60-74	5	33,33
	c. 75-90	0	00,00
	d. More than 90	0	00,00
	Total	15	100,00
2	Gender		
	a. Male	0	0,00
	b. Female	15	100,00
	Total	15	100,00

From primary data (2014)

Ages was grouped into four category likes WHO (World Health Organization) theory about an old definition. There was middle age (between 55-59 years), elderly (between 60-74 years), old (between 75-90 years), very old (upper 90 years). Research result shown that respondent age dominated by an old (between 55-59 years), it is about 10 old people (66,67%). That ages influence pain response[5].

Respondent characteristic by gender (woman) was 15 old people (100%). This result was the same as Logan and Rose research shown there was the difference between man and woman in pain response, woman has more better pain response than man[8]. Here below bivariate analysis result that used for detected the difference LBP before and after ergonomic experience for kerupuk lempeng makers in Bantul:

Table 2.
Average result analysis LBP before and after ergonomic experience for kerupuk lempeng makers in Bantul, Yogyakarta

	Mean	Std.Deviation	t	Sig. (2-tailed)	95% CI
Pre test	6.60	0.737		0.000	0.960-1.974
Post test	5.13	0.743	6.205		

Table 2 shown that LBP pain average for old people before treatment ergonomic exercises was 6,60 and LBP pain average for old people after ergonomic exercises was 5,13. Statistic t value was 6,205 that bigger than t table 5%=2.1448, there was significantly difference LBP for Crakers Lempengmakers before and after ergonomic exercises.

The most LBP pain score for kerupuk lempeng worker was 7 for 8 respondents have percentage 53.33 %. This was shown that kerupuk lempeng makers was a heavy – duty job which the workers have to bend and lift heavy things up. Besides, majority respondent age between 55-59 years old was 10 old people (66.67%). In his theory said that individual LBP influenced by some factor such age, gender, work, and activity. It was clearly shown that respondent activity is an activity which need bend movement for long period. Respondent work type was one risk factor has occurred LBP because this work has heavy workload. Length of working with this static movement influenced LBP occurred either[5].

After ergonomic exercises, LBP for kerupuk lempeng makers show that 7 respondents has 5 score with percentage 46.67%. LBP treatment insisted into two categories with pharmacology approach and non pharmacology approach. The medicine could be given for reduce acute pain. An analgesic used to end the pain muscle relaxant and sedative used for muscle and relaxation who had spasm by pain reduced. Inflammation medication likes aspirin and NSAID used to help pain reduced. Corticosteroid could decrease inflammation response and prevent neurofibrosis that could occurred because ischemia disorder. Non pharmacology approach for example by giving some accurate (specific) exercises was an intervention that could help reduce weakness, stress, increase muscle strength there and prevent deformity[6]. Stretching exercises or gymnastic would be better than bed rest. LBP patients probably takes a rest for 1 until 2 days when the pain emergence, but after rest period, the pain became worst because the body has no movement. Without exercises and practices, brisket muscle and spine structure become unhealthy condition and unable to prop the leg. These condition occurred relapse spasm and injury emergence pain[7]

Described that there was significantly difference LBP for kerupuk lempeng makers before and after ergonomic exercises. Statistic t value was 6.205, that bigger than t table 5%=2.1448.Increasing joint motion on thorakal occurred because muscle tone on relax condition in order to raising tissue elasticity. Muscle relaxation given by ergonomic exercises. Appropriate mode ergonomic exercises could reduce pain, increase pain motion and raising tissue elasticity)[2]. Ergonomic exercise was an exercises technique for repair and restore the muscle position, and accelerated nerve and blood system. Ergonomic exercises movement insist 5 basic movement are 1) Beginning movement, perfectly standing 2) Relieved movement 3) Gratitude obey 4) Valorous Sitting 5) Combustion Sitting 6) Submission Laying[2]

Gratitude obey movement in this exercises besides relax brisket lower muscle, thigh and calf and blood pump to upper extremitas. For fifth movement, submission laying would stretch vertebrae, so that whole nerves will work optimally. These result are the same as Jihad research that said Mc. Kenzie exercise could ears mechanical effect to muscle, than finally made decreasing muscle tension produced as a result from mechanoreceptor activity, so the muscle and the order connective tissue around lumbar outstretched. Accordingly, ergonomic exercises treatment could reduced thorakal limitation movement caused from static movement and worst position while working. Regularly exercises were useful for preserved physical fitness at least once a week and not more than five times in a week with 15 minutes duration.

CONCLUSION

There was significant difference before and after LBP treatment for working woman kerupuk lempeng makers.

SUGGESTION

To be suggest for Bantul community especially for kerupuk lempeng makers keep doing ergonomic exercises regularly. For medical technician especially the nurse toward develop the exercise as a therapy for pain treatment on public.

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O-16

ELEMENTARY SCHOOL STUDENT'S EXPERIENCE IN DEALING WITH MENARCHE

Yuyun Setyorini, Ns., M.Kep

Nursing Departement of Health Polytechnic Surakarta
setyorini.yuyun@gmail.com

ABSTRACT

Menarche is the first menstruation in women, which is the beginning of maturity of a woman who is healthy and un pregnant. Menarche occurs at the age of 9-17 years old. Menarche is a new experience for a girl and perhaps in dealing with menarche will cause uncomfortable feeling. The purpose of this study is to describe the experience of a girl in the experience of menarche. The method used is a method of qualitative research design with a descriptive phenomenology of Husserl's philosophy. Data collected by the method of semi-structured interviews and analyzed using Colaizzi data analysis techniques. The total sample of 7 participants by purposive sampling technique. Identification results obtained five clusters of themes: perception of menarche, feelings at menarche, actions taken at menarche, preparedness menarche, and resources. The results of this research was recommended to health workers to provide the information as early as possible to a girl (elementary school student) about menarche and what should be done, to parents to pay attention about the readiness of the child in the experience of menarche and the peers to share experiences in dealing with menarche and to further research to examine the reproductive health, especially in elementary school children.

Keywords: menarche, elementary school student

INTRODUCTION

Reproductive health is a state of complete physical, mental, social intact in all matters relating to systems, function and reproductive processes. Reproductive health in women becomes quite serious throughout a woman's life, because she is vulnerably exposed to the disease and it is also associated with her social life.[1] Reproductive health problems in women occur because of lack of education and knowledge, early marriage, maternal mortality, reproductive disorders including menstruation, occupational health problems, menopause and nutrition problems. Menarche is the first menstruation in women, which is the beginning of maturity of a woman who is healthy and un pregnant. Menarche occurs at the age of 9-17 years old. Menarche is a new experience for a girl and perhaps in dealing with menarche she will have uncomfortable feelings.[2,3]

Children are entitled to the fulfillment of reproductive health on them. Reproductive health therefore must have been introduced since childhood, especially during school period.[4] This is very important because the development of the reproductive starts at the school age characterized by the onset of puberty. Especially to girls, the introduction of reproductive health can prepare them to deal with the experience of menarche. Menarche is one of the sign of the beginning of puberty. Menarche is generally starts in elementary school age.

Menarche in elementary school girls is very important to note because the girls have begun to have the ability to learn but still has minimal knowledge related to menarche. The purpose of this study is to describe the experience of a girl in dealing with menarche.

RESEARCH METHODS

This study is a qualitative research design with a descriptive phenomenology of Husserl's philosophy. This descriptive phenomenology used to develop the structure of the life experience of a phenomenon in seeking the unity of meaning by identifying the core phenomena and accurately describe the experience of everyday life.[5] Descriptive phenomenological approach emphasizes the subjectivity of human experience which means that researchers conducted direct excavation conscious experience and describe the phenomena without being influenced by the earlier theories and assumptions.

Stages descriptive phenomenological approach used in this study is based Spiegelberg is bracketing and examining the phenomenon (intuiting, analyzing and describing). Bracketing performed by researchers and participants.[6] Researchers do bracketing by avoiding personal assumptions of the phenomenon being studied.

Analyzing stage is the stage where the researcher identifies the meaning of a phenomenon that has been excavated and explored the relationship and linkages between the data with existing phenomena. The data were analyzed by citing significant then categorizes and explore the essence of the data that will be acquired understanding of the phenomenon under study.

Describing phenomenology is the stage where researchers communicate in writing and provide an overview of critical elements based on the classification and grouping of the phenomenon. Researchers can understand the depth of experience in dealing with the phenomenon of menarche thus discovered the meaning of the participants' experience or history.

Participants in this study were elemantary school students in the city of Surakarta. The timing of this study of the Month September to November 2014. The sampling technique used in this research is purposive sampling technique. Purposive sampling is the selection of respondents or participants with specific considerations based on criteria and research purposes. The number of samples in this study were 7 participants. The principle of data collection is to achieve saturation of data, or no more new information is obtained.[7]

Data were collected by the method of semi-structured interviews and analyzed using data analysis techniques Colaizzi. During the interview, the strategy used was open ended interview. Open ended interview can provide an opportunity for participants to fully explain their experience of the phenomenon being studied.[8] Researchers used an interview guide that contains open questions to decipher the core question.

Triangulation of data is done with the source, which means that in this study the data triangulation is done by comparing and checking the information gained confidence. The sources of information used in this study is the mother and closest friend of the respondent.

RESULTS AND DISCUSSION

Menarche is a new experience for a child of primary school age daughter and perhaps in the face of menarche will cause uncomfortable feeling. Menarche is the first menstruation in women, which was the hallmark of maturity of a woman who is healthy and un pregnant. This is consistent with the statement of the respondent about the perception of menarche is as follows:

"... Eee felt it was a great ... adults ...." (respondents 1)
"Very uncomfortable, anxious to make so agitated, signs of puberty" (respondent 2)
"... Indicates that the reproductive organs are already working ..." (respondent 3)
"... Grateful to be a woman ..." (respondent 4)
"... Be a complete woman ..." (respondent 5)
"Eee ... the sign has begun to mature ..." (respondent 6)
"... Puberty, become an adult ... (respondent 7)

Feeling when experiencing menarche is an experience that was first perceived, is likely to cause uncomfortable feeling. It is as expressed by the following respondents:

"Shame ...." (respondents 1)
"... Happy ... but a little sad because it is rather uncomfortable" (respondent 2)
"... Happy menstruating ..." (respondent 3)
"... Fear .... happy ... mixed tastes ...." (respondent 4)
"There is a sense of happiness but anxious not knowing what to do" (respondent 5)
"... Anxious, dag dig dug ......" (respondent 6)
"Happy, happy, hehe shame too ..." (respondent 7)

The statement above is in accordance with the opinion of Muriyana is feeling a teenager at the time of first menstruation (menarche) is scared, shocked, confused, even some that feel happy. This suggests that the need for socialization of menarche on elementary school children so that they can face menarche comfortably.[9,10]

Actions taken at the time of first menstruation (menarche) of the respondents is as follows:

"... Cry ..." (respondents 1)
"... Chat with friends ..." (respondent 2)
"... Tell mom and ask what to do ..." (respondent 3)
"... Searching ... searching for info and ask a friend ..." (respondent 4)
"... Ask my brother and taught how to use sanitary napkins ..." (respondent 5)
"... Ran to the mother, telling us all .." (respondent 6)
"... Immediately put on the pads, cry ... (respondent 7)

Readiness of primary school children in the face of menarche should be a concern, because reproductive health is essential for a child's growth. This is consistent with the statement of the respondent about the readiness in the face of the first menstrual period is as follows:

"... Do not know yet ..." (respondents 1)
"... Ready ....." (respondent 2)
"... To be ready ... the mother has a lot to tell ..." (respondent 3)
"Eee .... ready anyway ..." (respondent 4)
"... Ready ... even had to buy sanitary napkins as well ..." (respondent 5)
"... Ee how yaa ... not ready, do not know yet ..." (respondent 6)
"Actually prepared but a bit confused ..." (respondent 7)

Children are entitled to the fulfillment of reproductive health on her.[4] Reproductive health therefore must have been introduced since childhood, especially during school. This is very important because the development of the reproductive started school age characterized by the onset of puberty.

Sources of information about menarche and what should be done by primary school children when getting menarche as a statement of the respondents as follows:

"... From a schoolmate, teacher ..." (respondents 1)
"... From friends and looking on the internet ..." (respondent 2)
"... Of parents, especially mothers and teachers at the school ..." (respondent 3)
"... Searching on the internet, magazines, stories sister ..." (respondent 4)
"... Info from sister, from a teacher bu ..." (respondent 5)
"... The mother, from the Internet ..." (respondent 6)
"... The Internet, magazines, my parent ..." (respondent 7)

This is in accordance with the opinion Muriyana and Fitkarida that provide reproductive health education, particularly in the students clearly menarche before they experienced menarche, in order to be better prepared to deal with it. The source of information is usually obtained from family, peers, school and social media.[9,11]

CONCLUSION

Based on the research results showed that experiences of primary school children in the face of menarche is as follows: the perception of menarche, feeling at menarche, actions taken at menarche, preparedness menarche, and resources.

RECOMMENDATION

Based on the results of this research was recommended to health workers to provide the information as early as possible to children daughter elementary school about menarche and what should be done, to parents to pay attention about the readiness of the child in the face of menarche and the peers to share experiences in dealing with menarche and the further research to examine the reproductive health, especially in elementary school girls.

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O-17

PREMARITAL CLASS AND PREGNANCY PLANNING DOCUMENTATION PRACTICE

Yani Widyastuti, Suherni

Midwifery Departement of Health Polytechnicof Health Ministry Yogyakarta, Jl Mangkuyudan MJIII/304 Yogyakarta 55143, Indonesia
Email : yaniwidyastuti.yk@gmail.com

ABSTRACT

It is estimated that 15% of pregnancy that initially predicted as normal pregnancy will develop into high-risk pregnancy or suffer from obstetric complication than can endanger the life of the mother and fetus. Around 30-35% of maternal mortality is caused by hemorrhaging, which commonly caused by anemia. The number of anemia incidence in Kabupaten Sleman is 20%, where 40% of expectant mothers with anemia are primigravida. With the increasing incidence of anemia, prevention effort becomes necessary and one way to do it is through promoting health during preconception care. Premarital class is one of the alternatives of health promotion during preconception care. This research aimed to analyze the influence of premarital class to pregnancy planning documentation practice in bride and groom-to-be in Puskesmas Kabupaten Sleman in 2014. This was a quasi-experimental research with control group design. The population was brides and grooms in Kabupaten Sleman in 2014. Samples were collected through simple random sampling. The experiment group in this research was all brides who visited Puskesmas Berbah, Puskesmas Kalasan, and Puskesman Sleman. Subjects for control group were found in Puskesmas Mlati II, Puskesmas Depok I, and Puskesmas Minggir. The inclusion criteria was all brides and grooms-to-be who were about to get married for the first time and elementary school. The inclusion criteria was heatlh provider. There were 36 samples from experiment group and 36 samples from control group. The independent variable in this research was premarital class, while the dependent variable was pregnancy planning documentation practice. The intervention was in the form of premarital class 1 X 180 minutes for experimental group and daily midwifery individual counseling for control group, while questionnaires served as research instrument. Questionnaire testing was conducted in Puskesmas Sayegan, Puskesmas Tempel I, and Puskesmas Gamping I to 12 couples in each puskesmas. The intervention was provided by midwives in the puskesmas through premarital class for experiment group and individual counseling for control group. The data was then analyzed with T Test with 5% significance level (p=0.05).

Most of the brides in premarital class group and individual counseling group were between the age of 20-30 with secondary school background. Average scores for pregnancy planning documentation practice before and after premarital class were 61.0 and 75.4 respectively, which indicated that there was 13.8 increase. Meanwhile, the average scores before and after individual counseling were 58.0 and 65.8 respectively, which indicated that there was 7.8 increase. t = -0.5 and P value 0.000 < 0.05. There was difference in pregnancy planning documentation practice between premarital class group and individual counseling group.

There is an influence of the premarital classes against the increasing of average practice of pregnancy planning documentation.

Keywords: premarital class, pregnancy planning documentation practice, bride-to-be

INTRODUCTION

Pregnancy is something that most of married couples are looking forward to. They excitedly welcome pregnancy even if some of them have to accept the fact that not all pregnancy can proceed normally. It is estimated that 15% of pregnancy that initially seems

to be normal will develop into high risk pregnancy and suffer from obstetric complication that can threaten both the mother and the fetus.[1]

Based on survey Demografi Kesehatan Indonesia (SDKI) or Indonesian Health Demographic Survey in 2012, the rate of Angka Kematian Ibu (AKI) or Maternal Mortality Rate (MMR) is 307 in every 100,000 live birth.[2] In the Province of Yogyakarta (DIY), the rate is 87.3 in every 100,000 live birth. According to the data in the province, 47% of the cases are caused by complication during labor.[3]

The most common causes for maternal mortality are hemorrhaging (30-35%), infection (20-25%), preeclampsia (15-17%), and worsening illness due to pregnancy and labor (5%). One of the causes of hemorrhaging is anemia.[4,5] Based on the annual report in KabupatenSleman in 2012, anemia incident occurred in 20% of the pregnancy.[6] According to the initial study in PuskesmasKalasan, KabupatenSleman, on December 2013, 40% or four out of 10 pregnant women with anemia were primigravida.

The fifth global target on MDGs is improving maternal health. Government policy in Rencana Pembangunan JangkaMenengahNasional (RPJMN) or National Medium Term Development Plan 2010-2015 states that family planning policy is aimed at controlling population growth as well as improving the quality of small family. These targets can be achieved through improving the quality of teenagers' reproduction health in order to prepare them for family life as well as maturing marital age through educating about teenagers' reproduction health, strengthening government and social institution which provide reproduction health service for teenagers, and also providing individual counseling about teenagers' issues.[7]

Midwives, as one of health workers, are responsible for providing pre-conception care. According to Permenkes No.369/2007 about Midwives Profession Standard, one of the competences of midwives included in the second point is to deliver high quality care, health education with cultural awareness, and comprehensive services in the community in order to improve family health, pregnancy planning, and readiness to become parents.[8]

Planning the pregnancy is an important task for husband and wife which requires mental, physical, and financial preparedness. Trom et al. stated that pregnancy at an older age increased the risk of spontaneous conception, assisted birth, complication, and high cost health care.[9]

Premarital class is one way to learn together about maternal health in the form of group meeting which is aimed at increasing the knowledge and skill of women about conception age, pregnancy preparation, and prenatal care.

In the recent years, counseling for brides and grooms-to-be is mostly provided at Puskesmas through individual consultation when they request for TT shot as one of the requirements to register their marriage at the Office for Religious Affair or civil registry. This requirement is especially important if the bride is already pregnant or if she is younger than 19-year old. Even though this kind of counseling is important, there are several drawbacks: (1) The counseling is limited to the health problems that arise during consultation. Couples that do not experience problems often do not seek consultation. (2) The counseling is not well-coordinated so that the knowledge only comes from the health workers. (3) The counseling is not well-scheduled and continuous. (4) Overworked health workers are not able to provide thorough consultation.[10]

One way to overcome these difficulties is through planned premarital class. The activities can include classes about maternal health than can be conducted through group discussion

where participants and health workers can share experience. Several benefits of premarital class are (1) A well-planned and comprehensive material based on the premarital guide book which consists of conception age, prenatal preparation, and prenatal care, (2) The delivery of the material is more thorough because health workers have better preparation, (3) The delivery of the material is more efficient because it is well structured, (4) There is interaction between health workers and brides-to-be, (5) Routine and continuous discussion. Through premarital class, it is expected the behavior and skill regarding pregnancy planning will improve.

Education through premarital class will develop awareness which eventually will influence the bride to practice what she has learned about reproduction health. The learning can come from internal mediatory process in the form of attention, understanding, acceptance, and retention in teenage years which in time can alter the behavior through willingness, identification, and internalization to act according what has been learned before. (Ajzen, 2005)[11,12]

With the increasing incidence of anemia, it is necessary to promote prevention effort during preconception care. One alternative is through premarital class. The purpose of this research was to learn how premarital class influenced pregnancy planning practice.

RESEARCH METHOD

This was a quasi experimental research with pre-post test with control group design. Before and after threatment, the subjects do questionare.. The population in this research was the in the area of Puskesmas Kabupaten Sleman. The subjects were brides who visited puskesmas in Kabupaten Sleman, Yogyakarta, from October to November 2014. Samples were collected through simple random sampling. There are 25 puskesmas in Kabupaten Sleman were randomly selected (randomly assigned). Nine puskesmas, which consisted of three puskesmas for validity test, three puskesmas for experiment group, and three puskesmas for control group. The experiment group in this research was all the brides-to-be who visited Puskesmas Berbah, Puskesmas Kalasan, and Puskesmas Sleman. The subjects of control group were located in Puskesmas Mlati II, PuskesmasDepok I, and Puskesmas Minggir. Inclution criteria for the subjects exsperimen group and control group was all brides and grooms-to-be who were about to get married for the first time elementary school. Exclution criteria for the subjects exsperimen group and control group was health provider. The Post Test was 30 menit after treatmen. The research was conducted from September to November 2014 in nine puskesmas in KabupatenSleman, Yogyakarta, which were selected randomly. Experiment groups were in Puskesmas Berbah, Puskesmas Kalasan, and Puskesmas Sleman. Control groups were in PuskesmasMlati II, PuskesmasDepok I, and Puskesmas Minggir. The intervention in experiment groups was in the form of premarital class, while in the control groups was in the form of individual counseling by midwives from puskesmas. Questionnaire testing was conducted in Puskesmas Sayegan, PuskesmasTempel I, and Puskesmas Gamping I. The variables of the research consisted of independent variable, in this case the premarital class, and dependent variable, in this case the practice of pregnancy planning. The data was analyzed with T test with confidence level $\alpha=0.05$ and Confidence Interval (CI) 95%.

RESEARCH RESULT AND ANALYSIS

Characteristics of Respondents

Table 1.
Distribution of groom-to-be in premarital class and individual counseling group

Age characteristic	Group				P value
	Premarital class		Individual counseling		
	N	%	N	%	
>20 years old	10	27.7	8	22.2	0.58
20-35 years old	26	72.3	28	77.8	
Total	36	100.0	36	100.0	
Education	N	%	N	%	
Elementary school	5	13.8	2	0.5	0.478
Secondary school	20	55.6	21	58.3	
High school	11	30.6	13	36.2	
Total	36	100.0	36	100.0	

Based on the information in table 1, most of the brides who participated in premarital class and individual counseling were within 20 to 35 years of age with P value 0.58 > 0.05, which indicated that the age characteristic of both groups was homogenous. Based on education level, most brides came from secondary scool background, with P value 0.478 > 0.05, which indicated that the educational background characteristic in both groups was also homogenous.

This is parallel to the theory which states that a healthy reproduction age for women is between 20-35 years of age. In his research, Trompet al. (2011) wrote that the risk of spontaneous conception and high-risk labor that could lead to assisted birth, complication, as well as high-cost health care costwould decrease if the expectant mothers were older.[9]

Average of pregnancy planning documentation practice

Table 2.
Average pregnancy planning documentation practice by the subject before and after treatment

Pregnancy planning documentation practice	Group			
	Premarital class		Individual counseling	
	X	SD	X	SD
Pre test	61.6	19.2	58.0	18.5
Post test	75.4	19.3	65.8	20.6

From table 2, it is clear that in average there was an increase in the documentation practice of pregnancy planning after premarital class or individual counseling.

The difference in average pregnancy planning practice before and after premarital class

Table 3.
The difference in average pretest and post test pregnancy planning documentation practice by the brides in the premarital class group

Pregnancy planning documentation practice	X	SD	T	P value	95% CI
Pre test	61.6	19.2	-7.43	0.000	-17.7- 10.8
Post test	75.4	19.3			

Table 3 shows that on the brides who were provided with story books, the average pretest and post test were 61.6 and 75.4 respectively, with p value 0.000 < 0.05. This indicated that there was a difference in average pregnancy planning documentation practice before and after premarital class.

The difference in average pregnancy planning practice before and after individual counseling

Table 4.
The difference in average pretest and post test pregnancy planning documentation practice by the bride in individual counseling group

The level of pregnancy planning documentation practice	X	SD	T	P value	95% CI
Pre test	58,0	18,5	-5,7	.0000	-10,6-,-5,1
Post test	65,8	20,6			

Table 4 showed that on the brides who received individual counseling, the average pretest and post test were 58.0 and 65.8 respectively, with p value 0.000 < 0.05. This indicated that there was a difference in average pregnancy planning documentation practice before and after individual counseling.

The difference in average increase of pregnancy planning documentation practice

Table 5.
The difference in average increase of pregnancy planning documentation practice of the brides

Group	Increase	Δmean	T	P value	95% CI
Premarital class	13,8	6	-5,0	0,000	-10—5
Individual counseling	7,8				

Table 5 showed 13.8 increase regarding pregnancy planning documentation practice in premarital class group while individual counseling showed 7.8 increase, with p value 0.000 > 0.05. This indicated that there was a difference in average between premarital class group and individual counseling group. Thus, it can be concluded that providing premarital class can influence pregnancy planning documentation practice.

Premarital class is about providing information about health through couples group. In the recent years, counseling for brides and grooms-to-be is usually provided through individual counseling when the couples ask for TT shot as one requirement to register their marriage to the Office of Religious Affairs or civil registry. This is particularly important if there are issues, such as the bride is already pregnant or if she is under 19 years of age. While this kind of counseling is beneficial, there are several drawbacks. Some of them are: (1) The counseling is limited to the health problems that arise during consultation. Couples that do not experience problems often do not seek consultation. (2) The counseling is not well-coordinated so that the knowledge only comes from the health workers. (3) The counseling is not well-scheduled and continuous. (4) Overworked health workers are not able to provide thorough consultation.[10] Pregnancy planning is defined as behavior that centralized around the issue of conception, including sexual behavior (proceptive or contraceptive) and time.[13]

Morin et al. also stated that pregnancy planning became an important issue in preconception health care. Six steps from Walker and concept analysis procedure from Avant consist of three significant components: attitude, time, and sexual behavior. Pregnancy planning is defined as behavior that centralized around the issue of conception, including sexual behavior (proceptive or contraceptive) and time.[13]

Lachance-Grzela and Bouchard stated that pregnancy planning would contribute to the parents' future and that prosperity was only possible if the parents were married. Marriage would bring more benefit compared to cohabitation, but only if they had planned the pregnancy well.[14]

Carson et all stated In unadjusted analyses, the scores on all scales in children from unplanned pregnancies were significantly lower than in those from planned pregnancies.

CONCLUSION

Most of the brides in premarital class group and individual counseling group were between the age of 20-30 with secondary school background. Average scores for pregnancy planning practice before and after premarital class were 61.0 and 75.4 respectively, which indicated that there was 13.8 increase. Meanwhile, the average scores before and after individual counseling were 58.0 and 65.8 respectively, which indicated that there was 7.8 increase. There was a difference in pregnancy planning practice between premarital class group and individual counseling group. So, there is an influence of the premarital classes against the increasing of average practice of pregnancy planning documentation.

RECOMMENDATION

Premarital class that is provided at puskemas is one of alternative methods to promote health during premarital time more effectively, considering the limited number of midwives as well as time to educate the brides and grooms. It is advisable for the couples to participate thoroughly when they are invited to premarital class.

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CORRELATION BETWEEN COMBINATION OF YOGA AND CLASSICAL MUSICTHERAPY MOZART WITH THE LEVEL OF DYSMENORRHEA

Munica Rita Hernayanti, Hesty Widyasih

Midwifery Departement of Health Polytechnic of Health Ministry Yogyakarta, Indonesia
Email: hesty_widya@yahoo.com

ABSTRACT

Dysmenorrhea is a pain before or during menstruation. Dysmenorrhea 81.30% experienced by adolescents. This study aims to confirm the association of combination of yoga and classical music therapy Mozart withthe level of dysmenorrhea. A quasi experimental design with pretest-posttest control group was performed to measure level of pain before and after treatment. Sample was determined purposively with inclusion criterias as follow:students of Midwifery Departement Respati University Yogyakarta experiencing dysmenorrhea in the first 1-2 days of menstruation, not taking anti-pain medication and having normal menstrual cycles. Treatment in the experimental group using a combination of yoga and classical music therapy Mozart, whilst in the control group using standard yoga. Visual Analogue Scale (VAS) was used as measurement tool. Data were analyzed by Wilcoxon test and paired t-test at α = 5%. Results of Wilcoxon test showed a p-value = 0.0001 (the experimental group) and p = 0.0001 (the control group) which means there are significant differences in pain scores before and after treatment. Results of paired t-test are difference in pain scores before and after treatment (value of p = 0.55). So there is no significant difference in pain scores between two groups. These results strengthen the evidence that yoga is effective in lowering the level of dysmenorrhea.

Keywords: dysmenorrhea, classical music therapy Mozart, yoga

INTRODUCTION

Women often complain menstruation pain as uncomfortable sensations. This pain can interfere their activities and forcing them to rest and leave the daily activities for a few hours or a few days.[1] Dysmenorrhea causes vomiting, nausea, fatigue, pain below the waist area, anxiety, tense, dizziness and confused.[2]

The incidence of primary dysmenorrhea in young women aged 14-21 years approximately 54.07%.[3] The prevalence of dysmenorrhea in Indonesia in 2008 is 64.25%, consisted of 54.89%primary dysmenorrhea and 9.36% secondary dysmenorrhea.[2] Research results showed 81.30% of young women got dysmenorrhea while having menstruation.[4]

Dysmenorrhea can be coped in two ways, pharmacology and non-pharmacology.[5]Non-pharmacology such as a warm compress or a warm shower, massage, physical exercise, adequate sleep, hypnotherapy, distractions (listening to music, and relaxation such as yoga and deep breathing).[6]

Distraction techniques is one of ways to reduce the pain by diverting attention to something else so that the client's awareness of the pain is reduced. One effective distraction is music.[6] Music has been proven to reduce anxiety and depression, relieve pain, lower blood pressure and lower the heart pulse frequency.[7] Maryani(2010)[8]study on classical music such asMozart conclude that this type of frenetic music can cause stress, while soft music has a calming effect. Mozart included in soft music that can reduce stress and has a calming effect.

Yoga is a form of relaxation technique.[6]Yoga consists of a series of movements to train the posture that can improve the strength and health. In yoga taught a set of techniques such as breathing, meditation and postures to improve strength and balance. Yoga session usually lasts fifteen minutes to an hour. Music can be combined in the yoga session.[9]

Yoga is easy to do and does not require tools. Yoga involves the muscles and respiratory systems and do not require any other tool so it is easy to do at any time. Midwifery students of Prodi Respati University, Yogyakarta have the age range in which is common to experience primary dysmenorrhea. This study aims to prove whether there is a correlation between combination of yoga and the classical music therapy Mozart with the level of dysmenorrhea. Researchers combine with classical music therapy Mozart, because the results of research showed that Mozart classical music therapy can reduce intensity of menstruation's pain.[10]

METHODS

Type of research is quasi experiment with pretest - posttest control group design. Pre-test observed the level of pain before treatment . Experimental treatment in the experimental group with the treatment combination of yoga and classical music therapy Mozart, while the control group treated with standard yoga. Post test conducted by the observation level of pain after treatment

This research was conducted at the Respati University of Yogyakarta, Midwifery Departement in August until November 2014. The sample in this study is defined by purposive sampling. Inclusion criteria for the study sample were students of Semester V Diplome 3 Midwifery Departement who currently having their menstruation and experience pain during the first 1-2 days of menstruation,not taking anti-pain medication, and having normal menstrual cycles (22-35 days). Exclusion criteria is that if students are not willing to become respondents .

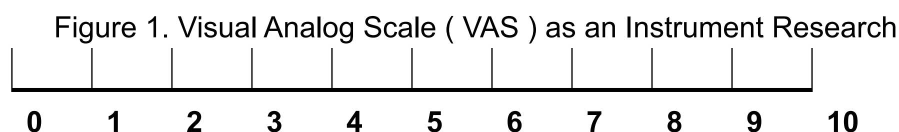
Sample obtained from calculations with a 95% confidence interval ($\alpha = 0.05$) [11]. The number of samples was 30 students for the experimental group and 30 studentsfor the control group. Determination of subjects into the experimental group or a control group using simple random sampling (lottery).

The independent variable in this study is a combination of yoga and music therapy Mozart with nominal data scale. Combination of yoga and classical music therapy Mozart in this study is a relaxation technique through a series of yoga, and listening to classical music therapy Mozart while doing it. It takes time approximately 15 minutes, while the classical music therapy Mozart performed at the stage of savasana (the last part of yoga series) for 7 minutes with moderate volume. Mozart classical music used as the instrument of one-day observation for the experimental group whilst in the control group, a standard yoga, which is a technique of relaxation through a series of yoga poses for 15 minutes,was perfomed without any music. The intervention is one time in each group. All combinations of movement in the experimental group and the control group was made by yoga experts, , from "Balance Mind Body Soul Yoga & Wellness Centre" and she made a yoga guide only for this research.

The dependent variable in this study was the level of dysmenorrhea, measured in interval data scale. Dysmenorrhea level in this study was the level of pain in the lower abdomen that happened before or together with the menstruation and took several hours. The pain is felt and measured alone by respondent with Visual Analog Scale (VAS) on a scale of 0 (zero) to 10 (ten). Measurements were taken before and after the one-day intervention for the experimental group andthe control group.Measuring instrument data used for this study

is the Visual Analog Scale (VAS). This type of measurement by using a line of the earliest line (lightest) to the last line (most severe). The straight line horizontally to the scale starts from zero and ends at point 10. How to use is to give a sign on one number that corresponds to the intensity of pain perceived by the subjects. The measuring instrument can be seen in Figure 1 .

Figure 1. Visual Analog Scale (VAS) as an Instrument Research



Measurement of pain intensity used Criteria scale is a scale of 0 (zero) means no pain, scale 1-3 means feels like itchy/shock or twisted or hit or sore, a scale of 4-6 means pain like cramps or stiffness or depressed or have difficulty moving or burning or tingling, scale 7-9 means very painful but is still controlled and scale 10 means the pain is very severe and uncontrolled[7]. Research assistantwas present during the yoga session and assisting respondents in pain measurement.The data were analyzed by univariate and bivariate statistical tests. Univariate analysis was to describe the intensity of pain with criteria are a scale of 0 (zero) means no pain, scale 1-3 means mild pain, scale 4-6 means moderate pain, scale 7-9 means the severe pain and a scale of 10 means the pain is very severe[7].

Bivariate analysis begins with normality test data. Data normality test showed that data was not normally distributed therefore Wilcoxon test was used at significance level of 5% (p = 0.05) to analyze differences in the intensity of dysmenorrhea before and after the treatment in the experimental group and control group. To analyze the differences in changes in the level of dysmenorrhea before and after treatment between the experimental group and control group, paired t-test was at the significant level of 5% (p = 0.05).

RESULT

Characteristics of the subjects in this study have been conditioned homogeneous, according to the inclusion criteria. Research subjects in the age range of 19 years to 21 years, with the meanstruation cycles are between 22-35 days.

The research result about the level of dysmenorrhea before and after treatment in the experimental group and the control group are shown in Table 1.

Table 1

Level of dysmenorrhea Before and After Treatment in Experiment Group and the Control Group

No	Level of Dysmenorrhea	Experiment Group				Control Group			
		Pre test		Post test		Pre test		Post test	
		N	(%)	N	(%)	N	(%)	N	(%)
1	No Pain	0	0	13	43,3	0	0	10	33.3
2	Mild Pain	17	56,7	12	40,0	10	33.3	14	46.7
3	Moderate Pain	6	20,0	2	6,7	8	26.7	3	10.0
4	Severe Pain	7	23,3	3	10,0	12	40.0	3	10.0
		30	100	30	100	30	100	30	100

From Table 1, it can be seen that most of the study subjects in the experimental group experienced mild pain (56.7 %) before the treatment. After treatment with combination of yoga and classical music therapy Mozart, the majority of subjects (43.3%) had no pain and only 10 % of subjects who experiencedsevere pain. In the control group, most of the subjects (40%) experienced severe pain before treatment. After treatment with standard yoga, the majority of subjects (46.7%) stillexperiencedmild pain .

Changes in the level of dysmenorrhea before and after treatment in the experimental group and the control group were analized with Wilcoxon test. The result can be seen in Table 2.

Table 2

Statistical Results of Experiment Group and Control Group

No	Time of Measurement	Experiment Group			Control Group		
		Median	Deviation Standart	p-value	Median	Deviation Standart	p-value
1	*Pre test*	3	2,51	0,0001	5	2,74	0,0001
2	*Post test*	1	2,47		2	2,37	

Table 2, the showed that the subjects had a lower pain scoreafter the treatment, verified byp = 0.0001 that means there are significant differences in pain scores before and after treatment in the experimental group (with a combination of yoga and music therapy Mozart). Likewise, in the control group, subjects also experienced a decrease in pain after treatment with standard yoga. P = 0.0001 means that there are significant differences in pain scores before and after treatment in the control group (with standard yoga) .

Paired t-test was performed to compare the difference between combination of yoga and classical music therapy andstandard yoga.Differences between pre-test and post-test score in both control and experimental group were observed and shown in table 3.

Table 3.

Changes Inpain Level Between Experiment and Control Group

No	Group	Mean	Standar Deviasi	p-value
1	Experiment	2,4	1,94	0,55
2	Control	3,03	2,48	

Table 3 shows the value of p = 0.55. This value means there is no significant difference between the experimental group and control group which mean there is no significant difference between combination of yoga and classical music therapy Mozart and yoga standard to cope the dysmenorrhoe.

DISCUSSION

The technique of distraction is an attention focusdiversionfrom pain to another stimulus. Distraction techniques can overcome the pain based on the theory that the reticular activation inhibits pain stimulus if one accepts the input of sensory overload can cause delays inpuls pain to the brain (reduced pain or no pain felt). Form of distraction techniques including listening to music , relaxation and deep breath.[6]

This study interventions in adolescents experiencing dysmenorrhea using yoga and classical music therapy Mozart Yoga is a form of relaxation technique . One of the benefits of yoga including relieving depression/stress and reducing pain.[12] results of this study prove that yoga is efective to reduce the level of dysmenorrhea. Combination of music were added in this study was supported by research Nevriana et al (2013).[13] According to this study, musical activities throughout the life has an effect on cognitive function in the elderly. This is confirmed by the theory that unpleasant stimulus from the outside can stimulate the secretion of the hormone endorphin . Endorphin hormone is a body hormone that gives a sense of excitement that play a role in pain reduction . Music is one form of the stimulus so that music can be used to divert the pain.[14]

Music can be used as medicine.[15] Researcher using the classical music of Mozart as a combination of yoga in this study. This is supported by research that states that the classical music of Mozart is an effective therapy for reducing the intensity of menstrual pain in adolescents.[10] This is also supported by the other theory which says that therapy classical music of Mozart is one of distraction techniques[7]. Mozart's music is proven to reduce stress and can help to relax.[15] Classical music can provide stimulation, which later resulted in mental and physical effects, another thing can hide the sound and unstates feeling. Music can slow down and balance the brain waves, music affects the respiratory, music affects heart rate, pulse and blood pressure. Music affects muscle tension, improve movement and body coordination, as well as affect body temperature. Music can regulate the hormones associated with stress and change our perception of space and time. The music also can increase body's endurance.[16]

Results of this study in the experimental group and the control group showed that most of the subjects experienced a reduction in pain intensity (level dysmenorrhea). The result showed that there was no effect of combination yoga and classical music therapy Mozart with the level of dysmenorrhea in the students of Midwifery Departement Respati University Yogyakarta. With the rejection of the hypothesis of this study reinforces the fact that yoga is effective in reducing depression.It reinforces the findings which states that yoga can treat depression in adolescents[17]. Other studies that support is according to Sherman which states that yoga is more effective than conventional therapy exercises[18]. Other studies claim that yoga is beneficial to intervene depressiondisorders.[19]

Yoga can be primarily used as an alternative therapy to overcome the pain.[20] Pharmacological therapy has its own side effects, in addition it has high cost. With yoga got a significant decrease of anxiety.[21] This is supported by the other research which states in the group that followed the yoga program , a significant decrease of the scores of stress, back pain, sadness and increased score of confidence, attention dan tranquility[22].

The results showed that there was no effect of combination yoga and classical music therapy Mozart with the level of dysmenorrhea in students of Midwifery Departement Respati University Yogyakarta. These results are influenced by factors that affect the risk of dysmenorrhea yet unknown in research, which is a weakness of this study. The risk factor is a constitutional factor.[5] These factors related to psychological factors as the cause of primary dysmenorrhea that can lower a person's resistance to pain. These factors including anemia and chronic diseases. Anemia is a deficiency erythrocytes or hemoglobin or both, causing decreased of carrying oxygen capability. Most of the causes of anemia is iron deficiency that is used for the formation of hemoglobin, so-called iron deficiency anemia. Iron deficiency may cause interference or hindrance both cell growth and cell bodies of the brain and can lower

a person's immune system, including the body's resistance to painful.[23] Chronic disease that affects a woman will cause the body to lose resistance to a disease or against pain. Diseases including chronic disease in this case is asthma and migraine. Unknown factors in this study including the age of menarche, long menstrual, smoking, family history, nutritional status, exercise habits, alcoholconsumption.[5]

CONCLUSION

Most of the subjects in the experimental group experienced mild dysmenorrhea before treatment and did not experience pain after treatment. In the control group, before treatment are subjected to severe dysmenorrhea and after treatment experienced mild dysmenorrhoe. Although this study showed unexpected result on the effect of combination therapy of yoga and classical music of Mozart to the level of dysmenorrhea, nevertheless, this study shown that yoga only was able to lowering the pain levelin both intervention and control group.

RECOMENDATION

Yoga can be used as a therapeutic in developing pain management for midwife and girls. Another factor affecting dysmenorrhea need to be reviewed/controlled before providing treatment for further research .

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THE RELATIONSHIP BETWEEN ACTIVITY AND NUTRITION WITH VAGINAL DISCHARGE INCIDENCE OF THE STUDENTS IN SMA NEGERI 7 CIREBON IN 2015

Rofiqoh Rachmah Azizah[1], Dwiyanti Purbasari[2], Riris Wistigarini[1]

[1]Midwifery, Stikes Mahardika Cirebon
[2] Lecturer of nursing, Stikes Mahardika Cirebon, Indonesia
E-mail: rofiqohazizah42@gmail.com

ABSTRACT

According to a research in Indonesia, 75% of women suffered from vaginal discharge at least once in their lifetime. Riskesdas report in 2010 showed that there were approximately 31,4% of adolescents aged 15 to 19 years have participated in reproductive health counseling and the remaining 68,6% have not yet participated. Based on previous research to 10 female students in SMA Negeri 7 Cirebon from 10th degree and 11th degree clarify that they often experienced vaginal discharge and 8 of them clarify that they often experinced smelling vaginal discharge and felt itchy in their genetalia.

The purpose of this research is to know the relation about activity and nutrition with vaginal discharge incidence of the student in SMA Negeri 7 Cirebon. This research used analytical design with cross sectional approach. Sample of this research was 81 female studen in SMA Negeri 7 Cirebon. The sampling technique used was proportionate stratified random sampling. Data was collected using questionnaire. The validity test value of the activity was 0,85, nutrition was 0,35, and vaginal discharge was 0,50. The result showed that more than half of the respondents (64,2%) have suffered from physiologist of vaginal discharge, less than half of the respondents (46,9%) have received enough nutrition, and half of the respondents (49,4%) do moderate-intensity activities. Statistic showed that there was significant relationship between activity (p value = 0,013, α= 0,05) and nutrition (p value= 0,009, α= 0,05) with vaginal discharge incidence. Vaginal discharge caused by the intensity of daily activity and nutrition.

Keywords : Activity, nutrition, vaginal discharge incidence, female student

INTRODUCTION

Reproductive health according to the World Health Organization (WHO) is the physical, mental and social as a whole and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and its functions and processes. Reproductive health care is a set of methods, techniques and services that support reproductive health and well-being through preventing and solving reproductive health problems. It also includes sexual health, which aims to improve the status of life and personal relations, and not merely counseling and care related to reproduction and diseases transmitted through sexual intercourse[1].

Reproductive health are indispensable to a woman since puberty. At the age of individuals evolved from when they first showed sign of secondary sexual until they reach sexual maturity. Teens is a period of transition between childhood and secondary and the changes which occurred character and incidence of sexual characteristics[2].

Teens, a part of the population, are at risk for vaginal discharge and need special attention. Teenagers experiencing puberty is marked with menstruation. In some people just before menstruation will suffer from vaginal discharge. Vaginal discharge is normal

(physiological) for clear and odorless, does not feel itchy and the amount is not excessive. If the liquid turns to a yellow color, odor and itchy then there has been a pathological vaginal discharge[3].

Vaginal discharge caused by several things: infections, foreign bodies, gynecologic diseases, exhaustion, hormonal disorders, unhealthy lifestyle and stress caused by work. Vaginal discharge due to changes in the normal flora that affect the degree of acidity (pH) of the female reproductive organs[4]. Due vaginal discharge is very fatal if slow addressed, not only can lead to infertility and pregnancy outside the womb due to blockage in the fallopian tubes, vaginal discharge can also be an early symptom of uterine cancer is the number one killer of women with incidence rates of cancer Cervical estimated at 100 per 100,000 population per year, which could lead to death[1].

Vaginal Discharge can also be caused by irregular nutrition, showed that based on the dimensions of a balanced diet overall average practice were moderate (65) of a maximum score of 100. The practice of eating a balanced pattern example the school is relatively similar to the example of dropouts. The statistical results showed no significant difference ($p < 0.05$) of a balanced diet examples of school and out of school.[5]

The research data on women's reproductive health showed that 75% of women in the world have suffered from vaginal discharge, at least once in a lifetime and 45% of them may develop vaginal discharge twice or more, in Indonesia the number of women who experienced vaginal discharge is very large, which is 75% Indonesian women experiencing vaginal discharge minimal one time in his life[6].

Adolescents aged 15-19 years who received reproductive health education by 31.4% and the remaining 68.6% have not received counseling about reproductive health[7]. Particularly reproductive health data vaginal discharge in Cirebon not covered in Cirebon City Health Department.

Based on preliminary studies conducted by researchers at SMAN 7 Cirebon with 10 students in high school consists of 20 classes, where class X consists of 10 classes and class XI consists of 10 classes and according to the number of female student of the high school is 438 students. Of the 10 students there are 10 people who had vaginal discharge and 8 of them feel itchy but is odorless, colorless, included in the physiological vaginal discharge and from 8 students are annoyed with vaginal discharge experienced, usually vaginal discharge occur at the time before and after menstruation and is also caused by excessive activity conducted in schools as extracurricular activities that are too dense and irregular eating patterns, eating junk food (fast) and they say that has not been done reproductive health education.

By looking at the problem, the authors are interested in making research titled "relationship between activity and nutrition in female student with vaginal discharge incidence of SMAN 7 Cirebon".

METHODS

This type of research is the correlation with cross sectional approach. This correlation method is used to measure the relationship between activity and nutrition with vaginal discharge incidence. Data was collected using questionnaire. Population in this research is class X and XI totaling 438 students, the sample in this study were 81 students. The research was conducted on 17 June 2015 in SMAN 7 Cirebon. Analysis techniques in this study using univariate and bivariate analysis techniques, statistical test used was chi square to see the relationship between two independent and dependent variables.

RESULT AND DISCUSSION

Univariate analysis

Based on table 1 it can be seen that more than half of respondents (64.2%) experienced a physiological vaginal discharge. It can be seen that the majority of respondents (49.4%) were less active. It can be seen that less than half of the respondents (46.9%) were nutritious enough.

Bivariate Analysis

Based on table 2 shows more than half of respondents (55.2%) who are less active experience pathological vaginal discharge. Statistical test results obtained p value <α Means that there is a significant correlation between activity with vaginal discharge incidence in female student in SMAN 7 Cirebon Year 2015 (p value = 0.013; α = 0.05). And then, more than half of respondents (59.6%) were nutritious enough physiological vaginal discharge experience. Statistical test results obtained p value <α Means that there is a significant relationship between nutrition with vaginal discharge incidence in female student in SMAN 7 Cirebon Year 2015 (p value = 0.009; α = 0.05).

Vaginal Discharge Incidence

Based on the analysis of vaginal discharge incidence obtained results 64.2% of respondents experienced a vaginal discharge physiological.

Vaginal discharge is in addition to the blood discharge from the vagina out of the habit, either smelling or odorless and local itchy[8]. Vaginal discharge caused by several things: infections, foreign bodies, gynecologic disease, exhaustion, hormonal disorders, unhealthy lifestyle and stress caused by work. Whitish due to changes in the normal flora that affect the degree of acidity (pH) of the female reproductive organs[4]. There are several causes of vaginal discharge. Vaginal discharge physiological occurs when the ovulation. Other than that vaginal dischargee also be caused by an infection of the vagina, cervix infections, foreign bodies and the presence of cervical malignancy[9].

Based on the above results, the researchers found the incidence of vaginal discharge can be caused by several factors such as hot weather, causing a lot of mold growth increases, spending excessive perspiration in the genitalia so that the mucous membranes of the vagina increase and lead to the growth of mold and causes the vaginal discharge.

Description of Activity in Adolescent Girls in SMAN 7 Cirebon 2015

Based on the analysis of data obtained results activity 49.4% of respondents show in less activity.

Physical activity is divided into three, namely, mild, moderate and severe. In this study, female students tend to have moderate activity. It is seen from the results of the research activities of high school students while doing the activity more often seated, activities outside teaching hours in schools, following the extracurricular activities more sedentary compared to running, and outside school activities, swimming, cycling, watching tv, jogging and listening to music. The higher the activity undertaken, causing the body's metabolism increases and produces a lot of sweating throughout the body. Moderate activity is an activity that requires an intense power or continuous, rhythmic muscle movement or flexibility[10].

Description of Nutrition in Adolescent Girls in SMAN 7 Cirebon 2015

Based on the analysis of data obtained results activity 46,9% of respondents get enough nutrition. The above results show the majority of respondents have enough nutrients. Balanced nutrition can only be obtained from a wide range of foodstuffs. The more variety of foods eaten each day, the greater the intake of nutrients into the body. Awareness for a healthy diet that is until now have not owned most women of childbearing age, including teenagers. There is a tendency to eat outside the home that is in places prestigious with the menu selection does not meet the principle of balanced nutrition. A food such as fast food or junk food more attractive to today's youth. This situation could have a negative impact that will affect the health of the reproductive organs. The consumption of high-carbohydrate foods such as bread, rice, if consumed in excess will produce excess sugar in the body, so that it can grow candida albicans, the fungus will grow so can cause the vaginal discharge[11].

Correlation between Activity With Vaginal Discharge Incidence in Female Student

Based on table 2 shows more than half of respondents (55.2%) who move are experiencing pathological vaginal discharge. Results of statistical test by using Chi Square test with a confidence level of 95% was obtained p value <α means that there is a significant correlation between the incidence of Vaginal discharge activity in adolescent girls in SMAN 7 Cirebon Year 2015 (p value = 0.013; α = 0.05).

Vaginal discharge caused by several things: infections, foreign bodies, gynecologic disease, exhaustion, hormonal disorders, unhealthy lifestyle and stress caused by work. Vaginal discharge due to changes in the normal flora that affect the degree of acidity (pH) of the female reproductive organs[4]. There are 3 types of physical activity that we can do to maintain a healthy body are: endurance (endurance), flexibility (flexibility), strength (strength). Cause of vaginal discharge as constitutional factors for example due to the activity or excessive fatigue, emotional stress, because there are problems in the family or a job, could also be due to exhausting diseases such as diabetes or low nutrition.[12] Activity higher can cause the body's metabolism increases so that spending excessive sweating and supported by students who rarely change underwear and changing pads during activity so that fungi areas womanhood grow and could cause the vaginal discharge, if there is no treatment that further such as less kept clean can cause the vaginal discharge pathological itching around femininity, colorless and odorless.

Correlation Between Nutrition With Vaginal Discharge Incidence in Female Student

Based on table 2 shows more than half of respondents (59.6%) were nutritious enough vaginal discharge physiological experience. Results of statistical test by using Chi Square with a confidence level of 95% was obtained p value <α means that there is a significant relationship between nutrition of young women against the vaginal discharge incidence in female student in SMAN 7 Cirebon Year 2015 (p value = 0.009; α = 0.05).

There are four main causes that lead to changes in the normal flora and trigger vaginal discharge namely physiological factors, constitutional factors, irritation and pathological factors. Factors constitution example because of fatigue, emotional stress, because there are problems in the family or a job, could also be due to exhausting diseases such as diabetes or poor nutrition. Can also be caused by a decreased immunological status and medicines[12]. Food gives us nutrients to nurture the body, and the energy to move. Nutrients are divided into two, namely: macronutrients and micronutrients[13]. It can be concluded that a person needs to

move or move nutrients, macronutrients are the main foods that nurture the body and supplying power. Macronutrient consists of 3 main parts: fat, protein, and carbohydrates.

An unbalanced diet can also cause vaginal discharge especially diet with excessive amounts of sugar, because it is a factor exacerbating the vaginal discharge.[14]

Carbohydrates such as sugar content of drinks or foods that contain excessively high levels of sugar can add to the development of our body fungus, mildew cancida albicans can grow to be more fertile if we consume excessive amounts of sugar that can occur vaginal discharge.

Diet plays an important role for controlling fungal infections. With enough food nutrition we can help our bodies fight infection and prevent excessive vaginal discharge. Avoid foods that contain lots karbohdirat with high sugar content such as fluor, cereals, and breads. Foods with excessive amounts of sugar can cause negative effects on beneficial bacteria that live in the vagina. Mucous membrane of the vaginal walls secrete glycogen, a sugar compound. Bacteria that live in the vagina called the lactobacilli (good bacteria) leaven these sugars into lactic acid. This process inhibits the growth of mold and resist the development of vaginal infections. Excessive sugar consumption can lead lactobacillus bacteria can not leaven all the sugars into lactic acid and not be able to resist the growth of the disease, the number is increased and fungus or bacteria will multiply destroyer[15].

CONCLUSION

Results of this study concluded that:

1. Vaginal discharge incidence physiological experienced by the majority of respondents (64.2%).
2. Activities undertaken over the majority of respondents (49.4%) which is at a medium level.
3. Nutrition earned less than half of the respondents (46.9%) is sufficient.
4. There was relationship between activity with vaginal discharge incidence in female student
   (p value = 0.013, α = 0.05)
5. There was relationship between nutrition with vaginal discharge incidence in female student (p value = 0.009, α = 0.05).

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THE RELATIONSHIP BETWEEN PHASE OF CONTRACEPTION SELECTION WITH LONG TERM CONTRACEPTION METHOD FOR FAMILY PLANNING ACCEPTORS IN TALAGA BODAS PUBLIC HEALTH CENTER LENGKONG DISTRICT BANDUNG 2014

Tri Setiowati

Kebidanan STIKES Jendral A.Yani Cimahi, Indonesia
Email : trisetiowati@yahoo.co.id

ABSTRACT

Indonesia is ranked fourth as country that has the largest population in the world. IDHS 2012 results noted that the total fertility rate was 2.6 children per woman, the level of consumption of LTCM was 10.6% only. Achievement of LTCM is still very low when compared with the achievement of short-term contraceptive methods in Talaga Bodas puhealth centers. From 1464 acceptors in 2012, there were only 268 acceptors used LTCM and the rest used short-term contraceptive methods. The purpose of this study was to determine the relationship between phase of contraception selection with long term contraception method for family planning acceptors In Talaga Bodas Health Center Lengkong District Bandung 2014. This study used an analytical method with cross-sectional approach. These samples included 323 acceptors who visited the Talaga Bodas health center with sampling technique used simple random sampling. Data research using secondary data obtained from medical records, and subsequently analyzed by univariate and bivariate. Results of the study showed that among 323 acceptors, there were 12 acceptors delay their pregnancy phase 100% (12) with Short-term contraceptive methods, 195 acceptors space their pregnancy phase partially 17.9% (35) with long-term contraceptive methods and 116 acceptors terminate the pregnancy phase partially 28.4% (33) with long-term contraceptive methods. There is a significant relationship between phase of contraception selection with long term contraception method for family planning acceptors In Talaga Bodas Health Center Lengkong District Bandung 2014. Suggested for Talaga Bodas public health center to find an approach method to the problem by using the FGD method that is focused on high-risk group acceptor especially in the group of terminate the pregnancy phase the selection, and for further research are expected to further the investigate of factors that influence the selection of long-term contraceptive methods.

Keywords: Analytical, Phase election, contraception, LTM

BACKGROUND

Indonesia is ranked fourth as country that has the largest population in the world.. In 2000, the family planning program has been successful in preventing the birth of around 80 million inhabitants. The composition of Indonesian population in 1971 was about 118 million and in 2008 reached 227 million. Family planning program in Indonesia has recorded a long history of national development. Over the last 40 years, Indonesia has significantly lowered the average birth rate of 5.6 children per woman of childbearing age in the late 1960s to 2.6 in 2012 based on the results of Indonesia Demographic and Health Survey (IDHS) in 2012. [1]

IDHS 2012 results noted that the total fertility rate was 2.6 children per woman. This condition indicates TFR have not been decreased in the past 10 years since IDHS 2002-2003. The prevalence level of the use of contraceptives or the Contraceptive Prevalence Rate (CPR), which indicates the participation level of family planning among couples of

childbearing age (EFA) reached 61.9%. As many as 57.9% of them use modern family planning method, only increased by 0.5% from 57.4% in the last 5 years. Contraceptive use is dominated by short-term contraception, especially injections, which reached 31.9%. The consumption levels of long-term birth control method (LTM) are the IUD, implant, Operation Method Man (MOP / vasectomy). [2]

Agency for Women's Empowerment and Family Planning (BPPKB) Bandung in 2013 reported that the realization of the contraceptives use in Bandung, among others IUD reached 138.03%, Injectable reached 128.96%, Implant reached 70.38%, MOW reached 126.01 %, MOP reached 67.1%, pills reached 127.48%, and Condom reached 178.29% compared with BPPKB Bandung achieved target . [3]

Detailed information about methods of contraception should be obtained before the couple chose to use a particular contraceptive choice. In general, each of couples using contraception based on a clear desire, whether to delay the first birth (postponing), child spacing (space), or restrict (halt) the number of children desired. Clarity of purpose is related to the availability of contraceptive technologies in accordance with the medical safety and the possible return of the phase fertility (fecundity), effectiveness and efficiency. Choice based on full information that will ultimately result in the choice of contraceptive method is rational. Contraceptive choices rationally is a client's choice essentially and voluntarily without coercion, which is based on consideration of the rational from the destination point / technical use, health conditions, medical, and socio-economics of each pair. [4]

Delay pregnancy phase for EFA with a wife aged less than 20 years old are encouraged to postpone pregnancy. Characteristic of the contraceptive methods suitable for the delay phase is a high reversibility method, meaning the return of fertility can be assured of 100% and has a high effectiveness, since failure would lead to high-risk pregnancies . [5] In space pregnancy phase, wife was in the period between 20-35 years of age and is the best age period for delivery, the number of children is 2 and spacing between births is 2-4 years. Characteristics that suitable is contraceptive method in the space pregnancy phase. It has the high reversibility because the client still wants to have children and effective for 2 to 4 years. [5]

Terminate pregnancy phase or do not want to have any more children phase are in the age period wife of 30 years, especially over 35 years and should put an end to fertility after having 2 children. The reason put an end to fertility itself is mothers by the age of 35 years is not recommended for pregnant / not to have more children, because of medical reasons and other reasons. Contraceptive good characteristic of this phase is to have a very high effectiveness, long-term effect, and the contraceptive methods used do not add to the existing abnormalities in the mother. [5]

Table 1.
Distribution Frequency of Family Planning Active Participant in Talaga Bodas Public Health Center for Women in Bandung Based on Contraceptive Methods

Year	Pill	IUD	Injection	Implant	MOW	∑ Family Planning Active Participant
2012	184	1012	252	9	7	1464
2013	337	1204	125	11	0	1677

(Source: PHC Medical Records Talaga Bodas Bandung Year 2012)

Based on the table above shows that the FP active women in 2012 as many as 1464 people, as many as 184 use pills, as many as 1012 people use injections, as many as 252 people use IUD, as many as 9 use implant, and as many as 7 people use MOW. Whereas in 2013, the family planning active acceptors women who use IUD long-term contraceptive methods decreased by as much as 125 and no active planning participants are using MOW.[7]

The achievement of women active participants in the health center KB Talaga Bodas Bandung is 3.03% pills, injections 16.66%, 4.15% IUDs, implants 0.15%, and 0.12% MOW. The achievement of long-term contraceptive method is still very small when compared with the achievement of short-term contraceptive method .

Table 2
Distribution Frequency Active Women Participants KB Phase Selection Based Contraceptives at Puskesmas Talaga Bodas Bandung

Year	Delay Phase	Space Pregnancy Phase	Terminate Pregnancy Phase	∑ Stop Family Planning Active
2012	21	1050	393	1464

(Source: Medical Records of Talaga Bodas public health center Bandung Year 2012)

The total number of data recapitulation planning participants active on Talaga Bodas public health center in 2012 is divided into several phases including a delay phase, spacing phase, and stop phase. The table above shows that women of family planning acceptors in Talaga Bodas public health centers Bandung belonging to the delay phase as many as 21 people, space phase as many as 1050 people, and stop phase as many as 393 people.[6]

Table 3
Frequency Distribution Based on Long-Term Contraceptive Method Selection Phase based in Contraceptive Used Family planning Active Participants in the Women's Health Center Talaga Bodas Bandung in 2012

Selection of Contraception Phase	IUD	Implant	MOW	∑ Active Family Planning Participants
Dleaying	0	0	0	0
Spacing	189	7	1	197
Stopping	63	2	6	71
Amount	252	9	7	268

(Source: Medical Records of Talaga Bodas public Health Center Bandung Year 2012)

Based on the table above shows that there is no active planning participants in the delay phase of women who use long-term contraceptive methods. In the space phase, as many as 197 participants active family planning women use long-term contraception with as many as 189 people use IUD, 7 use Implant, and 1 uses MOW. At the stop phase, as many as 71 participant active family planning women use long-term contraception as many as 63 people us IUD, Implants 2, and MOW 6 .[6]

Results of preliminary studies on women in health centers of family planning acceptors Talaga Bodas, 8 out of 10 women do not choose a long-term contraception methods for impractical and risky reasons.

RESEARCH PURPOSES

To determine determine the relationship between phase of contraception selection with long term contraception method for family planning acceptors In Talaga Bodas Health Center Lengkong District Bandung 2014..

RESEARCH METHODS

Research carried out an analytical study and design of the study is cross-sectional study (cross-sectional).

In this study, the research variable is the selection phase of Contraception and long-term contraceptive methods collected at the same time.

Population is the whole object of study or the object under study .[7] The sample was female couples of childbearing age who are active planning participants as many as 95 in Talaga Bodas Public Health Center in 2013.

RESEARCH RESULT

1. Overview Selection of Contraception Phase

Overview of the Selection of Contraception Phase at the Talaga Bodas public health center Bandung can be seen in table 4 below.

Table 4.

Distribution Frequency Selection of Contraception Phase at Talaga Bodas the health center of Bandung 2014

Selection of Contraception Phase	Frequency	Percentage (%)
Delaying	12	3,7
Spacing	195	60,4
Stopping	116	35,9
Total	**323**	**100**

Table 4 above shows that from 323 acceptors found that more than half (60.4%) are in space pregnancy phase, and less than half (35.9%) are in stop pregnancy phase.

Long-Term Use of Contraceptive Methods

Picture of long-term use of contraceptive methods at Talaga Bodas health centers Bandung in Table 5 below.

Table 5.

Frequency Distribution of Long-Term Use of Contraceptive Methods in Talaga Bodas PHC Bandung 2014

Contraception methods	Frequency	Percentage (%)
Short term	255	78,9
Long term	68	21,1
Total	**323**	**100**

Table 5 above shows that from 323 acceptors showed that less than half (21.1%) who use long-term contraceptive methods.

Relationship between Selection of Contraception Phase with Long-Term Use of Contraceptive Methods

The selection of Contraception Phase use long-term contraceptive methods can be seen in Table 6 below.

Table 6.
Relationship between Selection of Contraception Phase with Long-Term Use of Contraceptive Methods in family planning acceptors in PHC Talaga Bodas Bandung 2014

Selection of Contraception Phase	**Metode Kontrasepsi**				**Total**		**P Value**
	Short term		Long term				
	n	%	n	%	n	%	
Delaying	12	100	0	0	12	100	
Spacing	160	82,1	35	17,9	195	100	0,017
Stopping	83	71,6	33	28,4	116	100	
Total	**255**	**78,9**	**68**	**21,1**	**323**	**100**	

Based on the table 6 above indicates that respondents who use the long term method, a total of 35 (17.9%) are in space phase and as many as 33 (28.4%) who are in the stop pregnancy phase.

Statistical test results obtained p value = 0,017, it can be concluded there is a correlation between Selection of Contraception Phase with Long-Term Use of Contraceptive Method in Talaga Bodas PHC Lengkong District of Bandung in 2014.

DISCUSSION

The selection phase relationship contraception Contraceptive Methods Long-Term Use. The result showed that respondents who use the long term method, a total of 35 (17.9%) are in space phase and as many as 33 (28.4%) who are in the stop pregnancy phase. Statistical test results obtained p value = 0,017, it can be concluded that there is a significant relationship between Selection of Contraception Phase with Long-Term Use of Contraceptive Method in Talaga Bodas PHC Lengkong District of Bandung in 2014.

Based on data from Demographic and Health Survey 2012, the desire to have children soon based on the number of children still living found that multiparous (having 2-4 children) have the desire as much as 6.8% to who has 2 children, as many as 3.5% of which have 3 children and 2 , 2% of which have 4 children. At grande multipara (have> 4 children) of 0.8% for those who have 5 children and as much as 0.8% to 6 children who have more. It turns out there is still a desire to have a child soon in multiparas and grande multipara. This makes Indonesia's TFR not decreased in the last 10 years and remains at 2.6 .[2]

Maternal mortality is still high in Indonesia indirectly caused by "4 Too" that are too old pregnant (maternal age over 35 years), too young pregnant (the mother's age under 20 years), too much (the number of children of more than 4) and too close (within a child less than 2 years). The low use of LTCM could cause pregnancy "4 Too" whose frequency is still high in Indonesia. The number of short-term use of contraceptive methods in the space phase and stop phase can cause pregnancy "4 Too" because contraception although it has a good effectiveness, but not for the long term so that the pregnancy that is too close distance would have been possible. [2]

There are a total of 12 people (100%) of family planning acceptors women in the delay phase of short-term contraceptive methods. It is highly recommended to prevent too young pregnancy. Reason to delay / prevent pregnancy for age under 20 years is because the age should not have children yet because of various reasons such as womb that has not been prepared so that it can cause bleeding during pregnancy, childbirth or postpartum, and also age under 20 years old is not ready mentally to accept the child. Delay Phase prioritized using oral pills, because the participants were young. The characteristics required contraceptive that reversibility is high, it means the return of fertility can be guaranteed almost 100%, because at this time the participants do not have children, given the desire to have children according to IDHS survey in 2012 was high (83.9% nulliparous women want a child soon) , high effectiveness, since failure would lead to high-risk pregnancy and this failure is the failure of the program. [8]

Fienalia Research (2012) strengthens the relationship of age and parity with the use of long-term contraceptive methods. Fienalia (2012) reported that there is a correlation between age (p value = 0.007 and OR 2.5) and the number of children living (p value = 0.000 and OR of 3.9) with the use of long-term contraception method in Pancoran Mas Depok City Health Center with a total sample of 195 samples. [9]

Age and parity are the two things that determine the selection phase of contraception. IDHS 2012 results noted that the total fertility rate (Total Fertility Rate) Indonesia of 2.6 children per woman. This condition indicates TFR not decreased in the past 10 years since the 2002-2003 IDHS with the total fertility rate (Total Fertility Rate) of 2.6.[2] The level of prevalence of the use of contraceptives or the Contraceptive Prevalence Rate (CPR), which indicates the level of participation of family planning among couples of childbearing age (EFA) reached 61.9%. As many as 57.9% of them use modern family planning method, only increased by 0.5% from 57.4% in the last 5 years. Contraceptive use is dominated by short-term contraception, especially injections, which reached 31.9%. The consumption levels of long-term birth control method (LTM), the IUD, implant, Operation Method Man (MOP / vasectomy), and Operation Methods Women (MOW / tubal ligation) only amounted to 10.6%. Incompatibility between the government's desire to use family planning in Indonesia should be supported by counseling so that acceptors which are in phase stop pregnancy choose a long-term contraceptive methods.[10]

SUGGESTION

1. For Health Care Institutions
   For Talaga Bodas PHC need a method to approach the problem by using FGD that is focused on high-risk group acceptor especially in the group phase of the election terminate the pregnancy, and for further research are expected to further investigate the factors that influence the selection of long-term contraceptive methods.
2. To Acceptor KB
   Acceptors should choose contraceptive method that is more precise and more asking health workers so as acceptors especially those at high risk can avoid maternal morbidity and mortality.

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O-21

EFFECT OF WARM COMPRESS TO DECREASE THE LEVEL OF LABOR PAIN WOMEN IN PRMARY HEALTH CARE MERGANGSAN YOGYAKARTA IN 2012

Sumarah, Yuni Kusmiyati, Heni Puji Wahyuningsih

Midwifery Departement of Health Polytechnic of Health Ministry Yogyakarta, Indonesia
email: sumarahakbid@gmail.com, Hp.0817169391

ABSTRACT

Pain delivery potentially harmful to the mother and fetus as a result of prolonged labor. Obstructed labor accounted for 10.2% of maternal deaths in Indonesia. Therefore, reduction of labor pain is not just for pleasure, but become a fundamental need to break the cycle of pain and all the consequences there of. Non-pharmacological pain management with warm compresses have advantages over other methods are easy, cheap and safe for both mother and fetus, there is no depressive effect on the respiratory system, the cardiovascular and the progress of labor. Knowing the influence of a warm compress to decrease the level of labor pain on mother Maternity in PHC Mergangsan Yogyakarta in 2012. This study used a study design Randomized Control Trial with pre-post test with control design. Population is all maternal active phase of the first stage in PHC Mergangsan 2012. The sample is all maternal active phase of the first stage which met the inclusion criteria: ≥ 4 cm of the dilatation serviks, as well as exclusion criteria: mothers with induction, labor pain relief therapy as hypnobirthing, anesthesia samples were taken by simple random sampling. Data were analyzed using paired t-test and independent sample t-test. The average pain scale active phase of the first stage of labor after being given a warm compress is 7.6 for the treatment group and 8.86 for the control group, p-value of 0.000 (0.000 <0.05). There is the influence of a warm compress to the normal labor pain when I was active in PHC Mergangsan.

Keywords: warm compresses, labor pain.

INTRODUCTION

Mortality and maternal and perinatal morbidity remains high is a major problem in developing countries. Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) is an indicator of the degree of health of a country. MMR and IMR in Indonesia is still high, even the highest in ASEAN, namely 228 per 100,000 live births, while IMR 23 per 1,000 live births. High MMR and IMR this indicates a low level of welfare of the population, so it is still occupying the top spot in health care agenda in Indonesia.[1]

The main causes of maternal deaths are still caused by due to pregnancy and childbirth. Labor can be run fairly and smoothly when supported with calmness and relaxation, so that the muscles of the uterus to contract properly, rhitmys and strong. Childbirth women are quite relaxed, causing contractions that occur will be safely and effectively push the fetus toward the birth canal with the dilatation of the cervix. Women who do not relax because of the tense face of labor, the muscles in the waist will be more rigid so that the process of the birth of the fetus becomes longer.[2] This prolonged labor accounted for almost 10.2% of IMR, because aspexia impact on newborns.

Pain in childbirth is painful uterine contractions can result in increased activity of the sympathetic nervous system. Severe pain in childbirth can cause physiological changes in the body such as blood pressure rises, increased heart rate, respiratory rate increased,

and if not addressed it will increase the sense of worry, tension, fear and stress. Increased consumption of glucose the body at birth mothers who experience fatigue and stress cause the secretion of catecholamines inhibit uterine contractions, it causes prolonged labor which eventually led to anxiety in women, increased pain and prolonged stress.3 Labor pain potentially harmful to the mother and the fetus, therefore the reduction of labor pain is not just for pleasure, but become a fundamental need to break the cycle of pain and all the consequences there of.[4]

Many methods can be done to reduce pain during childbirth, can generally be grouped in two categories: pharmacological and non pharmacological. Non-pharmacological methods that can be used to reduce labor pain among others hypnobirthing and massage. Both these techniques have several drawbacks, among others: hipnobirthing need a long time since pregnancy until delivery, the need for trained personnel / experts. Massage should learn the proper massage techniques before delivery of experts (doctors, midwives, nurses).[5]

Non-pharmacological pain management one of which is the provision of a warm compress. Due account of existing techniques based on ease of course, cheap and above all safe for both mother and fetus, there is no depressive effect on the respiratory system, the cardiovascular and the progress of the delivery process.6 Actions warm compresses aims to dilate blood vessels thereby increasing the blood circulation to the painful, and reduce muscle tension which would increase muscle relaxation or reduce the pain caused by spasm or stiffness so that the pain of menstruation can be reduced.7 Warm compresses can use objects such as hot water in a bottle, heated towels, pillows electricity, heat pads, a warm bath or shower.

The effect of warm compresses when used for 20 to 30 minutes then it will lead to decreased blood flow due to vasoconstriction reflex as the body attempts to control heat loss. Heat on the network continuously will cause damage to the epithelial cells so the skin becomes reddish, the pain, and became blistered. One idea of the workings of a warm compress is to cause the release of endorphins, thus blocking the transmission of pain stimuli. Based on this, researchers interested in conducting research on the effect of the level of pain in normal vaginal delivery of the active phase of the first stage performed a warm compress to the mother giving birth at health centers Mergangsan Yogyakarta in 2012.

RESEARCH METHODS

This type of research Randomized Controlled Trials (RCTs) with pre-post test with control group design. The study population was all women giving birth in the active phase of the first stage Mergangsan Health Centers in 2012, with the inclusion criteria: ≥ 4 cm of the dilatation seviks, as well as exclusion criteria: mothers with induction, labor pain relief therapy as hypnobirthing, anesthesia. Samples were taken randomly in the population who have fulfilled the inclusion and exclusion criteria. The number of samples using a minimum number of samples for experimental study of 15 people treated group and 15 in the control group samples that meet the criteria.

			Pre	Treatment	Post
Subject	R	Experimental group	O1	X1	O2
		The control group	O3		O4

Figure 1. Schematic design of the study.

Description :

O1 : The level of labor pain before a warm compress on the experimental group.

X1 : Giving a warm compress on the experimental group.

O2 : The level of labor pain after a warm compress on the experimental group.

O3 : The level of labor pain before treatment in the control group is the group given relaxation techniques according to the standard normal delivery

O4 : The level of labor pain after treatment in the control group.

Instruments to measure the intensity of labor pain using the Visual Analogue Scale (VAS) with a range of 0 - 10. The bag of hot water (jar) to give a warm compress. Thermometer to measure the temperature of the water. Water with a temperature of 40.50 C to 430 C. The cloth wrapping jar. Data analysis using Stata version 8.0 program. Analysis using Paired t test, independent samples T-test with significance level ρ <0.05.

RESULT

Table 1

Frequency Distribution Characteristics of Subjects Research by Age, Gravida, dilatation of the cervix and homogeneity test results.

Characteristics	Group				χ2	P
	Treatment (n=15)		Control (n=15)			
	N	%	N	%		
Age						
− 20-30	12	52,17	11	47,83	0,18	0,66
− <20,>30,	3	42,86	4	57,14		
Gravida						
− Primi	7	53,85	6	46,15	0,13	0,71
− Multi	8	47,06	9	52,94		
Dilatation serviks						
− 4-6	12	57,14	9	42,86	1,42	0,23
− >6	3	33,33	6	66,67		

Description:

n = number of samples   *χ2 =Chi Square*   *ρ = ρ value*

Based on Table 1 it can be seen that most of the research subjects aged 20-30 who are healthy reproductive age. The age of the treatment group and the control group no differences were siqnifikan marked with a p-value of 0.66> 0.05. This means that age in both groups were homogeneous.

Gravida in both groups largely multigravida. Gravida in the treatment group and the control group no differences were signifikan marked with a p-value 0.71> 0.05. This means gravida in both homogeneous group. The dilatation of the cervix majority of 4-6 cm. The dilatation of the cervix in the treatment group and the control group no differences were siqnifikan marked with a p-value of 0.23> 0.05. This means that the dilatasi cervix in both homogeneous group.

Table 2

Results of the analysis of the homogeneity of labor pain

Variable	Group	Average (*Mean*)	*SD*	Statistics T	*P*
Pre-test					
	Treatment	7	1,25	0,05	0,97
	Control	7	1,06		

Description:

SD =*Standard Deviation* F= F hitung *ρ = ρ value* *Signifikan * ρ<0,05*

Based on the table 2 that the level of pain before treatment between the treatment group and the control group no significant difference. It is characterized by p-value 0.97> 0.05, which means that the level of labor pain before treatment between the two groups of homogeneous.

To see if the numerical data that is the attitude and behavior of normal distribution or not, performed statistical tests using the Shapiro-Wilk and Sktest. Analysis of normal distribution using the Shapiro-Wilk to see the results of the Shapiro-Wilk and probability value, while Sktest to see the value of skewness and kurtosis values. Results showed that the test Shapiro-Wilk normality using the Shapiro-Wilk values obtained pre-test probability value is 0.95 to 0.23. Probability value> 0.05, it can be concluded that the data were normally distributed.8 Test for normality using Sktest shows the results of pre-test levels of pain that is 0.48. This shows that normal distribution of numerical data in which the value of kurtosis <3.[9]

Table 3

Paired t test analysis of the level of pain in the treatment group and the control

Group	Pre Test Mean(SD)	Post –Test Mean(SD)	mean difference (95%CI)	*T*	*P*
Treatment	7 (1,25)	7,6(1,4)	0,6	4,58	0,00
Control	7(1,06)	8,86(1,06)	1,86	8,67	0,00

Description:

SD =*Standard Deviation* CI=*Confident Interval* t= t *score* *ρ = ρ value* *Signifikan * ρ<0,05*

Based on Table 3 that the level of pain in the treatment group there are differences in average 0.6 point. Siqnifikan there are differences in pain levels before and after treatment were marked with 0.00 p-value <0.005. In the control group there was an increase on average of pain to 1.86. Increased pain is also significant difference with p-value 0.00 <0.05.

Table 4
Analysis of Independent samples t-test levels of labor pain in the treatment group and the control group

Variable	Group	Selisih rerata (Mean)	SD	Statistics	
				t	*P*
Level of Pain	Treatment	0,6	0,5	-5,02	0.00
	Control	1,86	0,83		

Description:
SD =*Standard Deviation* *t= t score* *ρ = ρ value* *Signifikan * ρ<0,05*

Based on the table 4 is known that there are significant differences in the level of labor pain in women with compressed warm and not where the p-value 0.00 <0.05. To see the possibility there are other variables that also affect the level of labor pain, such dilatation of the cervix, gravid and age then tested with independent sample t-test. The results are listed in table 5 below.

Table 5
Analysis of the Independent samples t-test improvement of labor pain by age, gravida and dilatation of the cervix

Variable	Group	mean difference	SD	Statistics	
				t	*P*
Level of Pain	Age				
	− 20-30	1,1	1,02	-0,6	0.53
	− >30	1,4	0,53		
Level of Pain	Gravida				
	− Primi	1,1	0,68	-0,4	0,69
	− Multi	1,29	1,1		
Level of Pain	Dilatation cervix				
	− 4-6 cm	1,1	0,92	-0,38	0,70
	− >6 cm	1,3	1,0		

Description:
SD =*Standard Deviation* *t= t score* *ρ = ρ value* *Signifikan* ρ<0,05*

Based on table 5 is known that age, gravida, and the dilatation of the cervix no significant effect on pain labor.This is evident from the age p-value 0.53> 0.05, p-value gravid 0.65> 0.05 and p value-dilatation of the cervix 0.70> 0.05.

DISCUSSION

Pain in childbirth is painful uterine contractions which may lead to increased activity of the sympathetic nervous system. Severe pain in childbirth can cause physiological changes in the body such as; Blood pressure rises, increased heart rate, respiratory rate increased, and if not addressed it will increase the sense of worry, tension, fear and stress. Increased consumption of glucose the body at birth mothers who experience fatigue and stress cause the secretion of catecholamines inhibit uterine contractions, it causes prolonged labor which eventually led to anxiety in women, increased pain and prolonged stress.[3] High labor pain can cause anxiety in the mother , especially in primigravida . Pain that can not be adapted by the mothers who give birth may increase maternal anxiety , anxiety can cause long labor.[10]

The results showed that the characteristics of the respondents in this study are mostly in the age of reproductive health. At the age of healthy reproductive function of the pelvic floor muscles strong individual and has not experienced stiffness. At the age of 35 years, the pelvic muscles more stiff, so that the delivery process is usually more painful and long. Number of pregnancies (gravida) mostly multigravida (> 1) so that the mother already has experienced labor pains. Cervical opening most of the active phase of acceleration. In the active phase of labor pain will be felt more powerful. The progress of labor are characterized by the size of the opening to make the mother will feel the pain more than the previous. This is the possibility that one of the causes either the control group or the treatment of pain increases.

Based on t-test for the treatment group, before and after intervention provision of warm compresses, there is an average difference of 0.6 with significantly (p) 0,000 to the conclusion that there are differences in labor pain before and after the administration of warm compresses. In the control group there is an average difference of 1.8 with siqnifikansi (p) 0,00 which means that there is a significant difference. Average labor pain was higher in the treatment group compared to the control group.

This research is in line with research which states that there are significant differences in the treatment group before and after the warm compress.[11] The decline in labor pain caused by the administration of warm compresses during the first stage of labor aims to dilate blood vessels thereby increasing the blood circulation to the painful, and reduce muscle tension which would increase muscle relaxation or reduce the pain caused by spasm or stiffness so that the pain of labor can reduced.7 This warm compress can use objects such as a hot water bottle, heated towels, pillows electricity, heat pads, a warm bath or shower.

Local responses to heat occur through the stimulation of nerve endings, which are in the skin and is sensitive to temperature. This stimulation sends impulses from the periphery to the hypothalamus which will cause awareness of the local temperature and trigger an adaptive response to maintain normal body temperature. The body can tolerate temperatures within a wide range. Normal skin surface temperature is 34 ° C, but the temperature receptors usually can quickly adapt to the normal temperature of 45 oC to 15 oC, and pain can arise if the temperature is outside this range. During the procedure of granting a warm compress the temperature range between 40.5 ° C to 43 ° C and is normally given for 20 to 30 minutes. The effect of warm compresses when used for 20 to 30 minutes then it will lead to decreased blood flow due to vasoconstriction reflex as the body attempts to control heat loss. Heat on the network continuously will cause damage to the epithelial cells so the skin becomes reddish, the pain, and the skin becomes blistered. One idea of the workings of a warm compress is to cause the release of endorphins, thus blocking the transmission of pain stimuli.

Giving a warm compress on the area of the body will give a signal to the hypothalamus via the spinal cord. When the receptors are sensitive to heat dihipotalamus stimulated, issued effector system signals start sweating and peripheral vasodilation. Changes in the size of blood vessels are regulated by the vasomotor center in the medulla oblongata of the brain stem, under the influence of the anterior hypothalamic parts causing vasodilatation. It causes vasodilation occurrence of discharge / loss of energy / heat through increased skin (sweating), is expected to decrease body temperature to reach normal circumstances back.

Based on the results of the study it appears that a warm compress can be siqnifikan reduce labor pain in the implementation of this method should be performed by a husband and family.

CONCLUSION

This study proves that the warm compresses to a disruption of normal labor pain in the active phase of the first stage. Average of first stage of labor pain active phase prior to giving a warm compress intervention in the treatment group and the control is 7. While the average labor pain active phase of the first stage after being given a warm compress is 7.6 for the treatment group and 8.86 for groups control

RECOMMENDATION

1. For Health Polytechnic of Ministry of Health in Yogyakarta, as a reference library that can be used to add information to the students, especially the information about the "Effect of a warm compress to the level of pain in the first stage of labor active phase".
2. For Mergangsan midwife at the health center, as consideration for the management of labor pain by using methods without the use of drugs.
3. Researchers further, in order to continue the research by comparing the pain-reducing methods other and with the larger number of samples.

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O-22

PSYCHOLOGICAL RESPONSE ON PREGNANT WOMEN WITH HIV/AIDS IN BANDUNG (A PHENOMENOLOGICAL STUDY), 2014

Sri Yuniarti, Flora Honey Darmawan

STIKES Jenderal Achmad Yani Cimahi, Indonesia
Email : sriyuniartispi@yahoo.com

ABSTRACT

Since first reported in 1987, the number of HIV / AIDS cases in Indonesia continues to increase. In 2012, the number of HIV and AIDS cases reached 152 267 people, and 28.8 % of them women. Until recently, HIV / AIDS is still devastating communities and patients themselves. Patients do not accept the fact that he suffered a deadly disease that is causing psychosocial stress due to fear of disgrace and rejected by society. Increasing worries with respect to his ignorance about HIV treatment and the possibility of a cure. Psychological responses indicated may be denial, anger, confused, depression, and acceptance. This study aims to explore in depth the psychological reaction of the mother, who suffered from HIV / AIDS. This study uses a phenomenological qualitative method with Purposive sampling technique. The data were analyzed using thematic analysis. Results of the study formed Theme I: susceptibility of contracting HIV / AIDS in women and children. Theme II: psychological response when expressed positively contracted HIV / AIDS, form a sub theme of denial, anger, sadness and depression. Theme III: psychological reactions during pregnancy, forming sub-themes of depression, bargaining, resigned. Theme IV: The strength of the support, forming a sub-theme of moral support, material. Theme V: Expectations, forming a sub theme of community acceptance, safety and comfort of the child's future.

Keywords: psychological reactions, HIV, pregnant women

BACKGROUND

Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) is increasing from year to year and its spread are very difficult to control. HIV damages the body defense system such as lymphocytes which are a type of white blood cells in the immune system, so that the immune system weakened and easily develop an infection. Levels of virus in the body and the occurrence of certain infections is an indicator that HIV has developed into AIDS. HIV / AIDS can be transmitted through direct contact with blood or bodily fluids of a person infected with the virus. [1]

Since first reported in 1987, the number of cases of HIV / AIDS in Indonesia continues to increase. In 2012, the number of cases of HIV and AIDS reached 152.267 people, and 28.8% of them women. This condition indicates that there has been a feminization of the HIV epidemic in Indonesia. According to data from the Indonesian Ministry of Health, in late June of 2013, there are 43.667 reported AIDS cases, and 63.2% of them active reproductive age (20-39 years). From the results of the HIV projections made KPAN, it is expected in the future there will be an increase in HIV prevalence in the population aged 15-49 years from 0.22% in 2008 to 0.37% in 2014; as well as an increase in the number of new HIV infections in women, so it will affect the growing number of HIV infections in children.[2]

UNAIDS report says that more than 1.7 million Asian women are living with HIV, 90% of them infected by their husbands or sexual partners. In the case of a husband who acquired

the majority because the husband injecting drug users or multiple partners (Tambunan, 2010). Throughout the reproductive age, HIV-positive women are potentially still at risk of transmitting HIV to her unborn child if she is pregnant.[3]

Indonesian Ministry of Health (2012) shows that 43.264 pregnant women were tested for HIV, 1,329 (3.04%) HIV positive. Another data from 2012 HIV epidemic Mathematical Modelling results also showed that the prevalence of HIV infection in pregnant women is expected to increase from 0.38 percent in 2012 to 0.49 percent in 2016. The data shows more than 90% of HIV infections in infants and children caused by transmission from mother to child. According to Bagus from Candra (2010), about 4.5 million pregnancies in Indonesia every year, it is estimated that 25 percent of those pregnancies are is risk of HIV transmission from mother to baby. Quarterly reports of the Direktorat Jenderal Penanggulangan Penyakit Menular dan Penyehatan Lingkungan Kementerian Kesehatan Republik Indonesia (PPM dan PL Kemenkes RI) in June 2011 showed the number of AIDS cases with risk factors for perinatal transmission (from mother with HIV to her baby) as many as 742 cases. The figure shows an increase two times higher than the previous three years were only 351 cases. [4,5]

Until recently, HIV / AIDS is devastating communities and patients themselves. It can be said that a person who contracted this disease is like sentenced to death. Patients do not accept the fact that he suffered a deadly disease that is causing psychosocial stress due to fear of disgrace and rejected by society. Increasing worries with respect to his ignorance about HIV treatment and the possibility of a cure. Psychological responses indicated may be denial, anger, bargaining, depression, and accept. According to Kubler-Ross (1991), patients showed a response of rejection if the patient does not trust the diagnosis and the doctor will ask the opinion of others, reluctant to tell the symptoms, and continued to his routine behavior; an angry response usually indicated with angry, hostile and high-risk behaviors usually occur, the response indicated bargaining with many promises, often to God, vow; depression response shown by the attitude of taciturn, withdrawn, sad, somber mood, daydreaming, helplessness, guilt, changes in appetite and / or sleep patterns is a characteristic that often arise; as well as receiving the response shown by the attitude less involved with sadness.[6,7,8]

Pregnant women with HIV / AIDS are often stigmatized and socially and physically discrimination from family, friends and the community. Women who suffer from HIV / AIDS condition is much more severe because they have to take care of the household, pregnancy, childbirth and care of the child. Pregnant women with HIV / AIDS at risk of miscarriage, prematurity, IUGR (Intra Uterine Growth Retardation), infect the fetus and the increasing prevalence of maternal and perinatal mortality. According Djauzi quoted from Michael (2012) that HIV-positive pregnant women at risk of transmitting the virus to her unborn baby about 35%. The risk consists of a 7% risk during pregnancy, during delivery (vaginal) 15%, as well as breast milk of 13%.[7,9]

Pregnant women with HIV / AIDS may feel more anxious at the thought of the impact of transmission to the baby so that the resulting guilt and the threat of future child later. Lopez (2009), suggests that patients suffering from a disease with acute conditions will largely indicate the presence of psychological disorders such as anxiety and even depression. According Sarafino (1998), every disease and as a result suffered, either due to illness or particular medical interventions can lead to negative feelings such as anxiety, depression, anger, or a sense of helplessness and if the negative feelings experienced consistently persist it may lead to increase of tendency a person contracted a particular disease.[9,10]

Midwives as one of the spearheads of health care providers are expected to provide care to clients in a holistic manner. A midwife needs to understand the psychological state of pregnant women with HIV / AIDS in order to provide effective care. According to Townsend (2002), it is better to listen to concerns of patients with HIV / AIDS before giving advice, sharing with people with HIV / AIDS so it can reduce the burden of pain.[10]

Based on preliminary studies conducted by interview on a pregnant woman with HIV / AIDS who know their status three months ago, shown that first time of knowing about her state is the toughest things she had ever experienced especially now that she is in a state of pregnancy, anxiety continues to perceived as fear of transmitting the disease to the unborn child arise, fear of her inability to tend her baby and anxiety of her children future might be compromised. What such mother really hope is a treatment to make sure her baby wont contract HIV / AIDS from her. Another fears is when family and friends know that he and his son were infected with HIV and the fear of being excluded from society.

RESEARCH PURPOSES

1. General Purpose
   To reveal psychological response of pregnant women with HIV / AIDS in Bandung.
2. Special Purpose; Identified matters as follows:
   a. Maternal psychological response when first know the HIV status
   b. Family response when knowing the mother infected with HIV / AIDS
   c. Efforts to overcome psychological problems after knowing the HIV status
   d. Psychological response when pregnant mothers with HIV / AIDS
   e. Response to learn mother's family experienced a pregnancy with HIV / AIDS
   f. Efforts to overcome psychological problems during pregnancy
   g. Expectations for the child's future health, growth and development, education, occupation, social status

METHODS

This type of research is qualitative with phenomenological approach. This study is exploring is the psychological response of pregnant women with HIV / AIDS.[11] The study was conducted in Bandung in April 2014. The subjects were mothers whom positively pregnant suffering from AIDS. Data collection methods used were in-depth interviews (in-depth interview) and observation to see the response of non-verbal or body language when interviewing. Instrument in the form of open-ended questions and focus on the problem or research topic

DATA ANALYSIS

The data were analyzed using Colaizi analysis to describe the meaning of the psychological response through important themes. [11] Stages of the analysis are:

1. Listen to the interviews that have been recorded, then make a transcript for each participant in order to gain an overall understanding of the data collected.
2. Read the transcript repeatedly to gain a thorough understanding of the contents of the transcript that have been made.
3. To identify or analyze the themes (thematic analysis) interviews, which aims to see the trend pattern that appears repeatedly in the interview.

4. Grouping and explain the relevant statements and supporting emerging themes.
5. Contemplating the emerging themes and content of the overall results of the discussion.
6. Write the emerging themes and illustrate it in accordance with the statement of the participants.
7. Perform validation by conveying a theme that appears to the participants to ask for clarification.

RESULTS AND DISCUSSION

Research Results

Themes are formed

Vulnerability; Sub themes emerged:

Infected with HIV

Of the 10 respondents, eight people contracted the disease from her husband, while the two people say infected because of injecting drug. Statement of respondents as follows:

> Respondents I: ".. I am exposed from my ex-husband. At first he found out when he was treated in hospital, he was suffering from HIV and eventually died. Then our children are often sick, then I check into the hospital, turned out to be exposed to HIV. At that time I was realized that I definitely also get HIV, then i checked and was indeed I was also exposed to HIV. Now I am pregnant from a second husband, but not an HIV carrier".
> Respondents II: "... Yes from my husband. I found out when I was pregnant with my first children, my husband was caught in an accident and hospitalized, while the blood was checked, turned out he was contracted with HIV. Formerly, my husband when still bachelors were used to use injecting drug. "
> Respondents III: ".... My husband was once a member of a motorcycle gang, used to drinking and may also injecting drugs. Before marriage I do not know such things...... "
> Respondents IV: "... I was once injecting drugs because of the influence of a boyfriend who is now my husband as well ...."
> Respondents V: "... Before I got married, I was working at the bar, used to drinking and serving guests ...."
> Respondents VI: "contracted it from the husband, found out after the first child were 1 years old, my son were often suffer diarrhea and thrush ... turned out to be in contact with HIV, then I check it turns out I have had it ....".
> Respondents VII: "My husband died last month, doctors said she has HIV, I just know that my husband actually has HIV but already long before the marriage had HIV, but he did not told me anything".
> Respondents VIII: "My husband was used to injecting drug, but of course I do not know. Indeed, my husband loves to drunk, sometimes being angry and hit me".
> Respondents IX: "Yes, it was because my husband often womanizing, when he sailed long, he rarely returns home. I know when the first child was sick and the doctor said HIV. Then I checked myself, turned out I had it ... "
> Respondents X: ".. Yes, at first my husband who got the HIV, and then me, and my son as well, my husband were once in a gang whose love to injecting drug, since being in the school".

The risk of contagion

Of the 10 respondents who are currently pregnant are at risk of transmitting to the child at birth.

Response when diagnosed HIV; Sub themes emerged Cannot believe

> Respondents IV: "I really do not believe I contracted HIV, how can it be? Indeed, I once use syringe with a friend, but as I recall none of my friend suffering from HIV ".
> Respondents V: "...I'm Shocked! I got HIV, is it true? But anyway this is indeed a risk that should I get? Maybe the God punish me!"
> Anger
> Respondents I: "I was disappointed and angry with my husband but only in my heart, I was the victim and also my son is suffering, ".
> Respondents II: "... I am angry, angry at my husband, it all because of him, I didn't do anything wrong!"
> Respondents III: "I am angry to my husband, he's doing affect his wife and son. He is the one who sinned and I the one who felt the punishment."
> Sad
> Respondents VI: ".. so sad, why I and the children affected by this damned disease, destroyed our future! Especially the child's future is still long, this is due to act of a husband who is not careful."
> Respondents VII: "... now all of my hope are destroyed. I am sad to have to face this fact alone, how could he was not open with me, now I am having a burden to take care of children alone (crying) ".
> Respondents X: "... I was sad, the future of the family in disarray, the world feels apocalypse, just sad mix with hatred, can't imagine what the life ahead (while closing the face of fear)."

Changes in Psychological current (during pregnancy)

The view about the child's future

Respondents II: "... I let go just over the fate of my children, I tried to take care of him as much as I can and pray to God to be healthy, and able to go to school, can achieve its goals (tears)."

Respondents IV: "I am afraid my child will have HIV too, I want to try to prevent it, that's why I want to consult a doctor how. I don't want my children bear the consequences of my mistake."

Respondents VII: "Yes! Life must go on, how else, I will continue to fight for the sake of my family life, my children need to stay healthy, and educated, so I will continue to keep working, anything to keep my children in school and developed."

DISCUSSION

Susceptibility of contracting HIV / AIDS

Many women who are victims of the disease of spouse (husband), it indicates that women are vulnerable to contracting HIV / AIDS. Some factors that easily lead women to contracting HIV such as: biological factors, social, cultural and economic.

In biological terms, women are susceptible to infection by genital apparatus structure coated mucus membranes are susceptible to injury. From the social aspect, the existence of gender inequality, women as individuals are powerless in terms of education, science and economy. The presumption in society of women as weak creatures does not have the power to make choices. Since the women family deemed not need to have higher education, so

that knowledge and skills are mediocre, which consequently do not have the ability to gain a position in society as well as economic terms. When married women are more dependent on their husbands, they tend to have no power, including determining their reproductive choice. This situation is reinforced by cultural influences that are not in favor of women, and are often targeted and blamed in the event of sexual intercourse outside of marriage. Also many women who are victims of rape, or also become sex workers (sex) in order to cover the economy.[12]

States that women have a low knowledge about HIV and only 30% knew the risk of HIV transmission. There are many women who cannot resist the risk of infection, for example, do not use a condom during intercourse for fear being not satisfying the couple. It occurs also in women who have sex, do not dare to refuse customer requests for not using condoms, for fear of losing customers. Besides the women itself, the risk of HIV infection are children, through transmission during childbirth, particularly vaginal delivery, and also transmission through breastfeeding.[13]

The psychological reaction when declared HIV

When declared HIV positive, sub-themes that are formed are: rejected (not believe), angry, sad late. Kubler Rose stated, if someone has a chronic illness or are considered terminal, it will arise in mourning reaction, i.e. refuse / deny (denial), anger (anger), bargaining (bargaining), sadness (depression), receiving (acceptance). Grieving is an experienced human emotional response to losing loved object / cherished.[13] In women who contracted HIV from her husband tend to react in denial, cannot believe of being exposed to HIV because they do not do risky things. But after knowing the cause are from their husband, therefore resulting in an anger, but they was powerless to reveal those feelings, for fear of the husband, so in the end they tend to give up and mourn.[13]

Psychological reactions during pregnancy

When experiencing pregnancy, women experience more anxiety for fear of his future HIV infection, and also the shadow of a bleak child future. Women feel hopeless (desperate), will be the future of themselves and their children, and also concerned about discrimination or stigma in society, ostracized and fear of losing existence in society.[13.14]

Supporting Power

Social support is a subjective feeling, accepted, appreciated, valued, being needed by others. Positive family support will affect realistic coping in facing the tensions. Adequate support will accelerate the healing process. The strength of the perceived support of pregnant women is the attitude of the family, and health officer. The greatest support is felt by the mother’s family, the husband, parents and siblings, while other people are very difficult to be expected. Is still felt some stigma within society who do not take sides against HIV, therefore isolated, difficulty to finding a job and afraid to open up.[13]

With the moral and material support of the family of the mother spur motivation to survive and strive for the lives of themselves and their families (children and husband). Of the health officer, have the support maternal health services (knowledge, drugs), according Sarafino (1994) information support may be a feedback on what is done. Support obtained from various parties greatly strengthen pregnant women, reducing the burden, financial, morale, stress, and foster a fighting spirit, a sense of optimism for the future.[14]

Hopes

The basic thing is to be the hope of pregnant women with HIV/AIDS are: 1) Positive acceptance from society towards people living with HIV, did not occur the negative stigma and discrimination. 2) The provision of educational facilities for children from families with HIV by the government. 3) Provided jobs for people with HIV-Aids. [13.14]

CONCLUSION AND

1. Conclusion
   a. Susceptibility of contracting HIV / AIDS
   b. Psychological reaction when declared HIV / AIDS
   c. Psychological reactions during pregnancy
   d. Supporting power
   e. Hopes

SUGGESTIONS

a. For policy makers and health officers
   Need to increase on HIV / AIDS counseling and VCT services in the community.
   Need to provide education and employment for people with HIV / AIDS
f. For further research
   Need further research on support to strengthen people with HIV / AIDS
   Need a qualitative study regarding factors that encourage people, especially who are at risk to follow PMTCT

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O-23

DEVELOPMENT OF INFORMATIONAL MEDIA ON PREGNANCY CARE FOR PRENATAL CLASSES

Eko Mardiyaningsih, Umi Setyoningrum

Nursing Academy of Ngudi Waluyo, Ungaran, Indonesia
email: eko_yans@yahoo.co.id

ABSTRACT

The context of this study is the high reported number of maternal mortality rate (MMR) and infant mortality rate (IMR) in Indonesia, with 102 maternal deaths for every 100,000 live birth and 32 infant deaths per 1000 live births in 2012, respectively. Low awareness in community has been thought as a determinant factor in mortality rate. One of the efforts to tackle this issue is maternity class, which requires an informational media about pregnancy care. The objective is to examine and develop an informational media on pregnancy care to be used in maternity classes. This study used action research methods which consisted of two stages. In the first stage, we evaluated level of knowledge held by pregnant mothers as well as designed drafts of informational medium. The second stage implemented the developed informational medium. There were 40 pregnant mothers involved in this study as respondents. The result shows that the majority of respondents with 22 (55%) of them had a low knowledge level in pregnancy care, while lack of exposure to information on pregnancy care was found in 24 respondents (60%). Most of informations were obtained from health professionals for 32 respondents (80%). The form of informational medium developed in this study was leaflet. The conclusion is leaflet on pregnancy care can be used in maternity classes as an informational learning medium.

INTRODUCTION

According to Indonesian Demographic and Health Survey in 2012, maternal mortality rate (MMR) in Indonesia was found to be 102/100,000 live births, while infant mortality rate (IMR) was found to be 32/1,000 live births (Putra, 2012). Central Java as a province in Indonesia contributes to national MMR and IMR. According to Health Profile of Central Java Province in 2011, IMR was 10.34/1,000 live births and MMR was 21.97/1,000 live births. One of determinants of death is low community awareness towards pregnant mothers' health. Hemorrhage, gestational hypertension and infection are the three main causes of maternal death[1,2].

There is a need for efforts to lower the MMR through improving knowledge and altering behaviour held by mothers and family on pregnancy, delivery, and postdelivery care. One of the efforts is maternity class, which is a learning group with a maximum participant number of 10 pregnant mothers whose gestational age within 4 to 36 weeks. The class objective is to improve mother's knowledge and behaviour on the topics of pregnancy, body changes and complaints experienced in pregnancy, pregnancy care, delivery, postdelivery care, postdelivery contraception and care of the newborn[3].

According to a study by Puspitasari (2012) on "The description of maternity class in Bangetayu Primary Health Care, Semarang City", maternity class shows benefit as all pregnant mothers attending it planned for assisted delivery by health professionals. By increasing the coverage of assisted delivery by health professionals, MMR and IMR could be decreased[4].

Informational media (i.e., about pregnancy care) are required to conduct a maternity class. A study by Aden (2008) shows that there is a significant difference (p=0.000, less than α of 5%) in pregnancy care after administration of "*Aman*" ("Safe") package, which is a set of materials designed for learning about pregnancy care for pregnant mothers with risks of premature birth[5].

This study aimed to examine and develop an informational learning medium for maternity class.

METHOD

This study used an action research methodology. Our methods consisted of two stages. In the first stage, a research was conducted to evaluate the level of knowledge in pregnancy care held by pregnant mothers. We also developed a learning medium. In the second stage, we conducted an implementation or action through applying the developed medium and evaluating its effectiveness.

Primary data were collected by means of survey with structured questionnaire. Survey was conducted to several maternity classes within area of Ungaran I Primary Health Care (PHC) and Beringin PHC. There were 40 pregnant mothers involved in this study as respondents. The collected data were then analysed descriptively by using a computer software.

RESULTS

Univariate analysis

1. Age

Table 1

Distribution of respondents according to age in August 2015

Age	Frequency	Percentage (%)
20 – 35 years old	29	72.5
<20 or >35 years old	11	27.5
Total	**40**	**100**

Table 1 presents that among 40 respondents, most of them were within age of 20 to 35 years old, with total of 29 respondents (72.5%). Meanwhile, there were 11 respondents (27.5%) whose age were less than 20 or more than 35 years old.

2. Educational level

Table 2

Distribution of respondents according to educational level in August 2015

Educational level	Frequency	Percentage (%)
High	25	62.5
Moderate	15	37.5
Low	0	0
Total	**40**	**100**

According to table 2, it was found that 25 of 40 respondents (62.5%) possessed a high educational level, while other 15 respondents (37.5%) had moderate educational level.

3. Work employment

Table 3
Distribution of respondents according to work employment in August 2015

Work employment	Frequency	Percentage (%)
Not working	19	47,5
Working	21	52,5
Total	**40**	**100**

Table 3 shows that 21 of 40 respondents (52.5%) held a job, while there were 19 respondents (47.5%) who were not working.

4. Parity

Table 4
Distribution of respondents according to parity in August 2015

Parity	Frequency	Percentage (%)
Multiparous	25	62.5
Primiparous	15	37.5
Total	**40**	**100**

According to table 4, it was found that among 40 respondents, most of them were multiparous (62.5%), while there were only 15 respondents (37.5%) who were primiparous.

5. Gestational age

Table 5
Distribution of respondents according to gestational age in August 2015

Gestational age	Frequency	Percentage (%)
First trimester	8	20
Second trimester	18	45
Third trimester	14	35
Total	**40**	**100**

Table 5 shows that 18 of 40 respondents (45%) were in their second trimester of gestational age, while 14 respondents (35%) were in third trimester and 8 respondents (20%) were in first trimester.

6. Level of knowledge on pregnancy

Table 6.
Distribution of respondents according to level of knowledge on pregnancy in August 2015

Level of knowledge	Frequency	Percentage (%)
High	20	50
Low	20	50
Total	**40**	**100**

According to table 6, it is shown that among 40 respondents, those who held a high level of knowledge on pregnancy were 20 respondents (50%), while the remaining 20 respondents (50%) had a low level of knowledge.

7. Level of knowledge on pregnancy care

Table 7
Distribution of respondents according to level of knowledge on pregnancy care in August 2015

Level of knowledge	Frequency	Percentage (%)
High	18	45
Low	22	55
Total	**40**	**100**

Based on table 7, it was found that 22 of 40 respondents (55%) still had a low level of knowledge on pregnancy care, while only 18 respondents (45%) had a high level of knowledge.

8. Planned location for assisted delivery

Table 8
Distribution of respondents according to planned location for assisted delivery in August 2015

Planned location for assisted delivery	Frequency	Percentage (%)
Healthcare facility	40	100
Total	**40**	**100**

Table 8 shows that all 40 respondents planned to have an assisted delivery at a healthcare facility.

9. Exposure to information

Table 9
Distribution of respondents according to exposure to information in August 2015

Exposure to information	Frequency	Percentage (%)
Good	16	40
Lacking	24	60
Total	**40**	**100**

Based on table 9, from 40 respondents it was found that most of them were lacking exposure to information of pregnancy care, with total of 24 respondents (60%).

10. Source of information

Table 10
Distribution of respondents according to source of information in August 2015

Source of information	Frequency	Percentage (%)
Health professionals	32	80
Books	2	5
Leaflets	4	10
Internet	2	5
Total	**40**	**100**

According to table 10, it was known among 40 respondents that the majority of them gathered information on pregnancy care from health professionals, with total of 32 respondents (80%), while only a small part of respondents received information from book (2 respondents, 5%) and internet (2 respondents, 5%).

11. The desired form of learning medium

Table 11
Distribution of respondents according to the desired form of learning medium in August 2015

Form of medium	Frequency	Percentage (%)
Booklets	3	7.5
Posters	8	20
Leaflets	22	55
Film	3	7.5
Animation	3	7.5
Others	1	2.5
Total	**40**	**100**

Table 11 shows that of 40 respondents, a majority of them asked learning medium in form of leaflet (22 respondents or 55%), and only 1 respondent (2.5%) asked for other form.

DISCUSSIONS

a. Knowledge held by pregnant mothers on pregnancy care

The majority of respondents (22 respondents or 55% of them) had a low level of knowledge on pregnancy care, while 18 respondents (45%) had a high level of knowledge. This finding is consistent with a study by Masini and Idhayanti (2015) in which low level of knowledge was held by 67% of respondents. Other study also obtained similar result, with level of knowledge among pregnant mothers in Pringapus PHC was found to be lacking in 47 (58%) respondents, adequate in 26 (32.1%) respondents and good in 8 (9.9%) respondents[6,7].

Low level of knowledge on pregnancy care held by respondents was caused by, among others, the lack of information delivery on pregnancy care to local community. This explanation is supported by our study result that shows lack of exposure to information in 24 (60%) respondents.

Knowledge is a result of knowing and attained after a person sensed a particular object. Sensing is occurred through five human senses, which are: vision, hearing,

olfactory, taste and touch. A significant part of human knowledge is obtained through vision and hearing[8]. A high level of knowledge attained by respondents may suggests experience factor, either learned through one's personal experience or from other's experience. In this regard, there is a possible relationship between number of parity and mother's knowledge, where 62.5% of respondents who were multiparous already held more knowledge from prior pregnancies.

Knowledge or cognition is an important domain in affecting one's action. Factor of knowledge gives consideration to individual or group in influencing behaviour. Maternity class is an effort to persuade or educate pregnant mothers to practice maintaining and improving their health based on attained knowledge and awareness, therefore the behaviour is expected to last for a long time[8].

b. Analysing the needs of pregnant mothers on informational learning media

Our study shows that among 40 respondents, a majority with 22 (55%) respondents asked for leaflet medium, while only a miniscule number of 1 (2.5%) respondent asked for other media. Instructional media or tools in health promotion are supporting resources that can be seen, heard, touched, tasted, or smelled to ensure that a clear communication is achieved and informations can be spread widely[9].

Leaflet is one of simple informational media with a relatively small size and can be easily understood. In other words, leaflet is a simple reminder medium that could be distributed to readers, therefore they can learn from it independently in their own time from any place[8].

Our study result is consistent to a study by Arofah (2013) on "The effectiveness of leaflet medium towards knowledge improvement on delivery stages and pregnancy exercises to pregnant mothers (A case study on private healthcare in Candirejo Subdistrict, West Ungaran, Semarang Municipality)", in which leaflet medium is found to be effective in order to improve pregnant mothers' level of knowledge on delivery stages and pregnancy exercises[10].

The medium of leaflet gives much better impact to community in comparison to other media. This is because the content of leaflet is easily understandable by members of community. By using a simple language, the leaflet allows individuals to recall the learned informations easily, even by merely reading it [11].

The benefits of leaflet are its simplicity and inexpensiveness, people can adjust it for independent learning and users can read it in their leisure time. Leaflet can be used to give short informations, for example on pregnancy care. Other benefits of leaflet are it can be stored for a long time, the printed content can be supported by unique, attractive and colourful illustrations, and it can be used as a reference. Leaflet can also support other media, can be spread and read by wider audiences, has a broader target, can be reprinted and can be discussed[11,12].

CONCLUSIONS

The majority of respondents with 22 (55%) respondents have a low level of knowledge, while a high level of knowledge is held by 18 (45%) respondents. Most of respondents (24 of 40 respondents or 60%) are lacking exposure to informations on pregnancy care. An informational learning medium on pregnancy care has already developed.

RECOMMENDATION

Health professionals should continuously give informations on pregnancy care by using informational media. Informational learning media on pregnancy care for maternity classes should be developed in various forms of printed and non-printed media.

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P-01

ASTHMA EXERCISE AND THE IMPROVEMENT OF ASTHMA PATIENTS' QUALITY OF LIFE

Uun Nurulhuda[1], Ani Nuraeni[1], Elsa Roselina[2]

[1] Nursing Department, Politeknik Kesehatan Kemenkes Jakarta I, Indonesia
[2] Laboratory of Hospital Management Department, Vocational Program, UI, Indonesia
Correspondence address: Elsa Roselina, Program Studi Perumahsakitan Program Vokasi Universitas Indonesia Gd. A Lt.5, Kampus Baru UI Depok, 16424, Hp. 08211430158
Email: elsa@vokasi.ui.ac.id

ABSTRACT

Asthma is a chronic inflammatory respiratory disease that affects childrens as well as adults. Until today,asthma remains a serious public health problem in the world. Poorly managed asthma can causea number of effects, including lower quality of life, lower productivity, increased health care costs,risk of hospitalization and death. The purpose of this study was to learn the effect of asthma exercise on the quality of life of patients with asthma. This was across-sectional study with 65 peoples as sample. The research was conducted at asthma exercise club in RS Persahabatan, East Jakarta. Data were collected from September to October 2013. Chi-square analysis showed a significant association between asthma exercises with quality of life,with the p value of 0.000, in which a person with asthma who exercised regularly and continuously was .853 times more likely tohave good quality of life comparedo some one who exercised regularly but not continuously or exercised irregularly(OR 8.853). The results ofmultiple logistic regression analysisshowed that some one with asthma who exercised regularly and continuously was 7.757 times more likely to have good quality of life compared to some one with asthma who exercised regularly but not continuously or exercised irregularly,with inhaler use served as controlled variable (p-value 0.000; OR7.757).

Keywords: asthma, exercise, quality of life

INTRODUCTION

Asthma is a chronic in flammatory respiratory disease that affects childrens as well as adults. Until today,asthma remains aserious public health problem in the world. According to World Health Organization (WHO) record in 2006, there are 100 to 150 millions asthma patients in the world. This number keeps on increasing at 180,000 every year. According to the data of Ministry of Health in 2006, asthma is the seventh cause of death in Indonesia.[1] There is no exact figure for asthma prevalence in Indonesia, but it is estimated that 2-5% of Indonesian population suffer from asthma and the global burden for this disease continue to rise.[2]

If poorly managed, this inflammatory respiratory disease can hinder asthma patients' activities by up to 30%.[3] Poorly managed asthma might cause a number of effects, such as lower quality of life, reduced productivity, increased cost of health care, risk of hospitalization, and even death.[4] On the other hand, well managed asthma can bring less frequent attack, improve patients' quality of life, as well as less frequent hospitalization and emergency visit to the doctors.[5]

Monitoring the quality of life is significant because it reflect the patients' attention and understanding towards their illness as well as their obedience in following instruction for treatment. Assessing asthma patients' quality of life can provide a complete account

of the patients' health status. Improving patients' quality of life is possible through proper managements, some of them are to make the lungs function as close to normal as possible, prevent attacks or even death, educate the patients' and their family so that they can understand the characteristics of asthma that the patients' suffer, control their asthma periodically for evaluation, and improve fitness through exercises such as swimming, cycling, and asthma exercise. Asthma exercise is one of the appropriate workouts for asthma patients because it can improve physical fitness and improve breathing.[6] Previous studies showed that asthma exercise is related to the occurrence of asthma attack. The result of the research at asthma exercise club at RS Soetomo Surabaya indicated that regular asthma exercise for twice a week can lower the frequency of asthma attack.[7]

One of the forms of intervention on asthma patients' is by training respiratory muscles. RS Persahabatan is equipped with asthma exercise facility. Yet, many asthma patients' have not utilized the facility. Thus, it is necessary to study the effect of asthma exercise on patients' quality of life at asthma exercise club of RS Persahabatan in East Jakarta.

METHODS

This was a quantitative research with cross sectional design. Data were collected from September to October 2013 at asthma exercise club at RS Persahabatan Jakarta Timur.

The population in this research was adult patients who participated in asthma exercise. The sample was adult patients who participated in asthma exercise who did not suffer from other condition such as hypertension, heart problem, diabetes mellitus, and stroke and also who were not categorized as EIA (exercise-induced asthma) patients or patients who suffered asthma attack from exercising. There were 65 respondents in the sample who were selected through simple random sampling.

The data in this research were primary data with instruments in the form of questionnaires which listed respondents' characteristics, the quality of asthma exercise, as well as the quality of life. Standardized ACT (Asthma Control Test) and St George's Respiratory Questionnaire (SGRQ) questionnaires were used to assess quality of life. The data were then analyzed with chi square test and multiple logistic regression analysis.

RESULTS

According to demographic data, the majority (86.2%) of the respondents was female and 81.5% of them had family history of asthma. 41% were between the age of 45 until 59 and 43.1% held high school diploma. 55.4% exercised regularly and continuously and 58.5% had good quality of life. These data are available on table 1.

Chi square test showed significant relations between asthma exercise and quality of life, with the p value of 0.000, in which someone who regularly and continuously practiced asthma exercise had 8.853 times more chance to have good quality of life compared to those who practiced asthma exercise but not continuously or regularly, as noted in table 2.

Table 3 shows the result of candidate model testing with simple logistic regression testing, where all demographic data variables can be calculated through multiple logistic regression test to produce confounding variable.

The final model from the result of multiple logistic regression test showed that someone who regularly and continuously practiced asthma exercise had 7.757 times more chance to have good quality of life compared to those who practiced asthma exercise but not

continuously or regularly, once controlled by inhaler use variable, with the p value of 0.000 and OR 7.757. See table 4 for more details.

Table 1.
Respondents Distribution based on Demographic Data, Quality of Exercise, and Quality of Life at KlubSenam RS Persahabatan September to October 2012 (N=65)

No	Variables	Total	Percentage
1.	Age		
	30 - 44 years old	19	29.2
	45 - 59 years old	27	41.5
	> 60 years old	19	29.2
2.	Sex		
	Male	9	13.8
	Female	56	86.2
3.	Education		
	Elementary school	7	10.8
	Junior high school	10	15.4
	High school	28	43.1
	University	20	30.8
4.	Family history of asthma		
	Yes, there is	53	81.5
	No, there isn't	12	18.5
5.	Quality of exercise		
	Regular, continuous	36	55.4
	Regular, non-continuous	13	20.0
	Irregular	16	24.6
6.	Quality of life		
	Good (score ≥ 41)	38	58.5
	Poor (score< 41)	27	41.5

Table 2
Respondents Distribution based on the Quality of Exercise and Quality of Life at KlubSenam RS Persahabatan September to October 2012 (N=65)

Quality of Asthma Exercise	Quality of Life				Total		OR	P Value
	Good		Poor					
	n	%	n	%	N	%		
Regular, continuous	31	86.1	5	13.9	36	100.0	8.853	0.000
Regular, non-continuous	6	46.2	7	53.8	13	100.0		
Irregular	1	6.2	15	93.8	16	100.0		
Total	38	58.5	27	41.5	65	100.0		

Table 3
P Value from Simpe Logistic Regression Test for Candidate Model

Variables tested with simple logistic regression test	P Value
Age with quality of life	0.104*
Sex with quality of life	0.077*
Family history of asthma with quality of life	0.208*
The use of inhales with quality of life	0.000*

* variables calculated in multiple logistic regression analysis candidate model (p value < 0.25)

Table 4
Final Model of Multiple Logistic Regression

Model	B	P Wald	OR	OR Change	Information
1. Asthma exercise with quality of life, on:					
exercise	2.138	0.000	**8.482**		
sex	0.869	0.578	2.384		
age	-0.400	0.487	0.671		
family history of asthma	0.603	0.580	1.827		
the use of inhales	1.200	0.045	3.322		
constant	-7.925				
2. Asthma exercise with quality of life, on:					
exercise	2.162	0.000	**8.687**	0.205 = 2.42%	Family history is NOT confounding variable
sex	1.213	0.414	3.364		
age	-0.451	0.430	0.637		
the use of inhales	1.125	0.052	3.081		
constant	-7.308				
3. Asthma exercise with quality of life, on:					
exercise	2.142	0.000	**8.517**	0.170 = 1.96%	Age is NOT confounding variable
sex	1.552	0.284	4.772		
the use of inhales	1.065	0.058	2.900		
constant	-8.672				
4. Asthma exercise with quality of life, on:					
exercise	2.049	0.000	**7.757**	0.076 = 8.92%	Sex is NOT confounding variable
the use of inhaler	1.288	0.016	3.627		
constant	-5.960				
5. Asthma exercise with quality of life, on:					
exercise	2.181	0.000	**8.853**	1.096 = 14.13%	The use of inhaler is NOT confounding variable
constant	-4.061				

ANALYSIS

Asthma exercise is aimed at improving the quality of life, improving exercise maximum capacity, lessening symptoms during exercise, and maintaining muscle mass. Regular exercise will help to lower lactic acid build up in the blood as the effect of anaerobic metabolism and reduce ventilation need during exercise. Exercise can also reduce the symptoms of dyspnoea or fatigue during exercise.[8]

Asthma exercise can better stimulate brain center in vasomotor center in the brain stem that causes the increase in arterial pressure and lung ventilation. Body movement, arms and legs in particular, can increase lung ventilation by stimulating proprioception joints and muscles that in turn will spread excitation impulse to respiratory center. Hypoxia that happens in the muscles during exercise produces afferent nerve signals to the respiratory center to stimulate breathing. The muscles will work to form large amount of carbon dioxide and use oxygen so that PCO_2 and PO_2 change between inspiration and expiration cycle during respiration.[9]

Several studies showed that asthma exercise as well as other exercises affected respiratory muscles, improved patients' clinical condition, and reduced the use of medication. A study conducted by Sahat[10] as asthma exercise association at RSU Tangerang concluded that asthma exercise affected the strength of respiratory muscles and lung function, once controlled by age, height, weight, and sex variables. Another study conducted by Gosana included in Nani[11] stated that asthma patients who practiced asthma exercise twice a week would benefit from clinical improvement and lower medication use compared to patients who did not exercise. A study by Faridet al.[12] about the effect of aerobic exercise on lung function indicated that aerobic exercise could improve asthma patients' lung function.

CONCLUSION

The result of the research showed significant relations between asthma exercise and quality of life, with the p value of 0.000, in which someone who regularly and continuously practiced asthma exercise had 8.853 times more chance to have good quality of life compared to those who practiced asthma exercise irregularly or regularly but not continuously (OR 8.853). If patients practiced asthma exercise regularly and continuously, they had 7.757 times more chance to have good quality of life compared to those who practiced asthma exercise irregularly or regularly but not continuously, once controlled by inhaler use variable, with the p value of 0.000 and OR 7.757.

SUGGESTION

It is advisable for healthcare institutions, such as hospitals and puskesmas, to provide asthma exercise as part of asthma patients' rehabilitation program. Socialization for asthma exercise in the community is also necessary through cooperation from puskesmas and health cadres. The researchers also recommend further study with prospective cohort design to evaluate the effectiveness of asthma exercise in improving asthma patients' quality of life.

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P-02

DETERMINANTS OF LOW COMMUNITY PARTICIPATION IN TODDLER GROWTH MONITORING IN INTEGRATED SERVICE POST (POSYANDU)

Septiasih Windiasari Utami, Anita Rahmawati, Yuliasti Eka Purnamaningrum

Midwifery Department of Yogyakarta Health Polytechnic of Health Ministry, St. Mangkuyudan MJ III/304, Yogyakarta 5514.3 Indonesia. Telp./Fax. (0274) 374331.
Email : windia.sukses@gmail.com, nita@jogjakota.go.id, yuliasti.eka.purnamaningrum@gmail.com

ABSTRACT

The number of toddler in Indonesia is 9.54% of the entire population of Indonesia. The national target for toddlers' health care coverage in Indonesia in 2014 is 85%, while in 2013 it was 70.12%. This coverage is measured through the number of toddlers that weighed (D) divided by the total number of toddlers (S) or named D/S in terms of percent as an indicator of community participation in weighing in posyandu. In the Special Region of Yogyakarta, the lowest coverage was recorded in the city of Yogyakarta at 73.93%. Data from City Health Department in Yogyakarta in 2014 showed that the lowest coverage was recorded at Puskesmas Umbulharjo I at 59.1%. This research aimed to study the determinant of low community participation in monitoring toddlers' growth at posyandu. This was a descriptive research with cross-sectional design and univariate data analysis. The population of the research were 30 mothers with toddlers in Posyandu RW XVII Sorosutan. In this research, the majority of mothers with toddler were between20-35 yearsof age (53.3%), held academy/university diploma (76.7%), unemployed/housewives (43.3%), had good level of knowledge (60%), had positive attitude (56.7%), owned KMS (93.3%), and received family support (70%).

Keywords: toddler, growth monitoring, community participation (D/S), posyandu

INTRODUCTION

The number of Indonesian population recorded until 2014 was 248.422.956, 23.700.676 or 9.54% of them were toddlers [1]. Toddlers can be categorized as children between the ages of 12 up to 59 months. Growth is defined as the increase in size and the number of cells as well as intercellular network. Which translated into the increase in size and the number of cells as well as the structure of the body, partial or as a whole. So, it can be measured by length and weight [2]. Toddlers health services are services delivered by health workers, nutritionists, public health counselors, and officers in other sectors. It given to children between the ages of 12-59 months. In an effort to improve the quality of life of toddlers which include the monitoring of growth and development in children. Using Growth Early Detection Stimulation (SDIDTK) instruments in the integration of Integrated Service Post (Posyandu). It also can be served in the Early Childhood Education (ECD), family counseling during class mothers of toddlers in Bina Keluarga Balita (BKB) program. By utilizing Buku Kesehatan Ibu Anak (KIA), the care of toddlers by breastfeeding until 2 years of age, a balanced nutritional diet, and vitamin A intake [3]. The coverage for toddlers health care service in Indonesia in 2013 reached 70.12%, which was below the target of 83%. From the target of 23.701 million children under five, only 14.142 million received toddlers health care service regarding toddlers growth monitoring[3].

The rate of toddlers care service in the Special Region of Yogyakarta is higher than that of in the national level at 85.78%, with the City of Kulonprogo scores the highest at 95.52%. On the other hand, the rate in the City of Yogyakarta remains the lowest at 73.93% [4]. One of the health care provided for toddlers are growth monitoring at least eight times a year (weighing and height measuring at least 8 times a year) [5]. Toddlers growth monitoring is one method to assess the nutritional status of children under five. One of community-based activities which provides growth monitoring for toddler is Posyandu. Therefore, community participation (D/S) to weigh their toddlers at Posyandu contributes greatly to the achievement of this indicator [4].

Low D/S coverage indicated low growth monitoring as well. Low growth affects the prevalence of malnutrition in children under five [3]. Based on the data from the City Health Office of Yogyakarta 2014,the lowest D/Scoveragewas found in Puskesmas Umbulharjo I with only 59.1% or 1,526 from the total of 2,581 toddlers were being weighed. Since the total D/S coverage in the city of Yogyakarta was 74.17%, it is clear that community participation in Puskesmas Umbulharjo I was below average[6]. Based on the data from Puskesmas Umbulharjo I Yogyakarta, the lowest D/S coverage was found in Sorosutan Village, with RW XVII scored the lowest at 59.25% and RW VIII scored the highest at 81.48%.

PURPOSE

This research aimed to learn the determinant of low community participation in monitoring toddlers growth in Posyandu Sorosutan RW XVII, Umbulharjo, Yogyakarta.

METHOD

This was a descriptive research with cross sectional design and univariate data analysis. The population in this study was mothers of toddlers in Posyandu Sorosutan RW XVII with 30 toddlers in total. The research was conducted on April 12nd and May 17th - 30th 2015. The studied variables were mothers' characteristics (age, education background, occupation), mothers' knowledge, mothers' behavior, KMS ownership, and family support for mothers monitor their toddlers growth at posyandu. The instruments in this research were questionnaires with their validity and reliability tested on March 2015 at Posyandu Warungboto RW VIII Umbulharjo, Yogyakarta, with 30 respondents.

RESULTS AND DISSCUSION

Mother characteristics by Age, Education, and Employment

Most of the mothers were between 20-35 years of age, diploma/academy/university graduates, and housewives who did not work outside of the house.

Table 1.
Determinants of Low Public Participation in Monitoring Toddlers Growth Based on Mothers' Characteristics

Characteristics Mother	Frequency (f)	Percentage (%)
Age		
<20 years	0	0
20-35 years	16	53.3
> 35 years	14	46.7
Number	30	100
Level of Education		
Never attend school	0	0
Elementary school	0	0
Junior High School / equivalent	1	3.3
High school / equivalent	6	20
Diploma / Academy / University	23	76.7
Number	30	100
Occupation		
Civil servants	1	3.3
Private sector employees	3	10
Entrepreneurs	8	26.7
Labors	0	0
Does not work	13	43.3
Other	5	16.7
Number	30	100

Determinants of Low Public Participation in Toddlerss Growth Monitoring

Most mothers with toddlers in Sorosutan RW XVII had a good level of knowledge. Most mothers had a positive attitude towards Posyandu services in monitoring the growth of toddlers. Almost all mothers of toddler had KMS. Most of them also received family support to monitor their children growth at Posyandu.

Table 2.
Determinants of Low Public Participation in Toddlers Growth Monitoring

Determinant of Low Public Participation	Frequency (f)	Percentage (%)
Knowledge		
Good	18	60
Enough	11	36.7
Less	1	3.3
Number	30	100
Attitude		
Positive	17	56.7
Negative	13	43.3
Number	30	100
KMS Ownership		
Have	28	93.3
Do not have	2	6.7
Number	30	100
Family support		
Support	21	70
No support	9	30
Number	30	100

DISCUSSION

Mothers' Characteristics by Age, Education, and Employment

A person's age affects changes in physical and psychological aspects (mental)[7]. Previous research suggested that young and new mothers tend to give greater attention to the health of their children. As someone gets older, they have more children and activities which in turn will affect the motivation to provide good health care to their children [8].

From 30 respondents, most of the mothers were between 20-35 years of age, with the youngest and oldest mother being 25 and 41 respectively. From these data, it is clear that the age span of the respondents of 25-41 years old was also productive age [9]. This does not fit the expectation that mothers at productive age can give better attention to their children, especially in monitoring the growth of toddlers in posyandu. This research did not correspond to the results of research in Kabupaten Lima Puluh Kota which indicated that there was a significant correlation between the age of mothers and utilization of Posyandu by mothers, where more mothers under 30 (65.6%) utilized posyandu better than mothers above 30 (29.4%) [8]. This study argued that mothers under 20 usually showed greater concern regarding their children growth and had bigger curiosity due to their lack experience in child-rearing. On the other hand, mothers above 20 had the tendency to avoid going to posyandu since they were less worried because they felt more experienced.

Education is defined as guiding others related certain matters[10]. Education is also the process of changing the attitudes and code of conduct of a person or group of people, as well as to develop others through teaching and training efforts[11]. The data regarding the education background of the respondents showed that most mothers of children under five in Sorosutan RW XVII were highly educated, with most mother mothers held academy/ university diploma.

Results of previous studies stated that women who werehighly educated (high school or higher) had 1.55 times more chance to utilize Posyandu better compared to low-educated mothers (junior high school or lower), even though it was not statistically significant. This was possible because highly educated mothers had better knowledge regarding growth monitoring compared to mothers with low education background. Aside from that, people who were highly educated could accept or absorb information better[8]. On the other hand, the easier for mothers to absorb information, the easier they access information from media such as television, radio, newspaper as well as social media such as facebook, twitter, etc. Consequently, these mothers tend to monitor their children growth at home or at Dokter Praktik Mandiri (DPM) / Bidan Praktik Mandiri (BPM) instead of seeking consultation with posyandu cadres that they perceive as less knowledgeable.

Work environment can also affect someone's knowledge[7]. The results of a study conducted in the city of Sabang mentioned that housewives or mothers who did not work visited posyandu more regularly than working mothers[12]. Even though the research in Kabupaten Lima Puluh Kota stated that mothers' occupation influenced their child rearing time and attention for their children, which included they time the spared to take their children for regular weighing at posyandu, it is clear that this was not the case with this research because the high number of mothers that did not work supposedly would increase their visit to posyandu [8]. This study showed that mothers who did not regularly monitor their children growth at posyandu were predominantly housewives that did not work outside of the house. It is estimated that the low visit to posyadu was because housewives had more time to monitor their children growth at home and mothers with high education background preferred to go to the doctor instead

of posyandu. In addition to that, supporting data regarding themothers' needs and health insurance ownership indicated that most mothers could afford their daily needs and most of them were also covered by health insurance, either public or private. This allowed the mother to monitor their children growth at the doctors or midwives of their own choices.

Level of knowledge regarding toddlers growth and monitoring

Knowledge is the result of "know" which occurs after people sense a particular object. Sensing occurs through human senses, namely: the senses of sight, hearing, smell, taste, and touch. Knowledge is a very important domain to shape someone's action[7]. The research showed 60% (18 people) of mothers who did not monitor their children growth at posyandu had good level of knowledge while 36.7% (11 people) had fair knowledge and 3.3% (one person) had poor knowledge.

Previous research mentioned that the analysis indicated that mothers who are knowledgeable had 1.29 times chance to utilize Posyandu better compared to the mothers who were less knowledgeable. However, statistical analysis showed that there was no significant correlation between knowledge with the number of visits that a mother made to Posyandu [8]. This is possible because a knowledgeable mother might know how to monitor their children growth, the factors that affect growth, and how to deal with developmental problem. Thus, mothers can monitor their children growth independently and/or visit health facilities when necessary.

Mothers' attitude toward posyandu service regarding toddlers growth monitoring

Attitude is the readiness or willingness to act, and not the implementation of a specific motive. Attitude is not an action or activity, but an act of a behavioral predisposition. Attitude is still a closed reaction, not an open reaction or an open behavior[10]. The research showed that most mothers that did not monitor their children growth regularly at posyandu had positive attitude toward posyandu service so it was expected that their positive attitude could lead to higher participation. This did not match the result of previous study which indicated that mothers who showed positive attitude toward posyandu (46.6%) would utilize the service of posyandu more regularly compared to mothers who showed negative attitude toward posyandu (33.3%) [8].

It is necessary for mothers to realize the importance of posyandu in improving children's health, which over time can also improve mothers' attitude toward posyandu. Attitude doesn't always automatically manifest in an action or *overt behavior.* Transforming attitude into real actions requires supporting factor or favorable condition, among others are the facilities[10]. Positive attitude from mothers do not guarantee that mothers will eventually utilize posyandu because it will depend on if mothers think posyandu facilities and service are necessary or not.

Ownership KMS on mothers with toddlers

KMS for toddlers is a card that contains the child's normal growth curve based on weigh anthropometric index according to age. With KMS, developmental problem or risk of over nutrients can be detected in advance, so that preventive measures can be carried out more quickly and precisely before the problems become more severe [9]. KMS makes it easier to observe whether the child is growing properly according to age or not. KMS is given to parents during a visit to Posyandu. The visit to Posyandu is associated with D/S indicator [12].

This research showed that almost all mothers in Kelurahan Sorosutan RW XVII have KMS. Toddlers who do not have KMS are those older than 24 months. The research in Kabupaten Lima Puluh Kota mentioned that mothers who have good behavior regarding utilization of Posyandu were more likely to be in group of mothers who had KMS instead of group of mothers who did not have KMS. There was also a significant relation between KMS ownership and Posyandu utilization by mothers [8]. This did not fit the current research which indicated that educated mothers with KMS were more likely to follow instruction in the KMS which might resulted in less visit to posyandu because they could do monitoring at home. In case of developmental problems, such as being underweight or over nutrition, mothers could take remedial action, such as increasing food intake or taking the child to a health facility for treatment. Based on the supporting date, only 27% children were under the age of 24 months, while 73% of them were above 24 months. In which case, mothers were less likely to take their children posyandu because children at this age have received basic immunization.

Family support for mother to monitor their children growth

Mothers or caregivers will regularly go to posyandu with encouragement from their closest relatives. Family support is instrumental in preserving and maintaining toddlers nutritional status [8]. The research showed that most mothers who did not regularly go to posyandu to monitor their children growth received support from family and some of them even were reminded by neighbors or posyandu cadres to monitor their children growth at posyandu. Previous research stated that mothers who received support from the family had 1.32 times chance to utilize Posyandu compared to mothers who received no support from the family[8]. The result of this research did not match the previous where it was predicted that due to environmental factors in which mothers barely knew each others or mothers might not permanently reside in the area that they were rarely home during posyandu scheduled activities. Supporting data also indicated that the majority of the mothers opted not to bring their toddlers to posyandu to monitor growth. They preferred to do monitoring at home, Dokter Praktik Mandiri (DPM), or Bidan Praktik Mandiri (BPM).

CONCLUSION AND RECOMMNDATION

Conclusion

1. The majority of mothers with toddler were between 20-35 years of age (53.3%).
2. The majority of mothers with toddler held academy/university diploma (76.7%).
3. The majority of mothers with toddler unemployed/housewives (43.3%).
4. The majority of mothers with toddler had good level of knowledge (60%).
5. The majority of mothers with toddler had positive attitude (56.7%).
6. Almost all mothers with toddler owned KMS (93.3%).
7. The majority of mothers with toddler received family support (70%).

Recommendation

1. The result of this research is expected can serve as one of study materials regarding society participation to monitor toddlers' growth.
2. Mothers are expected can raise the awareness of other mothers and society on the importance of monitoring toddlers' growth at posyandu and also to increasing sense of ownership toward posyandu so that posyandu can perform its basic function to monitor children's growth and development.

3. Puskesmas are expected can improve the delivery of information about the importance of monitoring children's growth by asking their cadres or posyandu cadres to take more active initiatives to gather information from mothers regarding their children's growth. It is also necessary to widen data recording and reporting at puskesmas to include other health facilities such as Dokter Praktik Mandiri (DPM), Klinik Pratama, or Bidan Praktik Mandiri (BPM) in order to develop a more thorough, national-scale monitoring.

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P-03

THE USE OF POVIDONE IODINE AND BETEL LEAVES WATER AGAINTS WOUNDS POST ODONTEKTOMI

Siti Sulastri,, Endang Sudariyaningsih, Dwi Eni Purwati

Dental Nurse Departement of Health Polytechnic of Health Ministry Yogyakarta, Indonesia
Email : dwienipurwati@gmail.com., sitislstr7@gmail.com

ABSTRACT

Odontektomi is tooth extraction accompanied by surgery which is done when the extracted tooth is rather difficult to be seen in the mouth, the teeth located below the gums or buried and grow abnormally. Povidone Iodine and Betel Leaves Water can help the healing process post odontektomi. This study aims to determine the difference Use of Povidone Iodine and Betel Leaves Water To Heal Wounds Old Post Odontektomi. This study using true experimental design Experimental treatment opponent other treatment. The population in this study were patients post odontektomi. Sampling technique used random sampling, the choice of the group with randomized controlled trial (RCT) with a sample of 20 respondents were divided into 2 groups: with Povidone Iodine gargling and rinsing with Betel Leaves Water. Data obtained from the evaluation of patients post odontektomi. The data is processed and analyzed using Independent Samples test. Statistical test results Independent Samples Test showed that there was no difference in recovery time Post Odontektomi after using Povidone Iodine and Betel Leaves Water Sig (2-tailed) (0,833) > α (0.05) that means Ho received no different from of Povidone Iodine and Betel Leaves Water. Respondents experienced faster healing after using Povidone Iodine or Betel Leaves Water with fast criteria. There is no difference in recovery time post odontektomi are using Povidone Iodine or Betel Leaves Water.

Keywords:Povidone Iodine, Betel Leaves Water, Odontektomi, Wound Healing.

INTRODUCTION

Impacted tooth is teeth eruption path normally blocked or blocked by nearby teeth or pathological tissue. While the pent tooth is a tooth that does not have the power to erupt or gear located under the mucosa. Tooth impaction or eruption is technically not yet buried, but the term is also often used to mesiodens, supernumerary teeth, and the teeth associated with pathological conditions eg kista[1]. Impaction is a condition in which the teeth have difficulty or failure in eruption. Teeth that appeared only partially at the surface of the gum to the position which was blocked by another tooth, bone or soft tissue.

Tooth impaction may not cause symptoms or problems but there are also some cases develop into a cyst that can damage adjacent teeth and destroys bone tissue. There are some cases it can lead to tooth composite (crowded) because wisdom teeth are still forced to grow but the room was not enough to push her front teeth, causing irregular teeth. To determine the existence of impacted teeth using x-ray photos or see the following symptoms: (1) swelling of gum in the far back of the mouth; (2) difficult to open the mouth sometimes followed by pain when opening the mouth (trismus); (3) bad breath; (4) pain when biting or chewing. The pain caused due to impacted teeth usually disappear a few days and will come back.

Odontektomi is tooth extraction surgery done if the tooth extraction can not be done using pliers, carried on an impacted tooth or teeth embedded in the bone or mucosa. Good for tooth extraction eruption that caused problems or impacted teeth, Revocation tiga.1 molar

teeth surgery is done when accompanied by an extracted tooth is rather difficult to be seen in the mouth, the teeth located below the gums or latent and growing not normal.3

Impacted tooth extraction is completed or successful, depending on the healing process of the patient. 1 The condition is common is pain or discomfort peaked at the time of the return of sensation, mild bleeding is common in the first 24 hours, and swelling peaked about 24 hours after surgery. In general, bleeding and swelling will disappear within 1 to 2 days. Overall healing commonly about 1 week to 2 weeks.[3]

Patients should be instructed to not rinse the mouth is too strong, heavy exercise, provide stimulation, eating and drinking hot to avoid bleeding. Scraped wound should be cleaned with warm saline rinse before bedtime on the day of the revocation. Gargle-gargle done quite often, especially in the areas of revocation, the liquid was detained as long as possible in the mouth. Done after meals and at bedtime. Use the medication as directed in the recipe, place the gauze over a region of revocation is not in the socket, do an ice compress on the face and sleep with the head slightly elevated to reduce swelling, eating soft foods, brush your teeth and use mouthwash break. [3]

Antiseptics is desinfektansia where used to living tissue, this substance is used in dermatology for the disinfection of skin and mucous membranes. One of the antiseptic used was povidone iodine. Elements Iodine is one of the strongest bakteriosid substances (already effective at levels of 2-4 mcg / ml water = 2-4 ppm) to work quickly. Nearly all pathogenic bacteria, fungi and viruses including the disabled. Spores takes longer that a 2% solution requires 2-3 hours. [4]

Povidone Iodine is used as a remedy after a tooth extraction or oral surgery, oral mucosa to treat minor infections and pharyngitis. Povidone-Iodine is also used mainly for disinfecting the skin, mouth and throat gargle, the first treatment and prevent new infections in wounds. Cleaning wounds and infections at mucosal skin infections are the mouth, throat and ears. Povidone-Iodine as a patent or a mouthwash made from chemicals are also made from natural ingredients one betel leaves.

Betel leaves are one type of vines including Piperaceae family. The origin of this plant is not known with certainty. Betel plant thrives throughout tropical Asia to East Afika. Betel leaf as an ingredient for treating the disease. Betel leaves are used to cure pink eye or irritation and swelling. Besides, people with nosebleeds or nasal bleed to suck fluid betel leaf that stops bleeding. Moreover, it can treat vaginal discharge, coughing, hoarseness, and skin wounds. Extra use of betel leaves to rinse the mouth if experiencing swelling, cleaning the bad breath due to tooth decay and to stop the bleeding and clean the wound when the tooth pulled. This study was aimed to know the difference Use of Povidone Iodine and Betel Leaves Water Against Older Post Odontektomi Patients Heal Wounds Teeth Poli Regional General Hospital Panembahan Senopati Bantul. This study is expected to be useful to enhance the efforts of patient care post odontektomi in hospitals Panembahan Senopati Bantul, for Science in Nursing Dental Health Kemenkes Yogyakarta, the results of this study can add insight Science dental health, especially in the field of patient care post odontektomi, and for researchers in application and development of research methodology entitled “The Use of Povidone Iodine And Betel Leaves Water Against WoundPost Odontektomi”.

METHODS

This type of research is true experimental research (real experiment) with the design of the experimental treatment studies opposed to other treatments, namely research by

conducting experiments to determine the effect that arises as a result of treatment by comparing. This study design is the design of clinical trials (randomized controlled trial) that the experimental treatment opponent other treatment. The study population was patients post odontektomi in the General Hospital of Panembahan Senopati Bantul. The following criteria: a. Age 20-50 years b. Gender male or female, c. Elements that do odontektomi third molars is done odontektomi both the upper and lower jaw, the right side or the left. d. Odontektomi with difficulty moderate action. e. Total population there are 40 people who used random sampling technique sampling is the selection of the group with RCT (randomized controlled trial) that the population divided into 2 groups: group 1 was given Povidone Iodine with an odd number of visits, group 2 was given water betel leaves with an even number of visits. The research sample of patients post odontektomi number of 20 patients, at the General Hospital of Panembahan Senopati Bantul.Variabel this study include: (1) the variables that influence water green betel leaf and Povidone Iodine; (2) Variable affected which patients post odontektomi.

RESULTS AND DISCUSSION

Based on the study of 20 patients post odontektomi Panembahan Senopati Bantul Hospital treated Povidone Iodine gargle with as many as 10 respondents and 10 respondents are given a betel leaves water, then showed the following results:

Table 1.
Characteristics of Respondents by Gender Patients Post Odontektomi

Gender	Total (person)	Prosentase (%)
Female	16	80
Male	4	20
Total	20	100

Table 1 shows that the characteristics of the respondents amounted to 20 respondents (100%). Of the 20 respondents of the female as much as 16 respondents (80%)

Table 2
Characteristics of Respondents by Age Group Patients Post Odontektomi

Age Group (age)	Total (person)	Prosentase (%)
20-30	10	50
31-40	6	30
41-50	4	20
Total	20	100

Table 2. can be seen the respondents in the age group most at the age of 20-30 years amounted to 10 (50%).

Table 3.
Heal Old Wounds Post Odontektomi After Use of Povidone Iodine

Long Recovery (Povidon Iodine)	Total (person)	Prosentase(%)
Fast (≤ 5 Days)	6	30
Enough(6 – 10 Days)	4	20
Slow (≥ 11 Days)	0	0
Total	10	50

Table 4. shows that the old wounds heal post odontektomi use betel leaves water 6 respondents (30%) with fast criteria.

Table 5.
Average or Mean Old Wounds Heal Post Odontektomi After Use of Povidone Iodine and Betel Leaves Water

Mouthwash	N	*Mean*	*Standar Deviatian*
Povidon Iodine	10	5.8	1.135
Betel Leaces Water	10	5.7	0.948

Table 5 can be a mean value of 5.8 Povidone Iodine.

Table 6.
Test Results Independent Samples Test Use of Povidone Iodine and Betel Leaves Water To Heal Wounds Old Post Odontektomi

Sig (2-tailed)	α
0.833	0,05

DISCUSSION

Based on this research and the use of Povidone Iodine And Betel Leaves WaterAgaints Post Odontektomi Wound Poly Dental Patient General Hospital (RSUD) Panembahan Senopati Bantul totaling 20 respondents can be described as follows:

1. Provided that respondents are using Povidone Iodine and betel leaves water in patients post odontektomi many as 12 respondents (60%), ie 6 respondents (30%) using Povidone Iodine and 6 respondents (30%) use betel leaf water are included in the category of a speedy recovery ,
2. 8 respondents (40%) ie 4 respondents (20%) using Povidone Iodine and 4 respondents (20%) use betel leaves water are included in the category enough.

Based on these results, Povidone Iodine and betel leaves water helps wound healing post odontektomi many as 12 respondents (60%) experienced a rapid recovery that respondents on day 5 with an average length of recovery post odontektomi which use povidone iodine (5.8) day and the use of water betel leaf (5.7) days. 8 respondents (40%) in the category enough that respondents on day 6 to 8 do not feel pain, gum is not red and swollen. Toothache will be lost, if you brew betel leaves with hot water. This ingredient water used for rinsing. Besides brewing betel leaves you can chew betel leaf directly. This will make you feel bitter on the tongue and mouth. Nevertheless the benefits you receive are very effective because it has a 100% extra betel leaves to react immediately in the mouth anda.[10,11] Statistical test results Independent Samples test, the use of Povidone Iodine and Betel Leaves Water Againts Older Post Odontektomi Patients Heal Wounds Teeth Poli General Hospital (Hospital) Panembahan Senopati Bantul found that there was no difference in recovery time post odontektomi after using Povidone Iodine and water betel leaves Sig (2-tailed) (0833)> α (0.05) means that Ho accepted meaning no different from the use Povidone Iodine and water betel leaves. There were revealed that betel leaf decoction can inhibit plaque formation in mulut.12 red betel leaf extract (pipercrocatum) has the ability to inhibit S. mutans and betel leaf extract with a concentration of 100% have the same effectiveness with chorhxidine 0.2% as positive control , as well as the minimal concentration of red betel leaf extract in inhibiting

S. mutans present in concentrations of 1% .[13] Differences in contact time and concentration of betel leaves steeping water affects antibacterial effect against Streptococcus mutans.[14]

Results of other studies say that Povidone Iodine is used as a remedy after a tooth extraction or oral surgery, oral mucosa to treat minor infections and pharyngitis. Povidone-Iodine is also used mainly for skin disinfectant, to kill germs preoperative skin prior to injection, mouthwash mouth and throat, the first treatment and prevent new infections in wounds, cleaning wounds and infections at mucosal skin infections are the mouth, throat and ears. On the skin infection is useful to supplement systemic drugs that are often difficult to traverse layers of horns to reach the center of the surface infection. [6]

Results of other studies, that Povidone Iodine-containing complexes of iodine with polyvinyl-polyvinyl were not stimulating and in aqueous solution gradually liberate iodine. Especially when used repeatedly, these substances berkumulasi in the skin and cause lasting antiseptic effect. Is stable because it does not evaporate and work longer. Element iodine is one of the strongest bakteriosid substance (sdh effective at levels of 2-4 mcg / ml water = 2-4 ppm) with quick work. Nearly all pathogenic bacteria, fungi and viruses including the disabled. Iodine is a very effective antiseptitikum on intact skin, so as tincture of iodine widely used prior to injection or surgery for disinfecting the skin, as well as to treat fungal infections (Dermatomycosis). [5]

Another study, which says there is a difference long heal gingivitis using a solution of water betel leaves to the use ortodontie fixed8 and that leaves Betel properties styptic (resist bleeding), vulnerary (heal the wounds of the skin), stomachic (drug gastrointestinal tract), strengthens teeth, and clearing the throat. [7] Betel leaves in addition to having the ability antiseptic, have the power as an antioxidant and a fungicide. Astiri oil and ekstranyapun able to fight several gram-positive and gram-negative bacteria. Kavikol which gives a distinctive odor betel leaves and has a killer bacteria five times that of ordinary phenol, improve blood circulation, and can help to overcome or control bleeding. Results of other studies on betel leaves (piper beetle Linn) can be chosen as an alternative material irrigation canals.[15]

The use of extra betel leaves to rinse the mouth if experiencing swelling, cleaning the bad breath due to tooth decay and to stop the bleeding and clean the wound when the tooth pulled. Patients nosebleed or nose bleeds to suck fluid betel leaves in order to stop the bleeding. Moreover, it can treat vaginal discharge, coughing, hoarseness, wound dam dikulit.[8] The results that wound healing post odontektomi overall typically occurs after 1 to 2 weeks. Being the results of this study showed that using mouthwash in patent (Povidone-Iodine) or mouthwash natural (water betel leaves) helps wound healing post odontektomi after 5 days to 8 days. [3]

CONCLUSIONS AND SUGGESTIONS

Based on the research that has been conducted on the use of Povidone Iodine and Betel Leaves Water Againts Older Post Odontektomi Patients Heal Wounds Teeth Poly General Hospital (RSUD) Panembahan Senopati Bantul against 20 respondents, the writer can draw conclusions:

1. Old wounds heal post odontektomi after using mouthwash patent (Povidone-Iodine) or mouthwash natural (betel leaves water) in the category and category heal quickly enough.
2. There is no difference in recovery time post odontektomi are using Povidone Iodine betel leaves and water, but with the use of mouthwash respondents experienced faster recovery.

3. The results of statistical tests Independent Samples with values Sig test (two-tailed) (0833)> α (0.05) means that Ho is accepted which means no difference Povidone Iodine and water use betel leaves.

The conclusion of the study authors to advise:

1. For dental health personnel are advised to give mouthwash either patent or natural after tooth extraction or odontektomi because it will help the healing of wounds post odontektomi.
2. For patients always take medication regularly are on prescribed and using mouthwash regularly, patients must also follow the instruction post odontektomi because healing is influenced by many factors.
3. For subsequent research can do research that is equal to multiplying the sample so that the results can be more perfect. In addition, researchers can further goes on to examine the factors that contribute to healing post odontektomi.

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P-04

DIFFERENCES KNOWLEDGE AND ATTITUDES STUDENTS ABOUT ILLNESS THYPOID WITH SNOWBALL METHOD AND TALKATIVE ON ELEMENTARY STUDENTS IN DISTRICT NOGOSARI BOYOLALI

Aliman, Heru Subaris Kasjono, Farid Setyo Nugroho

Public Health Department.Health Science Faculty. UMS, Indonesia
Jl. A. Yani, Tromol Pos I, Pabelan, Surakarta, Indonesia
Email : faridsetyo25@gmail.com

ABSTRACT

Thypoid fever is caused by sallmonella typhosa, which transmits its infection through water contaminated by feces and urine of thypoid patients. Nogosari Sub-districtis endemic in thypoid so the disease reappears at any time. Early prevention is necessary through elementary school students by improving their knowledge and attitudes. This study aims to determine the impact of health education about thypoid fever preventiontowards levels of knowledge and attitudes of students at Public ElementaryChool III Nogosari and Public ElementaryChooll Keyongan Nogosari Boyolali using snowball and lecturing methods. Researchers use Quasi-Experimental method with Non-Equivalent Control Group Design. The subjects of this study are elementary students from fourth to fifth grade from two elementary schools that are divided into two groups. The two groups, Snowball group from Public Elementary Chool III Nogosari and Lecturing group from Public Elementary Chooll Keyongan, have 80 samples in total. Statistical test with the significance level(α=0,05) uses paired sample t-test, showing that there are differences in the average value of knowledge (p-value=0,000) and attitudes (p-value=0,000) in lecturing group. Statistical result of the independent t-test shows that there are differences in snowball and lecturing methods about thypoid fever preventiontowards knowledge (p-value=0,011) and attitudes (p-value=0,000). Officers of the school'smedical room need to attempt the improvement in thypoid fever prevention counseling in public elementary schools in Nogosari.

Keywords: Snowball method, Lecturing, knowledge, and attitudes.

BACKGROUND

Thypoid fever is a disease that is on the small intestine and can cause symptoms continuously, caused by Salmonella thyposa. In the year 2008 an estimated 216000-600000 thypoid fever death. These deaths, mostly in developing countries and 80% of deaths occur in Asia. Hospital mortality ranged from 0 to 13.9%. The prevalence in children mortality ranged from 0 to 14.8%[1].

Based on the Indonesia Health Profile thypoid still a health problem in the community. Known from 10 kinds of diseases in a hospital bed in 2006 thypoid was ranked third after diarrheal disease, the number of patients72 804 people (3.20%),. Indonesia is a country of endemic fever thypoid estimated that there are 800 people per 100,000 population each year[(2)].

Data Reports Health Research Central Java Province Year 2007, shows the prevalence in Central Java at 1.61% spread in the District Municipality 0.2 to 3.5%. At the age of 4-15 years of 2.4% / 100,000 population per year. Data on theSurvailens Boyolali based integrated health center in 2013, shows that there are as many as 828 cases of fever thypoid cases/ year. These data indicate the age of 5-14 years found as many as 218 cases/year, of some pukesmas in Boyolali District.

Based on data from the distribution of new cases of thypoid Nogosari UPT health center, that are known cases of fever thypoid Most are in sub Nogosari amounting to 293 cases / year, which is obtained from the health center working area in Boyolali. The highest age affected fever cases thypoid located in Nogosari subdistrict, thypoid highest incidence of fever at the age of the children at the age of 5-14 years as many as 54 cases / year.

There are still many cases of thypoid fever that occurred in Indonesia, especially in the age of the children, all the limitations of the information obtained. One thypoid fever prevention efforts by providing health education to elementary school children. This shows one method of health education with the education and cermah snowball method. One of the efforts in disease prevention thypoid give a fairly good knowledge about the disease thypoid on elementary school children, to improve their knowledge by providing health education in primary school children. Health education can be implemented by many methods such as discussions, lectures, and comics.

Snowball method (*Snowball Throwing*) is one of the active learning model (*activelearning*) which in practice involves many students, the learning environment becomes fun because students like to play, in stages snowball that is by throwing a paper containing questions made by the students and then thrown to the his own to answer. This learning model to train students to be more responsive to receive messages from other students in the form of a snowball made of paper, convey the message to his friends in one group, and students actively involved in learning[3].

The use of the lecture method is often used in the delivery of health education materials. Lecture to be well received even though the number of audience of children quite a lot. While the snow ball method is able to provide a clear picture of what materials are being described to the audience with a model of a small group to a large group of models playing with the sound of music so that children do not get bored in the implementation.

This is also supported from a preliminary survey conducted by researchers at Nogosari III Elementary School and Elementary School I Keyongan Boyolali district stating that there are often held health education in general every six months using the lecture method. Special thypoid disease already a few years has not held health education in primary schools.

Based on these descriptions, the researchers wanted to know about “Differences Knowledge and Attitudes Students About Disease Prevention Methods Thypoid with Snowball and Lectures on Students in District Nogosari Boyolali[(4)]. Her efforts for prevention is to provide health education related thypoid disease.

RESEARCH PURPOSES

1. General purpose
   To determine differences instudents’ knowledge and attitudes about disease prevention thypoid with the snowball method and lectureto students Nogosari District of Boyolali district.
2. Specific objectives
   a. To know the differences in knowledge and attitudes of elementary school students about the disease thypoid before and after health education with the snowball method.
   b. To know the differences in knowledge and attitudes of elementary school students about the disease thypoid before and after health education with the lecture method.

c. To know the differences in knowledge and attitudes of elementary school students about the disease thypoid before and after health education with the snowball method and lectures.

RESEARCH METHODS

This research uses a Quasi Experiment. The study design used Pre-test and post-test design, this study used two methods of treatment, the snowball method, and use the lecture method.

Population and Sample Research

Population in this study all students of class IV and V in Nogosari III Elementary School and Elementary School I Keyongan Nogosari District of Boyolali, the number 115 of the population each snowball method and lectures.

The study sample as many as 32 samples, researchers here want to take 40 samples by considering the minimal 10% drop out. Because using two methods, the minimum sample size is 80 samples all together. Consists of 40 students Elementary School 3 Nogosari, 40 students Elementary School I Keyongan Nogosari.

Sampling Method

This research conducted sampling using the Proportionate Stratified Random Sampling samples drawn by separating elements in the population who are not overlapping groups called strata, and then selecting a random sample nadjir (2013) withthe following criteria:

1) Currently studying Education in Elementary School Nogosari Boyolali.
2) IV and V grade students.
3) respondents health education evidenced by a letter of approval respondents after being given an explanation.

Data were collected for later analysis using the software on a computer that includes Univariate analysis, to describe any results of the research, the independent variable (independent) and the dependent variable (dependent) which resulted in the distribution and percentage of each variable. Bivariate analysis to determined the difference in the two methods in pairs. Before the bivariate analysis of data must be tested normality using the Kolmogorov-Smirnov then analyzes the data to compare the pre-test and post-test knowledge and attitude on the snowball method and lectures using the paired t test while to compare the results of the snowball method and lectures, analyzes used Independent-test.

RESULTS AND DISCUSSION

Result

Characteristics of Respondents

Tabel 1
Characteristics of Respondents

characteristics respondents	N	Min	Max	Mean	SD
snow balls	40	3	6	3,72	0,679
Lectures	40	2	5	3,50	0,716

characteristics respondents	snow balls		lecture	
	(n)	(%)	(n)	(%)
class:				
class 4	19	47,5	19	47,5
class 5	21	52,5	21	52,5
Total	**40**	**100%**	**40**	**100%**
Gender:				
Man	18	45,0	18	45,0
Women	22	55,0	22	55,0
Total	**40**	**100%**	**40**	**100%**

The characteristics ofthe respondents, the average age ofthesnowball method, 3,720.679. While respondents in a lectureroom, another 0.7163.501 student (2.5%) andat the age of 9 years there. Age distribution for the lecture method most at the ageof 11 years, including 19(47.5%), while the lowest respondents to a lecture12 years that two students (5.0%), andthe age of13yearsdo notexist.

Class characteristics of respondents to the snowball method, the number of respondents were taken from class 4 as many as 19 students (47.5%), while from grade 5 as many as 21 students (52.5%). Snowball method the number of respondents from class 4 and class 5 together with the lecture method.

Distribution on the snowball method based on gender for more female respondents, ie 22 (55.0%), compared to respondents in men, as many as 18 people (45%), for the lecture method of distribution of respondents by sex male and women in equal numbers.

Univariate analysis

Knowledge

Table 2
Frequency Distribution of Respondents Knowledge

Result	Methods Snowballs			
	Pre-test%		*Post-test*	%
Good	16	40%	37	92,5%
Not good	24	60%	3	7,5%
minimum	5		6	
maximum	10		10	
SD	1,511		1,023	
Average	7,15		8,92	

That the level of knowledge about the prevention of thypoid disease in pre-test to the snowball method most of the knowledge of good, which is about 16 respondents (40%). For respondents who are less good knowledge of 24 respondents (60%). Results of the post-test the level of knowledge about disease prevention thypoid the snowball method most respondents knowledgeable both 37 respondents (92.5%) of respondents unfavorable decreased to 3 respondents (7.5%) then for good knowledge has increased a result of post-test be 37 respondents (92.5%). There seems to be an increase in the average score of knowledge on the snowball method of 7.15 1.511, 1.023 becomes 8.92.

Table 3
Frequency Distribution of Respondents Knowledge

Result	Methods Snowballs			
	Pre-test%		*Post-test*	%
Good	21	52,5%	28	70%
Not good	19	47,5%	12	30%
Minimum	5		6	
Maximum	10		10	
SD	1,488		1,344	
Average	7,30		8,30	

Lectures, to the level of knowledge at the time of the pre-test (before being given treatment education) mostly good knowledge of as many as 21 respondents (52.5%).While knowledge is not good as much as 19 respondents (47.5%). For the results of the post-test knowledge in a lecture obtained by pegetahuan well as 28 respondents (70%) while the less good knowledge of as many as 12 respondents (30%) These results showed no change in a lecture before and after treatment. Visible increase in the average score of knowledge on the lecture method of 7,30 1,488, became 8.30 1,344

Attitude

Table 4
Frequency Distribution Attitudes of Respondents

Result	Methods Snowballs			
	Pre-test%		*Post-test*	%
Good	15	37,5%	35	87%
Not good	25	62%	5	30%
Minimum	26		29	
Maximum	37		40	
SD	3,021		2,713	
Average	31,55		36,85	

The results of the pre-test to respondents the snowball method mostly good knowledge as much as 15 respondents (37.5%) whereas a lack of good 25 respondents (62%). For the post-test attitude snowballs at respondents who have a good knowledge attitude increased during the post-test to 35 respondents (87%) while the post-test attitudes on the snowball method is less good attitude 5 respondents (30%). It can be concluded there is a decrease

in the respondent's attitude is not good. There seems to be an increase in the average score of attitude on the snowball method of 31.55 3.021, 36.85 2.713 become.

Table 5
Frequency Distribution attitudes of Respondents

Result	Methods Snowballs			
	Pre-test%		*Post-test*	%
Good	16	40%	31	77.5%
Not good	24	60%	9	22.5%
minimum	26		29	
maximum	39		39	
SD	3,186		2,486	
Average	32,05		35,15	

The results of pre-test attitude unfavorable attitude lecture 24 respondents (60%) while fewer good attitude that is 16 respondents (40%). While the post-test on the lecture method is less good 9 respondents (22.5%) for good posture increases as the post-test increased by 31 respondents (77.5%). Post-test lecture method a good attitude to 31 respondents (77.5%), while unfavorable attitude occurred peneurunan to 9 respondents (22.5%). There seems to be an increase in the average score of attitude on the snowball method of 32.05 3.186, 35.15 2.486 become.

Bivariat Analysis
Paired sample t-test Level of Knowledge

Table 6
Results of Paired sample t-test Knowledge Snow Ball Method

Result	***Pre-test***	***Post-test***	ρ-***value***	conclusion
Average	7,15	8,93	0,000	significant
Minimum	5	6		
Maximum	10	10		
SD	1,511	1.023		

Based on the test results Paired Sample t-test, the knowledge on the snowball method is obtained. There is an average increase in the snowball method of pre-test (7.15) into the post-test (8.93), so the snowball method can increase students' knowledge Elementary School III Nogosari an increase in the average knowledge score after treatment using snowball method of becoming 8.93 1,511 7.15 1,023, was obtained p-value (0.000) taken the decision rejecting Ho accept Ha so it can be concluded there is an average difference thypoid prevention knowledge on the snowball method.

Based on the item about using 10 questions test knowledge on pre-test is a matter of no three on fly control we will be spared from fever thypoid, who answered one of 19 respondents. Problem no go on the water to be cooked does not need to be sealed so that no bacteria that is the wrong answer 19 respondents, question number two one of 18 respondents, about the WC which is enclosed to prevent fever thypoid, question No. 8 relating to drinking water

should be kept away from the toilet pit one of 14 of the 40 respondents, No. 10 on snacks semabrangan can cause fever thypoid 11 respondents who answered incorrectly, for the rest received values to 2, 3 and 4.

Table 7
Results of Paired Sample T-test Knowledge Lecture Method

result	Pre-test	Post-test	ρ-*value*	conclusion
Average	7,30	8,30	0,000	Significant
Minimum	5	6		
Maximum	10	10		
SD	1,488	1,344		

The result of paired t-test on the lecture method to increase the average value of knowledge after treatment by health education pre-test (7:30) increased post-test (8:30), an increase in average score of knowledge after being given treatment lecture method of 7, 30 8.30 1,344 1,488 be obtained p-value knowledge on the lecture method of (0000), the Ha Ho accepted and rejected. Thus concluded that there is an average difference of knowledge in a lecture before and after treatment there.

Based on the item about using 10 questions of knowledge pre-test in question number three on the control of flies we will be spared the fever thypoid who answered one of 20 respondents, question no two associated with WC closed to prevent fever thypoid who answered one of 16 respondents, and about no five on the source of water contaminated with bacteria does not cause penyakid thypoid 15 respondents who answered incorrectly, for the rest scored 2,3 and 4 in the delivery point on the matter.

Paired sample t-test attitude

Table 8
Results of Paired Sample T-test Attitude Snow Balls Method

result	***Pre-test***	***Post-test***	ρ-*value*	conclusion
Average	31,55	36.85	0,000	Significant
Minimum	26	29		
Maximum	37	40		
SD	3,021	2,713		

Test results Paired sample t-test attitudes on the snowball method is no increase in the average attitude of the Pre-test (31.55) into Post-test (36.85). Showed an increase in the average score of attitude after being given treatment snowball method of becoming 36.85 31.55 3.021 2.713 (0.000 <0.05), so Ho rejected. It can be concluded no difference in average values of significant gesture on the snowball method.

Based on the item by using 10 questions about attitudes on the snowball method for pre-test students strongly disagree with the answer that is given a point value or one (1). It is known that about No. 4 is about the best that getting answers strongly disagree, 11 of 40 respondents, question No. 5 is second with answers strongly disagree 4 of 40 respondents, therefore it can be seen that problems with order No. 4, and 5 , getting low grades in the

works about the pre-test using 10 questions about attitudes, for the rest scored 2,3 and 4 in the delivery point on the matter.

Tabel 9
Results of *Paired Sampel T-test* Attitude in Talkative Method

result	***Pre-test***	***Post-test***	ρ-***value***	***conclusion***
Average	32,05	35.15	0,000	Signifikan
Minimum	26	29		
Maximum	39	39		
SD	3,186	35,00		

Results Paired sample t-test attitudes on the lecture method, there is an average increase attitude after being given health education from pre-test into Post-test 32.05 (35.15). There is an increase in the average score of attitude on the lecture method after treatment from becoming 35.15 35.00 32.05 3.186 (0.000 <0.05), so Ho rejected. It can be concluded there are differences in the average value of a significant gesture on the lecture method.

The results of pre-test the statement that has been done by the lecture method scored an average of> 2, but still no one answered strongly disagree, that of drinking water should be kept away from the toilet pit the low answer 7 (17.5%) respondent. Then relates the water source contaminated with bacteria does not cause fever thypoid 6 (15%) of respondents.

Independent t-tests test the level of knowledge and Lecture Methods Snowballs

Table 10
Results of Independent T-test the Level of Knowledge

result	***Average***		ρ-***value***	***conclusion***
	Snowball	*lecture*		
difference	1,78	1,00	0,011	***significant***

Independent test results of t-test there was an increase in the value of knowledge of good students who use the snowball method and lectures, with the average at 1.78 snowball higher than 1.00 lecture method. The level of knowledge obtained p-value post-test (0.011), it was concluded there are differences in the level of knowledge among the snowball method and lectures on disease prevention thypoid to knowledge Elementary School III Nogosari Dan Elementary School I Keyongan.

Independent t-test Test Methods attitude Snowballs and Lectures

Table 11
Results of Independent T-test Level Attitude

result	***Average***		ρ-***value***	***conclusion***
	Snowball	*lecture*		
difference	3,10	1,78	0,004	Signifikan

Independent test results of t-test there was an increase in the value of students' attitudes either using the snowball method and lectures, with the average at 3.10 snowball higher than 1.78 lecture method. Obtained the level of knowledge obtained p-value (0.004), it was concluded there are different attitudes snowball method and lectures on disease prevention thypoid the attitudes of respondents Nogosari III Elementary School and Elementary School I Keyongan.

Discussion

Differences snow balls Method And Talks On The Level of Knowledge

Based on the test results using a paired sample t-test, showed that the p-value (0.000) then there is a significant difference. That of the average value increased after being given health education, ie pre-test (7.15) increased to (8.93) when the post-test. Difference snowball method as many (11.2%), it was concluded there were differences in the average value of knowledge in the snowball method before and after treatment. The snowball method can improve the knowledge of the respondents so that the snowball method can be used in health education efforts on disease prevention thypoid Elementary School.

This research is in line with research Authority (2007), that there is a difference in the effectiveness of group demonstration video playback on combating dengue fever to increase the knowledge and attitudes of primary school children Wedarijaksa District of Pati Regency. Which concluded there were changes in knowledge and attitudes of primary school children after being given health education, the knowledge students to denonstrasi group average of 14.30% to 22.73% and 13.37% to 17.33 attitude%. In the group of students' knowledge Video 14.47% to 17.97%, while the average sebelunya attitude of 13.87% to 16.60%. This shows that the education given kesehtan really influence the knowledge and attitudes of students treated.

Health education is part of the whole effort toward health, which focuses healthy lifestyle changes. Health education does not replace health care but done to improve the utilization of existing health services, health education to encourage healthy behaviors, prevent illness, cure disease, and help cure diseases[5].

At the snowball method, the level of disease prevention knowledge thypoid, pre-test results showed that as many as 16 respondents (40%) knowledgeable good, while 24 respondents (60%) knowledgeable unfavorable. Furthermore, after treatment by health education with the snowball method values obtained post-test showed the level of knowledge to the snowball method increased by 37 respondents good knowledge (92.5%). Good knowledge of distribution occupying the highest, while the less good knowledge decreased to 3 respondents (7.5%). It is possible to use the method according to the characteristics of respondents who researched. Health education purpose is to transform the understanding of disease prevention thypoid in achieving a good and healthy life.

Snowball method given health education are invited to play, move, and learn. The method used is using the snowball method because children love to learn how to play and practice moves directly. The material presented in this study is the prevention of disease thypoid including the host, agent, enveroment, which is given to the chairman of each method.

Based on the results Respondents answer the snowball method of knowledge in disease prevention thypoid. There are some respondents who answered correctly at pre-test (prior knowledge). The question about the water that will be cooked does not need to be sealed so that no bacteria (are negatives) of 19 respondents (47.5%). Most respondents still consider

the water to be cooked does not need to be closed, because the bacteria do not like water. Further on fly control we avoid the disease thypoid (is positive) as many as 19 respondents (47.5%). Thypoid made possible words for the respondents are unfamiliar so that when the pre-test is still no answer wrong. To answer Post-test respondents' knowledge, the snowball group average is well over 50% of respondents are correct answer.

That the results of statistical tests on the lecture method using Paired sample t-test p-value is obtained (0.000 <0.05) thus reject Ho and accept Ha. Then it indicates there is a significant difference between pre-test and post-test lecture. Knowledge of the lecture method when the pre-test (half past seven) after the post-test (8:30), rose (6.5%).

The results are consistent with research Safitri HC (2014)[6], regarding the method of Team Game Tournamen and Lectures to increased knowledge. Which concluded there are differences in the students' knowledge after a given health education that is of average knowledge of students at a lecture by (10.44%) to (13.44%), while the method of Team Game Tournamen average knowledge of (12.36 %) to (15.36%). According to Mubarak and Chatin (2009), health education (group process) is a dynamic process of behavioral change which is not just a transfer or provide knowledge from person to person.

The lecture method, the level of disease prevention knowledge thypoid, pre-test results showed that as many as 16 respondents (40%) knowledgeable good, while 24 respondents (60%) knowledgeable unfavorable. Furthermore, after treatment with a health education lecture method when the post-test showed the level of knowledge increased by 37 respondents good knowledge (92.5%). Good knowledge occupying the highest distribution, seadangkan poor knowledge into 3 respondents (7.5%).

Methods of health education lectures given treatment administered over 55 minutes, with meteri thypoid disease prevention, in the implementation of this method using powerpoint to convey the material image so that the respondent interested, not bored in its implementation, and continued to wait 2 weeks for the implementation of the post-test.

Based on the answers of respondents on the lecture method of knowledge in disease prevention thypoid. There are some respondents who answered incorrectly during the pre-test (beginning of knowledge) the question relating to the control of flies we will be spared from fever thypoid (positive) 16 respondents (40%) answers incorrectly, the next about the WC which is enclosed to prevent fever thypoid , A total of 17 respondents (42.5%) of respondents still wrong. This lack of knowledge about the WC closed so that the respondent is still wrong in answering questions.

Based on the answers to post-test knowledge, the lecture method is still some respondents still wrong answer, the questions relating to the control of flies we avoid thypoid fever, which memjawab one of 18 respondents (45%) of respondents answer this salah.Hal still possible to forget the time answer because the time frame given 2 weeks of treatment.

Based on statistical test Independent t-test was concluded that there were differences in knowledge between the snowball method and ceramahp-value (0.011). This suggests there are differences in the snowball method and lectures, will enhance the students' knowledge on Nogosari III Elementary School and Elementary School I Keyongan. Snowball method is more effective than the lecture method.

Differences snow balls Method And Talks On The Level Attitude

Based on statistical test Paired sample t-test, p-value obtained by (0.000 <0.05), the Ha accepted. So the conclusion is no difference in the average score of attitude on the

snowball method before and after treatment. Improved attitude attitude value of the pre-test into a post-test. This shows an increase in the average pre-test (31.55) increased post-test becomes (36.85) an increase of (7.8%).

This research is also consistent with research Megasari (2013), the difference in the level of knowledge of the prevention of dengue with a lecture and Snowball Thorwing in children aged 6-12 years in primary school Puger kulon. Of the average of the student's knowledge (10%) to (63.3%) p-value (0.000). This shows the difference in health education to the level of knowledge and attitudes in children aged 6-12 of knowledge after being given health education. This shows that health education with the snowball method and lectures really affect knowledge and attitudes among respondents.

For the snowball method attitude score pretest highest of respondents have a good attitude as much as 15 respondents (37.5%), while respondents who have a lack of good by 25 respondents (62.5%), then after health education with the snowball method of disease prevention thypoid occurred improvement in the attitude of post-test results. The value of post-test on the snowball method respondents who have a good attitude as much as 25 respondents (62.5%) increased to 35 respondents (87.5%) who have a good attitude, whereas the respondents who have a poor attitude of the original 25 respondents (62.5%) decreased to 5 respondents (12.5%).

Attitude of the snowball method before treatment then no treatment is given on average there was an increase towards the good, it demonstrates that the health education of the respondents accept that knowledge. Respondents digest the knowledge gained to change attitudes toward better characterized by increased average attitude.

Based on the answers of respondents in the snowball method of attitude in disease prevention thypoid. There are some respondents still answered strongly agree upon pre-test (before treatment) the question about when terkenan fever thypoid using herbal remedies (negative), as many as 12 respondents (30%), the majority of respondents still believe that herbal medicines can cure diseases thypoid, thypoid presumption can be cured with herbal medicine we should straighten by providing health education.

Statistical test results Paired sample t-test showed an increase in the value of the attitude between the pre-test and post-test for a lecture. That (0.000 <0.05) received the Ha. It is shown the average value of the attitude of the lecture method increased from the pre-test (32.05) increased to (35.15), there is an increase of about (5.1%).

This research is in line with Zamzami (2014)[4], that in her study discusses the effect of health education with a game of snakes and ladders method of prevention of bubonic plague, can improve students' knowledge and attitudes Elementary School I Selo, Boyolali 2014. Elementary students after being given health education, namely of the average of students 'knowledge by 7.26% to 9.57%, whereas previously the average elementary school students' attitudes by 41.63% to 52.09%.

Results obtained from the educational lecture pretest scores have the attitude is not good, as many as 24 respondents (60%), while respondents who have a good attitude 16 respondents (40%). For post-test results most of the respondents have a good attitude, as many as 31 respondents (77.5%), and unfavorable attitude decreased to 9 respondents (22.5%). There is an increase in the value of the attitude of the respondents dimugkinkan lecture delivered in accordance with the wishes of the respondent. According to Irianto (2014), describe the attitude of pleasure or enjoyment impression of a person against a particular object, the attitude comes from experience or friend who is close to him.

Results of respondents in a lecture about the attitude thypoid disease prevention, there are still some respondents answered strongly disagree during the pre-test. Questions relating about eating a healthy diet can prevent disease thypoid, (is positive), 26 respondents (65%). The majority of respondents still think that healthy food can not be mencehah thypoid fever. Furthermore about contaminated drinking water should be boiled before drinking, as much as 7 respondents (17.5%). Most respondents regard the fever transmission source thypoid not through contaminated water. Answer post-test (after treatment) attitude on the lecture method mostly been good but there is still answering the respondents strongly agreed, that is about the treatment of fever thypoid herbal drugs (is negative) 7 respondents (17.55%). It is possible still alien about herbal medicine.

Test results Independent t test different methods snowball and lectures on disease prevention thypoid, the students treated snowballs and lectures equally increasing students' attitudes were given health education on disease prevention thypoid. But the snowball method is more effective than the lecture method, because of the snowball method is effective for primary school age children, and in the delivery does not make students become bored. improvement of attitudes before and after treatment by health education given to students, p-value of 0.004. Then the snowball method and lectures can be used by UKS to deliver health material, especially for diseases thypoid.

CONCLUSION

1. On average the respondents' knowledge increased after treatment using the snowball method of pre-test (7.15) and post-test (8.93), the highest distribution of knowledge both (pre-test) and the (post-test), then education snowball method can improve knowledge (11.2%).
2. For the lecture group average level of the current knowledge of the pre-test (7.30) and post-test (8.30) the highest distribution of knowledge both (pre-test) and the (post-test), of this explanation Lecture method capable increase knowledge as much (6.5%).
3. There is a difference in average score on the attitude of the lecture method before and after treatment of disease prevention thypoid, (P-value of 0.000).
4. There are differences in methods Snowballs and Lectures on disease prevention thypoid the level of knowledge and attitude of students and student Nogosari III Elementary School and Elementary School I Keyongan (P-value = 0.000). This shows the value of the knowledge and attitudes grouped snowballs and lectures actually occur because there is treatment of health education with the snowball method and lectures.

SUGGESTIONS

1. For health agencies
   Efforts to improve knowledge, local health authorities together with cadres do breakthrough health by providing health education on disease prevention thypoid to elementary school students by developing the snowball method and lecture method is an innovative method of health education. Meanwhile, to improve posture, health officials linked more to apply preventive and promotive programs related to the prevention of disease thypoid.
2. For Education institutions
   For educational institutions can use the snowball method and lecture materials to deliver healthcare in an effort to improve the knowledge and attitudes of students.

3. UKS that is able to implement the snowball method and lectures on disease prevention thypoid in improving the knowledge and attitudes of students. This method can be alternated so that students who were given health education thypoid disease do not feel bored. UKS existing ones need to be improved towards a better, start infrastructure in accordance with Standard UKS UKS.
4. For researchers Further
   For other researchers want to continue this research could use other methods in an attempt pencegahhan penyait thypoid as methods of story books, or comics that are interesting in health education efforts. Besides comparing between the snowball method and method video.

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P-05

THE ANALYSIS OF THE IMPLEMENTATION OF NUTRITIONALLY BALANCED LUNCH MENU AT NANDA DAYCARE IN PALANGKARAYA

Dwirina Hervilia, Dhini, Munifa

Email : dwirinahervilia@gmail.com

ABSTRACT

Giving proper nutrition to the children of early age will contribute positive impacts for the optimum growth of the children. Parents play important roles in giving nutrition consumption to the children. Nowadays, however, many parents are working outside their homes and therefore many preschool children are deliberately taken to the children daycare (TPA) when their parents are at work.This research aims to analyze the cost application of lunch based on balanced nutrition at TPA Nanda Palangka Raya. Experimental Quasi Research on application of balanced nutrition at TPA Nanda, with the design of One group pre-test post-test. Basic data collection is done by observing and interviewing and then it is continued by giving menu with balanced nutrition.The nutrition value of lunch menu for preschool children served by TPA Nanda Palangka Raya is in the average of: energy 115.96 kkal (28.7%) and protein 4.47 gram (44.08%). Meanwhile, the energy needed for the children's lunch is 323.3 kkal and protein is 7.7 gram. Based on the calculation of the average sufficiency, they provide the children with a special menu which is suitable for them; the form, appearance and taste. The special menu is served in 5 (five) consecutive days. From here, we can get the average cost of the menu served. The average cost of the food material needed is Rp. 6,325. This will be used for children lunch menu with balanced nutrition.

Keywords **:** balanced nutrition, preschool children, children daycare

INTRODUCTION

The number of infants weighed in 2010 in the province of Kalimantan Tengah was 33,418. 4.10% of the numbers were infants with poor nutrition and 12.67% were infants with insufficient nutrition, while 1.26% were those with excellent nutrition. According to the result of riskesdas 2010, the weight prevalence was less than the national prevalence which was approximately 18,5%. The status of infants' nutrition (BB/U) in the province of Kalimantan Tengah on insufficient nutrition was 22,3%. The status of infants' nutrition based on the height per age (TB/U), has a short prevalence above the national prevalence; very short 18,0% (national 18,5%) and short 21,6%, while the national figure was 17.1%. From the goal of MDG 2012 which was 15.5%, Kalimantan Tengah was considered a failure in achieving the goal1.

Parents play important roles in giving nutrition consumption to the children. Nowadays, however, many parents are working outside their homes and therefore many preschool children are taken to the children entrusting (TPA) when their parents are at work. In this case, parents' important roles of children's nutrition are substituted by the TPA when the parents are at work. Based on the research done in TPA Nanda : The menu served has less variation, small food portion for infants, the nutrition value of lunch is E : 115.96 kkal (28.71 %), which should be 403.81 kkal, Protein: 4.4 gr (43.78%), which should be 10.04 gr. The cost analysis of lunch per unit cost is Rp 1,665 per infant2. Based on the above issue, the research is carried out in order to analyze the application of lunch in balanced nutrition at TPA Nanda Palangka Raya.

METHOD

This research in Institutional nutrition was carried out at TPA Nanda Yayasan Talentha Palangka Raya in 2013. The experimental Quasi Research on application of balanced nutrition at TPA Nanda, with the design of One group pre-test post-test. Before doing the intervention, basic data collection was done by observing and interviewing the one who was responsible for the children's lunch in order to know the budget and the nutrition sufficiency of the food served by TPA Nanda Yayasan Talentha. The research was carried out in October 2013. The basic data collection had already been done since April 2013.

The population in this research was all the infants at Yayasan Talentha including those who were still in playgroup, preschool (TK), dan TPA. The samples were taken from the population and were selected by purposive sampling with the following criteria: Inclusion Criteria (1) children of TPA 3 – 6 years old, Class B (2) Willing to participate in the research. And Exclusive Criteria; they were ill and absent in the day when data collection was done.

The data is obtained by calculating the nutrition value in the food. This is done by weighing the food using food scales and converting it into raw weight. Then it was analyzed using nutrisurvey. The food nutrition value served by TPA Nanda was weighed and converted in rawweight, calculated and compared with the nutrition sufficiency number of infants of 1-3 years old and 4-6 years old, then it was divided in two in order to get the average sufficiency. The average sufficiency was multiplied with 30% to get the sufficiency for lunch. Lunch with balanced nutrition was made in portions and weighed in accordance with the needs of the infants and the food waste was measured using Comstock method. The unit cost for each portion of lunch with balanced nutrition was calculated based on the food material bought. Of all the data that has been obtained will be analyzed by descriptive / univariate and compared with the average cost incurred to make balanced nutrition menu.

Research Planning

Baseline data
Data result of the research :
- Menu variation:
- Menu variation (-)
- Nutrition value (-)
- Portion scale (-)
- Food cost : Rp 1.665/day

Application of new menu with balanced nutrition
- Menu variation
- Nutrition value
- Portion scale
- Food cost

Evaluation result of menu application with balanced nutrition
- Menu variation
- Nutrition value
- Portion scale
- Food cost : Rp. 6,325

RESULT

Food in Yayasan Talentha Palangka Raya used 5-day menu cycle, and every week the menu is changed. The menu pattern is not complete, because there were only main dish, animal protein side dish and/or vegetables. Sometimes, animal protein side dish and fruits were not available in the menu.

The food cost at Yayasan Talentha Palangka Raya which was fully managed by the Head of the foundation was Rp 3,000 per infant, per day, not including the snacks. The budget for serving food at Yayasan Talentha was decided and made every new school year, in June and July. The budget was fixed for the year of 2012/2013. Entering the new school

year of 2013/2014, there was a rise of budget for food cost, which was Rp. 3,250 per infant, per day, not including the snacks. The result of the analysis of food nutrition compared with the lunch nutrition sufficiency for infants of 2 – 5 years old can be seen in Figure 1.

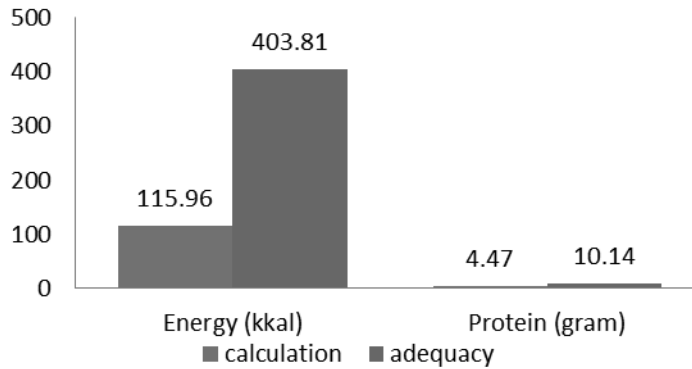

Figure 1 Sufficient Food Nutrition Served

Based on figure 1, it is known that from 162 portions of food weighed, approximately the nutrition value of infants, per infant, per day obtained from the result of food weighing and converted into raw weight, the energy is 115.96 kkal (28.7%) and protein is 4.47 gram (44.08%). Meanwhile, based on the calculation of nutrition sufficiency for lunch, the amount of energy is 403.81kkal and protein is 10.14 gram. So, there is lack of energy of 287.85 kkal (71.35%) and Protein of 5.67 gram (55.92%)

Table 1
The Average Calculation of Energy Sufficiency and Protein
for Infants at TPA Nanda

Category	Age Group (AKG)	Amount of Consument	Energy (AKG)[3]	Amount of Energy	Protein (AKG)[3]	Amount of Protein
Boys	1-3 year	5	1000	5000	25	75
	4-6 year	11	1550	17050	39	429
Girls	1-3 year	9	1000	9000	25	225
	4-6 year	5	1550	7750	39	195
Total				**38800**		**924**
Average				**1293.3**		
Lunch				**323.3 (30.7.13 – 339.46)**		**7.7 (7.31 – 8.08)**

From the result of calculation, it is known that the average total energy sufficiency is 1293.3 kkal, and the total protein is 30.8 gram. The energy needed for lunch is 323.3 kkal and theneeded protein is 7.7 gram. Based on the the calculation of the average sufficiency, they provide the infants with a special menu which is suitable for them; the form, appearance and taste. The menu is served in 5 (five) consecutive days.

Table 2
Master Menu 5 Days Lunch Model With Balanced Nutrition

Menu	**Day**				
	I	**II**	**III**	**IV**	**V**
Main Dish	Rice with Spinach	Fried Rice with Ravioli	White Rice	Rice with kabocha	Paw Rice (Rice + Carrot)
Animal Protein Side Dish	Quail Egg Curry	-	Chicken Balls Soup	Sesame Burger (Beef)	Chicken Nuget
Phyto Side Dish	Chicken Tofu Rolls	Croquette Tempeh	Crispy Tofu	Mung Bean Puding.	Deep-Fried Puffy Tofu
Vegetables	-		Yellow Gourd Banana Pancake	Vegetable Soup	
Fruits	Papaya Orange Juice	Fruit Salad	**-**	Fruit Satay	Water Melon Cocktail
Energy Value	314.6 kkal	312.2 kkal	**307.5 kkal**	313.75 kkal	307.65 kkal
Protein Value	7.96 g	8.09 g	**7.87 g**	7.71 g	8.06 g
Unit Cost	Rp. 5,250	Rp 6,025	**Rp. 5,250**	Rp. 7000	Rp. 5,775

The model application of lunch for TPA is done in 5 consecutive days. The nutrition value of the application has been calculated in accordance with the needs of infants of 3 - 6 years old.From the model application in 5 days, it is calculated that the average food cost needed is Rp 6,325 in which the average cost is in accordance with the calculation of nutrition sufficiency for complete food; they are main dish, animal protein side dish, phyto side dish, vegetables and fruits for each infant.

The Evaluation of Food Waste Using Comstock Method

Based on the result of the research for 5 consecutive days at TPA Nanda, it is known that the food waste of the first day is: vegetable menu 92.6 % on mung bean pudding, and phyto side dish 81.5 % on chicken tofu rolls.

On the second day, the most wasted food is > 25 % phyto side dish (croquette tempeh) and fruits (fruit salad). On the third day, the most wasted food is the vegetables (yellow gourd banana pancake) followed by phyto side dish (crispy tofu). On the fourth day, the most wasted food is phyto side dish (mung bean puding) and fruits (fruit satay). On the last day, the fifth day, the most wasted food is phyto side dish (deep-fried puffy tofu). The main dish (paw rice) and animal protein side dish (chicken nugget) are less wasted.

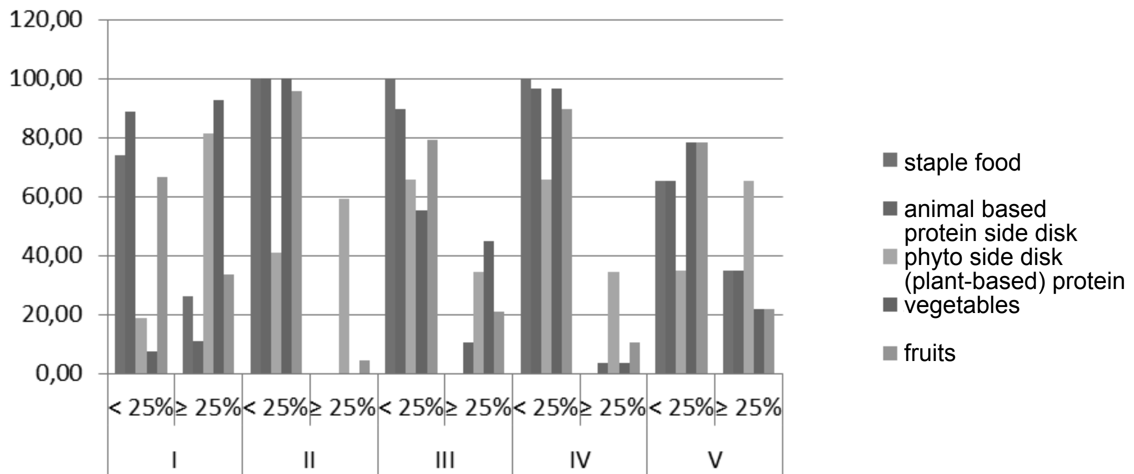

Figure 2 :The Graphic of Wasted Food Menu with Balanced Nutrition for 5 Days

DISCUSSION

Based on the menu pattern, food served at Yayasan Talentha Palangka Raya has not had a criteria of balanced nutrition which consist of : main dish, animal protein side dish, phyto side dish, vegetables and fruits[4]. The cooking is in accordance with the food material sold in warongs or markets. This has something to do with the food cost.

The food cost is 40% of the total cooking cost, which is the highest cost in the food availability. Meanwhile, based on the calculation, the food cost at Yayasan Talentha Palangka Raya is 55.5%. This percentage is higher than the food cost fixed by ASDI. This is because the price of the food material is so fluctuated that the calculation is higher than the standard price[5].

From the menu model application in 5 days, it is calculated that the average food cost needed is Rp 6,325 compared with the early data of the research which is Rp. 1,665 / day/child. The average cost is in accordance with the calculation of nutrition sufficiency for complete food; they are main dish, animal protein side dish, phyto side dish, vegetables and fruits for each infant.

The result of the research done at SPN Makassar[7] shows that they need Rp.37,000 per day for 3 times meal and 2 times snacks. Based on research done by Fitriani[8,], the unit cost for students at Yayasan Al-Amin Palangka Raya is Rp.681, 887 per day which includes: food material is Rp.584,356 per day, fixed cost is Rp.28,000 per day and overhead is Rp.69,521 per day. This foundation serves 77 students.

Lack of energy may result in poor growth and development of infants because they need more energy for their body growth and physical activities. Lack of protein may also result in poor body growth and less of energy sources. In other words, lack of energy and protein makes the infants suffered from a disease called “Kekurangan Energi Protein” (KEP)[4]. Obesity prevalence (persentil >95) on children of 5-15 years old is 8.3%. The risk factor which has something to do with obesity on children of 5-15 years old is the educational level of the children after it is controlled by some variables such as: sex/gender, the history of obesity suffered by the father, the habits of exercising and smoking, and the protein consumption[9].

The nutrition value of lunch menu for preschool children served by TPA Nanda Palangka Raya is: the average energy 115.96 kkal (28.7%) and protein 4.47 gram (44.08%). Meanwhile,

the need for lunch which is in accordance with AKG calculation for children is: energy 323.3 kkal and protein 7.7 gram. So, there is a big difference between the lunch served and the lunch needed for the children. The energy and protein served can only fulfill the variation food, which is 10% of the total sufficiency per day with energy of 134.60 kkal and protein of 3.54 gram.

The research done on infants in Working Area of Puskesmas Bantul skows that there is a correlation between food consumption (energy and protein) and nutrition status[10]. The result of research[11] done at TPA Darussalam in Palangka Raya shows that the nutrition value of lunch served at children daycare (TPA) Darussalam Palangka Raya is : Energy 350.4 kkal, protein 12.47 gram. This equivalence level of nutrition sufficiency for lunch is in accordance with RDA.

In Kelurahan Tugu, Kecamatan Cimanggis, Kota Depok, from 109 samples of preschool children, we find out that there is a significant correlation between the food consumption and the nutrition status. The efforts to handle the nutrition issue for school children should be emphasized on food consumption[12]. The result of research in Asrama Politeknik Pelayaran Semarang[13] shows that there is no correlation between the sufficiency level of energy and protein and the food consumption.

The average food waste in 5 days is: phyto side dish is the most wasted food (55 %). Based on the research, the most wasted food is phyto side dish. Perhaps, the taste of the side dish is not good enough for the infants. Sometimes, the respondents feel confused with the appearance of the after cooking food which is quite different from its raw material.

Based on the result of the research done at TPA Darussalam[14], the average food waste on the second day shows the most significant waste. They are: main dish 48.86%, phyto side dish 48.86%, vegetables 56.82%, fruits 31.82%. On the sixth day, protein side dish 51.04%.

The result of research in RSUD Doris Sylvanus Palangka Raya[15] shows that the average lunch waste per day is 27.64%. The cost of soft food waste per patient is Rp.1,871.92. the cost of food waste per year is Rp.673,891.64 per patient. There is a significant correlation between the waste of main dish, protein side dish, vegetables and fruits and the cost of soft food waste.

CONCLUSION

1. The nutrition sufficiency for preschool children at TPA Nanda Palangka Raya is: the total energy sufficiency 1293,3 Kkal and total protein 30,8 gram. For lunch, the energy needed is 323,3 kkal and protein is 7,7 gram.
2. Based on the lunch menu with balanced nutrition for five days, it is calculated that the average cost of food material is Rp. 6, 325.. The average food waste for five days is phyto side dish (55 %).

SUGGESTION

1. It is necessary to increase the budget at TPA so that the balanced nutrition .program can be carried out effectively. The proper budget for the food is Rp. 6,500 /portion /child.
2. The conveying of information/nutrition education to the children on the benefit of food needs to be carried out in the most suitable and proper ways. This can be done by showing food samples or it is conducted in such a way that interests the children. After all, it needs a further study on this matter.

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P-06

ANALYSIS CORRELATION BETWEEN CHARACTERISTICS AND THE LEVEL OF WOMEN KNOWLEDGE ABOUT VIA

Wahyu Kartika Sari, Heni Puji Wahyuningsih. M.Keb,
Sabar Santoso, S.Pd. APP. M.Kes

Department of Midwifery Poltekkes Kemenkes Yogyakarta, Mangkuyudan Street
MJ III/304 Yogyakarta 55143.[b]Lecturer at Poltekkes Kemenkes Yogyakarta, Indonesia
Email :*weekaa12@yahoo.com,* henipujiw@gmail.com

ABSTRACT

Annual incidence of cervical cancer is still very high at 493.243 with a mortality rate of 273.243. The main strategy in reducing deaths from cervical cancer is by screening. WHO states VIA can detect precancerous lesions with high sensitivity and specificity. VIA is also quite simple, inexpensive, rapid, and results can be immediately known. This study aims to correlate the level of knowledge about IVA based the characteristics. Objective of research is a descriptive cross-sectional design. Data collected from the survey questionnaires were then analyzed using Pearson Product Moment Correlation. There is a positive relationship between age and the level of knowledge about VIA. Results showed that there is a positive relationship between level of education and the level of knowledge about VIA. There is a positive relationship between job status with the level of knowledge about VIA. There is a positive relationship between parity with the level of knowledge about VIA.

Keywords: knowledge, cervical cancer, VIA

BACKGROUND

WHO (2010), known to have 493. 243 people a year with the new cervical cancer deaths by 273. 243 people a year[1]. It is estimated that deaths from cervical cancer will continue to increase by 25% within the next 10 years if action is not implemented and the management of the adekuat[2]. Cervical cancer is a major killer of women in the province with the incidence rate of 100/100.000 events. In 2013, cervical cancer was highest in the district of Bantul. The second sequence is the city of Yogyakarta, Gunung Kidul, Sleman and the least was Kulon Progo[3].

Screening for cervical cancer regularly can prevent most cervical cancer[1]. WHO states that an VIA can detect precancerous lesions with a high degree of sensitivity between 66-96 percent and a specificity of between 64-98 percent. The advantage of this screening method is quite simple, inexpensive, fast, and the results can be immediately[4]. National Data coverage of screening for early detection of cervical cancer in Indonesia through a Pap smear or VIA (visual inspection using acetic acid) is still very low (about 5%), whereas coverage of screening effective in reducing morbidity and mortality from cervical cancer is 85% 5. Coverage of early detection of cervical cancer in the province with the lowest VIA method was in Bantul as much as 1%[6]. VIA examination lowest coverage with coverage of 0% was in Puskesmas Imogiri 1, Imogiri 2, Banguntapan 3, Sewon 1 and Kasian 2.

Behavior is determined by three main factors, namely; predisposing factors are factors that facilitate the occurrence of behaviors such as knowledge, attitudes, traditions and beliefs, value systems adopted, level of education, socioeconomic level; enabling factor

is the availability of infrastructure or public health facilities such as health centers, hospitals, neighborhood health center, polindes, and so on; and reinforcing factors are factors that reinforce the attitudes and behaviors behaviors such as community leaders, religious leaders, health workers, laws, and regulations[7]. Knowledge is influenced by several factors, including: education, age, job and others. The above data provide an explanation that knowledge is one of the factors that influence behavior, so the researchers wanted to find the correlate of knowledge about VIA based the characteristics.

METHOD

This type of research is analytic with cross-sectional design. The sample size of the study is 39 women in Dukuh, Imogiri. The research was conducted on 11 April 2015.The variables studied were the characteristics and level of knowledge about VIA. The research instrument used was a questionnaire enclosed. Instruments has tested the validity and reliability in March 2015 in Kemasan, Karang Tengah, Imogiri, Bantul, as many as 30 people. Data collected from the survey questionnaires were then analyzed using Pearson Product Moment Correlation.
Building on the previous theoretical and empirical studies, this study proposes the following hypotheses:

- Ha is education has a significant positive effect on level of knowledge.
- Hb is age has a significant positive effect on level of knowledge.
- Hc is employmentstatus have a significant positive effect on level of knowledge.
- Hd is parity has a significant positive effect on level of knowledge .

RESULT AND DISCUSSION

After analysis using Pearson Product Moment Correlation, table 1 below shows that there is a significant correlation between Education and Knowledge,
r = 0.530, n = 39.

Table 1
Correlation Education of Respondents with Knowledge Level VIA

Characteristics	Knowledge Level VIA						p value
	Good		Enough		Less		
	f	(%)	f	(%)	f	(%)	
Education							
a. Elementary school and junior high shool	1	33,3	8	40	9	56,3	
b. Senior high school	2	66,7	11	55	6	37,4	
c. University	0	0	1	5	1	6,3	0,001
Total		100		100		100	

Based on Table 1 that, based on the distribution of mother's education level of knowledge that is both maternal education elementary / junior high school (33.3% and 66.7%) and the mother's level of education university knowledge of VIA no (0%). Respondents who have less knowledge of most elementary / junior high school (56,3%).

From the analysis, shows thatSig=0.001,p-valuewhichis lower than the alpha value of 0.05. This showsthere is a significant relationship between Education and Knowledge. In

this model, Educationgavea significant impact on Knowledge. Thus, considering the above relation hypothesis Haisfully supported.

Table 2 shows that there is a significant correlation between Age and Knowledge, r=0.897, n=39.

Tabel 2

Correlation Age of Respondents with Knowledge Level VIA

Characteristics	Knowledge Level VIA						p value
	Good		Enough		Less		
	f	(%)	F	(%)	f	(%)	
Age							
a. < 35 year	1	33,3	3	15	6	37,5	
b. 35-40 year	2	66,7	10	50	5	31,3	0,000
c. 41-55 year	0	0	7	35	3	18,7	
d. > 55 tahun	0	0	0	0	2	12,5	
Total		100		100		100	

The respondent has a good knowledge of most aged 35-40 years (66.7%). Respondents who have less knowledge of most aged <35 years (37.5%).

From the analysis, as described inTable 2, shows thatSig=0,000,where the p-valueis lower than the alpha value of 0.05. This shows there is a significant relationship between Age and Knowledge. In this model, Age a significant impact on the Knowledge.Thus, considering the above relation Hb hypothesisisfully supported.

Table 3 below shows that there is a significant correlation between Empoyment and Knowledge, r=0.673, n=39.

Tabel 3

Correlation Empoyment of Respondents with Knowledge Level VIA

Characteristics	Knowledge Level VIA						p value
	Good		Enough		Less		
	f	(%)	F	(%)	f	(%)	
Empoyment							
a. Not work	1	33,3	8	40	10	62,5	
b. Work	2	66,7	12	60	6	37,5	0,000
Total		100		100		100	

Respondents who have a good knowledge about the iva is working respondents (66.7%). Most of the respondents who do not work have less knowledge(62.5%).

From the analysis, as described in Table 3, shows that Sig=0,000, where the p-value is lower than the alpha value of 0.05. This shows there is a significant relationship between Empoyment and Knowledge.In this model, Empoymenta significant impact on the Knowledge. Thus, considering the above relation Hc hypothesis is fully supported.

Table 4 below shows that there is a significant correlation between parity and Knowledge, r = 0.570, n = 39.

Tabel 4
Correlation Parity of Respondents with Knowledge Level VIA

Characteristics	Knowledge Level VIA						p value
	Good		Enough		Less		
	f	(%)	f	(%)	f	(%)	
Parity							
a. Nuliparous	0	0	1	5	10	62,4	
b. Primiparous	0	0	7	35	5	31,3	0,000
c. Multiparous	3	100	10	50	1	6,3	
d. Grandmultiparous	0	0	2	10	0	0	
Total		100		100		100	

Respondents with a good knowledge ofmost of multi parous(100%). Respondents withless knowledge ofmost isnulliparous(62,4%)

From the analysis, as described in Table 4, shows that Sig = 0,000, where the p-value is lower than the alpha value of 0.05. It showed no significant association between parity and Knowledge. In this model, Parity provide significant impact on Knowledge. Thus, considering the above relation hypothesis Hd is fully supported.

Results of the research that has been done, it was found that education had a significant impact on the Knowledge. Thus, considering the above relation hypothesis Ha is fully supported. This result is consistent, that education is one that affects the perception of a person to more easily accept the ideas of technology. The higher one's education will affect the high level of intelegensinya[8].

Results of the research that has been done, it was found that age had a significant impact on the Knowledge. Thus, considering the above relation Hb hypothesis is fully supported. This result is consistent theory that increasing age there will be growing anyway perception and thought patterns so that the knowledge gained is getting better.

Results of the research that has been done, it was found that employment status have a significant impact on the Knowledge. Thus, considering the above relation Hc hypothesis is fully supported. The results showed that in accordance with the terms of the theory, that people work more often interact with others so that more knowledge when compared with people who are not working.

Results of the research that has been done, it was found that parity had a significant impact on the Knowledge. Thus, considering the above relation hypothesis Hd is fully supported. It is appropriate, more parity mother then knowledge will be higher because it is related to the influence of his own experience and the experience of people lain[8].

CONCLUSIONS

Age, education level, employment status and parity have a relationship with knowledge of VIA. Older age has higher the level knowledge about VIA, The higher education level has higher the level of knowledge about VIA, working people have the higher level of knowledge about VIA. People who have more children has higher the level knowledge about VIA.

RECOMMENDATION

Heads ofhealth centers and midwives could be cooperate in providing information and making policy on cervical cancer early detection program by using VIA. Improve services

and health promotion of early detection of cervical cancer with the methods of VIA. Rouse coaching and community participation and to improve programmingin the early detection of cervical cancer with the methods of VIA.

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P-07

THE FIFTH GRADE'S PERCEPTION OF THE PARENT ROLE ON REPRODUCTIVE HEALTH

Iramastuti Khairul, Dwiana Estiwidani, Nanik Setiyawati

Midwifery Departement of Health Polytechnic of Health Ministry Yogyakarta, Jalan Mangkuyudan MJ III/304 Yogyakarta 55143, Indonesia
email :iramastuti.khairul@gmail.com, estiwidani@yahoo.com, nanikyogya@gmail.com.

ABSTRACT

Knowledge of teenager aged 15-24 years about reproduction health is still low. One of the Plan of Action ICPD (International Conference on Population and Development) Cairo 1994 changed the focus of policy about decreasing the growth be fulfill reproduction health which begins from family. This study aims to determine the teenager's perception of the parents role on adolescent reproductive health. This type of research is a descriptive cross-sectional design. The subjects were students in fifth grade elementary school. Result of study are that most male respondent, lived with his father and mother. The level of knowledge generally is in the enough category. Good knowledge most are female respondents. Teenager's perception of the role parents both father and mother are quite enough. High perception of mother role is present by respondents live with mother only, and high perception of father role is present by respondents live with father and mother. Respondents who have good knowledge have a similar percentation of father and mother role

Keywords: Teens, Parents, Perception, Role, Adolescent Reproductive Health

BACKGROUND

Data from the Perserikatan Bangsa-Bangsa (PBB) in 2013 showed that more than 1.8 billion people aged 10-24 years and 90% of whom live in developing countries [1]. The total population of Yogyakarta Special Region (DIY) aged 10-24 years reached 748.935 (21.30%) of 3.515.370 million inhabitants [2]. ICPD (International Conference on Population and Development) 1994 Cairo population policies change the focus of efforts to achieve the goals demographic decrease of population growth into addressing the needs of reproductive health. One of the Plan of Action is a business education begins in the family unit, but must also reach adults through non-formal education-based society [3]. Here, the role of parents is very necessary to be willing to be a friend of discussion communicative, informative, and fun [4].

Mudijada in Purnomo shows that the closest that parents are expected by the child as a place to get knowledge about reproductive health [5]. The fact that there is a need for adolescents to be the role of parents on reproductive health was not created properly. It is caused by several things, among them parents feel taboo to discuss sexual problems to their children [6]. Though children expect their parents as friends to communicate about matters that are intimate. Putriani research results, most teens consider parents are the people who are important to them (35.5%) because of the values instilled by their parents can influence adolescent knowledge [7].

DIY consists of five districts. Bantul district with the highest adolescent population has seventeen districts. Banguntapan sub-district is one of the region with the most teenage population is 8,737 inhabitants and are mostly located in the village of Banguntapan (3,298

inhabitants). Banguntapan village has ten elementary school (SD). Preliminary study results show of ten elementary school that has the most number of students in Sokowaten Baru Elementary School, which is 512 people. Sokowaten Baru Elementary School has a program parent meetings on a regular basis to monitor the progress of students, but the school has not had a program of Information and Counseling Center Adolescent Reproductive (PIK-RR) for students. Puskesmas Banguntapan III is a health center in the village Banguntapan working area.

The above data explains the importance of the role of parents on adolescent reproductive health, so researchers are encouraged to research on "The Fifth Grade's Perception of The Parent Role on Reproductive Health". The purpose of this study to describe five classes adolescent perception about the role of parents on reproductive health in Sokowaten Baru Elementary School.

METHODE

This research is adescriptivecross-sectional design. The study populationisa fifth graderatElementary SchoolSokowaten Barua total of 90students.The experiment was conductedin April2015.The variables studied werefiveclassesadolescent perceptionaboutthe role of parentson reproductive health. The research instrumentused wasa questionnaireenclosed. Instruments hastested the validityandreliabilityin March2015 inprimary schoolsJomblangan, Banguntapan, Bantulas many as30students.

RESULT

Characteristics of Respondentsby Genderand Housing

Respondentswiththe highestgenderismaleandthe most respondentslivedwith his father andmother.

Table 1.
Frequency Distribution Characteristics of Respondents based in Sokowaten Baru Elementary School

Characteristict	n	%
Gender		
a. Male	51	57
b. Female	39	43
Amount	90	100
Residence		
a. Living with father only	1	1
b. Living with mother only	8	9
c. Living both father and mother	81	90
Amount	90	100

Respondents Perception on The Role of Parents for Reproductive Health

Respondents' perceptions about the role of fathers with the highest percentages are in the medium category. Respondents' perceptions of the role of mothers with the highest percentages indicate the medium category.

Table2.
Frequency Distribution of Respondents by Perceptionson the Role of Parents
For Reproductive Health in Sokowaten Baru Elementary School

AdolescentPerceptionson the Roleof Parents	n	%
Father		
a. High	18	20
b. Moderate	60	67
c. Low	12	13
Amount	90	100
Mother		
a. High	13	14
b. Moderate	65	72
c. Low	12	13
Amount	90	100

Respondents Level of Knowledge about Reproductive Health

In general, the level of knowledge is sufficient. Most of the male respondents have a sufficient level of knowledge. Most of the female respondents have a good knowledge level.

Table 3.
Frequency Distribution of Respondents by Level of Knowledge
of Reproductive Health in Sokowaten Baru Elementary School

Knowledge	Male		Female		Amount	
	n	%	N	%	n	%
a. Good	6	12	16	41	22	24
b. Pretty	26	51	15	38	41	46
c. Less	19	37	8	21	27	30
Amount	51	57	39	43	90	100

Respondents Perceptionon The Role of Parents against Reproductive Health based Characteristics of Respondents

Male respondents who have a high perception of the role of fathers, a greater percentage than the perception of high maternal role. Female respondents who have a high perception of the role of fathers, a greater percentage than the perception of high maternal role.

Table4.
RespondentsFrequency Distributionof PerceptionRole of Parentstowards Reproductive Healthby Genderinthe Sokowaten Baru Elementary School

Adolescent Perceptionson the Roleof Parents	Gender				Amount	
	L		P			
	n	%	n	%	n	%
Father						
a. High	10	20	8	21	18	20
b. Moderate	34	67	26	67	60	67
c. Low	7	14	5	13	12	13
Amount	51	57	39	43	90	100

Mother						
a. High	6	12	7	18	13	14
b. Moderate	39	76	26	67	65	72
c. Low	6	12	6	15	12	13
Amount	51	57	39	43	90	100

Most of the respondents who live with the mother only has a high perception of the mother's role, the more the percentage is higher than the father role. Most of the respondents who live with the father and mother have the perception with the medium category for the role of father and mother role.

Table 5.
Respondents Frequency Distribution of Perception Role of Parents against RH based Shelter in Sokowaten Baru Elementary School

Adolescent Perceptionson the Roleof Parents	Residence						Amount	
	Living with father only		Living with mother only		Living both father and mother			
	n	%	N	%	n	%	n	%
Father								
a. High	0	0	1	13	17	21	18	20
b. Moderate	1	100	4	50	55	68	60	67
c. Low	0	0	3	38	9	11	12	13
Amount	1	1	8	9	81	90	90	100
Mother								
a.High	0	0	2	25	11	14	13	14
b.Moderate	1	100	5	63	59	73	65	72
c.Low	0	0	1	13	11	14	12	13
Amount	1	1	8	9	81	90	90	100

Adolescent Perceptions on the Role of Parents for Adolescent Reproductive Health by Knowledge Level Respondents

Respondents who have a good knowledge level of perception the role of fathers and the role of high maternal equal percentage. Respondents with a sufficient level of knowledge of the majority have a high perception of the role of fathers. Respondents with less than a majority of the level of knowledge has the role of fathers and the role perception of low maternal equal percentage.

Table 6.
Respondents Frequency Distribution of Perception Role of Parents towards reproductive health based on Reproductive Health Knowledge Level in Sokowaten Baru Elementary School

Adolescent Perceptionson the Roleof Parents	Knowledge						Amount	
	Good		Pretty		Less			
	n	%	n	%	n	%	n	%
Father								
a. High	5	23	10	24	3	11	18	20
b. Moderate	13	59	25	61	22	81	60	67
c. Low	4	18	6	15	2	7	12	13
Amount	22	24	41	46	27	30	90	100
Father								
a. High	5	23	5	12	3	11	13	14
b. Moderate	14	64	30	73	21	78	65	72
c. Low	3	14	6	15	3	11	12	13
Amount	22	24	41	46	27	30	90	100

DISCUSSION

Characteristics of Respondents by Gender and Housing

Data from studies in Sokowaten Baru Elementary School in 2015 showed that the characteristics of the number of male respondents is larger than the female respondents. This amount is in accordance with the data obtained from the statistical population by gender and age group in Bantul, the number of the male population is greater than the total population of women as much as 34 267 inhabitants for sex men and 32 328 inhabitants to the female gender [8]. Population pyramids Special Region of Yogyakarta (DIY) also provided data that the total population by gender and age group 10-14 years in the male gender is larger than women [2]. International data collected from various countries and international organizations also provide comparative data with total population of Indonesia-sex male versus female in 2014 was 1000 compared to 986.[9]

Respondents perception on the Role of Parents for Reproductive Health

This study shows that the perception of respondents with the highest percentage of the role of parents on reproductive health between the father and mother are in the same category. This result suggests that the father and mother no more prominent role in adolescent reproductive health. This allows that both parents have the same perception about reproductive health. Putriani in his research stating that some parents are difficult to talk about reproductive health to their children because they still feel the taboo and it is wrong to talk.[7]. The results are consistent with the theory, that the perception of both parents are taboo such problems can affect their role in adolescent reproductive health, so that respondents' perceptions about the role of fathers and mothers with the highest percentage is the perception role perception role was not high. This research is also consistent with the results of research Cendy, that the respondent's perception of the role of parents on reproductive health is the perception of the role of being the majority, amounting to 73.13% [10]. Respondents' perceptions about the role of parents is high with the highest percentage of the father, according to respondents both male and female respondents. According Gunarsa, the

role of fathers as parents one of whom is as protective or character wise and loving family.[11]. A father is the protector and authority figure in the family, with a firm stand and dignity instill in children subservience to authority and discipline. Discipline parents in various ways so that the child will be replicated into a discipline in children. Father as a figure of authority in the family or can be called a culture of compliance patrilinealisme certainly have an impact on the child's parents. The attitude of the authorities of course also able to influence the discipline of children to education has given parents, especially fathers as figures of authority and dignity, so that respondents can provide high perception of the role of fathers.

Respondents Level of Knowledge about Reproductive Health

The level of knowledge in general are in the category enough. The results are consistent with the results of research Cendy, that the level of knowledge about reproductive health is adequate for the majority of 58.95% [10]. Results of the study respondents' level of knowledge about reproductive health showed that the percentage of female respondents have more than male respondents to the category of good level of knowledge. Early adolescence is a time of special and most importantly because of physical changes occur rapidly. Along with the rapid physical growth, lasting intellectual and emotional development is also very intensive in young women, so that interest girls in the outside world is very large and encourage to seek knowledge and experience [12]. The results are consistent with the theory that women in early adolescence experiencing very rapid intellectual development, so in this study looks of female respondents have a good level of knowledge with a percentage at most.

Respondents Perception on The Role of Parents against Reproductive Health based Characteristics of Respondents

Respondents who live with the mother alone shows that the perception of the role of maternal height greater percentage than the father. According to Rachmat, perception is not only determined by the type or form of stimulus, but also characteristics of people who respond to the stimulus.[13]. Characteristics of this research is the residence of respondents who gave the perception, that the perception of respondents to the high maternal role can be attributed to the influence with whom the respondent lives and more often interact in daily life.

Adolescent Perceptions on the Role of Parents for Adolescent Reproductive Health by Knowledge Level Respondents

The results showed that respondents with good knowledge level of perception the role of fathers and mothers of high perception of the role of equal size. Respondents with less knowledge level of perception and the perception of the role of fathers low maternal roles as large. These results are consistent with the results of research conducted by Cendy, that the greater the value of respondents 'perceptions of the role of parents is high then the better the level of knowledge, and the smaller the value of respondents' perceptions of the role of parents is high then the less the level of knowledge.[10].

SUGGESTION

Expected teenagers dare to ask and invite parents to discuss reproductive health of adolescents. Parents make the topic of adolescent reproductive health as a reasonable discussion, so that the expectations of teenagers to parents as a discussion partner realized. For the principal to make the program Information and Counseling Center Adolescent

Reproductive (PIK-RR) devoted exclusively to the early teens whose implementation can work with health centers Banguntapan region III. Researchers can then view the adolescent perception of the role of medical personnel in providing information or education on adolescent reproductive health.

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P-08

EMPOWERMENT OF LITTLE DENTISTS AND PARENTS AS THE EFFORT TO CHANGE THE TOOTH BRUSHING BEHAVIOR OF SD 2 SAYAN UBUD STUDENTS

Regina Tedjasulaksana, Maria Martina Nahak, Ni Nengah Sumerti, Ni Made Widhiasti

Lecturers Polytechnic of Health Denpasar Denpasar, Bali
Jalan Pulau Moyo No. 33 Pedungan, Denpasar, Indonesia. Ph. +62-0361720084
e-mail : reginatedjasulaksana@yahoo.com, marianahak@rocketmail.com

ABSTRACT

Tooth disease nowadays that has high prevalence level among the children of primary school in Indonesia includes mouth and teeth disease as much as 74.4%, as the effect of the lack of oral hygiene care. The empowerment of the society has a purpose to improve the ability of the society to behave healthily, to solve the health problems independently, to be active in any health building, and to become the activator in realizing the development in health vision. The purpose of this research is to improve the oral hygiene of SD 2 Sayan Ubud students by carrying out the correct daily tooth brushing program conducted by the little dentists and parents guidance This experimental study with pre-post test without control group design was implemented using 68 students total population to identify the difference tooth brushing behavior and oral hygiene before and 21 days after tooth brushing program at school and at home. The datas were analyzed using Wilcoxon test. The result showed that the tooth brushing behaviour and oral hygiene of students before and after tooth brushing program at school and at home were different significantly (p<0.05). The correlations between students' tooth brushing behaviour and oral hygiene before and after correct tooth brushing program at school and at home was analyze using Spearman test showed different significantly (p<0.05). The conclusion is that little dentists and parents are able to change the tooth brushing behavior into the correct one and thus improve the oral hygiene of SD 2 Sayan, Ubud students.

Key words: empowerment, tooth brushing behaviour, oral hygiene

INTRODUCTION

Tooth disease nowadays that has high prevalence level among the children of primary school in Indonesia includes mouth and teeth disease as much as 74.4%, as the effect of the lack of oral hygiene care[(1)]. Among the children, the caries that are not cared have caused their low body mass index, anemia, sleep disorder, and as the result, the decrease of the children's life quality[(2)]. Children who have decay, abscesses, and chronic dental pain are more frequently absent from school. Children who are in pain from tooth decay cannot concentrate on, nor excel in, their school work and are unable to actively participate in their learning environments[(3)].

Based on the research result of basic health in 2013[(4)], it is shown that the correct tooth brushing behaviour among Baliness people aged more than 10 years old only reached 4.1%, while the research result of Basic Health in 2007[(5)], reached only 10.9%. It shows that there is a decrease in the right tooth brushing behaviour among the citizens aged 10 years old or more[(1)].

Behaviour has important role to influence oral health status[(6)]. Health is not just about something to know or to realize or to take up, but also something to do in daily life, so that the aim of health education to make the society have healthy behaviour to themselves can be implemented[(7)].

National health system stated that the empowerment of the society has a purpose to improve the ability of the society to behave healthily, to solve the health problems independently, to be

active in any health building, and to become the activator in realizing the development in health vision[8], which can begin in each family as the smallest unit of the society. Parents are the basic founder of their children's health behavior[9]. The realization of society empowerment is also needed in the school environment through the peer group approach by preparing the students to actively become the motivator of healthy and clean life, either in the school environment , family or in the society as well[10].

One of the resolutions from The 60th World health Assembly (WHA) by World Health Organization (WHO) in 2007 is developing and implementing the mouth and teeth health promotion together with the prevention of mouth and teeth disease as a part of health promotion event in school by focusing on Clean and Health Living Behaviour (PHBS) and the practice of personal health care at school, by implementing the daily tooth brushing program at school[1]. The fundamental needs of the implementation of the school health effort are: 1) school aged society (6 – 18 years old) is the biggest part of Indonesian citizens (about 29%), estimated that 50% of them are school aged kids, 2) developing and growing aged children are believed to be trained and led more easily, and 3) health education through school society is the most effective one amongst all efforts to make healthy living behavior for the society in general, since the school society has the high percentage, organized so that can be reached easily, sensitive to education and modernization, and also spreading up the modernization[11]. Thus, children have been taught to be discipline to clean their mouth and teeth wholly in their early childhood[12].

The purpose of this research is to improve the oral hygiene of SD 2 SayanUbud students by carrying out the correct daily tooth brushing program led by the little dentists and parents guidance.

MATERIAL AND METHOD

This experimental research using the pre-post test without control group design took place at SD Negeri 2 Sayan, Ubud, Bali. This research used the total population of Grade 1 to 3 students as many as 68 students. The classes chosen are based on the School Dental Health Unit (UKGS) strategies in implementing the prevention to mouth and teeth disease through the daily tooth brushing program at least for students of grade 1, 2, and 3[13].

All of the students did the program every day at school led by 10 little dentists who had been trained and monitored by the UKS teacher by ticking the checklist given. This research also involved all parents of grade 1 to 3 students. Some meetings with parents were held to show them how to brush teeth correctly and so that they could guide their children how to brush their teeth correctly every day at home and ticking the monitoring check list for that.

Tooth brushing behaviour is scored through the skills or practice through the practical aptitude score, i.e., score taking which needs the target to demonstrate how to brush teeth correctly. The instrument used is a check-listed rubric. The score of the skills is qualified as the following criteria [14]:

Aspects Scored		Score
Preparing	Doing correctly	1
	Doing incorrectly	0
Practice/Action	Doing correctly	1
	Doing incorrectly	0
Finishing	Doing correctly	1
	Doing incorrectly	0

Qualifications of The Skills Scores

Score	Criteria
80 – 100	Very Good
70 – 79	Good
60 – 69	Average
< 60	Need Guidance

Score of the skill = (The total score ÷ maximum score) × 100

The oral hygiene status of all grade 1 – 3 students was checked before and after the daily tooth brushing program at school and at home using Personal Hygiene Performance Modified index of Marten and Meskin.

The categories of oral hygiene status are[15]:

Score	Criteria
0 – 15	Very Good
16 – 30	Good
31 – 45	Poor
46 – 60	Bad

The last score of tooth brushing behaviour and oral hygiene status were collected for 35 days after the program held at school and at home.

The next research result data is analyzes using Wilcoxon test to find out the difference in students' tooth brushing behaviour and the difference in students' oral hygiene status before and after the program held at school and at home. To get the correlation between the tooth brushing behaviour and students' oral hygiene before and after the tooth brushing program, Spearman test was used.

RESULT

The subject of the research included 68 students that held the correct daily tooth brushing program, at school led by the little dentists and at home led by their parents.

Table 1.
The Scores of Students' Tooth Brushing Behaviour Before and After Tooth Brushing Program At School and At Home

	N	Minimum	Maximum	Mean	Percent	SD
Tooth Brushing Behaviour (Before)	68	1.00	4.00	1.53	100.00	.91
Need Guidance	48				70.60	
Average	7				10.30	
Good	10				14.70	
Very Good	3				4.40	
Tooth Brushing Behaviour	68	1.00	4.00	2.88	100.00	1.09
(After)					14.70	
Need Guidance	10				20.60	
Average	14				26.50	
Good	18				38.20	
Very Good	26					

Table 1. shows that there was an increase of students' tooth brushing behaviour mean score after the correct tooth brushing program at school and at home.

Table 2.
The Scores of Students' Oral Hygiene (PHP-M) Before and After
Tooth Brushing Program At School and At Home

	N	Minimum	Maximum	Mean	Percent	SD
Oral Hygiene/PHP-M (Before)	68	1.00	3.00	2.04	100.00	.91
Bad	8				11.80	
Poor	49				72.10	
Good	11				16.20	
Very Good	-				-	
Oral Hygiene/PHP-M (After)	68	2.00	4.00	3.07	100.00	1.09
Bad	-				-	
Poor	13				19.10	
Good	37				54.40	
Very Good	18				26.50	

Table 2. shows that there was a decrease of students' PHP-M mean scores, which means that students' oral hygiene gets an increase after the correct tooth brushing program at school and at home.

Multivariate Test Result

Table 3.
The Difference of Students' Tooth Brushing Behaviour Before and After
Tooth Brushing Program At School and At Home

		N	Mean Rank	Sum of Ranks	Sig. (2-tailed)
Tooth Brushing Behaviour (Before) -	Negative Ranks	0[a]	.00	.00	.000
Tooth Brushing Behaviour (After)	Positive Ranks	51[b]	26.00	1326.00	
	Ties	17[c]			
	Total	68			

($p<0.05$)

Table 3. approves that students' tooth brushing behaviour after and before the correct tooth brushing program at school and at home has difference significantly in the trust level of 95%.

Table 4.
The Difference of Students' Oral Hygiene/PHP-M Before and After
Tooth Brushing Program At School and At Home

		N	Mean Rank	Sum of Ranks	Sig. (2-tailed)
Oral Hygiene/PHP-M (Before) -	Negative Ranks	1[a]	14.00	14.00	.000
Oral Hygiene/PHP-M (After)	Positive Ranks	47[b]	24.72	1162.00	
	Ties	20[c]			
	Total	68			

($p<0.05$)

Table 4. approves that students' oral hygiene before and after the correct tooth brushing program at school and at home has different significantly in the trust level of 95%.

Table 5.
The Correlations Between Students' Tooth Brushing Behaviour and Oral Hygiene/PHP-M Before and After Tooth Brushing Program At School and At Home

Spearman' rho		N	Correlation Coefficient	Sig. (2 – tailed)
Tooth Brushing Behaviour (Before)	Tooth Brushing Behaviour (Before)	68	1.00	.
	Oral Hygiene/PHP-M (Before)	68	.29*	.016
Oral Hygiene/PHP-M (Before)	Tooth Brushing Behaviour (Before)	68	.29*	.016
	Oral Hygiene/PHP-M (Before)	68	1.00	.
Tooth Brushing Behaviour (After)	Tooth Brushing Behaviour (After)	68	1.00	.
	Oral Hygiene/PHP-M (After)	68	.57*	.000
Oral Hygiene/PHP-M (After)	Tooth Brushing Behaviour (After)	68	.57*	.000
	Oral Hygiene/PHP-M (After)	68	1.00	.

*(p<0.05)

Table 5. approves that there was a correlations between the tooth brushing behaviour with the oral hygiene of SD 2 Sayan, Ubud students before and after the correct tooth brushing program at school and at home in the trust level of 95%.

DISCUSSION

The correct tooth brushing behaviour of SD 2 Sayan, Ubud students before and after the tooth brushing program at school under guidanced by little dentists and parents at home has shown the significant difference. This might happen because before the intervention, the students did not know how to brush their teeth properly. According to Notoatmodjo, knowledge is the result of knowing, and this happens after someone use his/her senses to a definite object until he/she realizes in the sense of identifying the stimulus (object) that has been given(7). The knowledge obtained can develop an action or someone's behaviour which lasts longer than the behaviour which is not established from knowledge(16). The knowledge or cognitive is a very important domain in building someone's action.

Those students have experiences the adoption process, i.e., they have new behaviour based on their knowledge, awareness, and attitude to the stimulus(9). The change or adoption of recent behaviour is a complex process and it takes a long time. Behaviour changes consist of 3 passages. To get over those three passages, it takes a period as minimum as 21 days. The first 7 days are considered as the passage of building the knowledge and affecting the mind-set. The second 7 days are known as the passage of internalization to make a known behavior as the attitude pattern or habit., and the last 7 days are the passage of changing attitude into the new culture(17).

Besides of the above reasons, that might happen because of the monitoring by the little dentists and the parents. According to Lawrence W Green, human health behaviour is affected by predisposing, enabling, and reinforcing factors[16]. Parents become one of the reinforcing factors while the existence of little dentists becomes the enabling factors. The empowerment of little dentists and parents becomes the implementation of society empowerment as the effort or process to build the concern, willingness, and capability of the society to support the realization of health behavior or action[9]. The research held by Yongpisanphop showed that the decrease of carries prevalence of three-year-old children was caused by the participation of parents in carrying the tooth brushing activity to their children before bedtime at night[18].

The result of the research shows that the oral hygiene of SD 2 Sayan, Ubud grade 1 to 3 students increased which may be affected by having correct tooth brushing behaviour after doing the correct tooth brushing program every day by the little dentists and parents guidance, so that their teeth are prevented from plaque. Tooth brushing behavior become one of very important and effective healthy living behaviours in maintaining the oral health by doing prevention of plaque on the teeth[19].

That is in accordance to Sariningsih's statement that tooth brushing behaviour is one of health behaviours which is very important and effective to oral health protection by preventing them from plaque growing on teeth. The important things to notice in brushing teeth are the teeth, the tools, and the materials used, the time/frequencies of brushing the teeth, and also the way to brush the teeth[12].

The increase of the students' oral hygiene may happen because of their parents' participation in controlling those students to brush their teeth at least twice a day appropriately using appropriate tools and material for brushing the teeth. An intervention involving the oral health providers, the school personels, and children and their parents needs to be attempted to see what effect it could have on impact of school oral health education[20].

Brushing the teeth will minimize the mixture between sucrose and bacteria so that it can prevent from the existing of carries. The habit of brushing teeth after breakfast will minimize the growing of caries compared to the ones who never brush their teeth after breakfast, similar to the habit of brushing teeth before bed time at night that will minimize the growing of caries compared to the ones who do not brush teeth before bed time[21]. WHO and FDI clearly stated that the use of toothpaste with fluoride is the most realistic way to minimize the growing of carries because it has been used by almost all people around the world and it is safe to use. Fluoride toothpaste will be the most effective when it is used twice a day[1].

Health is not just about something to know or to realize or to take up, but also something to do in daily life, so that the aim of health education to make the society have healthy behavior for them themselves can be implemented. The collective tooth brushing program is for enabling the daily tooth brushing program advocation at school based on the GyeongJu Declaration in The 4th Asian Declaration on Oral Health Promotion for School Children in September 2007, mainly considered for early childhood since behavior becomes habit, which will be easier to build in early childhood[1].

CONCLUSION

The conclusion of this research is that little dentists and parents are able to change the tooth brushing behavior into the correct one and thus improve the oral hygiene of SD 2 Sayan, Ubud students.

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P-09

THE LEVELS OF BLOOD UREUM NITROGEN (BUN) AND CREATININE IN THE PATIENTS OF CHRONIC RENAL FAILURE WITH AND WITHOUT DIABETES

Diyah Candra Anita

Prodi Keperawatan Stikes 'Aisyiyah Yogyakarta, Indonesia
Jl. Ring Road Barat No. 63 Mlangi Nogotirto Gamping Sleman Yogyakarta, Indonesia
Email: diyah.candra@yahoo.com

ABSTRACT

Chronic Renal Failure (CRF) disease is a big problem in the worlddue to its complexity and the high cost treatment. CRFcan be caused either by diabetes and non-diabetes disease. Hemodialysis is a treatment to overcome thedamaged kidney function. Hemodialysis therapy is performed to remove waste metabolites, such as BUN and creatinine, which are not able to be disposed by the damaged kidneys. The general objective of this research was to figure out differences of blood urea nitrogen (BUN) and creatinine in CRF patients with Diabetes Mellitus (DM) and those without DM at PKU Muhammadiyah Hospital Yogyakarta. This was a comparative descriptive research applying accidental sampling and was conducted for 6 months (June-November 2014). The main measuring devices werepatients' medical records and laboratory results of BUN and creatinine. Respondents in this study consisted of 30 people, i.e. 19 patients of CRF without DM and 11 patients of CRF with DM. Mann Whitney test was applied to analyze differences of BUN levels of both groups, whereas independent t-test was applied for analyzing the creatinine levels. The difference test result shows that the BUN level of CRF patients without DM and that of CRF patients with DM were not significantly different (p=0.590), but the average BUN level of the former group was higher than the second group. Meanwhile, the creatinine levels of non-DM CRF patients and CRF patients withDM were significantly different (p=0.003). Therefore, non-DM CRF patients should pay more attention to theirfood intakes, especially by controlling protein consumption in order to anticipate the renal function of getting worse.

Keywords: Chronic Renal Failure (CRF), diabetes mellitus, Blood Ureum Nitrogen (BUN), creatinine

INTRODUCTION

Chronic Renal Failure (CRF) is a state of prolonged and chronic decline in kidney function. It is commonly caused by various kidney diseases and this condition is usually not able to be recovered (irreversible)[1].

The prevalence of CRF increases every year. Based on the Data & Information Center Hospital Association (PDPERSI), number of patients with CRF is estimated 50 people per one million inhabitants[2]. During the period of 1999-2004, there were 16.8% of the 20 year-old population experiencing CRF. The percentage was higher than that of the similar data in the previous six years.

The main etiologies of CRF disease are diabetes mellitus (44%), high blood pressure (27%), glomerulonephritis (10%) and others (19%)[1].Diabetes Mellitus (DM) is the most significant cause of CRF, which is about 30% of type-1 DM and 40% of type-2 DM. Signs of the initial phase of diabetesare usually unknown. The symptoms are foundafter 10 years living with type-1 DMor 5until 8 years suffering from type-2 DM[3].

In general, doctors recommend to undergo hemodialysis and, if possible, transplantation for patients with poor kidney function. However, patients with chronic kidney disease undergoing hemodialysis for a long time have a higher incidence of mortality than those undergoing transplantation[4].

Indonesia is a country with high level of patients with CRF. Currently, the number of patients with the disease reaches 4,500 people. The mortality of those CRF patients is mostly caused by patients' inability to afford the expensive treatment or dialysis (hemodialysis), which should be done 2-3 times in a week[5]. Meanwhile, the number of CRF patients also tends to increase, as seen from the increasing average number of hemodialysis patients, i.e. 250 patients/year.

Kidneys have a significant role in the body by excreting water and metabolic waste in the form of urine and producing erythropoietin hormone that is important for red blood cells formation[6]. Blood Ureum Nitrogen (BUN) and creatinine are waste products of the body metabolism. Increased levels of BUN and high creatinine may lead to additional complications that cause uremic shock which can also progress to death[7]. The level of BUNand creatinine needs to be monitored as the indicator of kidney damage level and this procedure should be performed whenever undergoing hemodialysis.

The general objective of this research was to evaluate differences in levels of BUN and creatinine in patients of CRF with DM and patients of CRFwithout DM in the inpatient unit class III of PKU Muhammadiyah HospitalYogyakarta.

METHOD

This research was a comparative observational study. The tools used in this research were secondary data from laboratory medical records of Blood Ureum Nitrogen (BUN) and creatinine level in the blood. The population involved in this study were all patients with CRF treated in the inpatient unit of PKU Muhammadiyah Hospital Yogyakarta. Characteristics of the sample patients were those with the age range of ≥ 20 years, who had not undergone hemodialysis therapy, and whostill could communicate well. The sampling method was done by accidental sampling during the research, i.e. the morning shift. Research data collection was conducted for 6 months.

The results of the research were analyzed using a statistical program. The scale of the data was a numerical scale that was presented in the form of mean ± Standard Error of Mean (SEM). Prior to analysis, data normality test was performed. The normality test used was Shapiro Wilk test because the sample involved<50 people. Normal distribution of data was tested using parametric statistics, namely the independent t-test (creatinine level); while the data which were not normally distributed were tested by non-parametric statistics, namely the Mann Whitneytest (BUN).

RESULTS

This research was carried out in PKU Muhammadiyah Yogyakarta for six months, i.e. from June to November 2014. It was conducted in two inpatient wards Class III, namely room Marwah and Arofah. Samples in this research were 30 people consisting of 19 CRFpatients without DM and 11 patients of CRF with DM.

Table 1.
General Demographic Data of Respondents

No.	Variables	Quantity	%
1.	Age		
	18-29 years old	1	3,30
	30-45 years old	11	36,70
	46-59 years old	11	36,70
	60-80 years old	7	23,30
2.	Sex		
	Male	17	56,70
	Female	13	43,30
3.	Diabetes Mellitus Status		
	CRF without DM	19	63,30
	CRF with DM	11	36,70
4.	Classification of Hypertension		
	Prehypertension	6	20,00
	Stage 1 Hypertension	6	20,00
	Stage 2 Hypertension	18	60,00
	Total	**30**	**100,00**

Table 2.
Frequency Distribution of Demographic Data of Respondents with/without Diabetes

No	General data	Non-diabetes		Diabetes	
		Quantity	%	Quantity	%
1.	Age				
	18-29 years old	1	5,26	0	0,00
	30-45 years old	8	42,11	3	27,27
	46-59 years old	7	36,84	4	36,36
	60-80 years old	3	15,79	4	36,36
2.	Sex				
	Male	11	57,89	6	54,55
	Female	8	42,11	5	45,45
3.	Address				
	Bantul	1	5,26	2	18,18
	DIY	14	73,68	4	36,36
	Gunung Kidul	3	15,79	0	0,00
	Kulon Progo	0	0,00	2	18,18
	Sleman	1	5,26	3	27,27
	Total	19	100,00	11	100,00

Table 3.
Frequency Distribution of Respondents. Blood Pressure

No.	Variables	Sistolic		Diastolic	
		Mean	SD	Mean	SD
1.	Respondents in general	163,20	28,01	95,83	3,84
2.	Age				
	30-45 years old	164,27	29,57	98,00	17,96
	46-59 years old	153,64	27,67	90,91	21,66
	60-80 years old	174,14	26,49	99,57	27,41
3.	Sex				
	Male	160,53	25,38	96,82	19,40
	Female	166,69	31,84	94,54	23,80
4.	Diabetes Mellitus Status				
	CRF without DM	167,05	28,43	93,53	17,85
	CRF with DM	156,55	27,26	99,82	26,16

Tabel 4.
Cross Tabulation of Hypertension Classification

No.	Variables	Prehypertension	Stage 1 Hypertension	Stage 2 Hypertension
		Quantity (%)	Quantity (%)	Quantity(%)
1.	Age			
	18-29 years old	0 (0,00)	0 (0,00)	1 (5,56)
	30-45 years old	2 (33,33)	2 (33,33)	7 (38,89)
	46-59 years old	4 (66,67)	2 (33,33)	5 (27,78)
	60-80 years old	0 (0,00)	2 (33,33)	5 (27,78)
2.	Sex			
	Male	2 (33,33)	6 (100,00)	9 (50,00)
	Female	4 (66,67)	0 (0,00)	9 (50,00)
3.	Diabetes Mellitus status			
	CRF without DM	4 (66,67)	2 (33,33)	13 (72,22)
	CRF with DM	2 (33,33)	4 (66,67)	5 (27,78)
	Total	6 (100,00)	6 (100,00)	18 (100,00)

Tabel 5.
Frequency Distribution of Respondents' BUN Levels

No.	BUN Level	Mean ± SEM	SD	Minimum value	Maximum value
1.	Respondents in general	179,03 ± 14,96	81,92	76	529
2.	Age				
	30-45 tahun	185,64 ± 15,40	51,09	110	273
	46-59 tahun	206,64 ± 34,13	113,19	93	529
	60-80 tahun	124,57 ± 16,00	42,33	76	183
3.	Sex				
	Male	179,41 ± 25,12	103,56	76	529
	Female	178,46 ± 12,14	43,78	110	273
4.	Diabetes Mellitus status				
	CRF without DM	189,16 ± 22,01	95,94	76	529
	CRF with DM	161,55 ± 14,66	48,61	95	231

Table 6.

Frequency Distribution of Respondents' Creatinine Levels

No.	Creatinine Level	Mean ± SEM	SD	Minimum value	Maximum value
1.	Respondents in general	11,04 ± 1,06	5,80	3,80	27,50
2.	Age				
	30-45 tahun	10,88 ± 1,44	4,78	4,80	20,60
	46-59 tahun	12,61 ± 2,03	6,73	7,10	27,50
	60-80 tahun	7,31 ± 1,16	3,06	3,80	10,6
3.	Sex				
	Male	10,25 ± 1,47	6,08	3,80	27,50
	Female	12,08 ± 1,52	5,48	4,80	21,50
4.	Diabetes Mellitus status				
	CRF without DM	13,29 ± 1,39	6,05	4,80	27,50
	CRF with DM	7,16 ± 0,70	2,33	3,80	11,00

Table 7.

Difference test on BUN and Creatinine Levels

No.	Variables	Difference test	*p value*	*Interpretation*
1.	BUN	*Mann whitney test*	0,590	Not significantly different
2.	Creatinine	*Independent t-test*	0,003	Significantly different

DISCUSSION

Chronic renal failure (CRF) is a condition of kidney damage that can be seen bythe results of urination, radiology and histology examination. CRF diagnosis is made when a patient has a glomerular filtration rate (GFR) of less than 60 mL / min / 1.73 m² in the same period for more than three months.[8] End-stage renal disease (ESDR), or terminal renal failure, is defined as kidney damage characterized by decreased GFR <15 mL / min / 1.73 m², as well as abnormalities examination of serum BUN.[9]

Age as A Risk Factor of CRF

Chronic renal failure (CRF) is a disease that can be suffered by all age ranges, either children, teenagers or the elderly. This is in line with the results listed in Table 1 which point out that respondents with CRF can be found in young adults (3.30%), middle age (36.70%), older adults (36.70%), and the elderly (23.30%).

Kidney failure can occur in all age ranges withvarious causes.[6] At a young age, failure can result from chronic dehydration and nephrotoxic substances. Consumption of food or beverages containing nephrotoxic substances will accelerate the destruction of kidney cells. At the age of older adults and the elderly, the growing ability of kidney cells anatomically decline and the deterioration of the kidney cell function may also start to occur.[10]

Most respondents (96.70%) in this study was 40 years old and above. The results correspond Lindeman and Preuss' theory (1994), which states that the kidney function will decline progressively from the age of 40 years.[11] Kidneys will experience changes in structure and function along withhuman aging proccess. According to Chadijah and Wirawanni (2012), renal function begins to decline by the age of 40 years and at the age of 60 years old the function remainshalf of the capacity function at the age of 40 years, due to the physiological

process in the form of the reduced population of nephrons and the kidney cells' inability to regenerate.[12]

The results in this study are in line with Fransiska's (2007), which states that the majority of CRF patients were 51-60 years old.[13] Research conducted by Daryani (2011), states that the average CRF patients had an age range of 40-46 years.[14] According to O'Hare et al. (2007), CRF disease often suffered by the elderly. This is because the elderly begin to encounter a declining nephron function of the kidneys. CRF patients of the elderly have a higher risk of death due to the lower value of the glomerular filtration rate (GFR). Theaverage GFR value ofelderly with CRF is 15 mL / min per 1.73 m^2 while that of adults with CRF is GFR 45 mL / min per 1.73 m^2.[15]

According to Weinstein and Anderson (2010), aging will progressively lead to a decrease in the value of GFR and renal blood flow (RBF). GFR decline will cause a decrease in average plasma flow and a decrease in the glomerular capillary coefficient. The decreasing afferent arteriolar resistance is associated with the increase in glomerular capillary hydraulic pressure. The hemodynamic changes occur due to changes in the structure of kidney aging, such as the loss of renal mass, the hyalinisation of the afferent arterioles, the increase of glomerular sclerotic and tubulointersitial fibrosis. Aging also will disrupt the activity and responsiveness towards vasoactive stimuli, such as the body's decreased response to perform vasoconstriction and vasodilation, and also the decreased activity of the renin-angiotensin and nitric oxidemechanism regulations.[16]

Sex as A Risk Factor of CRF

Table 1 shows that the majority of respondents in this study (56.70%) is male. Some theories mention that one of the CRF disease risk factors is sex. This study corresponds the results of research conducted by Saryono & Handoyo (2006), which states that the majority of patients with CRF were males (67.00%).[10] This is possible because the male urinary tract is longer which may allow the higher possibility of clogging along the way out from the bladder. These clogging may include channel narrowing (structure) or stone blockage within the urinary tract.

A research by Weinstein and Anderson (2010) suggests that sex hormones contribute to CRF. CRF progression in females is slower than in males, both clinically and experimentally (experimental treatment). Gender and age affect changes in the renin-angiotensin system (RAS) and nitric oxide (NO), as well as the activity of metalloproteases. Metalloproteases is a protease enzyme that perform mechanismof metal catalysis.[16]

The influence of sex on RAS is at the interaction between 17β-estradiol (E2) and Angiotensin II. E2,which decreases at the network level, is capable of lowering the activity of angiotensin II and Angiotensin Converting Enzyme (ACE). Conversely, testosterone will increase the activity of RAS. In experimental studies, esterogen therapy and androgen deficiency are used as the protection against the progression of CRF.[16]

Nitric oxide (NO) is a cytokine that has a protective effect on the kidneys as it prevents decreases in mesangial cells and matrix production. Differences in the levels of NO in sex due to the interaction between NO and E2, which will stimulate the release of NO synthase. A comparative study between pre-menopausal women and men, showed that the synthesis and production of NO in women were greater than those in men.[16]

The incompatibility of metalloproteases levels are also influenced by sex, especially its association with renal dysfunction. Metalloprotease is capable of splitting the matrix which

can help preventing the expansion of renal matrix. During the elderly ages, femalesare more likely to have the increasing level of metalloproteasethan males.[16]

Meanwhile, androgen in maleshas a negative effect whichleads to the increased risk of renal dysfunction. Androgenmay improve fibrosis and mesangial matrix production. It stimulates RAS and causes sodium retention increasing. Therefore, the blood pressure increases (hypertension) and accelerates the progression of CRF. [8,16]

DM Comorbidity Factor in CRF

The majority of respondents in this study (63.30%) did not have DM comorbidity. The results can be seen in Table 1. CRF respondents with diabetes involved the ages ranging from 46 to 80 years and the most of them weremales (Table 2).

Diabetes Mellitus (DM) is a metabolic disease caused by several factors. The disease is characterized by high blood sugar levels (hyperglycemia) and disruption of carbohydrate, fat and proteinmetabolism. Diabetic nephropathy is a complication of diabetes disease included in microvascular complications, i.e. the complications that occur in small blood vessels. High level of blood sugar causes both changes in kidney structure and impairment of kidney function. Glomerular damage causes protein (albumin) passing through the glomerulus so the presence of albumin in the excreted urine, called microalbuminuria, occurs. Once diabetic nephropathy appears, the interval between the onset and the terminal kidney damage varies between four to ten years, and this applies both for type-1 and type-2 DM.[17]

Results of research in Japan in 2007 show that the prevalence of microalbuminuria in patients with type 2 DM was 32% in which the ratio of male: female was 60:40.[18]In Germany the prevalence of microalbuminuria in patients with DM was 20-30%.[19] In India, the prevalence of microalbuminuria in DM was 36.3% in 2001. It can be concluded that the prevalence of microalbuminuria in DM in almost all of the population was high. In 2007, the prevalence of microalbuminuria in adult patients with type-1 diabetes in the world was 10-20% whereas the prevalence of type 2 DM was 15-30%. The prevalence between males and femaleswere not much different and the prevalence increased with worsening glucose tolerance.[20] In the United States, a study with a sample of 4006 patients with DM concluded that 1534 patients (38%) had albuminuria and 1132 patients (28%) suffered from renal impairment.[21]

Type 2 diabetes mellitus is a disease of multifactorial causes including genetic factors and environmental factors. DM risk factors are overweight (BMI ≥ 25), hypertension (systolic ≥140 mmHg), increased LDL (Low Density Llipoprotein) and triglycerides (≥250 mg / dl), low levels of HDL (High Density Lipoprotein) ≤ 35 mg / dl, impaired glucose tolerance, lack of phisical excercises, races, history of gestational diabetes or large birth weight (> 4 kg), and a history of vascular disease.[22]

Several evidences of researches points out that the causes of kidney failure in diabetes mellitus are multifactorial, including metabolic factors, growth hormone and cytokin, and vasoactive factors.[23] A study in the United States concluded that the increase in microalbuminuria was associated with smoking history, Indianrace, waist size, systolic and diastolic pressure, history of hypertension, triglyceride levels, white blood cell counts, the history of cardiovascular disease, and also the previous history of neuropathy and retinopathy.[21] Another study in the UK concluded that diabetic nephropathy risk factors were: glycemia and blood pressure; races; diet and lipid; and genetic factors.[24]

Blood Pressure Factor in CRF

Research results in Table 1 indicate that all respondents (100.00%) had higher than normal blood pressures. According to JNC VII, a person has normal blood pressure if systolic is <120 mmHg or diastolic <80 mmHg.[25] Data in Table 3 ilustrate that the majority of respondents in this study (60.00%) had stage 2 hypertension, with≥160 mmHg systolic blood pressure or ≥100 mmHg diastolic blood pressure. This is similar to the results of previous study conducted by Asriani (2014), which states that the majority of patients with CRF (56.70%) had hypertension.[26] Research carried out by Frances (2007) had similar results, i.e. that the average blood pressure in patients with CRF was > 160 mmHg for systolic and> 100 mmHg for diastolic blood pressure. According Saryono and Handoyo (2006), most frequently accompanyingco-morbidities of CRF were: hypertension (75.00%); DM (8.00%); DM and hypertension (13.00%); and polycystic kidney (4.00%).[10]

Ardiansyah (2012) states that, generally, CRF occursbecause of progressive damage in the kidneys. The damage is caused by high pressure in the glomerular capillaries, so that the blood would flow to the functional units of the kidney, kidney neurons would be disrupted, and this condition can continue to be hypoxia and cell death. If the glomerular membrane is damaged, the protein will come out through the urine, so the plasma colloid osmotic pressure is reduced. This will cause edema which is often found in chronic hypertension.[27]

One of the kidney functions is to control blood pressure.[28] Blood pressure controlling mechanism is maintained through several ways, mainly:

1. If the blood pressure increases, the kidneys will increase spending on salt and water, which can cause a reduction in blood volume so that the blood pressure is normalized;
2. If the blood pressure decreases, the kidneys will reduce the discharge of salt and water, so that the blood volume increases and blood pressure is back to normal;
3. Kidneys can also increase blood pressure by producing an enzyme called renin. This enzyme can trigger the formation of angiotensin hormone. Angiotensin is a stimulant for the secretion of aldosterone steroid hormone produced by the adrenal glands.

Kidney plays significant role in controlling blood pressure. Therefore, various diseases and disorders of the kidneys can lead to hypertension. Likewise, chronic hypertension is also capable of causing impaired renal function.[29] The same thing is also stated by Rahardjo, that there is a reciprocal relationship between hypertension and kidney disease. The damaged kidneys, especially on the renal cortex, will stimulate the production of the enzyme renin, which leads to an increase in blood pressure. When the kidney is damaged, the excretion of salt and water results in disturbed blood flow and, is continued by increased blood pressure afterward.[26]

High blood pressure is one prominent cause of kidney failure. Hypertension can damage the blood vessels in the kidneys and lead to the secretion of waste products. The waste is then secreted in the extra cellular fluid and will further increase the blood pressure, which ends with renal impairment (ESRD). G-protein and Ca2+ are also responsible for the control of blood pressure. Cell mutations can cause changes to both receptors and lead to progressive increase of blood pressure.[30]

Hypertension is a medical disorder that affects 10-30% of adults worldwide. Hypertension risk factors are genetic factors / heredity, salt overconsumption, stress, and also impaired metabolism of fats and carbohydrates. Hypertension can cause vasoconstriction of blood vessels in the kidneys so the blood flow to the kidneys is reduced. If this happens constantly (becoming chronic), then the kidney will be damaged and unable to function anymore. This

condition is referred to as end stage renal disease (ESRD). ESRD can not be medically cured, but the life expectancy of patients with ESRD is still be able to be extended by undergoing hemodialysis or renal transplantation.[31]

According to Haroun et al. (2003), the use of antihypertensive therapy can slow the progression of CRF. Protection of the kidney is attempted by the use of Angiotensin Converting Enzyme (ACE) inhibitors and angiotensin II antagonistreceptors.[32] American Study of Kidney Disease had proven that ACE inhibitor therapy was more effective than β-blocker therapy. According Asriani (2014), treatment of hypertension with renal impairment seeks to achieve the ideal blood pressure, i.e. 130 mmHg for systolic and 80 mmHg for diastolic blood pressure.[26] To reach the target blood pressure, the patient will usually be given more than one anti-hypertension drugs. Preventions can be performed by adopting a healthy lifestyle, such as avoiding the use of tobacco products, alcohol and caffeine, as well as measuring blood pressure on a regular basis for early detection.

The data in Table 3 illustrates that the average blood pressures, both systolic and diastolic measurements, reaches highest level in the elderly age range, ie 60-80 years. This study supports the results of research conducted by Rachman (2011) which suggested that hypertension was often found in the elderly, women and men by the age of more than 65 years. This occurs because of old age body organs were generally decreased, including renal and hepatic function. Due to the decreasing function, hypertension in the elderly required specifictreatments.[33]

Both systolicblood pressure (SBP) and diastolicblood pressure (DBP) increase with age. SBP will increase starting from middle age until 70-80 years of age, while diastolic begins to increase at the age of 50-60 years and then slowly decreases. As a result, the pulse rate will be found increased in patients with hypertension whose ages are 60 years and older. Patients with high blood pressure at a young age have a greater chance of suffering from hypertension at the time of the elderly. Increased blood pressure is a case in all sexes, both males and females. However, epidemiologic studies states that post-menopausal women would show an increase in blood pressure faster and more significantly than in men.[34]

The basic mechanism of systolic pressure increases is usually in line withthe increasing age due to a decrease in elasticity and stretching ability of the large artery (aorta). The aortic pressure highly increases whereas the intravascular volume expansion is too small as an indication ofblood vessel stiffness due to the old age. Systolic hypertension is hemodynamically characterized by a decrease in the flexibility of the large arteries, higher peripheral resistance, abnormal diastolic filling, andthe increase of the left ventricle mass. A decrease in blood volume and cardiac output accompanied by large arteries stiffness causes a decrease in diastolic pressure. The changes of sympathetic nerve system activities by the increasing norepinephrine causes a decrease in the sensitivity of adrenergic beta receptor system causing the decline in the function of vascular muscle relaxation.[33]

According to Pestana (2001), the aging factor in vascular and the changes in neuro-humoral are the main causes of hypertension in the elderly. Both of these factors lead to resistance and stiffness of the arteries. Stiffness of the blood vessels due to the structural and functional changes caused by aging, such as increased collagen, elastin and extracellular matrix protein, result in structural and mechanical changes in the lining of intima and media blood vessels. Proliferation of the connective tissues leads to an increase in the thickness and fibrosis of the intima, the stiffness of the blood vessels and also the loss of partial contractility. As a result, the diameter of the artery reduces.[34]

Data in Table 3 show that females (166.69 mmHg) had a higher mean of systolic blood pressure than males (160.53 mmHg). According to Rachman (2011), basically, the prevalence of hypertension in men is similar with women.[33] However, before experiencing menopause, women are protected from cardiovascular diseases due to the activity of the estrogen hormone which role is to imptove the level of High Density Lipoprotein (HDL). Higher HDL cholesterol levels areprotective factor in preventing atherosclerosis. Slowly but sure during the premenopause period, women begin to lose estrogen hormone that has been protecting the blood from damage. This process continues until the esterogen hormone naturally diminishes as the age increases, which generally occurs in women starting from 45 to 55 years of age.

According Chobanian et al. (2009), oral contraceptives can also increase the risk of hypertension. Therefore, women who took this type of contraceptives must perform regular blood pressure checks. On the contrary, the use of hormone replacement therapy (HRT) does not increase blood pressure. Women with hypertension and pregnancy should be more-carefully monitored, because the potential occurrence of preeclampsia can fatally endanger both mother and fetus.[25]

BUN Levels in CRF

Table 5shows thatBUN levels of all respondents(100%) are higher than normal with average levels of BUN 179.03 mg / dL. BUN level is considered normal if it is in the range of 20-40 mg / dL. The results in this study support the research conducted by Setyaningsih(2013), which says that there was an increasedBUN levels in patients with CRF, with a minimum value of 146 mg / dL and a maximum value of 165 mg / dL. Research conducted by Amin et al. (2014) also suggests the same thing, i.e. 53% of the total respondents'BUN levels were ≥200 mg / dL.[7]

Kidneys have a strategic role in the body by excreting water and metabolic waste in the form of urine and produce the erythropoietin hormone which is significant in the formation of red blood cells.[35] Therefore, kidney failure will always lead to a serious problem. Metabolites such as BUN and creatinine will increase, and erythropoietin does not work optimally, resulting in anemia. When renal function is only 5% or less, then treatment of dialysis (hemodialysis) or a kidney transplant is absolutely necessary .

BUN can be used as a parameter for assessing the adequacy of hemodialysis action. BUN is a residual product in the form of nitrogen metabolism as the largest compound formed in the liver and excreted by the kidneys.[36] BUN is an organic compound that consists of the carbon, hydrogen, oxygen and nitrogen with formula CON_2H_4 or $(NH_2)_2CO$. BUN derived from dietary and endogenous proteins that have been filtered by the glomerulus and partlyreabsorbed by the tubules. Low levels of BUN are usually not considered abnormal because it reflects a lack of protein in the diet or expansion of plasma volume. Checking plasma BUNconcentration is necessary in patients with kidney disease, especially to evaluate the effect of dietary protein restriction.[37]

Increased levels of BUN are also called uremia. Uremia is organic waste of metabolism which can not prefectly filtered by the kidney due to kidney problems, especially when kidney function is under 50%.[38] Uremic state increases oxygen demand and can exacerbate hypoxia on renal tubular by accelerating the oxidative stress. Uremia may also disrupt the production of erythropoietinhormonewithin the kidneys.

There are three main cause of uremia, namely the pre-renal, renal, and pascarenal cause. Pre-renal uremia occursdue to the failure of mechanisms before glomerular filtration. The mechanisms include a decrease in blood flow to the kidneys and an increase in catabolisms of protein such as gastrointestinal bleeding, hemolysis, leukemia (leukocyte protein release), serious physical injury, burns, and fever. Renal uremia is caused by renal failure (common cause) that cause excretion of BUN. Acute renal failure can be caused by glomerulonephritis, malignant hypertension, or metal nephrotoxic drugs. Chronic renal failure occursbecause of glomerulonephritis, pyelonephritis, diabetes mellitus, arteriosclerosis, amyloidosis, and renal tubular disease. Pascarenal uremia is caused by urinary tract obstruction in the lower ureter, bladder, or urethra which inhibit the excretion of urine.[37]

None of BUN levels in elderly respondents (0.00%) were more than 200 mg/dL (Table 5). This was because the elderly decreased food intake by many factors, including a decrease in taste nerves, the production of saliva, teeth loose, shrinkinggums and excessive peristaltic reflex. These factors will lead to the difficulty in distinguishing smells and tastes, the problem to chew meals, and the sensation of being full too early.[39]

Data in Table 5 show that the average BUN ofmales (179.41 mg / dL) was slightly higher than that of females (178.46 mg / dL). The results support the research conducted by Isobe et al. (2005) stating that the average BUN levels in men was 16.5 mM, which was slightly higher than average BUN levels in females (15.0 mM). This corresponds the theory that the males have slightly higher average levels of BUN than females because they tend to have higher index of body mass. BUNmay increase more when a person overconsumes proteins for a long period, but the newly consumed food does not immediately influence the BUN level.

The data of BUN levels in this study (Table 5) show that the average non-diabetic CRF group (189.16 mg/dL) has a higher level of BUN than the average of the CRF group with diabetes (161.55 mg/dL). This study supports the results of Chadijah and Wirawanni's research (2011), which states the average BUNof patients of CRF without DM was higher than that of Patients of CRF with DM.

It is assumed that the high value of BUN in the blood of patientsof CRF without DM compared with patients of CRF with diabetes was not only caused bythe damage of kidney function which could not remove BUN in the urine, but also because the average patient of CRF without DM hadhigher protein intake compared withpatients of CRF with DM which resulted in higher levels of BUN. Patients of CRF with DMusually apply the instruction of diet restriction, especiallyfor foods with high glycemic index because it can raise blood sugar levels, such as honey, sugar, syrup, whereas the non-CRF patients with diabetes may consume those foods without particular restriction.

BUN is a product of nitrogen released through the kidneys derived from the diet. BUN provides a more details of occuring symptoms. For example, BUNat the levels of 20-25 mg/dL will result in symptoms of vomiting, and at levels of 50-60 mg/dL will increase to more severe symptoms. BUN is the most good indication for the onset of uremic toxic. Uremic toxic/uremic syndrome causes CRF patients experiencing hormonal, gastrointestinal, and other disorders. BUN toxic symptoms can be eliminated by applying a low protein diet.[12]

As seen on Table 7, Mann Whitney comparison test conducted in this studyshows that there were no statistically significant differences ($p = 0.590$; $p > 0.05$). It does not correspond former researches conducted by Hidayati (2010) and Shrestha et al. (2008), which found that there were significant differences between BUN levels of patients of CRF without DM

compared withPatients of CRF with DM(p <0.05).[40,41] The current research result is probably because the data collection wasconducted since the beginning of patients being diagnosed with CRF and they had not experienced hemodialysis therapy. Both patients of CRF without DM and Patients of CRF with DMobserved in this study just knew that they suffered from CRF based on examination results when they were hospitalized in Marwah and Arofahwards. However, Patients of CRF with DM , had already known that they had diabetesso they had been applying calories and protein restriction diet.

The National Kidney Foundation's Kidney Dyalisis Outcome Quality Initiative (KDOQI) recommends that the use of protein should be 0.6 g/kg/ day and 35kcal/kg/day in patients with CRF who did not undergo dialysis therapy. Excessive protein consumption will become toxic in blood due to kidney failure because it can result in uremic syndrome that interfere organ systems to become abnormal, such as hormonal disorders, gastrointestinal disorders and others. The conservative therapy by providing low protein diet is expected to improve the quality of patients' life.[12]

Diabetes Mellitus is one of the major causes of morbidity and mortality. One of microvascular complications, namely diabetic nephropathy,is able to cause CRF disease. Good control of blood glucose levels can prevent the progression of kidney failure. Therefore, regular monitoring of blood glucose levels will have correlation with the high and low levels of BUN as a biomarker of kidney failure.[41]

Creatinine Levels in CRF

Results in Table 6 ilustrate that the mean creatinine level at all respondents was 11.04 mg / dL. All respondents (100.00%) hadhigher creatinine levels than normal state. Creatinine is excreted by the kidneys as a combination of filtration and secretion, with relatively constant concentration in the plasma day by day, of which higher (than normal) level of the value indicates the impaired renal function.[42]The level of creatinine in the blood is one of the parameters used for asessing kidney function. This is because both the plasma concentration and its excretion in the urine within 24 hours are relatively constant. When the blood creatinine levels are greater than normal, there must be an impaired renal function. The normal creatinine valuebased on the Jaffe reaction method is between 0.8 and 1.2 mg/dL for men; or between 0.6 and .1 mg/dLfor women.

Creatinine is a metabolic product which has a larger molecules than BUN and essentially impermeable to the membrane tubules. Therefore, none of filtered creatinine is reabsorbed, meaning that all creatinine is filtered by the glomerulus to be excreted into the urine. However, a small amount of creatinine is secreted by the tubules so the amount of creatinine excreted in the urine slightly exceeds the number of the filtered one.[43]

Creatinine is a decomposition product of creatine. Creatine is synthesized in the liver and is present in nearly all of the skeletal muscles so that individuals with heavy muscle mass may have a higher value of creatinine.[44] There are several factors influencing the increase in creatinine plasma, such as: [45]

1. High creatinine diets of meat or creatinine-richsupplements,
2. Reduction of creatinine secretion due to competition with the ketone acids, organic anion (in uremia), or drugs (cimetidine, sulfa).

Checking the blood creatinine by examining the urine creatinine can be applied to assess the ability of glomerolus filtration rate. By using creatinine clearance test, the measurement of creatinine levels can represent the grade of renal functionimpairment. Hemodialysis is

performed in severe renal function impairment, mainly when creatinine levels of more than 7 mg / dL serum.[7]

Hemodialysis can prevent serious complications of kidney failure. Hemodialysis will improve the biochemical abnormalities, enable the possibility of fluid, protein and sodium to be consumed freely, eliminate the tendency of bleeding and contribute to expedite the healing of wounds. A twice increase of creatinine serum levels indicates a 50% decrease of renal function, as well as three-time increase shows 75% decrease of the function. The declined gromerular filtration leads to a decrease in creatinine clearance and an increase in serum creatinine level.In addition, the levels of creatinine and blood ureum nitrogen (BUN) also tend to increase. This serum creatinine reflectsthe most sensitive renal damage because it is constantly produced by the body.

The mean serum creatinine level of non-diabetic CRF respondents was CRF 13.29 mg/dL. It was higher than the average level of CRF respondents with diabetes, i.e. 7.16 mg/dL. The value of p=0.003 (p <0.05) was the results of statistical tests using independent t-test (Table 7). It suggests that there were significant differences between mean levels of creatinine in non-DM CRF patiens compared withPatients of CRF with DM . This result supports the research conducted by Chadijah and Wirawanni (2011), which found that the creatinine level of non-diabetic patients with CRF was higher than CRF patients with diabetes.[12] In addition, the result of this study which shows the significant difference of mean creatinine level between the two groups of respondents also corresponds the former research conducted by Hidayati (2009), with the value 'p' of independent t-test <0.05.[40]

The higher value of serum creatinine in CRF patients without DM compared with patients of CRF with DM, is assumed to be influenced by the higher amount of protein intake consumed by the former group of respondents. Based on the theory,the factor which affects the increase of creatinine plasma in the blood are high-protein diet, whereas the factor which results in the decrease of creatinine plasma in the blood is low protein diet and also reduced muscle mass due to the low body mass index.[12]

The low serum creatinine level illustrates the declining volume of skeletal muscle. Skeletal muscle is the tissue's target to insulin, and if insulin resistance occurs, the state will progress to type 2 DM. A decrease in skeletal muscle volume will result in the declining insulin target. This explains why patients with type 2 diabetes tend to have low levels of serum creatinine (Harita et al., 2009). The theory supports the research conducted by Hjelmesaeth et al. (2010), which suggests that the low serum creatinine is a predictor of type-2 diabetes with obesity.[46]

CONCLUSION

Based on the research results, it can be inferred that BUN level in the CRF without DM respondents did not significantly differ from BUN levels in CRF with DM respondents (p = 0.590); whereas creatinine levels in CRF without DM respondents were significantly different from creatinine levels of CRF with DM respondents (p = 0.003).

RECOMMENDATION

Patients of CRF without DMshould control their food intakes, especially protein,in order to controlthe level of BUN and creatinine so the kidney function would not get worse.

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P-10

CORRELATION BETWEEN THE KNOWLEDGE LEVEL WITH ATTITUDE OF ADOLESCENTS ON HIV TEST IN YOGYAKARTA

Nurmalitha Puspitaningrum, Yani Widyastuti, Nanik Setiyawati

Midwifery Departement of Health Polytechnic of Health Ministry Yogyakarta, Jalan Mangkuyudan MJ III/304 Yogyakarta 55143, Indonesia
email : nurmalitha_puspitaningrum@yahoo.co.id, yaniwidyastuti.yk@gmail.com, nanikyogya@gmail.com

ABSTRACT

AIDS cases caused by injecting drug keep increasing among adolescents. Found in DIY are 193 cases in 2014. One of the preventive measures and early detections to determine the status of HIV is counseling and HIV test. Knowledge and attitude will help adolescents prepare to prevent HIV/AIDS through counseling and HIV test. The purpose of this study is to find out correlation between the knowledge level and attitude of adolescents on HIV test. The type of this study is analytic survey with cross- sectional design. The study is conducted in 2015 at SMK N 1 Yogyakarta. This study uses 180 students as the sample. Most respondents get information about HIV test from health professionals. There are more female respondents and all respondents live in urban areas. 81.7% of the respondents good knowledge on the subject and 50.6% of the respondents have supporting attitude. Meanwhile, 56.5% of the respondents have good knowledge and supporting attitude about HIV test. The conclusion of this study is that most respondents have good knowledge and supporting attitude on HIV test. There is a positive correlation between the knowledge level and attitude, this is evidenced by p value = 0,004.

Key words: knowledge, attitude, HIV test, adolescent

INTRODUCTION

Background

Adolescence is a period of transition from child hold to adult, at that time the growth happen rapidly include the reproductive function which occur development changes, include the physical, mental and social [1]. Characteristics of adolescent are having a high curiosity which makes adolescents tend to want adventure, explore and try everything that has never been experienced [2].

United Nations Office on Drugs and Crime (UNODC) in 2010 estimate in 2008 there are 155-250 million people in the world try drugs least once a year[3]. Research health research center, University of Indonesia in 2006 to 2007 showed the drug users in Indonesia as many as 1,1 million (34,38%) were students [4].

AIDS cases which are caused by narcotics increase among adolescents [5]. Drug abuse through a syringe become a new trend mode of HIV transmission, in 2010 to 2013 there were 8028 cases of AIDS due to injecting drug user/IDU [6]. There were 193 AIDS cases in IDU were found in DIY [7].

The effort to control the HIV-AIDS through health promotion should be given to school age children. Health promotion given to adolescents may increase the knowledge of AIDS so the risk of HIV transmission now and in the future can be reduced.

The president instruction No 3 in 2010 targeted people aged 15 years or older are receiving counseling and HIV test amount to 300 thousand people in 2010 and 400 thousand people in 2011[8]. Research conducted to sexually active adolescent age 15-24 years in South Africa showed as much as 60% of them want to know their status of exposure to HIV [9]. Research on the effect of the action learning on knowledge and attitudes of adolescents about HIV/AIDS and VCT clinics in Vocational Fisheries and Marine Puger Jember showed the students still have less knowledge and negative attitudes about HIV/AIDS and VCT clinics before action learning [10].

This research reveals the correlation between knowledge and attitudes of adolescents toward HIV test in Yogyakarta. Based on data, Gedongtengen health center has the highest coverage of VCT (*Voluntary Counseling and Testing HIV*) in 2014 in the health center in Yogyakarta [7]. Gedongtengen public health center has VCT clinic of HIV-AIDS and also youth-friendly public health center in terms to prevention of HIV-AIDS. SMK N 1 Yogyakarta is a school that is within the working area of Gedongtengen public health center. SMK N 1 Yogyakarta is located close to the largest localization of sex workers in Yogyakarta that Pasar Kembang. It makes adolescents around the localization region is vulnerable to drug trafficking and free sexual activity that can lead to the HIV/AIDS transmission.

Purpose

This research is to find out the correlation between knowledge level and attitude of adolescent toward HIV test in Yogyakarta.

METHOD

This research used analytic survey with cross-sectional approach. The study was conducted in April 2015 in SMK N 1 Yogyakarta. The research sample was 180 students. There are two variables, the dependent variable is the knowledge level and the independent variable is the attitude toward HIV test. The research instrument used an enclosed questionnaire. Instrument has tested the validity and reliability in March 2015 in SMK N 7 Yogyakarta as much as 30 students. To test this hypothesis and research, data were analyzed by chi square, the confidence level of 0.05 using SPSS 17.0.

RESULT AND DISSCUSION

The Characteristics of Respondents Based on Information Resources, Gender and Region

Table 1.
The Characteristics of Respondens

No	Characteristics	Frequency (f)	Persentage (%)
1	Information Resource		
	a. Parent	17	9,4
	b. Friend	13	7,2
	c. Health Provider	100	55,6
	d. Television	20	11,1
	e. Internet	29	16,1
	f. Newspaper	1	0,6
	Total	180	100,0
2	Gender		
	a. Male	6	3,3
	b. Female	174	96,7
	Total	180	100,0
3	Region		
	a. Urban	180	100,0
	b. Rural	0	0,0
	Total	180	100,0

The result showed most respondent get information from health providers. This is consistent with the tendency of individuals to have an attitude in line with the attitude of someone who is important. People who are considered important for individual including the elderly, people of a higher social status, peers, teachers, health provider and others [11].

It also shows that health providers have an important role in providing the correct information in the school. However, the information which obtained by respondents are just around HIV/AIDS so respondents did not have sufficient knowledge about HIV test. This is same with the results of Basic Health Research (2010) knowledge of adolescents about the highest of HIV Voluntary Counseling and Testing (VCT) only 7.6% [10].

According Suwarni (2009) in adolescence, the proximity to the peer-group is very high because in addition to peer-group ties replace family ties, is also a source of affection, sympathy and understanding, share experiences, and as a teenager to achieve autonomy and independency [14]. According to Ann E Kurth role of peer-group can be a solution to increase HIV test in adolescents is to form associations/organizations adolescent and youth-friendly program [18].

The results show the majority of respondents were female. This is because in the population of female more than male so that respondents are drawn also more female.

The results also show all respondents live in urban areas. It is adapted to the classification of rural, urban and rural set the Central Statistics Agency (BPS) that no respondents who reside in rural areas.

The Knowledge Level About HIV Test

Table 2.

The Knowledge level about HIV test

No	Knowledge Level	Frequency (f)	Persentage (%)
1	Good	147	81,7
2	Enough	23	12,8
3	Less	10	5,6
	Total	180	100,0

In general, the level of knowledge is good. The knowledge is the result of know and it happens after a person perform sensing on a particular object [10]. At the time of sensing to generate knowledge can be influenced by the intensity of attention and perception of the object. It shows that whether or not a person's knowledge about HIV test is influenced by the intensity of exposure to information related to HIV test. According to the theory by Notoatmodjo (2007) that knowledge can also be influenced by other factors such as experience, information, cultural and socio-economic environment is different [10].

The results support the research of Negara MP (2014) that after doing the posttest showed a large majority of respondents experienced a change in knowledge about HIV/AIDS and VCT Clinic. Data pretest performed before action learning is 13 people (44.8%) have less knowledge, while the performed action after learning the results to 20 people (69%) have a good knowledge [10].

The level of knowledge is also influenced by gender. This is supported by Desilianty Sari research that indicates by gender as much as 54% of female respondents have good knowledge, while male as much as 40%. The female psychologically are more motivated and diligent in study and work than male. This makes the achievement of female better than male [15].

The result of Oppong Asante research in 2013 also revealed a significant gender differences in HIV knowledge, with females being more knowledgeable than males, but males were more likely to have to take an HIV test in the future than females[19].

According to research of Oktarina (2009) the level of knowledge may also be affected by a person's live. This is shown by the respondent in urban areas tend to have knowledge about HIV/AIDS either 0.4 times compared to rural areas [16].

The Attitude Toward HIV Test

Table 3.

The Attitude toward HIV Test

No	Attitude	Frequency (f)	Persentage (%)
1	Support	91	50,6
2	Not Support	89	49,4
	Total	180	100,0

The attitudes of respondents toward HIV test showed that respondents who have an attitude of support and not support nearly as much. Attitude is a response to someone who is still closed to the object and a readiness to react to certain objects in the environment. The differences in the formation of attitudes can be influenced by personal experience, the influence of others that are important, culture, mass media, educational institutions and religious institutions as well as emotional factors influence [11].

According to Ike (2008) that gender may influence a person's attitude. Male in deciding something is more likely to lead to logical thinking, while female have a tendency to use in determining the feeling of something. The difference in mindset affects the election attitudes of respondents [17].

The attitude is not an act, but a predisposition of behavioral act [13]. Thus indicate that attitudes support HIV test predispose to do HIV test in health facilities.

The results support the research by Pavilianingtyas A, Ulfa N, and Sri R in 2012 that 44 of 87 respondents (50.6%) have a support attitude towards the prevention of HIV infection [12]. The study of Addis (2013) showed the respondents who have a positive attitude toward VCT mostly want to do VCT as many as 198 respondents. This shows that attitudes towards HIV test can influence individual behavior for doing HIV test [20].

Correlation Between Knowledge Level with Attitudes Toward HIV Test

Table 4.
Cross tabulation of attitudes toward HIV test based on knowledge levels

No	Knowledge level	Attitude				Total		*p value*	x^2
		Support		Not Support					
		f	%	f	%	f	%		
1	Good	83	56,5	64	43,5	147	100	0,004	11, 296
2	Enough	6	26,1	17	73,9	23	100		
3	Less	2	20,0	8	80,0	10	100		
	Total	91	50,6	89	49,4	180	100		

The results of bivariate analysis using chi square test was obtained p-value <0.05. It shows that there is a significant relationship between the levels of knowledge with attitudes towards HIV testing.

Contingency coefficient C = 0.243 indicates the strength of relationship between two variables at a low level of correlation. It shows knowledge of HIV test has a role in the formation of a person's attitude towards the implementation of HIV test. These effects are low due to the formation of attitudes are also influenced by personal experience, the other important respondents, cultural and emotional factors [11].

Ajzen and Manstead in Pali (2007) found that attitudes are formed positive or negative, depending on the positive or negative in terms of the knowledge component. The knowledge of an object forms beliefs and influence on attitudes. In this study, a total of 147 respondents who have a good knowledge as many as 83 respondents (56.5%) have a support attitude HIV test. Thereby showing respondents who have a good knowledge tend to have an attitude to support HIV test.

The results support the research Negara MP (2013) titled "Effect of Action Learning of the Knowledge and Attitude Youth on HIV / AIDS and Clinical Voluntary Counseling and Testing (VCT) at Vocational Fisheries and Marine Puger Jember". Individual attitudes determined how much knowledge they have. This is shown as many as 13 people (44.8%), who has knowledge about HIV/AIDS and VCT clinics in both categories, most have a positive attitude, they are 8 people (61.5%) [10].

CONCLUSION AND RECOMMENDATION

Conclusion

1. Most respondents are on the resources from health provider, female and live in urban areas
2. The knowledge level of respondents mostly are good categories
3. The attitude of respondents are support HIV test
4. There is a correlation between knowledge level with attitudes toward HIV test, this is evidenced by the result p value <α (0,05) which is 0,004

Recommendation

1. Adolescents are expected to access the health service about HIV test in health provider directly

2. The schools are expected to make corporation with health provider or public health clinic to give education about HIV test
3. The schools are expected to increase the role of peer group to form a group discussions forum and accommodate students in information and counseling Center-health reproduction (PIK-KRR)
4. Public health centers are expected to sustain the implementations of youth-friendly program
5. The health provider are expected to increase counseling about HIV test, not only about HIV/AIDS

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P-11

RELATION BETWEEN KNOWLEDGE LEVEL AND IMPLEMENTATION OF DENGUE FEVER MOSQUITO NEST ERADICATION AT WORKING AREAS OF NGEMPLAK BOYOLALI COMMUNITY HEALTH CENTER CENTRAL JAVA IN 2014

Ayu Khoirotul Umaroh, Yuli Kusumawati, Heru Subaris Kasjono

Student of Public Health Department, Universitas Muhammadiyah Surakarta, Indonesia
Email : ayukhoirotulumaroh@yahoo.com

ABSTRACT

One of the potential disease outbreaks which is still increasing in Indonesia is dengue fever. The high number of dengue fever cases in Indonesia is contributed by dengue fever morbidity rate in Central Java, proven by the fact that 35 districts have been infected. The dengue fever morbidity rate in Central Java by 2012 was 19,29/100,000 of population, increased if compared to the previous year (15,27/100,000 of population) which was still within the national target that was about 20/100,000 of population. In 2013, in Boyolali, dengue fever patients increased significantly compared to the 2012 on the same period up to August. As of August 2012, there were 63 confirmed cases of dengue fever while for the same period in 2013 there were 125 cases. The relationship between knowledge level and Implementation of Dengue Fever Mosquito Nest Eradication at Working Areas of Ngemplak Boyolali Community Health Center Central Java in 2014. Rapid survey using cluster sampling technique. Chi Square shows the value of sig=0,000, OR = 4,470, 95%CI = 2,718-7,354. The total sample of good knowledge level with good implementation of mosquito nesteradication were 136 of respondents and the total sample of poor knowledge level with bad implementation of mosquito nesteradication were 71 of respondents. There is meaningful relationship between knowledge level and implementation of dengue fever mosquito nest eradication at working areas of Ngemplak Boyolali Community Health Center Central Java in 2014.

Keyword: Knowledge level, Mosquito Nest Eradication, Dengue Fever

BACKGROUND

Indonesia is a developing country which has the complexity of health problems. It cannot be denied that Indonesia bears *triple burden diseases* with high infectious disease numbers, the growing of non-communicable diseases, and re-emerging happening diseases. These infectious and re-emerging diseases could potentially be plague or outbreaks.

Extraordinary incident or outbreak in Indonesia is still becoming a concern from the world health. It was due to the high number of outbreaks which becomes one of successful
indicators of preventive measures in health in the field of epidemiological surveillance. If the outbreak happened in a region, the epidemiological surveillance should quickly implement the epidemiological investigations in order to prevent the disease transmission.

The health ministry of Indonesia on Law Number 4 of 1984 regulates that infectious diseases outbreak that is here in after called as outbreak is incident of spreaded infectious diseases in the community with increasing number of patients excess the common condition at the certain time and areas and may cause a catastrophe. In the regulation of Minister of Health of Indonesia number 560/MENKES/PER/VIII/1989 has decided 16 outbreak diseases,

i.e. Cholera, Pestilence, Yellow fever, Spotted Typhoid Fever, Dengue Fever, Measles, Polio, Diphtheria, Pertussis, Rabies, Malaria, Influenza, Hepatitis, Abdomen Typhoid, Meningitis, Encephalitis, and Anthrax. One of the potential disease outbreaks which is still increasing in Indonesia is dengue fever. Dengue fever is transmitted by the bite of an Aedes mosquito infected with a dengue virus with an incubation period of 3-15 days. The mosquito becomes infected when it bites a person with dengue virus in their blood. Dengue virus is carried by *Aedes aegypti mosquito*, which breed in stagnantwater.

Mosquito's breeding places are in humid environment, have high rainfall, and there are stagnant water in oroutside the house. Other factors of dengue fever are poor environmental sanitation, people's unhealthy behavior, behavior in the house during the day and also mobility. People's mobility holds the most major role in the transmission of dengue virus.[1]

Related to the high number of dengue fever cases in the country as of 2010 there were 497 numbers of regencies/cities, with total number of 90.245 people infected and 816 fatalities recorded.[2] Central Java contributed the high number of dengue fever morbidity proven by the fact that 35 regencies/cities have been infected by dengue fever. The dengue fever morbidity rate in Central Java by 2012 was 19,29/100,000 of population, increased if compared to the previous year (15,27/100,000 of population) which was still within the national target that was about 20/100,000 of population.

The high number of dengue fever morbidity is caused by climate change and high rainfall in rainy season which can be the most potential breeding facility of *Aedes aegypti* mosquito. It is also supported by not maximum activity of mosquitoes nest eradication in the community that causing to an extraordinary situation or outbreak. The number of dengue fever morbidity in the districts almost more than 20/100,000 of people.[2] Boyolali is an endemic area of dengue fever in Central Java with the number of 140 cases in 2005 which was reported by 19 subdistricts and was always increasing 1.5 percent annually.

In 2013, in Boyolali, dengue fever patients increased significantly compared to the 2012 on the same period up to August. As of August 2012, there were 63 confirmed cases of dengue fever while for the same period in 2013 there were 125 cases.[3] Furthermore up to mid-October 2013 there were 167 cases of dengue fever, seven of which were fatal.

One working area of Boyolali Community Health Center which has high and increasing dengue fever case is in Ngemplak. In accordance with the report from Ngemplak Community Health Center, it is recorded that the highest dengue fever case among thirteen sub-districts in Boyolali between 2009 up to July 2012 found in Ngemplak. The data was collected from Ngemplak Community Health Center that showed 51 dengue fever cases in Ngemplak in 2009, 81 cases in 2010, 21 cases in 2011, and 5 cases recorded in 2012.[3]

Based on the problem explained, writer is interested to do a study in order to find the relationship between knowledge level and implementation of dengue fever mosquito nest eradication at working areas of Ngemplak Boyolali Community Health Center Central Java in 2014.

METHOD

A quick or rapid survey research areas cluster sampling technique. At the working areas of Ngemplak Community Health Center as the survey location, there will be 30 randomly selected cluster areas. Each selected cluster requires 10 respondents who meet the required criteria of the survey.

Population of this survey is all people in the working areas of Ngemplak Community Health Center so that the total sample of this research is 300 respondents for 30 clusters. Election of the 30 clusters is conducted by doing probability proportionate to size (PPS). Thus, it is required to collect data consist of name and a total population of village in a random way using a computer application. Instrument data use questionnaire. Then, the data analyze using Chi Square as bivariate.

RESULTS AND DISCUSSIONS

Sex of Respondents

Table 1.
The frequency distribution of sex of respondent in the Working Areas of Ngemplak Community Health Center Boyolali Regency

Sex	Amount	Percentage (%)
Male	155	51,7
Female	145	48,3
Total	**300**	**100,0**

From the table above it is found that male respondents (51.7 %) were higher than women (48,3%).

Age of Respondents

Table 2.
The frequency distribution of the age of respondent in the Working Areas of Ngemplak Community Health Center Boyolali Regency

Age	Amount	Percentage (%)
0 – 14	2	0,7
15 – 25	21	6,9
26 – 49	170	56,8
50 – 69	102	34,0
>70	5	1,6
Total	**300**	**100,0**

From the table above it is seen that the youngest respondents aged 0-14 years which consisted of 2 respondents (0.7 %) and the oldest consisted of 5 respondents (1.6 %). While the majority of respondents are between 26-49 years old consisted of 170 respondents (56,8 %).

Educational Level Distribution

Table 3.
The frequency distribution of the respondents' educational level in the Working Areas of Ngemplak Community Health CenterBoyolali Regency

Stage	Amount	Percentage (%)
No recording	7	2,3
Uncomplete	13	4,3
Elementary	77	25,7
Junior	73	24,3
Senior	100	33,3
University	30	10,0
Total	**300**	**100,0**

From the table above it can be seen that the lowest level of education of most respondents were not leaving school that consisted of 13 respondents (4.3 %). The higher level of education was graduated from college which consisted of 30 respondents (10 %). While the majority of respondents were graduated from high school that consisted of 100 respondents (33.3 %). Some researches that was done by researchers show that there is no relation between education level and knowledge of dengue fever mosquito nest eradication.[8,9]

Education level influence knowledge level of someone, health knowledge will influence someone's behavior as the result of intermediate impact from health education, and then health behavior will influence the increasing of public health indicator as the output of health education.[10]

Dengue Fever History of Respondents

Table 4.
The frequency distribution of Dengue Fever History of respondent in the Working Areas of Ngemplak Community Health CenterBoyolali Regency

Dengue Fever History	Amount	Percentage (%)
Infected	28	9,3
Never infected	272	90,7
Total	**300**	**100,0**

From the table above it can be seen that respondents experienced dengue fever were 28 people (9,3 %) and respondents that never have experienced dengue fever were 272 people (90,7%).

Relationship Between Knowledge Level and Implementation of Mosquito Nest Eradication

Table 5.
Analysis of relation between knowledge level and implementation of Mosquito Nest Eradication in the working areas of Ngemplak Community Health Center Boyolali Regency

Knowledge	Mosquito Nest Eradication Behavior		Total	x^2	ρ
	Good	Bad			
Good	136	48	184	6,224	0,000
Poor	45	71	116		
Total	**181**	**119**	**300**		

The analysis results of relationship between knowledge variable and dengue fever vector control are listed in table 5. Based on the statistical test results, it is obtained that the x^2 count value= 6,224 and value of *ρ*rho = 0,000, where the value of x^2 table on df 1 = 3,841, showed that there are relationship between knowledge of family members and the

implementation of dengue fever mosquito nest eradication in the working areas of Ngemplak Community Health Center, Boyolali.

Knowledge is gained after someone performs sensing on a particular object. Most of human knowledge is obtained from eyes and ears. Knowledge covered six levels, they are 1) knowing; 2) understanding; 3) applying; 4) analyzing; 5) synthesizing and 6) evaluating.[4] The result of statistical analysis showed significant relations (*p* = 0,000 between knowledge level of respondents and dengue mosquito nest eradication behaviornest. It was appropriate with previous research by Widagdo, who stated that a factor of knowledge have meaningful relationships to mosquito control.[5] Likewise with previous research by Utomo who stated that knowledge has significant relationship towards neighborhoods' practice in eradicating mosquito nest.[6] Hasyim stated that there is meaningful relationship towards respondents education level and actions of dengue eradication[11]. Waris and Yuana stated that there was a significant relationship between knowledge and behavior of respondents in the prevention of dengue.[12] This research was not in accordance with previous Sumekar's research. She believed that knowledge factor had no significant relationship with the existence of *Aedes aegypti* mosquito larvae.[7]

Knowledge is a very important domain to the establishment of someone's act because based on experience it turns out that behavior based on knowledge is more durable than behavior without knowledge. A person's belief on health is partly formed by intellectual variable consisting of knowledge about various functions of body and disease, educational background and also past experience.

CONCLUSION

There is meaningful relationship between knowledge level and the implementation of mosquito nest eradication in working areas of Ngemplak Community Health Center Boyolali Central Java in2014.

SUGGESTIONS

1. There should be some appropriate efforts to be expanded to increase people's knowledge, mainly on community groups who has married, by conducting mosquito control campaign through various advertisement services, facilitate the establishment of community movement to periodically conduct mosquito nest eradication and increase professionalism of health workers.
2. For the community, in order to participate actively in the dengue fever mosquito nest eradication can be through a change in behavior and increase knowledge about dengue fever so that the control of dengue fever mosquito can be conducted regularly and sustainably.
3. For the field of science, advanced research should be conducted to analyze other variables that deal with the act of dengue fever mosquito control.

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P-12

ANALYSIS OF FACTORS ASSOCIATED WITH THE IMPLEMENTATION OF HEALTHY LOW BIRTH WEIGHT BABY MANAGEMENT BY VILLAGE MIDWIVES IN PURBALINGGA DISTRICT

Ema Wahyuningrum

Email : em4wahyuningrum@gmail.com

ABSTRACT

The incidence of Low Birth Weight Baby (LBWB) and the neonatal mortality rate caused by LBW in Purbalingga District at 2010-2012 was high, although almost all of LBWBs classified as Healthy. healthy LBWB management was one of efforts to improve Healthy LBWB service quality in order to reduce infant mortality rate due to LBWB. The study obective was to analyze factors affecting the implementation of healthy LBWB by village midwives in Purbalingg District. This was an observational analytic study with a cross sectional approach. The population were all of village midwives who attained LBWB management training. Subjects were 36 village midwives who were randomly selected from all Primary Health Centre in Purbalingga. The collecting data was held by interview with a structured questionnare and observations. The dependent variables was the implementation of healthy LBWB management; independent variables were communication, resources (staff and funding), disposition and bureaucracy structure. Chi Square, Fisher's Exact tests and multiple logistic regressions were used in data analysis. Results of the study showed that the average age of midwives were 33.1±5 years and the average working period of midwives were 11.2±5.5 years. All of the midwives has graduated from midwifery academics (DIII). The Implementation of LBWB healthy management is mostly good (72.2%), communication is mostly good (55.6%),human resources is mostly good (69.4%), financial resources is mostly lacking (69.4%), disposition is good (50%),and bureaucracy structure is mostly good (61.1%). Communication (p=0.002), human resources (p=0.025), financial resources (p=0.016), disposition (p=0.026), and bureaucracy structure (p=0.026) associated to the implementation of Healthy Low Birth Weight Baby Management. Communication (Exp (B)= 31.627, p= 0.006) and human resources (Exp (B)= 10.550, p= 0.032) were the variables that were together influenced the implementation of healthy LBWB. It is Suggested to Purbalingga District Health Office to improve effective communication from midwives coordinators to the village midwive. On otherhand the village midwives should improve their knowledge and skills in the implementation of Kangoroo Care and Infection Prevention.

Keywords : Implementation, management of healthy low birth weight baby, village midwives.

INTRODUCTION

Based on the Indonesian Demographic and Health Survey in 2007, Infant Mortality Rate (IMR) was 34 per 1000 live births. In 2011, the IMR of Javanese Province, which was 10.34/1000 live births, declined compared to 2010 which was 10.62/1000 live births and of 2009 which was 10.37/1000 live births.[1] In contrast, the IMR of Purbalingga District in 2012, which was 11.8/1000 live births, increased comparing to 2011which was11.16/1000 live births and of 2010 which was 11.2/1000 live births. [2-4] Around 56% of infant mortality occurs on early period that is neonatal phase. Most of neonatal mortality occurs on 0-6 days (78.5%). [5-6] The mortality causes are perinatal disorder and LBWB.

The incidence of neonatal mortality caused by LBWB in Purbalingga District in 2010-2012 increased every year. LBWB still becomes the most neonatal mortality cause. In 2010

the incidence of neonatal mortality caused by LBWB was 33.84%, in 2011 it was 32.75% and in 2012 it was 45.86%.[2-4]

Almost all LBWBs in Purbalingga District were born classified as healthy LBWBs. A healthy LBWB is baby with weight ≥ 2000 gram and without complication. In 2010 the number of healthy LBWBs was 80%, while in 2011 it was 83% and in 2012 it was 85%.[2-4]

Village midwives, as the front line of perinatal maternal health care, have an important role in managing LBWB incidence, so that it is necessary to have a good competence to conduct LBWB management.[7] Healthy LBWB needs a monitoring and an evaluation through visitation to LBWB mother's house by a village midwife regularly done twice on first week and then once in a week every week until the LBWB's weight getting ≥ 2500 gram.[5,6]

Healthy LBWB management is part of LBWB management. LBWB management is a government policy program which is expected to improve midwife's skills and quality as one of the interactional effort on the decrease of infant and preschooler mortality rate, to provide health service quality which is cheap for the society in order that infant can be delivered healthy, safe and growing well. [1] According to George C Edward III, a successful indicator of a program implementation is influenced by communication, resources, bureaucracy structure and disposition.[7-10]

Pre-survey on eight village midwives in Purbalingga District gathered the result that in communication aspect five (62.5%) midwives stated that there was difference of information transfer between midwifery coordinator and health department of Purbalingga District in term of hypothermia prevention technique. Human resource aspects of all village midwives who have joined LBWB management training do not teaches families healthy LBWB to Kangaroo Treatment Methodology (KTM), but rather advocated for putting a warm water bottle left on the right baby or installing light near the baby. Disposition aspects of five midwives (62.5%) who conducted health LBWB control was not appropriate with the schedule, they only did on visitation of the third neonatus or on the time of Primary Health Center, and the rest was controlled through cell phone. Bureaucracy structural aspect, controlling or supervising healthy LBWB are based on notes and reports from village midwives.

The aim of this study was to analyze the factors related to the implementation of management healthy LBWB by village midwives in Purbalingga both from the aspect of communication, human resources, funding resources, disposition and bureaucracy structure.

METHOD

This study used observational analytic study with a cross sectional approach. The population was all of village midwives in Purbalingga District who attained Low birth weight baby (LBWB) management training as much as 185 village midwives and the subjects were 36 village midwives who were randomly selected from all Primary Health Centre in Purbalingga. The collecting data was held by interview with a structures questionnaire and observations. The dependent variables was the implementation of healthy LBWB management; independent variables were communication, resources (staff and funding), disposition and bureaucracy structure. Chi Square, Fisher's Exact tests and multiple logistic regressions were used in data analysis.

RESULTS

The respondents' characteristics are based on age, length of working time and education.

Table 1
Respondents' characteristics based on age and length of working time of village midwives.

Characteristics	Mean	SD	Min	Max
Ager (year)	33.1	5.5	24	44
Length of working time (year)	11.2	5.5	6	22

The research result shows that the mean of midwives' age is 33.1 + 5.481 year and the mean of working time length of village midwives is 11.2 + 5.545 year. All respondents (100%) have educational attainment at Diploma midwifery.

Table 2
Descriptive Variable in Implementation of Healthy LBWB Management.

Variable	f	%
1. Communication		
Good (median ≥ 40)	20	55.6
Less (median < 40)	16	44.4
2. Human Resource		
Good (median ≥ 20)	19	52.8
Less (median < 20)	17	47.2
3. Resource (fund)		
Good (mean ≥ 9,25)	11	30.6
Less (mean < 9,25)	25	69.4
4. Disposition		
Good (median ≥ 30,5)	18	50
Less (median < 30,5)	18	50
5. Bureaucracy structure		
Good (median ≥ 45)	22	61.1
Less (median < 45)	14	38.9
6. Implementation		
Good (median ≥ 21)	26	72.2
Less (median < 21)	10	27.8

Table 2 shows that all variables using ordinal scale based on the value of the median and mean. Previous categorization is done using normality test by Shapiro Wilk test. Table 2 shows that most of village midwives have good communication with health department, Primary Health Care, and the mother/family of healthy LBWB in implementing healthy LBWB management which is good (55.6%), Most of the human resource is good (52.8%), this shows the number and competence of village midwives in implementing healthy LBWB management mostly good. Most of the fund resources is less (69.4%), The results showed that the financial resources provided for the implementation of healthy LBWB perceived by village midwives less, this is due to the implementations of the fund management does not stand alone healtgy LBWB but incorporated in Jampersal funs and funds BOK, drawdown takes a long time. Half of disposition has good disposition (50%), This shows that the village

midwives already have a great responsibility in the implementation of management healthy LBWB as conveying information about the management of healthy LBWB to family , report management activities healthy LBWB to the Primary Health care, health department, and tried to carry out the management of healthy LBWB according reference book Management LBWB.

Most of the bureaucracy structure is good (61.1%) and most of the implementation is (72.2%). It shows most of the implementation of management healthy is going well and the village midwives guided by the Standar Oprational Prosedur (SOP) in mplementation of management healthy.

The Relation between Communication with the Implementation of Healthy LBWB Management by village midwives

Table 3
The Relation between Communication with the Implementation of Healthy LBWB Management

Communication	the Implementation of Healthy LBWB Management				Total
	Good		Less		
	N	%	n	%	
Good	19	95 %	1	5 %	20 (100%)
Less	7	43.8 %	9	56.2 %	16 (100%)

(score p =0,002)

Table 3 shows that respondents with good communication skills tends to have a better implementation in LBWB management than those with less communication skill.

The result of *Fisher's Exact test* is gained with score p=0.002 ($p < 0.05$) which shows that there is a relation between communication and implementation. This means that good implementation in LBWB management determined by good communication between with all midwives, primary health care, health department and family of health LBWB.

The Relation between Human Resources with the Implementation of Healthy LBWB Management by Village Midwives

Table 4
The Relation between Human resources with the Implementation of Healthy LBWB Management

Human resources	The Implementation of Healthy LBWB Management				Total
	Good		Less		
	n	%	n	%	
Good	17	89,5 %	2	10,5 %	19 (100%)
Less	9	52,9 %	8	47,1 %	17 (100%)

(Score p =0,025)

Table 4 shows that respondents with good human resources tends to have a better implementation in LBWB management than those with less human resources. The result of *Fisher's Exact test* is gained with score p=0.0025 ($p < 0.05$) which shows that there is a relation between human resources and the implementation of LBWB management. The results showed that increasing the number and competence of village midwives in the implementation of management healthy LBWB, the implementation of healthy LBWB getting better.

The Relation between Resources (fund) with the Implementation of Healthy LBWB Management by Village Midwives

Table 5
The Relation between Resources (fund) with the Implementation of Healthy LBWB Management

Resources (fund)	The Implementation of Healthy LBWB Management				Total
	Good		Less		
	n	%	n	%	
Good	11	100 %	0	0 %	11 (100%)
Less	15	60 %	10	40 %	25 (100%)

(Score p =0,016)

Table 5 shows that respondents with good resource (fund) tends to have a better implementation in LBWB management than those with less resource and the result of *Fisher's Exact test* is gained with score p=0.016 ($p < 0.05$) which shows that there is a relation between resources (fund) and the implementation. The results are consistent with the theory of George C. Edward III that the financial resources ensure the sustainability of the program / policy . In the absence of adequate financial support program can not be effectively and quickly in achieving the objectives. This means that the implementation in healthy LBWB management will work well , if supported by resource (fund) adequate, transparent and timely disbursement .

The Relation between Dispositions with the Implementation of Healthy LBWB Management by Village Midwives

Table 6
The Relation between Disposition with the Implementation of Healthy LBWB Management

Disposition	The Implementation of Healthy LBWB Management				Total
	Good		Less		
	n	%	n	%	
Good	16	88.9%	2	11.1 %	18 (100%)
Less	10	55.6 %	8	44. 4 %	18 (100%)

(Score p =0,026)

Table 6 shows that respondents with good disposition tends to have a better implementation in LBWB management than those with less disposition and the result of *Fisher's Exact test* is gained with score p=0.026 ($p < 0.05$) which shows that there is a relation between disposition and the implementation. The result are consistent with the public policy model by George C Edward III that disposition is a attitude which is owned by the implementor, such as commitment, honesty and democratic nature. If the implementor has a good disposition, implementor will do properly with the policy as expected by policymaker. The result showed that village midwives have a great responsibility in the management of healthy LBWB.

The Relation between a Bureaucracy Structure with the Implementation of Healthy LBWB Management by Village Midwives

Table 7
The Relation between Bureaucracy Structure with the Implementation of Healthy LBWB Management

Bureaucracy Structure	The Implementation of Healthy LBWB Management				Total
	Good		Less		
	n	%	n	%	
Good	19	86.4 %	3	13.6 %	22 (100%)
Less	7	50 %	7	50 %	14 (100%)

(Nilai p =0,026)

Table 7 shows that respondents with good bureaucracy structure tends to have a better implementation in LBWB management than those with less bureaucracy structure, and the result of *Fisher's Exact test* is gained with score p=0.026 (p < 0.05) which shows that there is a relation bureaucracy structure and the implementation. The results are consistent with the public policy model by George C. Edward III that the bureaucratcy structure becomes very important in policy implementation . An important aspect in this bureaucracy structure includes a mechanism established through SOP, systematic , straightforward and easily understood by anyone because it will become a reference implementor operation and organizational structure . In this study indicate that the structure of the bureaucracy in the implementation of management healthy LBWB going well . This is because most of the midwife said referring to the SOP in implementing management healthy LBWB.

Factor Analysis associated with the Implementation of Healthy LBWB Management.

Tabel 9
Multivariate Regression Analysis Methode variables ENTER on the Implementation of Healthy LBWB Management by Village Midwives

Variable	B	SE	Wald	df	p	Exp. B
Communication	3.279	1.518	4.662	1	0.031	26.540
Human Resources	1.790	1.372	1.702	1	0.192	5.991
Financial resources	19.265	1.029E4	0.000	1	0.999	2.326E8
Disposition	1.892	1.426	1.760	1	0.185	6.635
Bureaucracy Structure	0.517	1.349	0.147	1	0.702	1.676

Table 10
The Independent Variable Multivariate Regression Analysis on the Implementation of Healthy LBWB Management by Village Midwives

Variable	B	SE	Wald	df	p	Exp. B
Communication	3.454	1.261	7.504	1	0.006	31.627
Human resources	2.356	1.101	4.579	1	0.032	10.550

(R^2=0,574)

Table 9 is known that of the five variables there are four variables, variable human resources, financial resources, the bureaucracy structure , and the disposition value is still too large significance (p > 0.05) that must be removed one by one to get the most suitable model from the biggest p .

Table 10 is known that variables affecting the implementation of healthy LBWB management are communication and human resources and strong influence of Exp (B) communication becoming 31.627 times, human resources becoming 10.550 times. Meaning that a good implementation of healthy LBWB management is determined by human resources, good communication which is 31.627 times comparing with bad communication, whereas a good implementation of healthy LBWB management is determined by good human resources which is 10.550 times comparing with bad human resources. The score R^2=0.574 means that communications, human resources contribute 57.4% on the implementation of healthy LBWB management by village midwives.

DISCUSSION

The result of this research shows that the average age of midwives is 33.1 years. The productive age of someone is 30 – 40 years old which is one's life stage affecting on the highest of productivity and working achievement.

Age influences the ability to comprehend and mindset of someone. The more age of someone, the more developing comprehension and mindset in order that knowledge gained gets better.[11] It shows that the respondents' age supports the success of healthy LBWB management.

The result of the research shows the working period of midwives is 11.2 years, meaning that experience of midwives has already been adequate. Experienced employee is trusted to do her job better because she can adapt herself in the working environment. Working experience gives expertise and working skills.[12] It shows that an experienced midwife becomes one of factor supporting the realization of qualified healthy LBWB management.

Educational level of a midwife, according to *Kemenkes* number 369/*Menkes/SK*/III/2008 about standards professional midwifery standard, is that Diploma Midwifery graduates are midwifery practitioners who have competence to do their work in public service institution or private practice. Based on the research result, all respondents have Diploma midwifery educational background. It means that respondents' educational background has been in line with the established standard and it means that village midwive mengikuti ilmu terbaru about the implementation of LBWB management.

The factor of communication, human resources, funding, disposition, and bureaucracy structure is mostly good. It is appropriate with implementation policy model by George C Edward III who states that implementation is determined by the factor of communication, human resources, funding, disposition, and bureaucracy structure. The funding category is mostly less funding resource. It is caused by funding of Purbalingga District to implementation of LBWB management not stand alone but a combination of fund between *Jampersal* and *BOK* fund whereas this fund have limited time to be disbursed.

Based on the research results, all independent variables such as communication, human resources, funding, disposition, and bureaucracy structure related with implementation of healthy LBWB management. This matter appropriate with public policy model that states by Goerge C Edward III that shows four important variables in order to achieve the success of implementation. These four variables are communication, human resources, disposition and bureaucracy structure[7-10] The implementation of management healthy LBWB requires village midwives were able to communicate well , to communicate information in a clear, consistent and use appropriate methods to the health department , midwives and midwife coordinator and it is influenced by the quality and quantity of human resources. Besides, it

is supported by the attitude or character and responsibility in carrying out the task of village midwives are a good , budget adequate and transparent and easy redemption , and guide the implementation of management Healthy LBWB clear , systematic , continuous and controlled from the health department to primary health care and village midwives.

Based on the research results, a good implementation of healthy LBWB management is determined by a good communication as much as 31.627 times comparing with bad communication, and also a good implementation of healthy LBWB management is determined by human resources as much as 10.550 times comparing with bad resources.

In order to achieve implementation of healthy LBWB healthy management based on standard in Purbalingga District, it needs to improve the communication and human resources simultaneously. In order to follow the policy, the practitioners have to have good knowledge and skills in order that the program runs well. Resources (energy) have an impact the successful implementation of healthy LBWB management. Moreover, a good communication between public health, the head of primary health care, midwifery coordinator and practitioners of the policy need to be done regularly and directionally in order that the information of healthy LBWB management will receive clearly by village midwives as the program practitioners.

The implementation instructions may be continued carefully, directionally and consistently, but if the implementer does not have good knowledge and skills in order that the implementation will result ineffective. The successful policy implementation is determined by resources. Staff is an important resource to implement the policy, not only from the quantity but also from the capability to make the job done [13]

The implementation guidance of healthy LBWB management requires that a medical practitioner is able to communicate well, to deliver the message clearly, to be consistent and to use proper standard. Communication is a vital factor that focuses to the clearance of standard and purpose, an accurate communication of the practitioners, the consistency of communication and other information sources. The measure and policy purpose need to be understood clearly by individual that is responsible in managing policy because the unclear understanding related to the policy will run inappropriate as expected.[9]

The successful implementation of healthy LBWB management in Purbalingga District is affected by good communication done by public health, midwives and midwifery coordinator also affected by the quality and quantity of human resources.

CONCLUSION

Communication and human resources are both connected with implementation of healthy LBWB management. Communication is the most powerful variable related to the implementation of healthy LBWB management.

RECOMMENDATION

Midwifery coordinator of Primary Health Center has to improve effective communication from midwifery coordinator to the village midwives. On other hand, the village midwives should improve their knowledge and skills in the implementation of Kangaroo Care and Infection Prevention.

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THE CORRELATION ANALYSIS BETWEEN CHARACTERISTICS WITH KNOWLEDGE AND ATTITUDE ABOUT MENARCHE IN ELEMENTARY SCHOOL STUDENTS

Devy Vernanda Gita Wibowo, Heni Puji Wahyuningsih, Yuliasti Eka Purnamaningrum

Midwifery Departement of Health Polytechnic of Health Ministry Yogyakarta,
Jalan Mangkuyudan MJ III/304 Yogyakarta 55143, Indonesia
Email : devyvernanda@ymail.com, henipujiw@gmail.com

ABSTRACT

A teenage life is started by puberty. The important stage of it is called menarche. The trend of the menarche's age in Indonesia at the early years of age 12,5-13 can cause the attitude is not ready, psychosocial disorders, and teen pregnancy, so they need to be prepared at the age of 11-12 years. Knowledge, attitudes, and forming behavior should be given to teenage girls to prepare in facing menarche. The purpose of this study was to determine the characteristics correlation with the level of knowledge and attitude of menarche in elementary school students. This type of research is analytic survey with cross-sectional design. The sample was 67 students grade 5 and 6 in SDN Sokowaten Bary Banguntapan. The result of this research is that there is a correlation between father's work with the level of knowledge of menarche with the result p-value of 0.000, there is a correlation between the resources with the attitude of menarche with the result p-value 0.003, and there is a correlation between the level of knowledge of menarche with attitude menarche with the result p-value 0,002

Keywords: knowledge, attitude, menarche

BACKGROUND

Indonesia is the country with the largest population in the world at number four. Indonesian population in 2010 as many as 237.6 million people and 26.67% are teenagers[1]. State-dominated population adolescence cause new problems for teenagers, including the age group that needs special attention, especially the right to produce[2].

Adolescence is a transition period between childhood and adulthood that began at the time of sexual maturity[3]. Adolescence begins with puberty. Puberty is a rapid change in physical maturation that includes the body and hormonal changes that occur during adolescence especially in early adolescence[2]. Important events in puberty is the rapid body growth, the emergence of secondary sex characteristics, menarche, and psychological changes[4].

Riskesdas results showed that the average age of menarche in Indonesia, at the earlier of 13.5 years to 13 years[5]. A national survey of adolescents age of menarche Indonesia conducted in Batubara showed early menarche age in Indonesia is 9 years old. Age of menarche is most prevalent in adolescents aged 12 years (31.33%). Meanwhile, the average age of menarche lowest found in Yogyakarta at the age of 12.45 years[6].

Several studies have described the relationship between early menarche age with increased psychosocial disorders such as depression. Also resulted in adolescent sexual maturity begin to gravitate towards his anatomy physiology, anxieties, and questions about

menstruation or matters relating to the reproductive system[2]. The earlier age of menarche results in most children are not ready to face menarche due to lack of knowledge children have about menarche[7].

Knowledge will bring young women to strive prepared for menarche. While the components of belief and emotion will make behavioral support such as menstrual care for reproductive health. Information as a source of knowledge necessary for young women can determine the attitudes and behaviors that are responsible for maintaining reproductive health. So, if they have been prepared and informed about menstruation, then they will not experience anxiety and other negative reactions[2].

In 2013, Bantul was a district with the biggest population of adolescents at age 10-14 years in DIY province. Based on BPS of DIY Province (2013), there were 17 subdistricts in Bantul district and the teenagers at the age of 10-14 years old were mostly found in Banguntapan subdistrict. There are 4 elementary schools in Banguntapan village and the biggest number of students is found in SDN Sokowaten Baru (512 students). From the random interview which has been done with 10 students of 5th and 6th grades of elementary school, it is known that 2 students have been menstruating. When they have been asked about menstruating, 9 of them had no idea about it, how to take care of the cleanliness when menstruating, and the symptom of it. Besides, most of the students were shy to answer about these menstruating things.

There is a program from Puskesmas dan UKS, but it has never been done the counseling about reproduction. The information about this matter has been done by teachers from SDN Sokowaten Baru.

Based on this background, the purpose of this study was to determine the correlation analysis of the characteristics of the level of knowledge and attitude of menarche in SDN Sokowaten Baru.

METHOD

This type of research using analytic survey with cross-sectional design. The study was conducted in March 2015 in SDN Sokowaten Baru Banguntapa. The sample was 67 students. In this study, all data were taken directly from the respondent (primary data). Measuring instruments used in this study is a closed questionnaire consisting of demographic data, the level of knowledge of menarche, and attitudes toward menarche. Data processing method has five stages, namely editing, scoring, coding, transferring, and tabulating. At the level of knowledge of menarche scoring is done by finding the percentage of respondents and the scores obtained on attitudes toward menarche scoring is done by looking for T scores of respondents. To test this hypothesis and research, the data were analyzed with SPSS 17.0 analysis with chi square test with a confidence level α 0.05.

RESULT

Tabel 1
Correlation Characteristics of Respondents with Knowledge Level Menarche

No	Characteristics	Knowledge Level Menarche						p value
		Good		Enough		Less		
		F	(%)	f	(%)	f	(%)	
1.	Father's education							
	a. Elementary/junior	16	48,5	16	53,3	2	50	
	b. Senior high school	13	39,4	8	26,7	2	50	0,916
	c. University	4	12,1	6	20	0	0	
	Total	33	100	30	100	4	100	
2.	Mother's education							
	a. Elementary/junior	18	54,5	15	44,1	1	25	
	b. Senior high school	13	39,4	8	33,3	3	75	0,279
	c. University	2	6,1	6	75	0	0	
	Total	33	100	29	100	4	100	
3.	Father's work							
	a. Civil servant	2	6,1	1	3,3	0	0	
	b. Entrepreneur	19	57,6	11	36,7	0	0	
	c. Farmer	1	3	1	3,3	0	0	
	d. Trader	1	3	2	6,7	0	0	0,003
	e. Labor	9	27,3	12	40	3	75	
	f. Other	1	20	3	10	1	25	
	Total	33	100	30	100	4	100	
4.	Mother's work							
	a. Civil servant	0	0	6,9	100	0	0	
	b. Entrepreneur	7	21,2	17,3	41,7	0	0	
	c. Farmer	1	3	3,4	50	0	0	
	d. Trader	3	9,1	10,3	50	0	0	0,831
	e. Labor	3	9,1	20,7	60	1	25	
	f. Other	19	57,6	41,4	35,3	3	75	
	Total	33	100	29	100	4	100	
5.	The amount of resources							
	a. a source of information	18	54,5	19	63,3	3	75	
	b. two resources	10	30,3	8	26,7	1	25	0,272
	c. three sources of information	5	15,2	3	10	0	0	
	Total	33	100	29	100	4	100	

Based on the table 1 that, based on the education level of the knowledge of good distribution father was on dad education elementary / junior and senior (48.5% and 39.4%) and the father's education university level of knowledge about not found (0%), based on the mother's education elementary / junior and senior high majority of respondents with good knowledge level (54.5% and 51.7%) and the level of knowledge about the most common in mothers of respondents with high school education (75%). Respondents to work self-employed father has a good knowledge of the highest level (57.6%) and the highest level of knowledge about the respondents with job laborer father (75%), based on the mother's

occupation, both the highest level of knowledge among respondents with the work of other mothers / housewives (57.6%). Respondents were getting information from a single source of information the majority has good and sufficient level of knowledge (54.5% and 63.3%) and mostly lacking in the knowledge level of respondents with a single source of information (75%). From the calculation using statistical test using chi-square on IBM SPSS 20 with a 95% confidence level showed a p-value or correlation arithmetic α father's work with the level of knowledge of menarche is 0.003. This shows that the arithmetic α <α ie 0.003 <0.05 so that it can be concluded that there is significant association between father's work with the level of knowledge of menarche

Tabel 2.
Correlation of Characteristics Respondents with Menarche Attitude

No	Characteristics	Menarche Attitude				p value
		Positive		Negative		
		F	(%)	F	(%)	
1.	Father's education					
	a. Elementary/junior	20	52,6	14	48,3	
	b. Senior high school	14	36,9	9	31	0,426
	c. University	4	10,5	6	20,7	
	Total	38	100	29	100	
2.	Mother's education					
	a. Elementary/junior	18	47,4	16	57,1	
	b. Senior high school	14	36,8	10	35,7	0,186
	c. University	6	15,8	2	7,2	
	Total	38	100	28	100	
3.	Father's work					
	a. Civil servant	1	2,6	2	6,9	
	b. Entrepreneur	18	47,4	12	41,4	
	c. Farmer	1	2,6	1	3,4	
	d. Trader	1	2,6	2	6,9	0,998
	e. Labor	15	39,5	9	31	
	f. Other	2	5,3	3	10,4	
	Total	38	100	29	100	
4.	Mother's work					
	a. Civil servant	2	5,3	0	0	
	b. Entrepreneur	7	18,4	5	17,9	
	c. Farmer	1	2,6	1	3,6	
	d. Trader	3	7,9	3	10,7	0,361
	e. Labor	8	21,1	2	7,1	
	f. Other	17	44,7	17	60,7	
	Total	38	100	28	100	
5.	The amount of resources					
	a. a source of information	15	39,5	25	86,2	
	b. two resources	16	42,1	3	10,4	0,000
	c. three sources of information	7	18,4	1	3,4	
	Total	38	100	29	100	

Based on the table 2 shows that by father's education, father's education respondents with elementary / junior has the highest negative attitude (48.3%) and respondents with a mother's education elementary / junior majority have a negative attitude towards menarche (57.1%). Respondents with self-employed father's work has a positive attitude highest percentage (47.4%). Respondents with the work of other mother / housewife has a positive attitude highest (44.7%) and the highest negative attitude (60.7%). Respondents were getting information from a single source of information the majority has a negative attitude towards menarche (86.2%) and among respondents with two sources of information has a positive attitude highest (42.1%). From the calculation using statistical test using chi-square on IBM SPSS 20 with a 95% confidence level showed a p-value or arithmetic α correlation with attitude menarche resources is 0,000. This shows that the arithmetic α <α ie 0.000 <0.05 so that it can be concluded that there is a significant relationship between resources with the attitude of menarche.

Tabel 3
Correlation of Knowledge Level and Menarche Attitude

No	Menarche Knowledge Level	Menarche Attitude				p value
		Positive		Negative		
		f	(%)	F	(%)	
1	Good	19	50	14	48,3	0,002
2	Enough	17	44,7	13	44,8	
3	Less	2	5,3	2	6,9	
	Jumlah	38	100	29	100	

Based on table 3 obtained a positive attitude and negative attitude is most prevalent among respondents with a good knowledge level (50% and 48.3%) and at a sufficient level of knowledge respondents have more negative attitudes (44.8%). From the calculation using statistical test using chi-square on IBM SPSS 20 with a 95% confidence level showed a p-value or count α is 0.02. This shows that the arithmetic α <α ie 0.002 <0.05 so that it can be concluded that there is a significant relationship between the level of knowledge of menarche to menarche attitude.

DISCUSSION

Correlation Characteristics of Respondents with Knowledge Level Menarche

Respondents with a good level of knowledge of the most commonly found on the father's education elementary / junior and senior (48.5% and 39.4%) and the father's education PT level of knowledge about not found (0%), based on the mother's education elementary / junior and senior the majority of respondents with good knowledge level (54.5% and 51.7%) and the level of knowledge about the most common in mothers of respondents with high school education (75%). However, from the results of the analysis there is no correlation between father's education and mother's education level knowledge of menarche. This is not in accordance with the theory that with better education, access to knowledge about parenting, the better[8]. However, the respondents to the mother's education elementary / junior high level the majority of respondents have a good knowledge of this case could be due to the knowledge that is influenced by several factors such as non-formal education, interests, experiences, and cultures[9].

Respondents to work self-employed father has a good knowledge of the highest level (57.6%) and the highest level of knowledge about the respondents with job laborer father (75%), based on the mother's occupation, both the highest level of knowledge among respondents with the work of other mothers / housewives (57.6%). From the analysis there is no correlation between the mother's education level knowledge of menarche, but there is a correlation between father's work with the level of knowledge of menarche. This is because the parents are the economic conditions poor families (father) have to work harder, even the mother would go to work looking for additional income to meet family needs, so that this condition allows parents rarely have free time to be able to provide information and an important lesson that is needed by children in the face of menarche.

Parents who work as civil servants and self-employed are categorized as families with economic conditions intermediate or high that they have greater opportunities in terms of satisfying the needs of the facility as well as a learning tool for children and a mother who does not work or as housewives have more time to used in providing information and learning to their children, it is in accordance with Notoatmodjo that the economic status of a person will determine the availability of a facility that is required for certain activities so that socioeconomic status affects a person's knowledge[10].

Respondents were getting information from a single source of information the majority has good and sufficient level of knowledge (54.5% and 63.3%) and mostly lacking in the knowledge level of respondents with a single source of information (75%). From the analysis there is no correlation between the resources with the level of knowledge of menarche, it is not in accordance with the theory in finding a variety of resources to solve the curiosity of children can ask parents / teachers / friends / health workers or find itself through the media printing such as books, magazines, posters, and electronic media such as radio, TV, and internet so that children become more widespread knowledge. And not in accordance with the opinion of Budiman is someone who has a lot of resources that would have a broader knowledge[11].

Correlation of Characteristics Respondents with Menarche Attitude

Respondents were seen by father's education, father's education respondents with elementary / junior has the highest negative attitude (48.3%) and respondents with a mother's education elementary / junior majority have a negative attitude towards menarche (57.1%). Fewest negative attitudes found among respondents with dad education Higher Education (20%) and maternal education Higher Education (7.2%). From the analysis there is no correlation between father's education and mother's education with the attitude of menarche. This is not consistent with the theory that parental education can contribute and have a big impact in terms of its role and function as a parent to provide the care that also affect the child's development. Education acquired by parents during their lifetime of knowledge and attitudes affect them in providing information that is given to children that affect the way children think in determining attitude. This could be because parents are highly educated in general be open and able to treat children in a positive way, and one way to get behavior change is through the means of education[10].

Respondents with self-employed father's work has a positive attitude highest percentage (47.4%). Respondents with the work of other mother / housewife has a positive attitude highest (44.7%) and the highest negative attitude (60.7%). From the analysis there is no correlation between the work of the father and mother work with the attitude of menarche. This is not in accordance with the research Hartatin and Hariani that the role of parents has

an impact and perception of girls of menarche, the role of parents in both the understanding of menstruation and the problem is likely to give the perception of young women good about menarche compared to the role of parents is not good , If the menstrual period is not accompanied by the provision of clear information and the right will result in a sense of fear, anxiety and inner conflict[12]. Unfavorable economic families forcing a mother to go to work meeting the needs of the economy so that the time given for child care to be reduced.

Respondents were getting information from a single source of information the majority has a negative attitude towards menarche (86.2%) and among respondents with two sources of information has a positive attitude highest (42.1%). From the analysis of correlation between the resources with the attitude of menarche. This is consistent with the factors that influence the formation of attitudes according to Anwar, namely the influence of others that are considered important (parents / teachers / friends / health officials), mass media such as TV, newspapers, magazines, and others have great influence in forming opinions and beliefs of people who can direct a person and will provide the basis to form the affective attitude toward certain, and educational institutions and religious institutions as a system that has an influence in the formation of attitudes[13]. To that end, each young woman should be prepared to face menarche and menstrual by providing a broad and accurate information.

Correlation of Attitude Knowledge Level and Menarche Attitude

Attitudes toward menarche research results based on the level of knowledge menarche elementary school grades 5 and 6 in New Sokowaten SDN obtained Banguntapan 2015 respondents with a positive attitude and negative attitude is most prevalent among respondents with a good knowledge level (50% and 48.3%) and in sufficient level of knowledge respondents have more negative attitudes (44.8%). And of the result of the analysis showed a correlation between the level of knowledge of menarche to menarche attitude. Respondents who have a good knowledge more ready to face menarche. Conversely, respondents who are knowledgeable about much less prepared for the menarche. According to research conducted by Hartatin and Hariani knowledge and attitudes are factors that affect the readiness of menarche. Young women with good knowledge may soon realize that menstruation as a physiological process and to respond positively to menarche. Instead of knowledge is not good, misperceptions and wrong thinking can drive fear, anxiety, and negative behavior for young women in the face of menarche[12]. This is consistent with Rhomawati research showing that there is a significant relationship between the level of knowledge of menstruation with preparedness menarche[14].

According to Anwar social attitudes are formed from the social interaction experienced by the individual[13]. Information as a source of knowledge necessary for young women can determine the attitudes and behaviors that are responsible for maintaining reproductive health. So, if they have been prepared and informed about menstruation, then they will not experience anxiety and other negative reactions[2].

Understanding or knowledge of good and bad, wrong or truth in a matter will determine the person’s belief system so that it will affect the person’s attitude. Based on the results of the study still found the respondent with good knowledge level but has a negative attitude and knowledge level of respondents with less but have a positive attitude. This relates to both the attitude and enough can be influenced by direct experience that is experienced by an individual against a case. Attitude is not innate but learned and shaped by life experiences throughout development during his life. Therefore, it is necessary a good knowledge of

menstruation right to face menarche. In harmony with this, parents, teachers, and health workers should seek to increase the knowledge to prepare to face menarche.

CONCLUCION

1. There is a correlation between father's occupations on the level of knowledge of menarche.
2. There is a correlation between the resources of the attitude of menarche.
3. There is a correlation between the levels of menarche's knowledge to menarche attitude.

SUGGESTION

For all health centers and Head of Elementary School Principals in order to develop policies and development programs of reproductive health services, especially health education and counseling programs related to knowledge and attitude towards menarche. In addition, for midwives and elementary school teachers can plan and implement service and development of reproductive health as well as provide health education and counseling related knowledge and attitudes toward menarche.

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P-14

THE EFFECTIVENESS OF RATIONAL EMOTIVE BEHAVIOUR THERAPY BASED ON THE PROFILE OF MULTIMODAL THERAPY ON THE SKIZOFRENIA CLIENT WITH VIOLENT BEHAVIOUR AT RSMM BOGOR IN 2012

Retno Yuli Hastuti, Budi Anna Keliat, Mustikasari

STIKES Muhammadiyah Klaten, Indonesia
Email : hastuti.puteri@gmail.com

ABSTRACT

This study aims to determine the effectiveness of rational emotive behavior therapy (REBT) profile of multimodal therapy based on changes in symptoms and the client's ability violent behavior in RSMM Bogor. Quasi-experimental research design with a number of 56 respondents. 28 respondents had to get a Profile Multimodal Therapy REBT therapy as the intervention group, 28 respondents as a group of non intervention. The research found a decrease symptoms of violent behavior bigger than not getting REBT based profile of multimodal therapy (p value <0.05). Cognitive, affective and behavioral clients who get REBT based profile of multimodal therapy increased significantly (p value <0.05) results clients experience a reduction in symptoms of violent behavior 48%, effectively improve cognitive, affective and behavioral to 57 %. Profile multimodal therapy is recommended as screnning client will be given specialist treatment in this particular rational emotive behavior therapy

Keywords: profile multimodal therapy, rational emotive behavior therapy, symptoms of violent behavior, , cognitive, affective, behavioral

BACKGROUND

Schizophrenia is a severe mental disorder types most commonly found. States in the United States approximately 1 in 100 people have schizophrenia[1]. Base on the noted that 70% of Indonesia's largest psychiatric disorder is schizophrenia[2]. The number of clients with schizophrenia also occupy 90% of clients in psychiatric hospitals throughout Indonesia[2] (Jalil, 2006). In Indonesia stated that the prevalence of severe mental disorders (schizophrenia) is 4.6% which for a number of the highest in the province of Jakarta is 20.3%, while for the region of West Java province reached 2.2% Seeing the number of clients with schizophrenia become thinking individuals need to increase understanding of severe mental disorder as this one, in order to provide proper treatment if it happens to one member of the family and society[3].

Behavior that often appear on the client schizophrenia among others; lack motivation (81%), social isolation (72%), eating behavior and poor sleep (72%), difficulty completing tasks (72%), difficulty managing finances (72%), appearance is not neat / clean (64%), forgetting to do something (64%), lack of attention to others (56%), quarreled (47%), talking to himself (41%), and do not take their drugs (40%)[4]. Based on the exposure to the above indicates that the client schizophrenia commonly found problems that require therapy, which refers to the concept of healing holistically, which not only treat the psychological aspect (cognitive, affective and psychomotor) of the client but also the aspect of physical health and the quality of the environment around the client that affect their lives.

States that the concept of treating the disease are based in a holistic manner that not only treat the psychological aspect (cognitive, affective and psychomotor) of the client, but also pay attention to the seven aspects that make up the personality of a human being, which includes behavior (behavior), feeling (Affect) , sensory (sensation), delusion (imagery), mind (cognitition), interpersonal relationships (interpersonal relationships) and all the factors associated with biochemical and physiological state of the body (drugs)[5]. This holistic treatment concept in psychotherapy then referred to as multimodal therapy.

Base on the 28 clients with schizophrenia who experience violent behavior states that therapy Rational Emotive Behavior Therapy (REBT) can improve cognitive abilities by 9.6% and 47% social[7]. REBT also capable of lowering the emotional responses of 43%, 76% physiological, and behavioral 47%. REBT and CBT conducted jointly in clients who have more than one symptom, according to research Lelono (2011) effectively decrease violent behavior by 61%, decrease the signs and symptoms of hallucinations advent of 52.1% and decreased symptoms of low self esteem at 66 , 2%. 74.53% also showed the results to improve cognitive, affective and behavioral client violent behavior, hallucinations and low self esteem. It is also supported by studies of Sudiatmika (2011) shows the results effectively decrease violent behavior up to 77% and decrease symptoms of hallucinations reached 85%. For cognitive ability increased 74%, 76% and affective behavior of 77%. While the research results shows the results able to reduce the symptoms of violent behavior which consists of cognitive, emotional, behavioral, social, physiology significantly lower than the moderate category into which the overall decline of 44.45%[6].

METHODS

This research is a quasi expermental with quantitative methods using the design study "Quasi Experimental Pre-Post Test with Control Group" with the intervention of Rational Emotive Behavior Therapy (REBT) is based on the profile of multimodal therapy. Consecutive sampling technique using Sampling. This study was conducted to determine the effectiveness of Rational Emotive Behavior Therapy profile multimodal therapy based on changes in symptoms and cognitive, affective and behavioral client with violent behavior are treated in inpatient hospital Dr. H. Marzoeki Mahdi Bogor.

Respondents are 56 people consisting of 28 people into a control group and 28 people who have the profile of multimodal therapy as the intervention group. Statistical analysis is used univariate, bivariate analysis of the dependent and independent sample t-test, Chi-square to display in the form of tables and frequency distribution.

RESEARCH RESULT

Results of research has been done on 12 - December 25 2012 is presented as follows

1. Characteristics of a client with violent behavior in this study were in the intervention group sex more males 24 (85.7%), education is the most widely PT 11 (39.4%), which includes D3 9 and S1 2 people, the more jobs that are not working is 16 people (57.1%), most do not marry 15 people (53.6%). Whereas in the control group sex more males 19 (67.9%), level of education most PT 12 (42.9%), which includes 10 S1 D3 2, more working 16 (57 , 1%), for the same amount of marital status between unmarried married to that 14 (50%)
2. Changes symptoms of violence behaviour in the group receiving REBT there are significant changes. Cognitive response clients significantly decreased be 10:29 with p value ≤ α 0.05 emotional responses of clients decreased significantly be 11:25 with p value ≤ α 0:05, the

response behavior of the client decline significantly be 10:36 with p value ≤ α 0:05, social response clients dropped meaning into 12.68 with p value ≤ α of 0.05 and physiological responses were significantly decreased client be 5:21 to 0:05 p value ≤ α and composite behavior is significantly decreased client violence becomes 49.79 by 0:05 p value ≤ α. Based on the results of statistical tests above it can be concluded at α 5% there is a significant reduction in symptoms (low category), both from the response of cognitive, emotional, behavioral, social, physiological and composites client violent behavior with violent behavior after being given REBT therapy.

3. Changes in cognitive abilities, affective and schizophrenic behavior on clients with nursing problems of violent behavior after being given REBT based profile multimodal therapy
   a. cognitive changes In this study is able to increase from 23.32 into 41.07 while RECBT increase of 33.63 into 65.87
   b. affective changes In this study is able to increase of 17.14 into 29.93 while RECBT increase of 33.13 into 66.03
   c. changes in behavior In this study is able to increase of 22.32 into 37.32 while RECBT increase of 33.87 into 66.90

Effectiveness Therapy REBT based Profile Multimodal Therapy to increased cognitive ability, affective and behavioral REBT on the client schizophrenia with nursing problems violent behavior and hallucinations with the findings of previous studies can be seen the effectiveness of therapy REBT based profile multimodal therapy to improve cognitive, affective and behavioral amounted to 57%. While previous studies RECBT results can improve cognitive abilities, affective and behavior by 41%[7].

DISCUSSION

Therapeutic effectiveness of REBT based Profile Multimodal Therapy to reduce symptoms of violent behavior by 48% while given RECBT able to reduce the symptoms of violent behavior by 45%. This shows that clients with violent behavior if given REBT therapy will be better with the profile multimodal therapy with REBT although almost the same value.

Which stated that the responses of violent behavior undergo significant changes due to therapeutic REBT given using cognitive approaches and behavior with the facts that the resulting behavior does not come from events experienced but of beliefs irrational , REBT given aims to reduce irrational beliefs and reinforce rational beliefs that can be effective for adults angry and aggressive[8].

REBT also part of the Multimodal Therapy treatment option that is given with regard seven aspects of one’s personality formation[5]. On Multimodal Therapy see that man is a unity that is unique therefore if a disturbance in one aspect will affect other aspects [4]. REBT become one treatment option in the client impaired because most people while being behavioral problems that arise tend to avoid or divert an object that is causing the problem, feelings of worry and anxiety continuously, guilt and self-concept bruruk accompanied by beliefs incorrect or irrational, so the therapy that teaches clients to identify events that the rational and irrational expected the client will be able to overcome the problems that arise.

Multimodal Therapy to increased cognitive ability, affective and behavioral REBT in schizophrenia clients with nursing problems with violent behavior than previous research results can be seen the effectiveness of REBT therapy is based on the profile of multimodal

therapy in improving cognitive abilities, affective and behavioral amounted to 57%. Base on the studies RECBT results can improve cognitive abilities, affective and behavior by 41%[7].

The above results may occur due to schizophrenia clients with violent behavior problems occur in the form of disturbance to control behaviors that can injure themselves or others. Behavior that appears in schizophrenia with violent behavior such as aggressive and hostile. When there is a change of perception on the client schizophrenia, concurrent disruptions in cognitive function in general, it was found that 90% of clients have hallucinations and delusions which the auditory hallucinations experienced by 50 % - 80% of clients with schizophrenia[1]. Clients with schizophrenia who had hallucinations due to his perception error often lose control and following the orders of his hallucinations that lead clients to behave out of control and doing violent behavior. This behavior happens because the clients felt that the perceived threat of disrupting the concept of self and integrity.

Given REBT, clients are trained to recognize the thought or perception is wrong or cognitive distortions of events is felt that threatens or could also be of the causes of violent behavior, shame and inferiority is experienced and what the client is feeling of the sounds that emerge, then directed clients to be able to assess the result of the earlier incident that affects the feeling by using a thermometer to measure the impact on the feelings and behaviors such as maladaptive behavior that often arise. Of the event or events that clients are taught to assess the impact of these events is based on the belief that clients deem appropriate, but the confidence clients often often a belief that is not real or unfounded opinions instead of facts that exist, then the client is trained to fight the opinions that are not apparent earlier with real facts until clients begin to address the cognitive distortions and will berpikira rational that will certainly have an impact on the feeling of comfort, calm, valuable, needed, to feel protected and assertive behavior, not aloof, etc.

Profile Multimodal Therapy owned clients can also give effect to the success of REBT improve cognitive, affective and psychomotor of clients due to the set therapy is based on the analysis of the seven aspects of the owned client in this case is on behavior, Affect, Sensation, imagery, cognition, interpersonal relationships and drugs that are tersbut things in a person who is a unity that is unique therefore a disturbance in one of the modalities above will affect the other modalities [5].

From exposure to the above use of REBT therapy have targets based on the concept that emotions and behavior is the result of a thought process that makes it possible for humans to modify it as the process to achieve a different way of feeling and acting [11]. Emotional reactions are mostly caused by the evaluation, interpretation, and philosophy that consciously or unconsciously. Psychological or emotional barriers is the result of a way of thinking that is illogical and irrational, in which the emotions that accompany the individual in thinking filled with prejudices, very personal and irrational. According to Albert Ellis, humans are basically unique to have a tendency to think of rational and irrational. When thinking and rational human act will be effective, happy, and have the ability.

CONCLUSION

The characteristics of the 56 clients who were respondents conducted in this study with an average age of 33.21 years with the youngest 18 and the oldest 55 years of age, sex, more male, the status of the job is that it does not work, educational status at most at levels Universities, marital status, most are not married, the frequency of hospitalized an average

of 2 times. Of the 56 clients who were respondents in the intervention group numbered only 28 people who have the profile multimodal therapy with REBT therapy as an indication of a specialist. Rational therapy behavior therapy is based on the profile of multimodal therapy effective in reducing the symptoms of violent behavior whether cognitive, emotional, behavioral, social, and physiological of moderate to low. Rational therapy behavior therapy is based on the profile of multimodal therapy is effective in improving cognitive abilities, affective and behavioral clients from low level to high level.

SUGGESTION

Psyche nurse at the hospital are expected to perform screning profile clients with multimodal therapy in order to determine the indication of therapy, especially therapy nursing specialists and always motivate clients as well as evaluating the capabilities that have been studied and is owned by the client so that the training given entrenched. In the event of deterioration in the client should consult on the development of his client's room nurse who has received therapy to specialist nurse specialist who owned the hospital. Results of this study should be used as evidence based in developing multimodal therapy profile as an indication of the determination of REBT therapy both in individual and group, so that it becomes the soul of nursing therapeutic modalities that are effective in addressing mental health problems and improve the health of the soul. The need for further research that looked at the effects of multimodal therapy profile of the specialist therapy and the effect of an increase in the ability of the client after REBT therapy to decrease the symptoms of schizopheria client violent behaviour.

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THE ATTITUDE AND BEHAVIOR OF 8TH GRADE FEMALE STUDENTS OF SMP 1 SLEMAN TOWARD THE PREVENTION OF PATHOLOGICAL VAGINAL DISCHARGE, 2015

Arlina Azka, Sumarah, Yani Widyastuti

Midwifery Departement of Health Polytechnic of Health Ministry Yogyakarta, Jalan Mangkuyudan MJ III/304 Yogyakarta 55143, Indonesia
email: arlina.azka@gmail.com, sumarahakbid@gmail.com, yaniwidyastuti.yk@gmail.com

ABSTRACT

Teenagers often considered as the healthiest period in the life cycle. The lifestyle of the citizens will influence the behavior and the type of teenagers disease in age group. The humid weather in Indonesia causes females easily get infected by Candida albicans, one of the fungus which causes vaginal discharge. The goal of this research is to describe the attitudes and behavior of 8th grade student of SMP 1 Sleman toward the prevention of pathological vaginal discharge. This type of research is quantitative descriptive with cross-sectional method. The research is located in SMP 1 Sleman. The research held on April 9, 2015. The subjects are 88 female students of 8th grade. The instruments which is used in this research is a closed questionnaire which has been validity and reliability tested. The respondents attitudes towards the prevention of pathological vaginal discharge in support category who have a good behaviors are 25 students (59,52%) and who have a less good behaviors are 17 students (40,48%). The respondents attitudes in not support category who have a good behaviors are 20 students (43,48%) and who have a less good behaviors are 26 students (56,52%). The conclusion are the respondents who have attitudes support toward the prevention of pathological vaginal discharge, most of them have a good behaviors. But the students with attitudes in not support category, most of them have a less good behaviors.

Keywords: Attitude, Behavior, Teenager, Vaginal Discharge

INTRODUCTION

Teenagers is the transition from child to adult where there’s a physical, way of thinking, and psychosocial changes and it can influence to the next aspect of life[1]. Based on the result of the population census in 2010, teenager is the biggest population in Indonesia amount of 65.491,7 thousand. The highest population is teenager at 10-14 years old amount of 22.309,8 thousand with 10.888,5 thousand of girls[2]. The girls in Java amount of 6.008.062 and in Yogyakarta amount of 121.271. Total number of the girls at 10-14 years old in Sleman amount of 35.344[3].

Teenagers often considered as the healthiest period in in the life cycle. The lifestyle of the citizens will influence the behavior and the type of teenagers disease in age group. Result of the research in SMA 4 Semarang shows that the case of vaginal discharge is very high. 96,9% of the respondents infected by vaginal discharge. Any of them has some indication of pathological vaginal discharge. These are vaginal discharge with bad smells (39,1%), itchy (81,2%), yellow colour (50%), green (3,1%), grey (1,6%), often and unconsious (32,8%)[4].

Result of the research in the US shows that 76% of females which infected by Trichomonas and doesn’t infected by Trichomonas reported vaginal discharge. On this research, leukorrhea was associated with a 4-fold-increased risk of Trichomonas infection[5].

The cause of pathological vaginal discharge can be infectious or non-infectious. The infectious caused by Candida albicans, Trichomonas vaginalis, Chlamydia trachomatis, and Neisseria gonorrhoe. Non-infectious caused by cervical extopy, cervical polyps, neoplasms of the cervix, alergic reactions (ex: vaginal douche), and effect of clean up the vagina with a soap or a shower gel (especially antibacterial product)[6].

American Journal of Public Health menstions that clean up the vagina with a fluid cleanser can diminish the woman opportunity to get pregnant. Now, fluid cleanser doesn't recomended as the safe and helathy way to clean up the reproduction organs. The ingredients to make a vaginal fluid cleanser are water which mixed with other liquid, baking soda, vinegar, or iodine. Futhermore, the Indonesian humid weather can causes females easilly get infected by Candida albicans, one of the fungus which causes vaginal discharge[7].

The research in SMA 2 Sleman shows that there's an association between using vaginal cleanser to clean up the vagina and vaginal discharge infection. Respondent which used vaginal cleanser in high category amount of 12 peoples (26%) from total sample 46 peoples. From those girls, amount of 11 girls infected by vaginal discharge with a medium category and 1 girl with a low category[8].

The data above shows that the behavior can affects the prevention of vaginal discharge. One of the prevention of pathological vaginal discharge is to keep the external genitalia cleans. The goals of this research is to describe the attitude and behavior of the female students in SMP 1 Sleman toward the prevention of pathological vaginal discharge. The benefit of the research is to give suggestion to the headmaster of SMP 1 Sleman in determining school policy which connected to the education of teen health reproduction. The teacher can be a facilitators. For the next researcher, this can be the reference materials for further study about the vaginal discharge.

METHOD

The type of this research is quantitative descriptive with cross-sectional method. The subject of this research are 88 female students of eighth-grade in SMP 1 Sleman. This research held on April 9, 2015. Variabel which used in this research are the attitude and the behavior of the respondents toward the prevention of pathological vaginal discharge. The instruments is closed questionnaire which has been validity and reliability tested to 30 female students of eighth-grade in SMP 3 Sleman.

RESULT

The Respondent Characteristics based on The Residence and The Information Source

Most of respondents live in the city and get information from family.

Table 1.
Respondent Characteristics

Characteristics	Frequency	Percentage (%)
Residence		
a. City	76	86,36
b. Village	12	13,64
Information Source		
1. Print out media	9	10,23
2. Electronics media	0	0
3. Internet	16	18,18
4. Handphone	0	0
5. Medical staff	5	5,68
6. Teacher	11	12,50
7. Family	47	53,41

The Respondent Attitudes
Most of respondents in not support category toward the prevention of pathological vaginal discharge.

Table 2.
Respondent Attitudes

Attitude	Frequency	Percentage (%)
Support	42	47,73
Not Support	46	52,27
Total	88	100

Respondent Attitudes based on The Respondent Characteristics
Most of respondents which living in the city is in not support category while most of respondents which living in the village is in support category toward the prevention of pathological vaginal discharge.

Table 3.
Respondent Attitudes based on The Respondent Characteristics

Characteristic	Attitude				Total	
	Support		Not support			
	f	%	f	%	f	%
Residence						
1. City	34	44,74	42	55,26	76	100
2. Village	8	66,67	4	33,33	12	100
Information source						
1. Print out media	4	44,44	5	55,56	9	100
2. Electronics media	0	0	0	0	0	0
3. Internet	8	50,00	8	50,00	16	100
4. Handphone	0	0	0	0	0	0
5. Medical staff	2	40,00	3	60,00	5	100
6. Teacher	5	45,45	6	54,55	11	100
7. Family	23	48,94	24	51,06	47	100

Respondent Behaviors

Most of respondents have a good category toward the prevention of pathological vaginal discharge.

Table 4.
Respondent Behaviors

Behavior	Frequency	Percentage (%)
Good Behavior	45	51,14
Less Good Behavior	43	48,86
Total	88	100

Respondent Behaviors based on The Respondent Characteristics

Most of respondents which living in the city have a good behavior and which living in the village is a half have a good behavior and the other have less good behavior. The respondents which got the information from print out media, internet, and teacher, most of them have a less good behavior. The respondents which got the information from medical staff and family, most of them have a good behavior.

Table 5.
Respondent Behavior based on The Respondent Characteristics

Characteristic	Behavior				Total	
	Good Behavior		Less Good Behavior			
	f	%	f	%	F	%
Residence						
1. City	39	51,32	37	48,68	76	100
2. Village	6	50,00	6	50,00	12	100
Information Source						
1. Print out media	4	44,44	5	55,56	9	100
2. Electronics media	0	0	0	0	0	0
3. Internet	7	43,75	9	56,25	16	100
4. Handphone	0	0	0	0	0	0
5. Medical staff	4	80,00	1	20,00	5	100
6. Teacher	4	36,36	7	63,64	11	100
7. Family	26	55,32	21	44,68	47	100

The Respondent Attitudes and Behaviors

Most of respondents which support toward the prevention of pathological vaginal discharge, most of them have a good behaviors. But the students with attitudes in not support category, most of them have a less good behaviors.

Table 6. The Respondent Attitudes and Behaviors

Attitude	Behavior				Jumlah	
	Good Behavior		Less Good Behavior			
	f	%	f	%	F	%
Support	25	59,52	17	40,48	42	100
Not Support	20	43,48	26	56,52	46	100
Total	45	51,14	43	48,86	88	100

DISCUSSION

The Respondent Characteristics based on The Residence and The Information Source

The result of the data analysis, most of respondents living in the city. The citizens have an open mind to the new thing. In the city, the access to the information is easy to get[9]. The knowledge about the reproductive education can be obtained from many sources. Most of respondents get the information about the reproductive aducation from their family. Family is the first liner in people's education. Parents have an important role to give information and education to their child[10]. It's match with the Mokodongan's research in 2015 which mentions that the family environment especially mother affect to the behavior of reproductive hygiene because a daughter will learns and follows anything from family especially her mother[11].

The Respondent Attitude toward The Prevention of Pathological Vaginal Discharge

The result of the research shows that most of female students of eighth-grade in SMP 1 Sleman have an attitudes in not support category toward the prevention of pathological vaginal discharge. The forming of the attitude can affected by mass media and other people around us. Mass media has a big affect in the forming of opinion and people's convidence. While peoples around us also will affect the forming of the attitude[12].

Most of repondents who live in the city have an attitudes which not support, while who live in the village most of them have an attitudes which support to the prevention of vaginal discharge. It's shows that the villagers have an open mind so that they selective in receiving the information. But the informations they get often not suit with their needs. Some of information sources giving not accurate information. Futhermore, there is some of teacher who have an opini that reproductive education is a weird thing to learn. So that the information they gave to the students is incomplete. This matter can causes the teenagers become careless to the prevention of vaginal discharge. Eventhough the one who can giving the information at school is a teacher.

The Respondent Behaviors toward The Prevention of Pathological Vaginal Discharge

Behavior is the result of the association between stimulus and responds. The environment has a big power to find someone's behavior[9]. The result of the research shows that most of respondents have a good behavior toward the prevention of pathological vaginal discharge. The result of the behavior analysis based on the respondent characteristics shows that most of respondents who lives in the city have a good behavior while the respondents who lives in the village, the percentage of the behavior is balance between good behavior and less good behavior. In the city, we have an easy access to get information. This case is

match with Mokodongan's research in 2015, he mentioned that the girls who have a good knowledge about vaginal discharge is likely have a good behavior toward the prevention of the vaginal discharge(11).

Pathological vaginal discharge is a manifestation of a disease symptoms and give a bad effect toward the female's reproduction. But they can avoid it with a good behavior toward the prevention of vaginal discharge. One of them is keep the external genitalia cleans. Besides family, the medical staff also have an important part to give counseling, information, and education about health reproduction to teenagers. Respondents who get information from medical staff, most of them have a good behavior.

The Respondent Attitudes and Behaviors toward The Prevention of Pathological Vaginal Discharge

The respondents who have an attitude in support category, most of them have a good behavior. While the respondents who have an attitude in not support category, most of them have a less good behavior. That describes match with the theory which mentions that the attitude have an affect to the behavior. The concept of the forming behavior is a realization process of attitude. Individual attitude has a part to find how a person's behavior in their environment(9). So that if peoples believe that pathological vaginal discharge can be prevented by keep their genitalia cleans, they will have a good behavior and do not doing anything which can make them infected by vaginal discharge. the result of the research is match with the Nurhayati's research in 2013. She mentioned that 70 respondents with negative attitude, most of them have bad behavior at vaginal hygiene. In Nurhayati's research, most of respondents who have positive attitude, they have bad behavior(13).

The respondents with support attitude toward the prevention of vaginal discharge, any of them have a less good behavior. This matter is match with the theory which shows that the attitude has a part in the forming of behavior, but behavior is not always shows the attitude(9). Peoples often acts contrary to their attitude because the behavior also affected by internal condition (ex: needs, emotions, motives, and all which related to individual part) (14). The same thing also seen on the respondents who have not support attitude but they have good behavior.

CONCLUSION

The respondents which have attitudes support toward the prevention of pathological vaginal discharge, most of them have a good behaviors. But the students with attitudes in not support category, most of them have a less good behaviors.

RECOMMENDATION

The for the headmaster of SMP 1 Sleman is to give information to the teachers to create peer education which consisting of female teachers. The peer education get a assignment to give information and education about health reproductive education to all students in SMP 1 Sleman. Teachers should throw the opini that reproductive education is a weird thing to learn. Furthermore, expand the knowledge about reproductive education especially about vaginal discharge is important. So that all of the teachers can give the information and education to their students. To the next researcher is recommended to investigate the other variables which associate with the attitude and behavior toward the prevention of vaginal discharge.

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P-16

THE EFFECTIVENESS OF SELF HELP GROUPS KS-ASIEKS TO INFLUENCE THE EXCLUSSIVE BREASTFEEDING PRACTICE AMONG PREGNANT AND LACTATING MOTHER IN CURUG VILLAGE CIMANGGIS DEPOK

Istianna Nurhidayati

STIKES Muhammadiyah Klaten, Indonesia
Email : istiannanurhidayati@gmail.com

ABSTRACT

The fact that exclusive breastfeeding practice is decreased has caused various health problems in infant. Mothers need to have ability, commitment and support to continue providing exclusive breastfeeding. One effort of foster the commitment and support to the mother is exclusive breastfeeding self-help group activities (KS-ASIEKs). The aim of the paper was overview of the effect of KS-ASIEKs to exclusive breastfeeding practice. The methods used by involving nursing services, a group of pregnant women and lactating mother and families who have become pregnant and lactating. The results of the intervention showed a significant difference in pregnant and lactating women who followed the activities of KS-ASIEKs with exclusive breastfeeding behavior (P < 0,005). Breastfeeding self-heal groups as a nursing intervention is effective in improving breastfeeding practice by providing support and enhancing the confidence of the mother. CHN Nurses can use the KS-ASIEKs intervention in the maternal care in community to improve exclusive breastfeeding practice.

Keywords : self-heal, groups, community nursing intervention, care

BACKGROUND

The fourth goal MDGs is to reduce infant mortality in the world. Breastfeeding is a significant impact in reducing infant mortality. Breastfeeding for 6 months in the world ranks from 1% to 89%.[1] World Health Organization (WHO)[2] showed that the rate of exclusive breastfeeding for the first six months in the world 38%, with the the highest percentage of the three regions was South Asia (45%), East Asia (43%) and developing countries (38%). Indonesia Health Profile describes the percentage of exclusive breastfeeding in infants 0-6 months of 2010 reached 61, 3%, in 2011 reached 61.5%, in 2012 48.6%.[3] In the West Java province breastfeeding coverage in 2012 amounted to 47.8%. In Depok, percentage of exclusive breastfeeding 38%.[4] Curug village exclusive breastfeeding of 51.1% (Profile Puskesmas Cimanggis , 2012). This figure affects children under five cases of diarrhea, diarrhea CFR toddler is not achieved (<1%).

The Indonesian government has program attempts to solve problem of the lack exclusive breastfeeding, there are: 1) application Government Regulation No. 33 Year 2012 on exclusive breastfeeding; 2) conduct breastfeeding counseling training and counseling Complementary feeding; 3) implement the 10 Steps to Successful Breastfeeding; 4) dissemination and exclusive breastfeeding campaign; 5) Information and Education Communication (IEC) through the print and electronic media; 6) empowerment of mothers, families, and communities in the practice of breastfeeding through conscious family nutrition program; 7) in cooperation with the relevant sectors in the supervision of cross marketing of infant formula and baby food products according to the standard of food products (Codex Alimentarius); 8) advocacy and promotion of improved breastfeeding.[5]

Implementation of the program to improve breastfeeding has not been implemented optimally. There haven't cooperation programs and sectors to improve the coverage of breastfeeding. Perkesmas program for maternal care haven't executed. Training counselors and lactation management not involving nurses. Annual operational program planning maternal care outcomes has not been established, at the level of service Depok. On this occasion, the authors describe the intervention strategy group process (exclusive breastfeeding Self-help group) to improve behavior of exclusive breastfeeding. A mother need support to continue exclusive breastfeeding. There are some scientific evidence forms of support that can be given, including some research to develop interventions to address the problem of exclusive breastfeeding has been done. Peer support allow for an effective approach to promote breastfeeding in women with different socioeconomic backgrounds.[6] Breastfeeding mothers will remain giving her milk after obtaining advice from peers. Peer support to nursing mothers is a source of support and motivation for mothers to breastfeed compared to the provision of a structured health education on lactation management.[7] This paper describes the intervention groups of pregnant and lactating mothers who support self-help groups to provide exclusive breastfeeding. Intervention made in the process of nursing care maternal group where pregnant and lactating women as a risk group. Health problems in pregnant women and lactating arise because of the interaction with the dimensions of biological risk factors and age, risk factors for behavioral and environmental risk factors,[8] so these groups require nursing care.

Variables used in the synthesis of community care is as partners: (1) core: demographics, marital status, vital statistics: birth rate exclusive coverage of Asi, values and beliefs of exclusive breastfeeding; (2) sub-systems: the environment: social support for breastfeeding, the health service which is used to address the issue of breast-feeding; politics and governance: policy support exclusive breastfeeding; and education. As well as integrating the concept model of social relationships and social support on health variables that are integrated in the model are the effects of social networks and social support to the health of communities and the effects of social networks and social support on healthy behaviors.[9]

The purpose of this study is how self-help groups contribute to support breastfeeding behavior furthermore to explore their experiences after following the KS-ASIEKs activities.

METHODS

The study was conducted at September 2013 until May 2014, using mixed methods design. Done on third trimester pregnant women and mothers with 0-6 months babby, samples were taken by cluster sampling method, contained in Curug village number of pregnant and lactating mothers quite a lot. In RW 08, there were 16 women, there were 15 in RW 04 and RW 10 there were13 mothers.

PROCEDURE

Data collection was done at the beginning of activity by distributing a questionnaire pre-test on the demographic data, the data of knowledge, behavior and attitude of mothers on exclusive breastfeeding, participants were asked to answer 15 questions of knowledge about breastfeeding with a statement of completely wrong, attitude 15 statement, as well as 15 question behavior in the form of Likert scale.

To measure the level of confidence for breastfeeding mothers with the breastfeeding self-efficacy scale short Form (BSES - SF) thare were 15 questions in a Likert scale. Furthermore, pregnant and lactating mothers intervened with the KS-ASIEKs group for 8 sessions and discuss topics surrounding pregnancy and lactation. After 8 sessions, mother-ASIEKs Ks members are given a questionnaire of knowledge, attitude, behavior and BSES-SF to be refilled as the post test data.

To explore the experience to follow the activities of KS-ASIEKs, selected 10 participants to participate in a one-by-one in-depth interviews, conducted in the homes of participants. Semistructured interviews conducted to explore the experience of mothers participated in the KS-ASIEKs about the support obtained and effectiveness. Mothers were asked about the benefits of what they felt during the activity KS-ASIEKs, and its effectiveness in helping to improve the behavior of exclusive breastfeeding. Data recorded using a digital recorder.

DATA ANALYSIS

The demographic data, knowledge, behaviors and attitudes, and behaviors analyzed in the mean, median and standard deviation. Where identified, paired sample test was used paired sample t-test with a significance of $p < 0.05$. Results of interviews were analyzed using descriptive content, to identify key themes that relate to the experience following the KS-ASIEK sactivities.

RESEARCH RESULT

Survey results Results demographic data KS-ASIEKs members who follow the activities included age, baby's age, gestational age, income, and education levels shown in Table 1.

Table 1

Demographic Characteristics KS-ASIEKs members Curug village 2013

Variabel	N	%
Mother Age		
20-24	16	36,4
25-29	15	34,1
30-34	10	22,7
35-39	3	6,8
Count	**44**	**100**
Baby Age		
0-7 days	8	26,7
1-2 weeks	16	53,3
≤ 4 weeks	5	16,7
≥ 4 weeks	10	33,7
Count	39	100
Pregnancy age		
6-8 months	9	64,3
8-9 months	5	35,7
count	14	100

Income		
≤ 2.042.000	18	40,9
≥ 2.042.000	26	59,1
count	44	100
Education		
Primary School	10	22,7
Junior High School	21	47,7
Senior High School	11	25,0
Bachelor degree	2	4,6
count	44	100

Table 1 shows the age of the mother at the age of 20-24 years of domination by 36.4% which is the age of reproductive age and are at the stage of development of the childbearing family, age babies who owned the most dominant 1-2 weeks 53.3% where the age of the baby's mother most often get into trouble breastfeeding, maternal gestational age 64.3% in 6-8 months so it is still enough time to prepare for breastfeeding, family income is 59.1% less than the minimum wage this is often the reason for mothers to work to help her husband earn a living, 47.7% of mother's education level elementary education junior mother owned the provision of information needs to be optimized at this level of education.

Post test result, the mother's knowledge after attending activities of KS-ASIEKs change-average value. Knowledge assessment looks at the increase in the average score of 20.7 to 26.9 with a standard deviation of 1.9. The difference or the difference value of the average pretest to posttest of 6.2 to obtain a significant increase in knowledge at 20.7%. This is evidenced from the results of significance test with Wilcoxon test was obtained p-value 1-tailed 0,000 with a value of α = 0.05. That is a significant increase in knowledge before following with after following the activities of KS-ASIEKs

Post test result, the mother's behavior after following activities ASIEKs KS-change-average value. Behavioral assessment looks at the increase in the average score of 33.6 becomes 48.6 with a standard deviation of 2.39. The difference or the difference value of the average pretest to posttest by 15 to obtain a significant increase in knowledge of 25%. This is evidenced from the results of significance test with Wilcoxon test was obtained p-value 1-tailed 0,000 with a value of α = 0.05. That is a significant increase in behavior before following with after following the activities of KS-ASIEKs

Post test results, the attitude of the mother after following the activities of KS-ASIEKs change-average value. Assessment attitude seen in the increase in the average score of 27.9 becomes 47.7 with a standard deviation of 3.99. The difference or the difference value of the average pretest to posttest of 19.8 to obtain a significant increase in the attitude 33%. This is evidenced from the results of significance test with Wilcoxon test was obtained p-value 1-tailed 0,000 with a value of α = 0.05. That is a significant increase in attitude before following with after following the activities of KS-ASIEKs post test result, the confidence of women after following the activities of KS-ASIEKs change-average value. Rate confidence mother looks at the increase in the average score of 34.5 to 51.2 with a standard deviation of 2.9. The difference or the difference value of the average pretest to posttest of 16.7 to obtain a significant increase in knowledge 27.8%. This is evidenced from the results of significance test with Wilcoxon test was obtained p-value 1-tailed 0,000 with a value of α = 0.05. That is an increase of significant confidence mothers before following with after following the activities of KS-ASIEKs Result of the following activities of KS-ASIEKS with 82% of active members

of KS-ASIEKs mothers exclusively breastfed their babies and 18% (8) mothers do not breast feed exclusively. Results of further analysis of the relationship of the relationship liveliness follow KS-ASIEKs against exclusive breastfeeding was obtained (p = 0.00) with an OR of 23.2 in the 95% CI (8.4; 64.2) thus concluded that women who actively follow KS-ASIEKs activity will likely provide exclusive breastfeeding of 23.2 times, compared to mothers who are not active.

Interview result.

Interviews were conducted in 4 pregnant women, nursing mothers 4 less than 4 months and 2 mothers breastfeed for more than 4 months. Results appear several theme interviews after mother participated in the KS-ASIEKs:

- Glad to follow the activities and gain knowledge, statements of participants: "*I am pleased to follow the activities of KS-ASIEK, be knowledgeable about breastfeeding that I need* (P3)." As said by the mother primi gravida follows: "*I gain knowledge of each 2minggu who want I know my baby later* (P31) "
- There is a place to ask questions, such as mother statement: "*in KS-ASIEKs I get a place to ask what I did not know before* (P24)."
- Got activities, as the mother: "*here I pass the time with my mother - a nursing mother, I get routine every 2 weeks* (P10)."

DISCUSSION

Meeting the intervention group performed every 2 weeks. The yield on the mother after following the KS-ASIEKs activity is an increase in knowledge, attitudes, behaviors of mothers in exclusive breastfeeding, significantly mothers who actively participated in the self-help groups likely to provide exclusive Asi, but it also increases maternal confidence.

Increased knowledge of the mother after following the KS-ASIEKs activities in line with the results of the research results [9], the theme of which was concluded on the experience of mothers participated in the breastfeeding support group is to obtain information and new knowledge. The difference with the research conducted by Nurhidayati [9] is a qualitative study that explores the mother's experience in the following activities of self-help groups, so that data from study participants subjectively.

The capital gain following the KS-ASIEKs activity is gaining knowledge in preparation for breastfeeding in pregnant women.[10] A person who participated in self-help groups will get the information, emotional support, and in a group individuals will acquire vigor, increased life expectancy and knowledge.[11] In group activities KS-ASIEKs mothers members get new information in the community, such as monthly Posyandu activities and events held in the community.

KS-ASIEKs activity is nursing interventions on pregnant and lactating mothers group with group process strategies. The role of the group in the community is to provide information about the events and experiences of life experienced by members.[12] In order to achieve the objectives of the group, the group must introduce responsibility, provide information, clarify and conclude, and make decisions that will be adopted together with members of the group. In the end, members will learn from the processes that occur within the group. Pregnant women and nursing mothers in Curug village who participated in the KS-ASIEKs increased confidence capable of breastfeeding was 27.8% after follow-ASIEKs KS activities. Confidence mothers to breastfeed necessary to sustain breastfeeding infants. Confidence in breastfeeding mothers to breastfeed is a significant predictor of factors determining the

duration of breastfeeding.[13] The factors that influence the formation of self-confidence is the mother's education nursing mothers, support of other mothers, parity, time of delivery satisfaction, perceptions of progress breastfeeding and maternal anxiety.[14] Results of evidence based explain the relations between mothers, health care workers and extending social support breastfeeding.[15]

Other studies that support the improvement of maternal confidence expressed support groups help in retrieval decisions during the transition period, self-help groups focusing on maternal health needs that time so as to increase the confidence of the mother.[16] The confidence associated with the belief in the ability to perform the role of being a mother and a complex thing. The confidence of the mother is also influenced by the dynamic relationships in social groups, social and cultural factors, and the existence of formal and informal support.

Monitoring of exclusive breastfeeding was performed on 30 infants, with a record of *menyusuiku* result: 10% of the infants passed exclusively breastfed in December 2013, 16% in January 2014, 20% in February 2014, 5% in March, 20% in April and 16 , 6% in May. There is a 6.6% exclusively breastfed babies do not pass. Cause of exclusively breastfed babies do not pass is the grandmother felt sorry when a baby cries; the baby's mother-in-law commands so afraid denied infants fed milk porridge at the age of 2 months. Another baby who fails exclusive breastfeeding at birth is in health center that have not implemented *Sayang Bayi* program, so the baby given formula by a health worker who was in the hospital. Furthermore, this family fostered by health workers with home visits, mothers feel confident to breastfeed. After intensive explanations given by health cadres switch to breastfeeding mothers.

Extended family affects mothers in breastfeeding. Grandmother of the father plays an important role in providing breast milk and baby's first food.[17] Breastfeeding mothers who live together in extended family get support from grandmothers and grandmothers tend to steer to feed premature infants.[18]

CONCLUSION

KS-ASIEKs groups show significant results to increase in the average behavior of exclusive breastfeeding, as well as increased knowledge, attitude, skills and confidence of mothers in exclusive breastfeeding.

The care of groups pregnant and lactating women with KS-ASIEKs interventions proven to increase exclusive breastfeeding behavior. Perkesmas nurses should be involved in efforts to increase the exclusive breastfeeding in Indonesia in contributing to the achievement of MDG 4. So that the necessary training as a nurse Perkesmas pengampu KS-ASIEKs program, which is expected to be applied in providing nursing care on maternal and nursing groups especially childbearing families.

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P-17

THE EFFECT OF DURATION CHEWING CYLITOL GUM TO INCREASE PH PLAQUEON TOOTH SURFACE

Naning Nur Handayatun, Retno Dwi Sari, Situmeang

Dental Nurse Departement of Health Polytechnic of Health Ministry Jambi, Indonesia
Email : ningfendi2@yahoo.co.id

ABSTRACT

Chewing gum was the most candy what every one like. The benefit of xylitol gum was increase saliva secretary, increase of pH saliva, inhibitor syntesis Streptococcus Mutans and Streptococcus Aureus. The stydy was aims to know efictivity of chewing xylitol gum to increase pH plaque based on duration of chewing. This study was conducted on pretest and postest control group design. Ten students Jurusan keperawatan Gigi Poltekkes Jambi age 18-20th was chewing xylitol gum for 1 minute, 5 minute, and 10 minute. Before and after chewing gum pH was measured by pH meter. This result be compered with pH plak if they did not chewing gum. The difference in plaque pH pre-test and post-test for the group who chewed xylitol gum for 1 minute at 0.02, while the control group did not change, the results of Mann Whiteney test sig. 0.481. The increase in plaque pH between pre-test and post-test for the group who chewed gum for 5 minutes at 0.15 and in the control group dropped 0.01 pH, the results of Mann Whiteney sig. 0.247. So there is no significant difference in plaque pH to chewing gum for 1 minute and 5 minutes (p> 0.05) increase in plaque pH between pre-test and post-test for the group who chewed gum for 10 minutes at 0.05 and in the control group occurred a decrease in pH of 0.08. Mann Whiteney test results sig. 0.02 , so there is a significant difference in the plaque pH chewing gum during 10 minutes (p <0.05). Chewing xylitol gum for 10 minutes can be equally effective in raising the pH of plaque on the tooth surface.

Keywords : duration chewing, xylitol gum, plaque pH

INTRODUCTION

Riset Kesehatan Dasar in 2001 foud that caries prevalence was 71,2% and in 2007 was 73,3%, and DMF-T index = 4,8. This score showed that avery one have 5 caries. The dental health problem 2007 was 23,2 % and increase 25,9% on 2013. [1]

Etiology predominat gingivitis and periodontitis because of plaque.[2] Plaque is the thin layer on the dental that have no color and coated by saliva deposit, metabolite microorgnisme and this product. Plaque firmly attached on dental surface and one cause of dental caries. On the 1 gram wet plak containing $2x10^{11}$ bacteria.[3] Five minutes after brushing teeth, plaque had detection by disclosing solution[4] but the color visually white, grey and yellow after 1-2 day on the teeth did not brushed.[5] Carlson said that plak formation on third rough dental surface. Factors affected plaque formation is anatomi and dental position, anatomi periodontal tisuue and dental surface stucture.[3] Dental prevention and plak control covery diet regulation,chemical action and mechanical action. To reduce the population of bacteria in the mouth we can rinsing the mouth with antiseptics, interdental cleaning with dental floss, avoid the consumption of foods containing sucrose, clean the tongue and chewing gum.[6]

Xylitol is a five-carbon compound with five alcohol groups / hydroxyl (also called pentiol).[7,15] Xylitol occurrs in small quantities in fruits and vegetable and to make it quite difficult compared to other sweeteners compounds. Xylitol sweetness equivalent to sucrose (table

sugar) that is widely used as a sweetener in food products and confectinary. Xylitol energy 2.4 calories / gram being sucrose 4 calories / gram. Xylitol also has a very good solubility in water and cause a cold sensation when it dissolves in the mouth so widely used in products mints, chewing gum and toothpaste. The main advantages of xylitol is a healthy biological effect.[7]

Research on the use of xylitol has been done. The concentration and duration of exposure to xylitol can reduce the number of colonies of Candida albicans in vitro.[8] Chewing gum is better in stimulating salivary flow compared to just suck.[9] Xylitol chewing gum can be one of the alternatives in dealing with xerostomia in patients taking antidepressants.[9] Giving xylitol gum influence on elderly patients xerostom.[10]

The promotion mentioned that the chewing gum for 1 minute after a meal will get a healthy mouth. Xylitol can reduce plaque acid that can lower the risk of caries due to the low pH can cause demineralization. [11] Benefits of xylitol among other things is increase the remineralization, increase the plaque and saliva pH, reduce the number of bacteria Streptococcus mutans and reduces plaque on the teeth. Xylitol can inhibit the formation of plaque forming bacteria, reducing the synthesis of extra cellular polysaccharide which can lead to plaque adhesions.[12] Respondents who chewed xylitol gum 6.44 g / day and 10.32 grams / day for 5 minutes to reduce the amount of Streptococcus mutans in plaque, and for 6 months can reduce the number of Streptococcus mutans in plaque and saliva. [13]
The results of research conducted in the group who chewed xylitol and chew paraffin wax in the control group gained an average number of colonies of bacteria Streptococcus mutans in saliva are significantly lower in the treatment group than the control group $p < 0.05$ 3.[14.]

This study aims to determine the effectiveness of duration chewing xylitol gum to changes in the pH of plaque on the tooth surface. Results of the study can be used as one means of dental health promotion in the community. The length of time people can know the chewing gum, more effective so as to lower the pH of plaque and prevent tooth decay.

MATERIAL AND METODE

This study was pure experimental research with Pre Post Test Control Group Design. The population was the entire third level students Dental Health Department Poltekkes Jambi. Inclusion of sample criteria are caries-free, calculus free, periodontal tissues healthy, no allergies gum containing xylitol, volunteered to be a responder. Exclusion sample criteria are severe crowding, many calculus, caries, allergy to chewing gum containing xylitol, not willing to become respondents. This study has received approval from the Ethics Committee of Jambi University

The sampling technique by randomly from the population that met the inclusion criteria. The independent variable was the duration of chewing xylitol gum and the dependent variable is the pH of plaque on the teeth.

Plaque pH measurement is done by Eco Tester pH 1. Treatment 1: The plaque pH in the control group was measured 10 minutes after a meal, respondents did not chew gum and plaque examination interval of 1 minute between the pre-test and post-test. In the treatment group, plaque pH was measured 10 minutes after a meal as a pretest and then respondents chew xylitol gum for 1 minute later the pH was measured as the post-test. Treatment 2: The plaque pH in the control group were measured 10 minutes after eating, respondent did not chew gum and plaque examination intervals of 5 minutes between pre-test and post-test. In the treatment group plaque pH was measured 10 minutes after a meal as a pretest and then

respondents chew xylitol for 5 minutes and the pH was measured as the post-test., Treatment 3: plaque pH control group were measured 10 minutes after eating, the respondent did not chew gum and plaque examination interval of 10 minutes between pre-test and post-tes. In the treatment group, plaque pH was measured 10 minutes after a meal as a pretest and then respondents chew xylitol for 10 minutes and the pH was measured as a post-test.

Plaque pH measurement is done by first weighing the decision stick plaque, then the plaque was taken from the respondent's tooth surface, stick weighed back to determine the amount of plaque that is drawn, aque then dissolved in distilled water as much as 100x. If severe plaque then 0.7 g of distilled water is needed 7ml. Plaques were then examined with a pH meter. Initial pH score of distilled water were used in this study was 8.0.

Data was analyzed by non-parametric statistics due to the small sample size (<30). Two different test samples was done with the test relating Statistics Wilcoxon Sign Rank Test and the Test Statistic two samples were not related to the test Statistics MannWhiteney.[15]

DISCUSSION AND RESULT

Plaque pH changes in the treatment group and the control group

PH probe in the control group performed at intervals of 1 minute, 5 minutes and 10 minutes. The results can be seen in figure

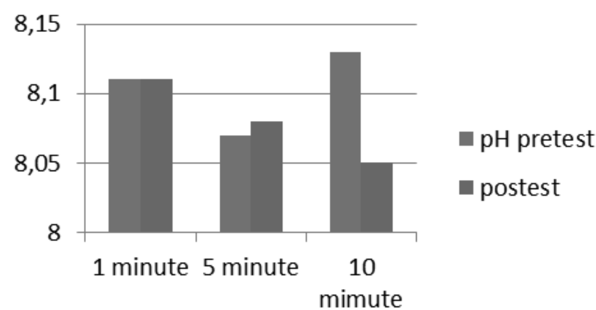


Figure 1. Overview on the Plaque pH Control Group in Prates and Post-test

Figure 1 it show that at an interval of 1 minute checks on respondents who did not chew gum does not change the pH of plaque. However, the inspection interval of 5 minutes there was a slight increase in the pH of the plaque. On examination of the 10-minute interval decreased plaque pH. Statistical pH test showed before and after chewing gum respondents are presented in Table 1.

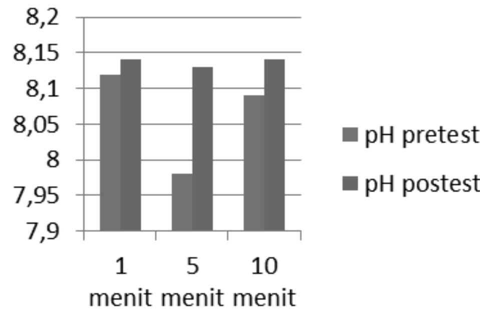
Table 1.
Wilcoxon Signed Rank Test at Pre Test-Post Test In Control Group

Observing time	Control group Sig.
1 menit	1,000
5 menit	0,783
10 menit	0,020

Changes in pH in the control group at 1-minute examination showed no significant difference ($p > 0.05$) as well as the increase of pH at 5 minutes was not statistically significant. pH decrease in the control group on the examination of 10 minutes showed a significant (p

<0.05). This situation same as according another research, that the amount of plaque will be more accumulated after 5 minutes to 1 hour after brushing, the thicker plaque contain more of bacteria are causing plak pH more acidic. [17]

Plaque pH changes in the treatment group before and after the intervention are shown in Figure 2.



Pictures 2. pH Plaque In Treatment Group Before and After Intervention

Figure 2 is seen that after the pH probe before and after chewing gum for 1 minute, 5 minutes and 10 occurred an increase plaque pH.

Table 2.
Wilcoxon Sign Rank Test pH Plaque Before and After Chewing Xylitol Gum In Treatment Group

Chewing gum duration	Treatment group Sig.
1 minute	0,589
5 minute	0,54
10 minute	0,025

Statistical test results in Table 2 show that after chewing gum for 10 minutes an significance increase of pH ($p < 0.05$) while chewing gum for 1 and 5 minutes showing a rise in pH (Figure 2), but the change is not significant pH statistically ($p > 0.05$). Respondents were chewing containing sucrose, xylitol and probiotic is a mechanical or chemical stimulus to the salivary glands so as to increase the volume, flow velocity lowers the viscosity, pH increase and decrease the number of colonies of Streptococcus mutans of saliva. The effects of chewing gum after no distinction of excellence in every response, but not significant in statistical calculations.[16]

Comparison of Plaque pH Difference in Treatment Group and Control Group

The difference in plaque pH on pretest and postest in the treatment group and control group are presented in table 3. Positive signs means an increase plaque pH between examinations before and after chewing on specified time. pH difference is then performed statistical tests by Mann Whitney U test.

Table 3.
Statistical Test Results The Difference of Plaque pH
Between The Control Group and Treatmen Group

Observing time	Treatment Group pH differnce	Control Group pH difference	Sig.
1 minute	0,02	0	0,481
5 minute	0,15	-0,01	0,247
10 minute	0,05	-0,08	0,02

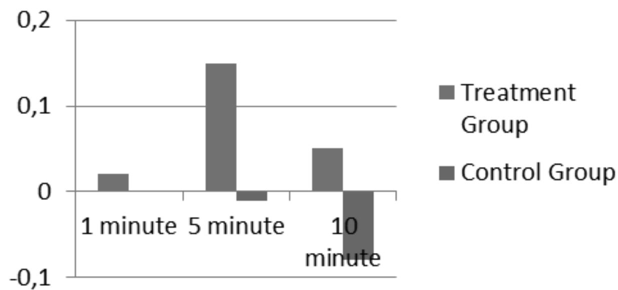


Figure 3. Comparison of plaque pH Difference Between Treatment Group and Control Group).

After 1 minute of chewing xylitol gum then increased in the average pH of 0.02, while the control group who did not chew gum does not change but this differences was not statistically significant (p>0,05). Chewing xylitol gum for 5 minutes can increase the pH by 0.15, while the control group decreased pH. However this difference was not statistically. Chewing gum during 10 minute can increase the pH of 0.05, while the control group decreased pH of 0,08 and this difference was statistically significant.

Chewing xylitol gum for 1 minute not give effect to the existing plaque, this situation is also seen in a long mastication 5 minutes. This is consistent with previous studies that responden who chewed two pieces of xylitol gum 3 times a day for 14 days did not have a significant influence on plaque pH interdental.[17]

In this study, respondents stated that after 5 minutes of chewing gum sweet taste had not felt anymore so the longer feel less comfortable. This makes people who chew gum after sweet taste usually disappear immediately discarded this gum. Chewing gum for 1-5 minutes to increase the volume of saliva because usually sweet and mint flavors in chewing gum stimulates saliva and mouth respondents feel more refreshed.

Mann Whiteney Test result (table 3) on chewing gum for 10 minutes, it was found that a significant pH difference between the treatment group and the control group (p <0.05). Burt said that Xylitol inhibits the growth of bacterial plaque through the flushing mechanism metabolittoksik on fructose phosphotransferase system in the body of the bacteria. Besides, xylitol is also capable of reducing the synthesis of extracellular polysaccharide so that the attachment of bacteria to the tooth surface would be reduced.[9]

Moving of chewing xylito gum l for 10 minutes also caused friction with the teeth resulting in the removal of plaque mechanically. After 1-5 minutes chewing xylitol gum so that pH increase no significant but when mastication be continued then mechanically plaque will be reduced so that the pH increases .will be significance.

CONCLUSION

No signicancy pH in group who 1 and 5 minutes chewing xylitol gum camparred control group ($p>0.05$) and Ssignificancy increase pH in group who 10 minutes chewing xylitol gum compared control group($p<0,05$).

SUGGESTION

Provision of counseling on the public if consume chewing xylitol gum containing in the right way that is not directly disposed of when the sweetness is gone, xylitol gum should be chewed for at least 10 minutes.

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P-18

DIFFERENCES BETWEEN POLYCHROMATOPHILIC ERYTHROCYTES COUN ON ROMANOWSKY STAINING (GIEMSA) AND RETICULOCYTE COUNT ON SUPRAVITAL STAINING

Suryanta, Subrata Tri Widada

Medical Laboratory Technology Department of Poltekkes Kemenkes Yogyakarta, Indonesia, Email : suryanta67@gmail.com

ABSTRACT

Reticulocytes are nonnucleated immature erythrocytes that contain nucleid acid materials that are visible on supravital staining. The remnants of nucleid acid materials are also visible as polychromatophilic eryhtrocytes on Romanowsky staining, such as May Grienwald Giemsa. Reticulocyte counting is used to determine erythropoietic function of bone marrow in producing erythrocytes. Special characteristic of erythrocytes; they can only be stained by supravital staining. The staining through fixation step, reticulocytes change into Polychromatophilic cells. The counting of polychromatophilic erythrocytes has not been applied as an alternative method for reticulocytes counting since the result of both cells counting are controversial. The aim of study to identify the comparison of the result of polychromatophilic erythrocytes count in May Grienwald Giemsa staining and supravital staining with manual method. This study was observational research with cross-sectional design. The independent variables in this study were staining methods; supravital staining method with 1% BCB and May Grienwald Giemsa staining method. The dependent variables were the value of reticulocytes and polychromatophilic erythrocytes value. The subjects were blood samples of 30 respondents which then were added with anticoagulant ETDA, while the sample of the research was thin blood smears from 1% BCB staining and thin blood smear with May Grienwald Giemsa staining. The research was conducted by counting the number of reticulocytes and polychromatophilic cells. The results of the study were presented descriptively. The statistical analysis which was used was paired sample t-test with a significance level 5%. Result of study were the average of reticulocytes count result as polychromatophilic erythrocytes in May Grienwald Giemsa staining was 0.37% with standard deviation of 0.15, whereas the average of reticulocytes count result in supravital staining was 1.0% with standard deviation of 0.29. The significant level of paired sample t-test was 0,000 < 0.05. It means that there was difference between the result of polychromatophilic reticulocytes count in May Grienwald Giemsa staining and the result of polychromatophilic reticulocytes count in manual method. Conclusions of study there were significant difference between the result of polychromatophilic erythrocytes count in May Grienwald Giemsa staining and the result of reticulocytes count in manual method.

Keyword: reticulocyte count, polychromatophilic, May Grienwald Giemsa staining.

INTRODUCTION

Reticulocytes are immature erythrocytes without core, but still have remnants of Ribo nucleid acid (RNA) in cytoplasm[1]. It takes 1-2 days to turn into erythrocytes [2]. In the process of maturation of reticulocytes, a reduction in the size of the cell and its nucleus, an increase in hemoglobin levels, as well as a reduction in the amount of ribosomal RNA or which frequently appear as retikulo filamentosa. Retikulo filamentosa contained in reticulocytes that can be seen in Supravital staining by using Brilliant Cressyl Blue (BCB) [3].

Number of reticulocytes in peripheral blood in adults is normally 0.5-1.5%. The increase number of reticulocytes in peripheral blood shows the increase of erythropoiesis in the bone

marrow that occurs as a response to the occurrence of bleeding or damage of erythrocytes circulating in peripheral blood when normal bone marrow has normal function. The counting of reticulocytes in peripheral blood was performed to obtain information about the function of the bone marrow to produce red blood cells [1].

Reticulocytes staining are not only seen at Supravital staining, but also can be seen in the peripheral blood smear by Romanowsky[4] staining. Reticulocyte will be seen as polychromatophilic cells with a diameter slightly larger than the cells of the erythrocytes[3]. Polychromatophilic cell is a cell that can bind the dye acidic and alkaline. Reticulocyte cytoplasm is alkaline, which will bind the acid dye that stain red. While the rest of the components in the form of ribonucleic acid cells scattered in the cytoplasm would bind the dye base, resulting in a mix of colors in cells that cause the cells as polychromatophilic.

Escobar's reserach (2002) says that there was no significant difference between the number of polychromatophilic cells and the number of reticulocytes in standard counting method[5]. Heilmeyer and Crouch (1985) mentions that visible characteristic of some polychromatiphilic cells only describe the number of existing reticulocytes. Classifications of reticulocytes into four groups are based on the amount of residual component of ribonucleic acid in cells: Group I, II, III, and IV. In normal conditions, the number reticulocytes for group I and II respectively are about 7.5% and 0.1% of the number of fouded reticulocytes. Sixty-one percent of reticulocytes circulating in the peripheral blood is reticulocytes group IV and about 32% is reticulocytes group III[6]. The characteristic of polychromatic cell is very noticeable in phase group I, II, and III[7].

THE OBJECTIVE OF THE STUDY

This research is aimed at identifying the comparison between the count result of polychromathophilic erythrocytes in May Grienwald Giemsa staining and the count result of reticulocytes in Supravital staining with manual method.

METHODS

This was a quasi-experimental study with cross-sectional approach. The research setting was in Hematology Laboratory in Health Analyst Department of Health Polytechnic in Yogyakarta that was held in August to September 2014. The subjects were blood samples with hemoglobin level < 11 g / dl from 30 patients. The samples were made in two smears, and then followed by Giemsa and Supravital staining. The number of polychromatophilic erythrocytes in Giemsa staining and reticulocytes in Supravital staining were calculated per 1000 erythrocytes and then reported in unit of percent (%). The data were analyzed by using a statistical test; paired t-test two-sample.

RESULTS AND DISCUSSION

The examination of reticulocytes number in 30 blood samples of patients with anemia was conducted in Clinical Pathology Laboratory, Dr. Sardjito Hospital in Yogyakarta which then continued by examining the number of polychromatophilic cells in Hematology Laboratory, Health Analyst Department of Health Polytechnic in Yogyakarta. The result of the study shows that the percentage average of reticulocytes was 2.9%, the highest was 9.5% and the lowest was 0.5% with SD 2.1009. The result of examination in polychromatophilic cells shows that the average value was 1.4% with the highest value at 4.4% and the lowest value at 0.3% with SD 0.8280.

Statistical analysis using the one-sample Kolmogorov-Smirnov test was performed to determine the normality of the data. The significant values of reticulocytes examination in supravital and Giemsa staining were 0.595 and 0.092 respectively. Both the values were > α 0.05 so that Ho was accepted or the examination data were normally distributed. The research results then would be displayed descriptively. Statistical test by using parametric paired t-test with significance level 5% was conducted to determine the differences of both tests based on the data. Sig value (2-tailed) 0.000 < 0.05 means that Ho was rejected. Statistically, it can be stated that there is difference between the result of polychromatophilic erythrocytes count in Giemsa staining and reticulocytes in Supravital staining.

Reticulocytes are immature erythrocytes that are without core but still have remnants of RNA and ribosom[1]. The numbers of reticulocytes are approximately 5-15 per mile of all erythrocytes[8]. The number of reticulocytes is an indicator of productivity and activity of bone marrow erythropoiesis. Anemia will stimulate the increase of production and release of reticulocytes to the peripheral blood, so that the value of reticulocytes will increase in anemia. Reticulocytes seemed like polychromatophylic in Romanowsky staining in the blood smear [3], which experienced a blue color blurring that occurs because these cells still had ribonukleic acid.

This research found that the count result of reticulocytes was not always increases the reticulocytes in anemia. The increase of reticulocytes number occurs in patients whose bone marrow has normal function so that capable to respond to the occurrence of anemia with the increase of erythrocytes production which is characterized by the increase of reticulocytes in peripheral blood circulation `[1]. Patients with bone marrow failure disease, an imbalance of erythropoiesis, or the decrease of erythropoietin production will show the results of reticulocyte count in normal or low condition[1]. The result of polychromatophilic erythrocytes count in Giemsa staining and manually reticulocytes count in this study shows significant difference. Giemsa staining, which is one type of Romanowsky staining utilize acid-base characteristics of the red blood cells components. Reticulocytes in early stage contain a lot of residual ribonucleic acid, so it would be more purple stained and easily distinguished from mature erythrocytes. The remnants of ribonucleic acid or reticulo-filamentous which decreases at the same time with the maturation of the reticulocyte cells caused the cell color get more similar with mature erythrocytes, so that both were indistinguishable. Supravital staining allowed the remnants of reticulo-filamentous in the cells were visible, even it contained only 2-3 points of the remnants of ribonucleic acid, so that reticulocytes cell were more easily recognized than polychromatophilic cell in May Grienwald Giemsa staining.

May Grienwald Giemsa staining is staining technique that refers to the principle of the use of two different substances and has the contradictory effect. Acid dye will color the acidic and base part of cells. (Romanowsky effect), the other staining techniques with the same principle as Romanowsky is Wright, and May Grienwald, so it is possible to have polychromatophilic cells staining with combination of May Grienwald Wright and Wright. Heilmeyer (1985) classifies reticulocytes into four groups based on the amount of residual component of ribonucleic acid in Cells[6]: group I, II, III, and IV. Polychromatic cells trait is very noticeable in the group phase I, II, and III. In normal condition, the number of reticulocytes in group I and II are only about 7.5% and 0.1% respectively of the number of found reticulocytes, and about 32% are reticulocytes group III, [6].

Proper staining technique is essential for cell identification in peripheral blood. If the staining is not good, it will be difficult to distinguish between polychromatophilic cells and mature erythrocytes [10]. Fixation by using non absolute methanol can cause morphological

changes and the smear color. *Apus* smear which is too blue might be caused by too long staining process, less washing, and dye or buffer that is too alkaline. Too red smear might be caused by the nature of the dye stuff or buffer too acid buffer[11].

Reticulocytes count is an examination that should be performed on every patient with striking polychromatophilic in the peripheral blood smear[4]. The count of Polychromatophilic cell cannot be used to set the number of reticulocytes in the peripheral blood. The increase of polychromatophilic cells in peripheral blood (polychromasia) indicates the increase in reticulocytes number.

CONCLUSION

Reticulocytes count with Supravital staining method showed a higher yield (2.9%) compared with Giemsa staining (1.4%). There is significant difference ($p = 0.000 < 0.05$) between the results of reticulocytes count as polychromatophilic erythrocytes in May Grienwald Giemsa staining andthe reticulocytes count in Supravital staining.

SUGGESTION

It is necessary to have further research to identify the number of polychromatophilic cells in the smear dyed using another Romanowsky staining, for example, Wright, May-Grunwald, or a combination of Wright Grienwald May compared with the reticulocytes number in Supravital staining.

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P-19

YEARS OF WORK AS A CADRE RELATED WITH CADRE'S SKILL TO WEIGH UNDER FIVE

Izzuddien Sobri, Herawati, Waryana

Nutrition Department of Poltekkes Kemenkes Yogyakarta
Jl. Tatabumi No.3 Banyuraden Gamping Sleman Yogyakarta, Indonesia 55293
Email : izzuddiens@yahoo.com

ABSTRACT

Cadres of Integrated Service Post (posyandu) have important role in under five's growth monitoring in posyandu, so cadre have to be skilled person. Unskilled cadre to weigh can cause wrong information which will be used for planning nutrition programs. This research is aimed to determine relation between years of work and skills to weigh under five. This research uses *cross sectional* design which was held at Dlingo I Public Health Center working area. 30 weighing cadre officers were selected as subjects. Independent variable is years of work which was gathered by interview. Dependent variable is cadre's skill to weigh which was gathered by observation. To prove hypothesis data were analyzed statistically with *Chi square* test. Results showed years of work as a cadre ranged from 0.5 years to 27 years, average 12.6 years with standard deviation 6.57. 26.7% subjects unskilled to weight under five, and there is a relation between years of work and skills to weigh under five p=0.016. It is better for cadres who work longer and have skills to share the other cadres who working shorter.

Keyword: Years of working, skills to weigh, under five

BACKGROUND

Indonesia's Infant Mortality Rate (IMR) 34 per 1000 birth is high. High of IMR is caused by several health disorders in society. One of them is Infants Protein Energy Malnutrition (PEM)[1]. 33 provinces in Indonesia face acute nutritional problems and 18 provinces face acute and chronic nutritional problems. Only in 3 provinces those nutritional problems are lower than National number, those provinces are; Jawa Barat, DI Yogyakarta and Bali[2]. Case of Protein Energy Malnutrition in infants is increase from 17.9% in 2010 to 19.6% in 2013. While PEM is increase, case of malnutrition is also increase from 4.9% in 2010 to 5.7% in 2013[3].

Nutritional problems are caused by several factors; low usage of Public Health Center (PHC) and Integrated Serve Center (posyandu) in society. Posyandu is a form community based health efforts (UKBM) which is held by society and for society[4]. But, it is found in several places with minimum facilities and unskilled cadres[4]. Several posyandu haven't organizes 5 tables system[5]. Whereas consistency and posyandu activities can increase society's health[6].

Posyandu is a place to monitor under five's growth and development to prevent PEM. Posyandu as a place to weigh under fives in provinces of Indonesia are; Gorontalo 95,2%, Nusa Tenggara Barat 93,4%, Maluku Utara 93,1%, D.I Yogyakarta 85%[7].

Community's participation to weigh under five (D/S) in DI Yogyakarta 2011 is 72% to 79%. Kulonprogo regency is the highest with 79% and Yogyakarta municipality is the lowest with 72.6%[8]. In 2012 there is an enhancement of D/S in DI Yogyakarta with average 84%.

This index reach the target (80%)[9]. But Bantul regency doesn't reach this target with D/S 77.75%[10].

Monitoring under five's growth and development activity in posyandu is held monthly and using 5 tables system which is organized by cadres. Cadres have important role on posyandu's activities which have to be supported by cadre's quality and skill.

Cadre's knowledge and behavior can increase directly proportional with cadre's experiences. With good knowledge and skill, cadres can give society better serve[11]. Behavior which based on knowledge will be last in longer than without knowledge[12].

One of cadre's skills is weighing under fives using dacin and based on 9 steps as standard operating procedure (SOP). Place pendulum in zero position and weigh under fives with complete clothes are some mistakes which sometime are done by cadres[13].

Years of work as a cadre can increase cadre's skill, because of doing something regularly and frequently. Years of work influence the enhancement of cadre's attitude and skill[12]. Besides, cadre's skill to weigh can be influence by cadre's characteristic (age, marriage status, education, salary, reward, years of work). Years of work as a cadre is the most influent factor for cadre's skill to weigh under fives[14].

Dlingo subdistrict is lied in Bantul district and has two Public Health Cetres. There are 29 posyandus in Dlingo I PHC with 202 cadres, additionally 174 active cadres (86.13%) and 28 non-active cadres (13.86%). While 66 skilled cadres (32.67%) and 136 cadres who are unskilled.

Based on interview with nutritionist of Dlingo I PHC, there are 45% cadres are unskilled to weigh under fives. Those unskilled cadres don't do the 9 steps SOP to weigh under fives. Unskilled and untrained cadres give big impact to wrong interpret result of under fives weight. Wrong interpretation will lead wrong result of weighing and wrong informations.

METHOD

This is non experimental research with cross sectional research design. Dependent variable is years of work as a cadre and independent variable is cadre's skill to weigh under fives, both variables were collected in one time. Instruments which were used; questionnaire and checklist of cadre's skill to weigh under fives.

Research was held at 29 posyandus in Dlingo I PHC working area, Bantul District on May until June 2015. 30 weighing officers were choosen as subject of this research. In order to prove hypothesis data were analyzed statistically with *Chi square* test.

RESULT

Subject's characteristics were grouped based on age, education, occupation, liveliness, cadre training, years of work as a cadre and cadre's skill to weigh.

Based on Table 1, it is known that 15 subjects (50%) are older than 40 years old and just 3 subjects (10%) whose aged 20-29 years old. Based on subject's education, most of subjects graduated from Senior High School with 19 subjects (63.4%) and just 1 subject who graduated from Elementary school and college (3.3%). Most of subjects become a housewife with 22 subjects (73.3%) and just 3 subjects (10%) who choose trader as their occupation.

Table 1.
Subject's Characteristics

Variable	N	%
Age		
20-29	3	10
30-40	12	40
>40	15	50
Total	30	100
Education		
Elementary School	1	3,3
Junior High School	9	30
Senior High School	19	63,4
University	1	3,3
Total	30	100
Occupation		
Farmer	5	16,7
Trader	3	10
Housewife	22	73,3
Total	30	100
Liveliness		
Active	24	80
Inactive	6	20
Total	30	100
Training		
Ever	28	93,3
Never	2	6,7
Total	30	100
Years of Work		
Less long	8	26,7
Long enough	22	73,3
Total	30	100
Cadre's skill to weigh		
Skilled	22	73,3
Unskilled	8	26,7
Total	30	100

22 subjects (93.3%) are attending cadres training in Dlingo I PHC and 2 subjects (6.7%) are not attending cadres training. Based on cadre's liveliness, there are 24 active subjects (80%) and 6 inactive subjects (20%) who didn't come to posyandu in previous 12 months.

Cadres whose years of work <12.6 years or less long are 8 subjects (26.7%) and 22 subjects (73.3%) have years of work ≥12.6 years/ long enough. 12.6 years of work is a cut off point based on average from years of work. The average is chosen as a judgment because there is no certain source which divide years of work. Most of subjects are skilled to weigh based on SOP with 22 subjects (73.3%) and 8 subjects (26.7%) are unskilled to weigh based on SOP. Detail of cadre's skill to weigh under fives using dacin based on SOP is served in Table 2

Table 2.
Cadre's Weighing Skill

No	Skill Based on SOP	Yes		No	
		N	%	n	%
1.	Hang dacin on three foot buffer	30	100	0	100
2.	Check dacin is it hanged strongly (pull dacin down)	23	76,7	7	23,3
3.	Slide pendulum to zero position	23	76,7	7	23,3
4.	Set gloves weigh to dacin	30	100	0	0
5.	Stabilize dacin and gloves weigh by filling plastic bag with sands	22	73,3	8	26,7
6.	Make sure under five use minimum clothes Weigh under five, and slide pendulum until the needle in perpendicular position	25	83,3	5	16,7
7.	Determine under five's weigh by reading number at the base of pendulum slide	27	90	3	10
8.	Write under five's weight in a paper	30	100	0	0
9.	Slide pendulum back to zero position, place dacin's stem to safety rope, then bring under five down	22	73,3	8	26,7

Table 3.
Years of Work and Cadre's Skill to Weigh

Years of Work as a Cadre	Cadre's Skill to Weigh				Total		X²	p
	Skilled		Unskilled					
	n	%	N	%	N	%		
Less long	3	10	5	16,7	8	26,7	7,163	0,016
Long enough	19	63,3	3	10	22	73,3		
Total	22	73,3	8	26,7	30	100		

Cadre's skill was observed when subjects practiced to weigh under fives use dacin based on SOP. It is known that 8 subjects (26.7%) didn't do step 5 and 9. Fifth step is stabilizing dacin by sliding pendulum to stabilize the weight. Fifth step is essential step to get valid weight result. Ninth step is sliding pendulum back to zero position, place dacin's stem to safety rope, and then bring under five down. Ninth step is an important safety step for both weighing officer and under five.

Third step is sliding pendulum to zero position. There were 23 (76.7%) subjects did this step, therefore 7 (24.3%) subjects didn't perform this step. Subject's fault in this step was caused by irregularity and inconsistency, because subjects slide pendulum into pole of stem and not in a zero position. This fault can caused wrong weight result which can lead wrong information. Wrong information which will be followed up by government leads wrong intervention.

Fifth step is stabilizing dacin and gloves weigh by filling plastic bag with sands in the end of dacin's stem. There were 22 (73.3%) subjects did this step, therefore 8 (26.7%) subjects did not perform this step although the plastic and sand were prepared by researcher. Unskilled subjects who did not perform fifth step declare that it is difficult and troublesome to place plastic of sand to stabilize dacin. Several subjects told that they have lack information about present step and did not perform fifth step in regularly posyandu even though this is an essential step to get valid result.

Fifth step is an essential step to get a valid weight result and subjects have to perform this step. If subjects did not perform fifth step, accuracy of data that will be got are lower and lead wrong information. Wrong information which happened is weight result heavier than actual under five's weight. It is important to stabilize dacin by hanging plastic of sand at the end of dacin's stem[13].

Seventh step is determining under five's weight by reading number at the base of pendulum slide. When read number, subject's eyes have to equal with dacin's stem. There were 27 (90%) subjects did perform this step although 3 (10%) subjects did mistake when perform this step. Mistake which done by subjects were reading number in dacin's stem not in a equal position. Wrong position of reading number in dacin's stem leads wrong weight result, it can be heavier or it can be lighter than actual under five's weight.

Table 3 serves relation between dependent variable years of work and independent variable cadre's skill to weigh. There are 10% subjects who became a cadre less long but they are skilled to weigh based on SOP and there are 16.7% less long cadre who skilled to weigh based on SOP. There are 63.3% subjects who became a cadre long enough and skilled to weigh based on SOP and 10% long enough cadre who unskilled to weigh based on SOP. Result of statistical test with *chi square* analysis shown that X^2 7.163 and probability is 0.016 ($p<0.05$).

In order to strengthen analysis relation between years of work and cadre's skill to weigh use chi square test, further researcher analyze with t test independent sample. Result of t test independent sample shows that p value 0.01, it means there is significant difference in years of work between less long subjects and long enough subjects to be a cadre. Skilled subjects became a cadre with average 14.8 years and unskilled care became a cadre with average 6.6 years. In absolute terms, there is 8.2 years difference between skilled cadres and unskilled cadres. These 8.2 years difference became a cadre give big impact to frequency on practicing their skill to weigh which can influence cadre's skill to weigh.

DISCUSSION

Longer subjects become a posyandu's cadre in particular becomes a weighing officer, they will be more skilled than cadre who less long become a cadre. Subjects who works as a weighing officer with long enough years of work is more frequent perform or practice weighing under fives than subjects who become cadres less enough. Practice frequency which increased will increase cadre's skill. Sample of this case, when a subject becomes an active cadre for 20 years and she actives to come and do her job as weighing officers. For 20 years she comes 240 times in posyandu, if there are 50 under fives who come to posyandu, then in previous year she weighed 600 times under fives. This number of practice can be multiplied in many times depends on how many years she becomes a cadre. In this sample she became a cadre for 20 years, it means she had perform weigh under fives for 12.000 times.

Result of this research is consistent with Schein who explain that skill ranging from technical ability to use tools to make change which is expected. According to Schein in Sholehati[15], types of skills divided into 3; a) Skill humanist (*human skill*) is an ability to motivate others, b) Technical (*technical skills*) is a person's ability to use tools, procedures and techniques related or based on SOP, and c) Conceptual skills, is an ability to collaborate with others or compose a concept. Weighing under fives in Posyandu is a technical skill, where cadres must perform weighing nine steps using dacin as SOP which needed skill to perform this job.

The results are consistent with research from Saifullah[14] that years of work as a cadre is the most dominant variable influence on a under five's weighing. The results are consistent also with research from Nurjaya[16] that years of work as a cadre significantly affect validity of under five's weighing. Further explained by Suprapto[17] skills must be supported by knowledge and practice in order to reach optimum work as what expected. Cadres who work or serve in posyandu for long time will be enhanced their knowledge and technical ability. Cadres who longer worked in posyandu will have a better understanding and skilled to do their job in posyandu, so besides it can increase their skill, it can increase their performance[18].

Cadres who work in posyandu more than 10 years will have better performance in posyandu than cadres who work less than 10 years (Simanjuntak, 2012)[19]. Besides their work as a cadre which require good skill and good performance, cadres to be one factor of community presence in posyandu activities, so cadre's role is essential in growth monitoring activity.

CONCLUSION

1. Years of work as a cadre ranged from 0.5 years to 27 years, average 12.6 years with standard deviation 6.57.
2. There are 26.7% unskilled cadre perform weighing based on SOP. The most frequent mistake is to balance dacin with plastic of sand and slide pendulum back to zero.
3. There is significant correlation between years of work as a cadre with cadre's skill to weigh under fives based on SOP.

RECOMMENDATION

It is recommended to Dlingo I Public Health Center's staff ro motivate cadres to actively and to serve in posyandu longer, besides support from facilities for posyandu activities. For cadres who work longer in posyandu it is recommended that they continue work in posyandu much longer and actively participate in posyandu activity. They also recommend to share their knowledge, experiences and help new cadres.

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BENSON RELAXATION TECHNIQUES TO REDUCE DEPRESSION HEMODIALYSIS PATIENTS PKU MUHAMMADIYAH HOSPITAL IN YOGYAKARTA

Elsa Yunita[1], Harmilah[2], AnitaKustanti[1]

[1]Nursing Science Faculty of Medicine GMU
[2]Politeknik Health Ministry of Health of Yogyakarta
Email : harmilah2006@yahoo.com

ABSTRACT

Patients with chronic kidney disease should undergo hemodialysis therapy (HD) to sustain their life. That hemodialysis therapy performed on an ongoing basis can lead to changes in the patient's life. Such changes can lead to depression. Benson's relaxation technique is a combination of relaxation and beliefs held by the patient. The relaxation response arises from Benson's relaxation technique is expected to help Overcome Decrease the psychological problems and depression. This study aims to determine the effect of Benson's relaxation technique to depression reduction.The research was carried out by a Quasi Experiment pre-test and post-test design with control group methods in HD Patients at PKU Muhammadiyah Hospital in Yogyakarta. Thirty respondents were divided into intervention group (n = 14) and control group (n = 16). The intervention group was given a Benson's relaxation technique twice a day with 15 minutes duration and the control group was not given the intervention. Depression measurements performed twice, pre and post in the two groups with the Beck Depression Inventory-II (BDI-II). The results of this study showed that there are significant differences mean depression scores in both groups with p = 0.004 (p <0.05). Decreasing in depression scores occurred in the group receiving Benson's relaxation technique after getting intervention with the average value (SD) 8:21 (7:33). Benson's relaxation technique has a significant effect in reducing depression of hemodialysis Patients.

Keywords: chronic kidney disease, Benson relaxation techniques depression, BDI-II

INTRODUCTION

Kidney is one organ having a vital function. The main function of the kidneys, among others are as organ secretions, excretions, and filtration. Progressive decline in renal function will end up with chronic kidney disease (CKD). Chronic kidney disease is an abnormality of structure or function of the state of the kidney that lasted more than three months[1]. Patients with CKD will still be able to survive for many years with renal replacement therapy. One replacement therapy of renal function is hemodialysis (HD). Patients with chronic renal rely heavily on HD treatment to replace kidney function. Patients who have undergone HD will continue to make regular HD therapy to connect their lives [2]. People with chronic diseases, including patients undergoing HD continuous therapy will experience a change in their lives. HD inadequate process would cause side effects such as tired and weak, no appetite, nausea, insomnia, pruritus, tasteless tongue, difficulty in concentrating, decreased libido, body pain, and often an uncontrolled blood pressure. HD therapy will also affect the psychological state of the patient. Patients reported experiencing depression, anxiety, sexual dysfunctions, and problems interpersonal [4]. Research conducted by Tanvir et al., showed the prevalence of depression in patients with HD reached 57.30% [5].

Meanwhile, according Cengic & Resic, 51% of patients undergoing HD experience depresi[6]. Depression is a common problem in patients with CKD who received long-term HD therapy. It is associated with an increased real risk of morbidity and mortality in patients HD[7]. In addition to physical problems, psychological problems such as depression in HD patients also need to be considered because depression can worsen the patient's condition.

Relaxation techniques effectively reduce and prevent the psychological effects of stress[8]. Relaxation is one of the most useful non pharmacological techniques to reduce stress through the impact on the mental and physical condition, depression, mood swings, anxiety, and self-steam[4]. The easiest and less expensive relaxation methods is the Benson relaxation techniques. Benson Relaxation is a development method of relaxation combined with the confidence of patients and focused on certain words or phrases spoken repeatedly [9]. According to Gregory & Snyder mechanism of Benson relaxation consists of four main points, namely by creating a quiet environment, relaxing foot to head muscles, relaxing the body and mind, and doing a deep breathing, inhaling through nose and exhaling through mouth accompanied by the repetition of the phrase were able to make the patient calm and distract patients from stressor[10]. Responses arising from the expected relaxation techniques can help reduce psychological problems like depression in patients. The aim of this study is to determine the Benson relaxation techniques can reduce depression in hemodialysis patients at RS PKU Muhammadiyah Yogyakarta.

METHODS

This study was a quantitative type of Quasi Experiment pre-test and post-test design with Control Group. The study was conducted on 6th to January 26th, 2015 at RS PKU Muhammadiyah Yogyakarta. Subjects in this study were 30 patients with HD in RS PKU Muhammadiyah Yogyakarta. They were divided into intervention group (n = 14) , given Benson relaxation techniques twice daily in the morning at 06.00 and in the afternoon at 17.00 with a duration each 15 minutes for 14 days and the control group (n = 6) were not given the intervention. The inclusion criteria respondents, ie patients who are willing to be a sample, undergo HD twice a week, long live HD for less than three years, and is not affected by other diseases (except for patients with hypertension and diabetes were included in the inclusion criteria). Exclusion criteria namely psychotic patients, decreased consciousness, taking sedatives, using a ventilator, patient non-compliance (adherence value <80%), patients experienced an event that can lead to depression during the intervention process takes place.

Having obtained the intervention and control groups, then measuring the depression scores in both groups were conducted twice during the first day or the pre and post on the 15th day. Measurement scores of depression using the Beck Depression Inventory-II (BDI-II).

After data collection is complete analysis. Analysis between the intervention group and the control is done with Mann Whitney U Test.

RESULTS AND DISCUSSION.

Research result 1. Basic characteristics of respondents in the intervention group is that they have the same sex.. While the majority respondents in the control group are male. The average age of respondents were 48.5 years, whereas the intervention group and the control group is 42.44 years. Respondents in the intervention group are mostly housewives and in the control group are dominated by the private sector. Both group are mostly married.

High School (SMA) graduate dominated the last education background of both groups. They have the same characteristics as the proportion of the value of p> 0.05. The baseline characteristics of the respondents can be seen in Table 1.

Table 1.
Basic Characteristics of Respondents

Characteristics	Intervention Group		Control Group		*p-value*
	f (%)	Average (SD)	f (%)	Average (SD)	
Gender					0,296
Male	7 (50,0)		11 (68,8)		
Female	7 (50,0)		5 (31,2)		
Age		48,5 (9,41)		42,44 (12,93)	0,170
Jobs					0,244
Private	1 (7,1)		4 (25,0)		
Self	2 (14,3)		2 (12,5)		
Retired	2 (14,3)		3 (18,8)		
Housewives	7 (50,0)		2 (12,5)		
Other	2 (14,3)		5 (31,2)		
Marital					0,459
Unmarried	0 (0,0)		5 (31,2)		
Married	13 (92,9)		10 (62,5)		
Widow / Widower	1 (7,1)		1 (6,3)		
Last Education					0,971
No school	0 (0)		2 (12,5)		
Elementary School	4 (28,6)		2 (12,5)		
Junior High School	3 (21,4)		2 (12,5)		
High School	6 (42,9)		6 (37,5)		
College	1 (7,1)		4 (25,0)		

Scores of depression in HD patients in PKU Muhammadiyah Hospital in Yogyakarta.

Depression scores were measured in the intervention group and the control. Measurements depression scores performed twice during the pre-test and post-test. Depression scores of pre-test and post-test can be seen in Table 2.

Table 2.
Average Score Depression in Hemodialysis Patients Pre and Post Benson Relaxation Technique

Condition	Intervensi (n=14)		Control (n=16)		*p-value*
	Median (min. – max.)	Average (SD)	Median (min. – max.)	Average (SD)	
Pre	16,0 (5,0-41,0)	19,93 (11,24)	12,5 (3,0-33,0)	14,44 (8,37)	0,228
Post	6,5 (2,0-47,0)	11,71 (12,80)	12 (3,0-40,0)	15,06 (10,15)	-

Based on Table 2, the average depression score intervention group had higher scores than the control group. However, the average depression score before getting the Benson

relaxation techniques has equal proportions between the two groups, with p> 0.05. Post-test results showed the average depression scores were higher in the control group compared to the intervention group.

Relaxation techniques Benson Reduce Depression in HD patients in PKU Muhammadiyah Hospital in Yogyakarta.

Benson relaxation techniques in reducing depression can be determined by comparing the average value of the difference in depression scores pre and post intervention and control groups. Differences difference in pre- and post-depression scores in both groups were analyzed using nonparametric statistical test Mann Whitney U Test because the data are not normally distributed.

Table 3.
Mean Difference Score Depression Pre-Post Intervention Group and Comparative on HD Patients in PKU Muhammadiyah Hospital in Yogyakarta

Group	N	Median (min-max)	SD	P value
Intervention	14	**9,0 (-6,0 - 20,0)**	8,21 (7,33)	0,004
Control	16	(-16,0 – 10,0)	-0,63 (7,59)	

Based on Table 3, it is known that the average difference in depression scores pre and post Intervention group showed decreased depression scores after the intervention of Benson relaxation techniques was given. Whereas, in the control group showed negative results, which means an increase in depression scores in the group having no Benson relaxation techniques intervention Different test results showed no significant difference with p = 0.004 (p <0.05). The difference in mean depression scores between before and after a given Benson relaxation techniques. Different test is performed to determine changes in depression scores experienced by respondents after the study. Control of different test conducted by a mean score of depression pre-test and post-test in each group. Different test results in the intervention group and the control can be seen in Table 4.

Table 4.
Average Score Depression Intervention Group Between Pre-test and Post-test Benson Relaxation Technique In HD patients at RS PKU Muhammadiyah Yogyakarta

Group	N	Average (SD)		*CI* 95%	*p-value*
		Pre	*Post*		
Intervention	14	19,93 (11,24)	11,71 (12,80)	3,982 - 12,446	0,001
Control	16	14,44 (8,37)	15,06 (10,15)	-4,669 - 3,419	0,746

Based on Table 4, the average value of the depression scores in the intervention group decreased from pre-test to post-test at the time after the intervention. Different test conducted by Paired T-Test showed a significant difference with p = 0.001 (p <0.05). In the control group mean depression scores showed improvement from pre-test to post-test, but the increase in depression scores is not worth the significant difference with p = 0.746 (p <0.05). Different test performed by using paired T-test.

Discussion

The results showed that Benson relaxation techniques significantly reduce depression in patients with HD in PKU Muhammadiyah Hospital in Yogyakarta. These results form a significant decrease in depression scores in the group receiving Benson relaxation techniques, whereas in the group who did not receive therapy were actually having an increased depression scores. Results are also obtained by comparing the scores of depression in the intervention group and the control.

In this study, the mean depression scores obtained when the intervention group pre-test decreased while post-test scores are shown in Table 7. The increase in mean depression scores when pre-test to post-test occurs in the control group are shown in Table 8. according to the research conducted by Mahdavi et al., the mean score of depression in the intervention group decreased from the pre-test (9.04) to post-test (8.90). Whereas the increase occurred in the control group with pre-test (8.92) and post-test (9.16) [4].In the research that has been conducted, the average depression score intervention group showed a decrease of 8[21]. The decrease was statistically significant with p = 0.004 (p <0.05). Decrease in depression scores in the intervention group in this study can be explained as a result of relaxation techniques and methods of delivery Benson. Relaxation as a calming technique. Relaxation can reduce physical tension, mental, and emotional domination parasimpatis[9].

The results are consistent with previous studies that have been done to look at Benson relaxation techniques to depression. Research conducted by Inayati in UPT Care Elderly Jember to see the effect of the relaxation benson on the level of depression elderly scratch using a questionnaire GDS (Geriatric Depression Scale), the number of samples 42 elderly showed a decrease in the level of depression with p = 0.001 (p <0 05) [11]. The study ever conducted Aryana & Novitasari in Social Rehabilitation Unit Wening Ward Ungaran with a sample of 30 respondents also showed the existence of a significant effect on reducing the level of stress with a value of p = 0.002 (p <0.05) [12].Benson relaxation technique is a combination of breathing in and focus on the beliefs held by the patient. The results are consistent with other studies conducted focus on the benefits of meditation for reducing the emotional state of depression, anxiety, and stress. Research conducted Schreiner & Malcom showed that subjects who received meditation therapy for 10 weeks experienced a decrease in depression scores with p <0,05[13]. Kanoija also mentioned that the subjects who received the mindfulness meditation-based stress reduction (MBSR) decreased depression within 8 weeks [14].Keeping your mind focused and resignation is an act that should be applied at the time of Benson relaxation techniques. Implementation of measures focusing on relaxation techniques Benson also found in yoga relaxation. Yoga can improve depression. In a study by Shapiro et al., Shows a decrease in depression scores were measured using the Hamilton Depression Scale (HAM-D) with p = 0.001 (p <0.05) .15 In addition, other studies that support is research by Nazara states that surrender exercises may improve depressive symptoms as indicated by a decrease in BDI scores, a reduction in symptoms of depression in the intervention group than the control group, with p = 0.012 (p <0.05) .[16].Beliefs held by patients cause rapid relaxation response and cause the state to relax. The stronger a person's beliefs combined with the relaxation response the greater the relaxation effect would take place[17]. According Beson in Datak, Benson is a combination of relaxation techniques which involve a deep breath with confidence will provide the dual effect of the relaxation response that will be achieced[18]. Deep breathing can give the effect of increased oxygen saturation in the

blood, cleansing carbon dioxide and other waste products, relaxing the muscles, secretion of endorphins, and stabilize heart rhythm that can correct abnormal condition due to the tension experienced seseorang[19]. This is supported by studies that have been conducted by Chung et al., that the relaxation breaths can reduce depression scores proven effective when practiced regularly for four weeks, but a significant decrease in depression scores can already be seen in just two weeks of deep breathing relaxation [20]. Hand also conduct research to identify the influence of the management of depression using yoga breathing (pranayama) conducted over 12 days twice a day with a duration of 45 minutes. The study showed a decrease in depression scores with $p = 0.017$ ($p < 0.05$) [21]. This research was also supported by other studies to determine the effect of relaxation on depression. Effect of progressive muscle relaxation were carried out for 12 weeks in patients with endometriosis showed an improvement of depression after intervention ($p < 0.05$) [22]. Relaxation can also significantly improve depression in patients with pulmonary arterial hypertension[23]. Addition, relaxation techniques and guided imagery can also be beneficial to reduce the level of depression in brachytherapy patients [24].

Analysis of the questionnaire was carried out in this study. After the analysis we found a decrease in score of the most profound and significant changes in sleep patterns on items with a value of $p = 0.006$ ($p < 0.05$). These results are reinforced by other studies conducted by Rambod et al. to determine the effect of Benson relaxation techniques on the quality of sleep in patients on hemodialysis with significant results between the intervention group and the control by looking at a score of Pittsburgh Sleep Quality Index (PSQI) with $p < 0,05$.[25]

These results indicate that the statistical Benson relaxation techniques affects the decrease depression scores. In this study, obtained by the difference in mean depression scores between the intervention group compared with the control group, with $p = 0.004$ ($p < 0.05$). This shows the significant difference between the groups who received Benson relaxation techniques and a group that did not get Benson relaxation techniques. Relaxation techniques can stop the fight-or-flight hormones and lower levels of cortisol in the blood. Muscle relaxation can reduce tension and increase the body's resistance to depression. This method can work because the muscles are not able to relax and tense at the same time. The relaxation response is regulated by the parasympathetic nervous system which is opposite to the response of fight-or-flight by the sympathetic nervous system. The relaxation response causes drop in blood pressure, pulse rate, and muscle tension. The brain stops sending a distress signal to the brain stem and the body returns to pre-stress state level[26]. Given the mechanism will make the body become more relaxed and calm, so that relaxation can lower depression scores in this study.

Based on the description that has been described can be concluded that the combination of relaxation techniques with confidence patients have positive benefits to reduce depression. Relaxation is very effective work through the patient's physiological condition by lowering metabolism and strengthening heart contractions, respiration, blood pressure, as well as the release of epinephrine on the system simpatis[4]. This study shows that Benson relaxation techniques is significantly effective in reducing depression in hemodialysis patients. According to the Datak Benson, Benson relaxation works by inhibiting the activity of the sympathetic nervous which will reduce oxygen consumption by the body and makes the muscles relax, causing a feeling of calm and nyaman[18].

CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on the research results can be concluded that Benson relaxation techniques in reducing depression in hemodialysis patients at RS PKU Muhammadiyah Yogyakarta.

Suggestion

1. Training for nurses in doing Benson relaxation techniques and make Benson relaxation techniques as procedure to reduce hemodialysis depression patients.
2. Teaching Benson relaxation techniques in hemodialysis patients to decrease depression. Patients can perform independently Benson relaxation techniques to cope with feelings of calm and provide a relaxing effect because the technique is very easy to do.

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LIFESTYLE , BODY FAT PERCENTAGE AND STATUS OF HYPERTENTION OUTPATIENTS OF PUSKESMAS KLATEN SELATAN

WeniKurdanti, IntanDwiPamungkas, Idi Setyobroto

Nutrition Departement of Health Polytechnic of Health Ministry Yogyakarta
Jl. Tata Bumi no. 3, Banyuraden, Gamping, Sleman, Yogyakarta 55293, Indonesia
Email :weni.kurdanti@gmail.com

ABSTRACT

Basic Health Research 2013 national shows that the prevalence of hypertension of the population age ≥18 years is 25,8%. Central Java, one of the provinces that has hypertension prevalence is higher than national prevalence (26,4%). The change of the lifestyle has bad effect for health. Lack of physical activity causes obesity which is one of degenerative diseases risk factors. Hypertension is an example of the degenerative diseases. This research aims to determine relation between lifestyle (physical activity, stress condition, smoking habit, high sodium and fat meals diet patterns) and body-fat percentage to the status of hypertension. This is a cross-sectional research. The bound variable in this research is hypertension status, and the free variable are physical activity, stressed condition, smoking habit, habit of consuming high-fat food, habit of consuming high-natrium food, and body fat percentage. This research was conducted at local government clinic in South Klaten, Klaten in June 2015 with 58 respondents that were out-patients of local government clinic, South Klaten. The analysis used in this research was chi square test with 90% confidence level. Most of respondents (68%) had hypertension. Based on the analysis from the statistical test there was a relationship between physical activity (p 0,001) and high sodium meals diet pattern (p 0,000) with status of hypertension. While stress condition (p0,530), smoking habit (p 0,733), high fat meals diet pattern (p 0,241) and body fat percentage (p 1,000) have no relationship with the status of hypertension. Conclusion from this research is physical activity and high sodium meals diet pattern have relationship with the status of hypertension.

Keywords :hypertension, physical activity, body fat percentage

INTRODUCTION

WHO database (2008) mentioned that approximately 40% of adult population of the world severed form hypertension. Hypertension prevalence in South East Asia is 37%. [1]

Hypertension prevalence in Indonesia based on Risdakes data in 2013 through measuring population aging ≥18 was 25,8%. Hypertension prevalence in Central Java Province was 26,4% which this amount was higher than in whole Indonesia and Yogyakarta Province which was 25,7%.[2]

Based on the data of Health Official Service of Klaten Regency, essential hypertension occupies first rank non-contagious disease which happens in Klaten Regency. In 2012 there were approximately 32,842 cases of essential hypertension in Klaten regency.[3] Local government clinic data showed that primary hypertension disease occupies the second rank in Klaten sub-district after influenza and other undetected virus diseases. Noted there were 2910 hypertension visitors in 2014 period.

Primary hypertension can be caused by some factors as obesity or over nutrition and lifestyle change. Over nutrition can be detected by artropometri measurement like counting body-fat percentage, waist and hip circle, and counting body mass index (IMT). The over

percentage of body fat is related with the improving of hypertension risk, diabetes, CAD and other chronic diseases. New evidence shows that “central overweight” (fat that found in the body and stomach) becomes serious problem.[4]

Lifestyle change will badly impact to health. Lack of body activities will cause obesity which is a risk factor of degenerative disease that is hypertension. Along with the increasing of life pattern and life rivalry level, it impacts the blooming lifestyle change as in meal pattern, physical activities, and stress. The lifestyle change has huge opportunity to many health problems especially diabetes mellitus.

Dealing with the huge hypertension problem along with overweight body as hypertension risk factor and problem of lifestyle change, the writers are interested to know more about the relationship of lifestyle and the body fat percentage, and hypertension of out patients in local government clinic in South Klaten.

METHOD OF THE RESEARCH

This research is an observational research with cross-sectional research design. Free variable in this research is lifestyle (physical activities, stressed, smoking habit, food contained high-salt consumption, food additives, and high-fat food consumption) and body fat percentage. The bound variable of this research is hypertension status. The population of this research were all out patients of local government clinic in South Klaten. The sample of this research was patients aging from 40-60 year old who can well communicate. Hypertension patients were recent out patients (maximally second check up) in local government clinic in South Klaten. The sample was 58 populations based on the sampling scale calculation with 90% reliance level. The research was done from 1-20 July 2015 in local government clinic in South Klaten.

Data of hypertension status was obtained through check-ups which were done by the medical experts in local government clinic in South Klaten used Spyghomanometer tool. Lifestyle variable consists of physical activities, smoking habit, consumption habit of food contained high natrium and fat. Data of lifestyle was obtained by interview using questionnaire. Percentage data of body fat was obtained by measurement using *Bioelecyrical Impedance Analysis* (BIA) tool.

Hypertension status is a systolic 140 mmHg or more blood pressure, or diastolic 90 mmHg or more blood pressure or diagnosed by medical experts. Hypertension happens if systolic 140 mmHg or more blood pressure, and or diastolic 90 mmHg or more blood pressure. Non hypertension happens if the blood pressure is less than 140 mmHg and or the diastolic blood pressure is less than 90 mmHg.[14] Hypertension status is determined by *Spyghmomanometer*tool appropriate with operational procedure of blood pressure measurement. Measurement is done by doctors and other competent medical experts.

Physical activities is respondents physical activities index at the time of doing sport and spare time which is measured by *Baecke Physical Activity Scale.* In this research, data of physical activities categorized into active and no active. Data obtained distributes normality so that ≥ mean data (7,61) categorized as active. The < mean (7,61) is categorized as not active.

Stressed condition is a condition in which a person cannot cope with threats faced by him mentally, physically, emotionally, and spiritually affect his physical health. [15] The data of stressed condition is obtained by filling *Depression Anxiety Stres Scale 42 (DASS 42)* questionaire consisting of 42 questions directly to the respondents. The score obtained from

the respondents' questionnaire is cathegorized as normal if the score ranging from 0-29 and stresed cathegory if the score ≥30. The stressed condition respondents are coded as "1" and the normal respondents are coded as "2". Smoking habit is inhaling cigarette habit and or once smoke in days before diagnosed a hypertension. [10] Smoking is if everyday or sometimes smoking. Non-smoker is if one later month or never smokes. Data of research was obtained by direct structured interview between researcher and respondents by using questionnaire of stressed condition and smoking habit. The habit of consuming food contained high natrium and fat is respondent consumption frequency which covers natrium resource food substance which is measured by semi-quantitative method Food Frequency (FFQ). Fat consumption is categorized as frequency if the ≥ median (24) score. The habit of consuming high-fat food is categorized as frequency if ≥median (15) score and rare if it is <median (15) score. Score pattern is obtained by every item of food substance is given value in 0-3 with the explanation as follows : 0 = never, 1 = 1 – 3 times/week, 2 = 4 – 5 times/week, 3≥ 1 times/day.[6] Body-fat percentage is the amount of fat storage in the body measured by *BioelektricalImpedence Analysis* (BIA). It is operated by comparing total body-fat with body weight. The result is written in percentage (%). It is over if > 20% for man and > 25% for woman. It is normal if ≤ 20% for man and ≤ 25% for woman. [1] Data tabulation uses bivariate analysis applying for statistical test *Chi Square* for knowing that lifestyle and body-fat percentage are risk factors of hypertension to the out patients in local government clinic at South Klaten.

Procedures of taking data are as follows: measurement of blood pressure is taken once by the medical expert in local government clinic at South Klaten. Data of the result of blood pressure check up can be seen in patient's medical record. Patient's medical record is also used to determine the hypertension respondents, who are recent patients or past ones. The researcher explained aims of the research and the process of data tabulation. The researcher asked the respondents to be the research subject by giving them explanation form. Patients were asked to fill the form then followed with questionnaire about patient's identity. Measuring body weight used digital stand scale, and measuring body height used microtoise. Measuring body fat percentage used BIA based on body weight and height measured formerly as well as age and sex agreed with Standard Operational Procedure (SOP). After measurement, researcher interviewed about the lifestyle by using physical activity questionnaire, stressed condition and smoking habit prepared before and fat food used semi quantitative FFQ form in recent one month. After getting data, questionnaire then is examined again. Researcher gave reward to the research subject.

RESULT AND DISCUSSION

Based on research counting and sampling interpretation criterion, it is obtained 58 respondents. The following table is the respondents' characteristics.

According to blood pressure measurement which was taken by the medical experts in local government clinic, it shows that 37 respondents (64%) severe from blood pressure and is said hypertension and 21 respondents (36%) have normal blood pressure. Most of respondents who get hypertension are women (76%). The highest number of patients severed from hypertension are the laborer (38%). The non-hypertension patients are also laborer (38%). Based on interview with the respondents it is revealed that 51% of hypertension respondents have historical hypertension background from one or both parents.

Tabel 1.

Respondents Distribution Grounded on Characteristics

Characteristics	Hypertension		Non Hypertension		Total
	n	%	n	%	
Sex					
Men	10	71	4	29	14
Women	27	61	17	39	44
Occupation					
Private worker	0	0	2	100	2
Merchant/Entrepreneur	2	67	1	33	3
Laborer	14	64	8	36	22
House wife	12	67	6	33	18
Unoccupied	9	69	4	31	13
Hypertension History					
Exist	19	90	2	10	21
None	18	49	19	51	37

RESPONDENTS LIFESTYLE

Lifestyle which is studied in this research is physical activities, stressed condition, smoking habit, habit of high-natrium food consumption, and habit of high-fat food consumption. Based on interview with 58 respondents, respondent distribution grounded on lifestyle can be shown in Table 2.

Tabel 2.

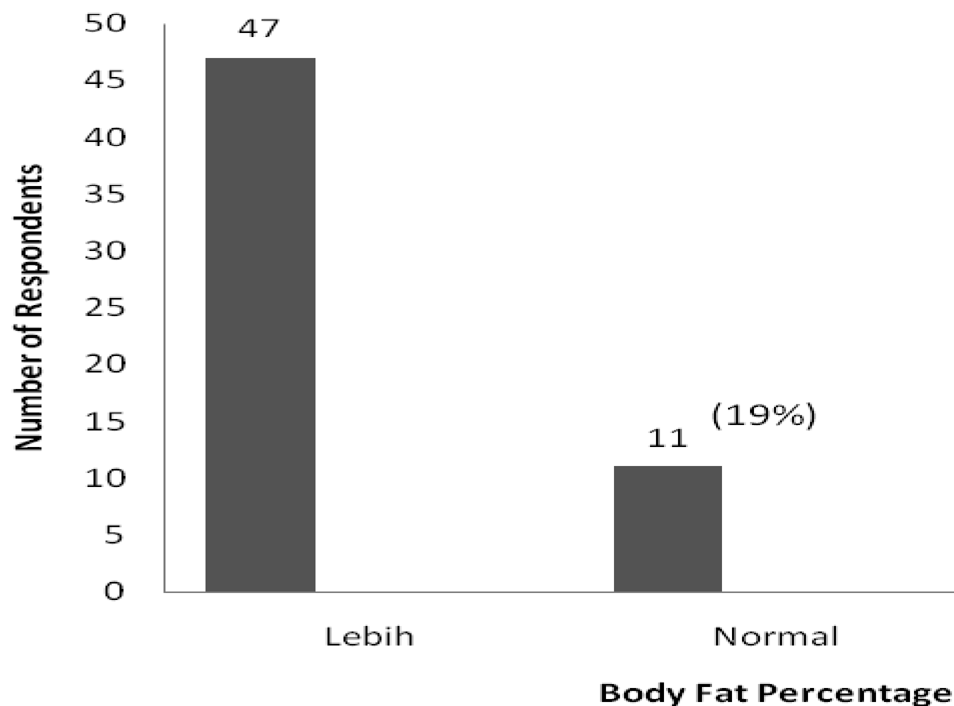
Respondent Distribution Grounded on Lifestyle

Lifestyle	n	%	Total
Physical activities			
Active	29	50	58
Less active	29	50	
Stressed condition			
Stressed	2	3	58
Normal	56	97	
Smoking habit			
Smoker	10	17	58
Non-smoker	48	83	
Habit of high-natrium food consumption			
Frequency	34	59	58
Rare	24	41	
Habit of high-fat food consumption			
Frequency	30	52	58
Rare	28	48	

Table 2 shows describes the respondent distribution on lifestyle. Based on the interview to 58 respondents, it is resulted 35 respondents (60%) have active physical activities, 2 respondents (3%) have emotional stressed, 10 respondents (17%) are daily smokers and sometimes smokers, 34 respondents (59%) have habit of consuming high-natrium food and 30 respondents (52%) have habit of consuming high-fat food.

BODY FAT PERCENTAGE

Body fat percentage is measured by using *Bioelectrical Impedance Analysis* (BIA) tool to 58 respondents and gain the result as shown in the Picture 1.



Picture 1.Respondent DistributionBased on Body Fat Percentage

Problem of less and over nutrition to adults people is an important problem because it does not only cause high risk in specified diseases but also influence labor productivity. One of the indicators of over nutrition can be seen from body fat percentage. Level of high body fat can cause several cardiovascular diseases as hypertension. It can be caused by consuming high-fat food (based on the result of interview).

BIVARIATE ANALYSIS

Based on the study done to 58 respondents, the relationship between lifestyle and status of hypertension can be shown in Table 3.

Result of the research shows that statistically there is relationship between hypertension status and physical activities which is $p < 0,05$ score. There is significant difference between respondents who have less physical activities severed from hypertension and respondents who have actively physical activities severed from hypertension. There are 86% respondents who severed from hypertension lack of physical activities. First rank is the respondents who have less physical activities work as laborer in a factory. They mostly sit while working. The second rank is the respondents who are working as house wife, and 13 respondents who are unoccupied, so that they are very less of physical activities. This research emphasizes in physical activities which are measured by *Beacke Physical Activity Scale*questionnaire so that the energy produced cannot be revealed.

Frequency of heart beat will be higher for a person who is less physical activities that makes the heart works hard while contraction .[7]Less physical activities will increase obesity

risk which is one of the factors of hypertension and other degenerative diseases. Physical activities as routine exercises will reduce periphery obstruction to lower blood pressure. Besides that, routine exercises train heart muscle to do hard task in a specific condition, so it will get used to such condition. People who are less physical activities will have high artery beat frequency, so that the heart muscle mumps blood harder and frequently. It causes greater pressure on artery wall.[1]

Tabel 3.

Bivariate Analysis Between Bound Variable Dan Out Variable

Variable	Hypertension		Non Hypertension		Total	p
	n	%	n	%		
Physical Activities						
Less Active	25	86	4	14	29	0,001*
Active	12	41	17	59	29	
Stressed Condition						
Stressed	2	100	0	0	2	0,530
Normal	35	63	21	37	56	
Smoking Habit						
Smoker	7	70	3	30	10	0,733
Non Smoker	30	63	18	37	48	
Habit of Consuming High-Natrium Food						
Frequency	28	82	6	18	34	0,000*
Rare	9	38	15	62	24	
Habit of Consuming High-Fat Food						
Frequency	17	57	13	43	30	0,242
Rare	20	71	8	29	28	
Percentage of Body Fat						
Over	34	63	20	37	54	1,000
Normal	3	75	1	25	4	

Note : * p < 0,05

The result of the research shows that statistically there is relationship between smoking habit and hypertension which is p>0,05 score. There is no significant relationship between respondents who are active smokers severed from hypertension and respondents who are nonsmokers severed from hypertension. There are 7 smoker respondents severed from hypertension (18,9%). It has been described in Table 4. The non smoker respondents are 83%. This proportion shows that smoker respondents are lesser than non smokers. However there is tendency non smokers severing hypertension. It is because the non smoker respondents inhaled the smoke or as passive smoker. It is known that most respondents (69%) are non smokers or passive smokers. Smoked form the cigarette badly impacts to passive smokers resulted in diseases. People severe from hypertension as accumulated smoked at the age of 40 year old or more. [8]

Result of the research shows that statistically there is no relationship between stressed condition and status of hypertension to the patients in local government clinic at South Klaten. It is p>0,05 score. There is no significant difference between respondents who severe from

hypertension having stressed status and respondents severe from hypertension having normal status. There are 34 respondents who severe from hypertension (94,6%) having normal stressed condition.

There are 94,6% normal respondents found in this research. The stressed condition study uses questionnaire which causes information bias and bias of distance information collecting data. Information bias happens when respondent feels shy and tells lie or forgets the answer of question. Meanwhile, the bias of distance information collecting data happens because questions asked to the respondents only are valid only 1 recent week. As known, hypertension can be caused long time pressure and stressed. Suyono (2001) says that stressed can increase blood pressure in intermiten way. If stressed lasts long time, it can cause hypertension. Hypertension will make various complication if not cured well. [9] The relationship between stressed and hypertension is by means of sympathy nerve activities which increase blood pressure in phase. If stressed drags on too long, it causes blood pressure becomes high. It is not validated but it is revealed to an animal. The experimental animal gets hypertension. [10]

Result of the research shows that statistically there is relationship between the habit of consuming high-natrium food and hypertension status. It is $p<0,05$ score. There is significant difference between respondents severed form hypertension who habitually consume high-natrium food and respondents severed from hypertension who do not habitually consume high-natrium food.

It can happen because decreasing of smelling and taste senses so that they cannot enjoy the food. It often makes lack of nutritious food intake. Finally they put food additives to the meal so that make bad effects to body health especially hypertension. Source of natrium is not only from kitchen salt, but natrium also added into food processing and food packaging. Food flavoring and food additives used as ketchup are packaged product highly contribute to natrium source into body. Food products as packaged ketchup contain varied degree of high natrium. Individual sensitivity to excessive salt consumption is different. It is influenced by genetic factor. In this way, it depends on kidney ability to waste excessive natrium. Populations having blood pressure who are high sensitivity to natrium are Negros, obese people, old people, and people who have high blood pressure. [11]

Result of the research shows that statistically there is no relationship between habit of consuming food contained fat and hypertension status. It is $p > 0,05$ score. There is no significant difference between respondents severed from hypertension who have habit of consuming high fat food and respondents severed from hypertension who have habit of consuming high fat food. There is no relationship between high fat food consumption and hypertension status. In this research, it can be caused by the frequency of high fat food consumption, not the amount of fat consumption. It can influence the relevancy of fat consumption and hypertension status. It shows that respondents often consume high fat food such as oily fried food and food processed by coconut oil. The frequency of high fat food consumption cannot describe the amount of fat consumption and get into the body, so that it does not influence person's blood pressure.

Restricting fat consumption is one of the efforts to prevent hypertension. Fat consumption restriction is done in order that blood cholesterol is not high. High blood cholesterol causes cholesterol deposition in the blood vessels wall. If this deposition increases, it can plug blood vessels up and annoy blood circulation. High fat food intake does not directly influence hypertension. [12] Based on Sutomo (2009) saturated fat and trans fat which get into

body simultaneously cause fat accumulation in blood vessels. As a consequence the artery narrows and needs more pressure to channel blood to whole body parts. [7]

High percentage of body fat can cause various cardiovascular diseases as hypertension. The measurement of body fat percentage is done by *Bioelectrical Impedance Analysis* (BIA) tool to 58 respondents then is analyzed with statistic test. The relationship between body fat percentage and hypertension status can be show in Table 3.

The result shows that statistically there is no relation between body fat percentage and hypertension status. It is $p > 0,05$ score. There is no difference between respondents severed from hypertension who have excessive body fat percentage and non-hypertension respondents (respondents who do not severe from hypertension) who have excessive body fat. It is because 93% of respondents have excessive body fat. It happens because this study is taken for adult people (ages from 40 to 60 year old). According to Depkes (2010) becoming old process causes progressively losing muscle mass and this process happens since the age of 40 year old, by basal metabolism derivation reaches 2% per year. The increasing body fat is subkutan fat form which is deposited in trunk. [13]

MULTIVARIATE ANALYSIS

The variable included in multivariate analysis are free variable and out variable which have p score lesser than 0,25. Result of multivariate analysis is shown in Table 4.

Table 4.
Analysis Of Physical Activities Double Regression, Habit Of High Natrium Food Consumption And Habit Of High Fat Food Consumption With Hypertension Status.

Variable	Model 1		Model 2	
	B	p	B	p
Physical activities	-0.345	0,003	-0.352	0,02
Habit of high natrium food consumption	0.346	0,003	0.348	0,03
Habit of high fat food consumption	-.0110	0,305		

Model 1, significance value of high fat food consumption is up to 0,05 so that should be left. While model 2 is stated that free variable have significance level is lower to 0,05. It indicates that high natrium food consumption significantly influences hypertension status.

CONCLUSION AND SUGGESTION

Physical activities and habit of natrium source food consumption influence hypertension status.

Researchers give suggestion to the local government clinic at South Klaten that it is better to put down the material of physical activities and habit of high natrium food consumption in the program of Communication, Information and Education (KIE) to hypertension patients. It can be done through leaflet, poster, or at nutritional counseling time.

To other researchers, variable of body fat percentage can be studied through other method as using *skinfold calipers* tool. As well as method used in assessing food frequency can be measured by average of daily food intake.

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THE BEHAVIOR DESCRIPTION OF IMPLEMENTATION FOR PREVENTION MOTHER TO CHILD TRANSMISSION (PMTCT) BY MIDWIFES DURING ANC AT THE INTEGRATED HEALTH CENTERS OF THE CITY OF YOGYAKARTA IN 2015

Citra Seviriana Dewi, Sari Hastuti, Hesty Widyasih

Midwifery Departement of Health Polytechnic of Health Ministry Yogyakarta, Jalan Mangkuyudan MJ III/304 Yogyakarta 55143, Indonesia

Email : sevirianacitra@yahoo.co.id, gitsari@yahoo.com, hesty_widya@yahoo.com

ABSTRACT

The highest number of HIV cases in DIY is recorded to have taken place in the city of Yogyakarta in 2013. It reached up to 23.75 %, exceeding the national prevalence of 4.54 %. There were 529 HIV and 245 AIDS cases recorded. Prevention Mother to Child Transmission (PMTCT) program is implemented to prevent HIV transmission from mothers to children. This study aims to define the behavior of the implementation of the Prevention Mother to Child Transmission by midwives in the health centers in Yogyakarta. The type of this research is a descriptive one with cross-sectional design. The study was conducted in 2015 at Public Health Centers of Mantrijeron, Tegalrejo, Umbulharjo I, Gedongtengen, and Mergangsan. The subject of the study was all midwives in those health centers. There were 20 midwives altogether. Data were collected by observation and filling self-report. Of those 20 respondents, 7 (35%) of them had good behavior and the other 7 (35%) were likely not to have one in the implementation of the prevention of HIV transmission from mother to child during ANC. Most midwives had good behavior in the implementation of HIV prevention in women of reproductive age (prong 1). Most midwives had good behavior in the implementation of the prevention of unplanned pregnancies in women with HIV (prong 2). Most midwives had poor behavior in the implementation of prevention of pregnant women with HIV to her unborn baby (prong 3). Most midwives have good behavior in the implementation of psychological support, social and health care subsequent to HIV-infected mothers and infants and their families, (prong 4). From this study, it was found that most midwives in health centers had good conduct in the implementation of prevention of HIV transmission from mother to child.

Keywords: Behavior, HIV, PMTCT , ANC

INTRODUCTION

Human Immunodeficiency Virus (HIV) is a retrovirus group that causes AIDS (Acquired Immune Deficiency Syndrome) , the virus infects and damages the cells of the immune body system .[1] In 2012 approximately 35.3 million people worldwide living with HIV / AIDS , including 2.3 million cases of new HIV cases , while deaths from AIDS reached 1.6 million cases.[2] About 1,3million people (37 %) of women infected HIV.[3]

HIV / AIDS is the leading cause of women death in reproductive age in developing countries. There were 57,000 pregnant women who were estimated infected with HIV in Southeast Asia in 2010. The number of children under 15 years old who had been infected with HIV was 87,000 with the new HIV patients were estimated for 48,000 people. [3]

Prevalence of HIV cases in Indonesia in 2013 amounted to 4.54% .[1] There were over than 6.5 million women in Indonesia became infected and transmitted vulnerable population,

and more than 24,000 women of childbearing age had been infected with HIV, anually more than 9,000 HIV-positive pregnant women and more than 30 % (3,000 pregnant women) of them will give birth to babies who are infected when there is no transmission prevention of HIV-positive mothers to infants. More than 90% cases of children got HIV infection by transmission from mother to baby. The risk of transmission in women who did not receive preventive treatment during pregnancy was estimated around 15-45 % .[1] From January until September 2014 the incidence of HIV in Indonesia reached 22,869 cases, 9589 cases were women. It was known that, the risk factors of transmission from mother to child were 68 cases. [4]

Controlling the spread of HIV / AIDS on women, children, and families are becoming increasingly important and cannot be separated from HIV / AIDS in general. National HIV Strategy 2007-2010 even asserted that the Prevention Mother to Child Transmission (PMTCT) is a priority program (National AIDS Commission, 2007). In developed countries the risk of child contracting HIV from mother can be reduced less than 2% due to the availability of PMTCT intervention with optimal services that increase HIV testing and counseling and antenatal in service delivery.[1]

Prevention Mother to Child Transmission (PMTCT) is a government program to prevent HIV/AIDS from mother to baby. This government program has been implemented since 2005 through the program Prevention of Mother to Child Transmission (PMTCT) in some areas. The targets to achieve is 100% for every woman in the facility antenatal care (ANC) in receiving safe motherhood information, safe sexual practices, prevention and treatment of sexually transmitted infections, PMTCT , post-test counseling and services advanced.[2]

According to the guidelines for the implementation of the PMTCT 2012, PMTCT program is implemented in four levels. Three levels of society and the other in health facilities. PMTCT is implemented in healthcare facilities by doctors, specialist doctors, midwives, and nurses. PMTCT implementation has been running well, but in practice PMTCT program still has obstacles and challenges, which are, unsocialized PMTCT national policy and implementation guidelines, PMTCT is not comprehensively yet (prong 1 , 2 , 3 , 4) ; and not fully integrated into the regular activities of the KIA. The knowledge, skills and motivation of health personnel are still inadequate.[1]

Research conducted by Liem and Adiyanti in 2013 showed that psycho education Midwives Pretty can improve midwives services in health centers. However, this program cannot encourage midwives to disseminate HIV and AIDS to patients based on knowledge.[5]

DIY AIDS prevalence in 2013 was 23.75%. From 2005 to September 2014 in Yogyakarta (DIY), 2,611 cases HIV was found.[2] Yogyakarta occupy the highest number of HIV cases which is 529 cases and 245 AIDS cases from five districts in the province. The most exposed group to HIV is the group of 20-29 years old which is the reproductive age.[6]

PMTCT program can be implemented in an integrated manner at all levels of health services and can be implemented by community health centers and its staff, hospitals and independent midwive practices. Since 2014, Yogyakarta has started implementing a program for prevention of HIV / AIDS at community health centers. Under the mayor of Yogyakarta regulation number 68 in 2013 on one-stop health center services, Yogyakarta city government appointed five health centers, which are, Umbulharjo I, Gedongtengen, Mantrijeron, Mergangsan, and Tegalrejo to implement one-stop service including PMTCT. Midwives in those five health centers have been trained to PMTCT, so there is need to increase antenatal care services. Based on the description above, researchers are encouraged to

investigate midwives' behaviors on the implementation of PMTCT progam during ANC in the five health centers in 2015. The purpose of this study was to describe midwives behavior on the implementation of the program to prevent HIV transmission from mother to child in the health centers in Yogyakarta.

METHOD

This research is a descriptive cross-sectional design. The study population was all 20 midwives in health centers in KIA unit Mantrijeron, Umbulharjo I, Tegalrejo, Mergangsan, Gedongtengen. The experiment was conducted in July 2015. The variables studied were the behavior of the implementation of the prevention of HIV transmission from mother to child conducting by midwives. This research was conducted by observation and filling self-report.

RESEARCH RESULT

Prevention of HIV transmission from mother to child by midwives during ANC

Most midwives are already implementing PMTCT. However, there are still 50 % of midwives do not carry out counseling in pairs , 55 % of midwives do not carry out HIV tests for husband , and 70% of midwives do not provide IEC to couples about safe sex.

Table 2
Frequency Distribution of PMTCT Implementation Results during ANC by midwives at the Health Center of Yogyakarta 2015

No	Activity	Implementation			
		Yes		No	
		F	%	F	%
1	Disseminate Information, Education and Communication on HIV - AIDS and Reproductive Health	17	85	3	15
2	Recommend pregnant women for HIV testing	20	100	0	0
3	Hold pairs counseling	10	50	10	50
4	Recommend husband for HIV testing	9	45	11	55
5	Provide counseling to couples about safe sex	6	30	14	70

Midwife Behavior

From the 20 respondents, there were 7 respondents (35%) who had good behavior regarding the implementation of PMTCT.

Table 3
Frequency Distribution of the Behavior on Preventing HIV Transmission from Mother to Child During ANC Conducted by Midwife at the Health Center of Yogyakarta 2015

No	Behavior	F	%
1	Good	7	35
2	Average	7	35
3	Less	6	30
	Total	20	100

Prevention of HIV transmission in women at reproductive age (prong 1)
Implementation

Midwives were already implementing most of the prongs 1. However, there were still 5 % of midwives who did not involve the community, peer support groups, religious leaders and community leaders in eliminating stigma and discrimination.

Table 4 .
Frequency Distribution of Implementation Results on Preventing HIV transmission in women oat reproductive age (prong 1) by the midwives at the health center of Yogyakarta 2015

No	Activity	Implementation			
		Yes		No	
		f	%	f	%
1	Providing Information, Education and Communication about HIV to community groups	20	100	0	0
2	Involving field workers in providing HIV and STI prevention information to the community and to help clients gain access to health services	20	100	0	0
3	Involving the community , peer support groups , religious leaders and community leaders in eliminating stigma and discrimination	19	95	1	5

Midwife Behavior

19 respondents (95%) of the 20 respondents had good behaviors in implementing prong 1

Table 5
Frequency Distribution of Behavior Results on Preventing of HIV Transmission in Women at Reproductive Age (Prong 1) by the Midwives at the Health Center of Yogyakarta 2015

No	Implementation of prong 1	f	%
1	Good	19	95
2	Average	1	5
3	Less	0	0
	Total	20	100

The Unplanned Pregnancy Prevention in Women with HIV (prong 2)

Implementation

Midwives were already implementing most of the prongs 2. However, there were still 30 % of the midwives who did not provide counseling and conduct HIV test for women with HIV's partners.

Table 6

Frequency Distribution of Implementation Results for the Unplanned Pregnancy Prevention In Women With HIV (prongs 2) by Midwives at the Health Center of Yogyakarta 2015

No	Activity	Implementation			
		Yes		No	
		f	%	F	%
1	Providing counseling, HIV / AIDS and safe sex for women with HIV	19	95	1	5
2	Conducting counseling and HIV testing for the partners of women with HIV	14	70	6	30
3	Conducting STI prevention and treatment for women with HIV	19	95	1	5
4	Conducting promotion to use condom for women with HIV	19	95	1	5
5	Conducting counseling for women with HIV to participate "KB" with contraceptive methods and effective ways.	17	85	3	15
6	Providing pregnancy planning to women who are HIV positive	17	85	3	15

Midwife Behavior

16 respondents (80%) of the 20 respondents had good behaviors in implementing prong 2

Table 7

Distribution Frequency of the Behavioral Results on Implementing Prevention of Unplanned Pregnancy In Women with HIV (prongs 2) by Midwife at the Health Center of Yogyakarta 2015

No	Implementation of prong 2	F	%
1	Good	16	80
2	Average	2	10
3	Less	2	10
	Total	20	100

Prevention of HIV transmission from pregnant women to their fetuses (prong 3th) Implementation

Most respondents did not carry out activities on the prong 3th

Table 8
Frequency Distribution of Implementation Results in Preventing Transmission of HIV from Pregnant Women to Their Fetuses (prong 3th) by Midwife at the Health Center of Yogyakarta 2015

No	Activity	Implementation			
		Yes		No	
		F	%	f	%
1	Monitoring antiretroviral consumption for pregnant women with HIV	3	15	18	85
2	Counseling regarding safe delivery for pregnant women with HIV	19	95	1	5
3	Counseling about feeding for infants and children in pregnant women with HIV	15	75	5	25
4	Provilaksis monitoring regarding the provision of ARV and cotrimoxazole in children of mothers with HIV	1	95	19	5

Midwife Behavior

17 respondents (85%) of the 20 respondents did not have good behavior in implementing prong 3

Table 9
Frequency Distribution of Behavioral Results in Implementing Prevention of Transmission of HIV from Pregnant Women to Their Fetuses (prong 3) by Midwife at the Health Center of Yogyakarta 2015

No	Implementation of prong 3th	f	%
1	Good	0	0
2	Average	3	15
3	Less	17	85
	Total	20	100

Psychological Support , Social , and Further Health Care to Mother Infected with HIV and Infant and Families (prong 4)

Implementation

Midwives were already implementing most of the prongs 4. However, there were still 25% of midwives who did not provide counseling to family members about HIV transmission and prevention and the mobilization of public support for families with or affected by HIV

Table 10
Frequency Distribution of the Result on Implementing Psychological Support, Social, and Further Health Care to Mother Infected with HIV and Infant and Families (prong 4) Conducting by Midwife at the Health Center of Yogyakarta 2015

No	Activity	Implementation			
		Yes		No	
		f	%	f	%
1	Providing social support to mothers with HIV	19	95	1	5
2	Providing counseling to family members about HIV transmission and prevention and the mobilization of public support for families with or affected by HIV	15	75	5	25

Midwife Behavior

15 respondents (75%) of the 20 respondents did not have good behaviors in implementing prong 4

Table 11
Frequency Distribution of Behavior Results in Implementing Psychological Support, Social, and Further Health Care To Mother Infected with HIV and Infant and Families (prong 4) Conducting by Midwife at the Health Center of Yogyakarta 2015

No	Implementation of prong 4	f	%
1	Good	15	75
2	Average	0	0
3	Less	5	25
	Total	20	100

Discussion

PMTCT implementation in an integrated ANC can be carried out at health centers that can provide continuous services. Besides the existed PPIA training for midwives, there should be more complete facilities available. Based on the regulation mayor of Yogyakarta number 68 of 2013 on the one-stop service health center, the city government of Yogyakarta appointed five health centers among other health centers, those are Umbulharjo I, PHC Gedongtengen , PHC Mantrijeron , PHC Mergangsan and PHC Tegalrejo to implement one-stop service including the service of PMTCT (Perwal , 2013).

Based on preliminary study , not all midwives are trained to PMTCT . But midwives who have received PPIA training will deliver the training to other midwives on duty at the health center. The result showed that PMTCT was implemented in the clinic through comprehensive activities which include four pillars (prong), namely :

HIV prevention in women at reproductive age (prong 1)

Based on the research results, the behaviors of the midwife in the prevention of HIV transmission from mother to child during ANC were categorized as good for seven respondents (35%), average for seven respondents (35%) and less for 6 respondents (30%). While the behaviors in implementing prevention of HIV transmission from mother to child not during ANC were categorized as good for 19 respondents (95%). The activity was supported by activities conducted at the health centers. Health centers in the city of Yogyakarta regularly conduct counseling on STIs and HIV to people in their working area.

Prevention of unplanned pregnancies in women with HIV (prong 2)

A total of 16 respondents (80%) have done the prevention of unplanned pregnancies in women with HIV well. The activity is to provide the IEC on safe sex to women with HIV, conduct prevention and of STIs for women with HIV and promote the use of condom to women with HIV. This activity is supported by the availability of condoms for free access in some public services such as health centers, and dr . Sardjito Hospital.

Prevention of pregnant women with HIV to her unborn baby (prong 3)

From 20 respondents in the implementation of the third prong as much as 17 respondents (85%) are categorized less. This is because a lot of activities in the third prong is not the

authority of midwives, for example providing diagnoses of HIV and providinf anti-retroviral drugs. While other activities such as safe delivery and management counseling on infant and children's food are not conducted by midwives in the clinic as patients who have HIV will be immediately referred to Dr. Sardjito Hospital for care and counseling.

Psychological support, social and further health care to HIV-infected mothers and infants and their families (prong 4)

A total of 15 respondents (75%) of midwives in health centers already provide one-stop support for women with HIV and their families. Support in the form of motivational support and provide counseling to family members about HIV transmission and prevention.

SUGGESTION

Midwives are expected to improve the implementation of the prong 1 during ANC through the implementation of the IEC on HIV and HIV testing

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THE DIFFERENCE OF VIDEO AND LEAFLETS MEDIA TOWARD THE LEVEL OF ANXIETY BEFORE MENARCHE ON 4TH, 5TH AND 6TH GRADE OF SERAYU ELEMENTARY SCHOOL IN 2014

Fajar Rahayu Meisinta, Sujiyatini, Dyah Noviawati Setya Arum

Midwifery Departement of Health Polytechnic of Health Ministry Yogyakarta, Indonesia
Email : fajarrahayums@gmail.com

ABSTRACT

Adolescence begins with puberty. Puberty is marked by menarche. Teenagers who are not discussing before menarche are 30 % and not ready for menarche is 92.30 %. Teenagers who are not ready to have menarche will face anxiety and it has impact on reproduction health, personality, growth disorders and low self-esteem. The decrease in anxiety can be done with health education. The objective is to know the difference of video and leaflets media toward the level of anxiety before menarche on 4th, 5th and 6th grade of Serayu elementary school in 2014. The research was Quasy experiment with a pretest - posttest with control group design. Location of the study was in Serayu elementary school. The study was conducted on March 6th, 2014. Subjects of research was 4th, 5th and 6th grade. Total sample was 88 respondents which divided into two groups by simple random sampling technique. The experiment group with video playback was 43 respondents and the control group with the provision of leaflets was 43 respondents. Instrument in collecting data used HRSA anxiety questionnaire. Data analysis use paired sample t-test and independent sample t-test. The pretest result of average score with video playback is 22.07 and given leaflets is 21.33. The results of the post test score average with video playback 13.81 and 16.56 were given leaflets. Paired samples t - test has < 0.05 p-value results so that there is a significant difference between pretest and posttest values. The differences of average margin of pretest and posttest on video playback is 8.26 while on given leaflet is 4.78. There's significance differences on average margin between two groups with p-values= 0.00. There is the difference of video and leaflets media toward the level of anxiety before menarche on 4th, 5th and 6th grade of Serayu elementary school in 2014.

Keywords: video media, leaflets media, level of anxiety before menarche

INTRODUCTION

The population of Indonesia in 2010 was 237.6 million, 26.6% of the population are teenagers. The teen population in Yogyakarta at the ages of 10-19 years old in 2010 amounted to 538.37, or approximately 15.57% (BPS. 2010). This data shows that the number of teens is so great that it should be noted because teenagers are the asset for the better generation.

Adolescence is a transitional period between childhood and adulthood that began with sexual maturity. Adolescence begins with puberty. Important events in puberty are rapid growth, the appearance of secondary sex characteristics, menarche, and physical changes. Menarche is a sign of the beginning of reproductive period for women as well as biological sign for sexual maturity[4].

The ages of menarche in Indonesia are 28% have menarche at the age of 13 years, 26% at the age of 14, and at the age of 15, almost everyone has their periods or about 95% 5. Yogyakarta ranks third by 25.6% after Jakarta and Bali, by 30.3% and 26.5% of children who experience menarche at the age of 11-12 years respectively.

Information about menarche for adolescents is very few; this is indicated by the percentage of: adolescents' knowledge about physical changes in young women is 10.2%, young women who do not have discussion about menarche before getting menarche is 30% and young women who do not have discussion about menarche is 10.6%.[5] Young women who never get any explanation about menarche could be frightened when the blood starts to come out from vagina.[6]

Menarche can cause positive or negative reactions. If they have been well prepared and given information about menstruation, they will not experience anxiety and other negative reactions, but if they have lack information about it they will get negative experience.[2] Teens who have negative reactions in the form of refusal on menarche results in obstructed physical and psychological function. Even menstrual retention is occurred (menstrual periods stop). This is caused by shock-reaction experienced in adolescence when menarche.[4]

Anxiety is a symptom that is common and very conspicuous in the menarche events that is later reinforced by the desire to reject the physiological processes.[4] Anxiety in the menarche is caused by the ignorance of young women about physiological changes that occur when they are in adolescence so menstruation gives bad perception.[7]

Another research stated that the in SD Negeri 1 Kretek, Paguyangan, Brebes, children who are not ready to face the menarche are 92,30 children (48%), while being ready to face the menarche is 4 children (7.69%).[8] Young women who are not ready to face the menarche raises anxiety. It is in line with the results of a research in Pekanbaru, Muhammadiyah junior high school, girls who face menarche with severe anxiety are 34,88 people (15%), moderate anxiety are 11 people (25,58%), mild anxiety as much as 9 people (20,93%), do not anxious are 8 people (18.60%).[9]

Young women who cannot adapt to menarche will cause anxiety and can lower the quality of life. The result of anxiety is laziness for school and drop out. Continuous anxiety brings bad effect for reproductive health and also personality in the future, has a risk for growth and development disorder, inferiority and can affect the school activities.[10]

Reproductive health gets lack of attention from the Government, because of the limited budget allocation. Local governments allocate fund to support the improvement of reproductive health in the range 0.1% to 1% of the total budget of income and expenditure area (BUDGETS).[11]

Teenagers' anxiety toward menarche may be reduced by involving the role of parents as well as teachers at the school to provide the correct information about the condition of changes in adolescence.[7] In addition to that, it is required to give information on teenage reproductive health (KRR) specifically about menstruation because KRR information is still very few.[12]

Adolescent reproductive health has been incorporated in Law Number 36 in 2009 article 137 which mentions that the State is obligated to provide information and education on health including reproductive health for adolescents to be able to live healthy and responsible. In addition, it also becomes part of the Millennium Development Goals (MDGs) in the fifth goal about the decline of maternal mortality (associated with teen age pregnancy) and in the sixth goal about HIV/AIDS control in teenagers.[13]

Health education in schools is a strategic step in attempt to improve public health because the school is an institution that was deliberately established to foster and improve human resources either good physical, mental, moral or intellectual. Health education through school is most effective effort among others; because group at the age of 6-18 years has the highest percentage compared the other groups.[14]

The age of menarche is influenced by regional (rural or urban) as well as nutritional status. In urban areas, young women tend to experience menarche faster due to the easy access of information and a good nutritional status. National standard primary school is the basic level of formal education with criteria exceeds the minimum service standard and gives equal access to education or all students. Students can obtain information freely and openly, including in reproductive health. SDN Serayu is the national standard elementary school located in urban areas.

Preliminary studies with interview conducted in SD Negeri Serayu showed that out of 6 students of class V, 5 students of which haven't experienced menarche. They feel the fear, anxiety and embarrassment when talking about menstruation. Until now, the information about reproductive health is given face-to-face by the class teacher. in fact, this method only has 5% retention.[15]

The development of information and communication technology brings a positive impact to the education media, including health education. Video media can help stimulating vision and hearing senses during the educational process. In addition, leaflets media can help stimulating the senses of vision during the educational process.[14] This research aims to know the difference between video and leaflets media to the anxiety level toward menarche of female students in class IV, V, and VI at SDN Serayu 2014.

The benefits of this research is to provide information to the principal and teachers of SDN Serayu Yogyakarta on the importance of adolescents health education on menarche using the right media

This research is an experimental research using pretest-posttest with control group design. This research was conducted at SDN Serayu on March 6, 2014. The population in this study was female students of class IV, V, and VI in SDN Serayu Yogyakarta who has not experienced menarche. Sampling techniques using Simple Random Sampling, and minimal sample obtained using the general formula of samples for hypotheses test to the average of the two populations, 32 people for each group.

The materials used for the experiments on research were video and leaflets containing the menstrual materials namely: understanding the process of menstruation, the occurrence of menstruation, PMS (Pre Menstrual Syndrome or premenstrual symptoms), how to cope with PMS, painful menstrual disturbances, menstrual pain, how to overcome the benefits of menstruation, and treatment during menstruation. The control group was not treated while the experimental group was shown a video. The instrument of data collection was HRSA questionnaire.

The type of the data in the research was primary data. Data collection techniques in experimental group began with a pretest then they were given an intervention in the form of video playback for 20 minutes. Posttest was conducted 20 minutes after the intervention. In the control group, it began with a pretest then they were given a leaflet to read for 20 minutes. Posttest was conducted 20 minutes after giving the leaflets. During an interval of 20 minutes, the researchers provide entertainment in the form of simple games that do not relate to the topic of anxiety toward menarche. Data processing technique was done by editing, coding, scoring, transferring, and tabulating.

The data in this study fulfilled its homogeneity and normality test so the data were analyzed using statistical parametric i.e. paired sample t test to compare the levels of anxiety in pretest and posttest on each group. Independent sample t-test was done to see the difference in video and leaflets media to the anxiety level toward menarche.

RESULTS AND DISCUSSION

1. The level of anxiety toward menarche before given a video and leaflet.

Table 1
Frequency distribution of respondents based on the anxiety level
before given a video and leaflet in SDN Serayu in 2014

Anxiety Level	Group			
	Control		Experiment	
	N	%	N	%
No Anxiety	2	4,44	4	9,30
Mild anxiety	20	44,44	16	37,21
Moderate anxiety	18	40,00	17	39,53
Severe anxiety	5	11,11	6	13,95
Very severe anxiety	0	0,00	0	0,00
Total	45	100	43	100

Based on table 1, in the control group, it is known that most respondents had mild anxiety level of 44.44%. While in the experimental group, the majority had moderate anxiety level of 39.53%.

2. The level of anxiety toward menarche before and after given leaflets in the control group.

Table 2
Frequency distribution levels of anxiety before and after given leaflets
about menstruation in the control group at SDN Serayu in 2014.

Score		***Pretest***		***Posttest***	
		N	f(%)	n	f(%)
< 14	(no anxiety)	2	4,44	14	31,11
14-20	(mild anxiety)	20	44,44	23	51,11
21-27	(moderate anxiety)	18	40,00	8	17,78
28-41	(severe anxiety)	5	11,11	0	0
42-56	(very severe anxiety)	0	0	0	0
Total		45	100	45	100

Based on table 2, in the control group pretest, the majority of the students had mild anxiety level of 44.44% and in the posttest, mostly had mild anxiety level of 51.11%.

3. The level of anxiety toward menarche before and after given a video in the experimental group.

Table 3
Frequency distribution levels of anxiety before and after given a video about menstruation in the experimental group in SDN Serayu in 2014

Score		*Pretest*		*Posttest*	
		n	f(%)	n	f(%)
< 14	(no anxiety)	4	9,30	25	58,14
14-20	(mild anxiety)	16	37,21	15	34,88
21-27	(moderate anxiety)	17	39,53	3	6,98
28-41	(severe anxiety)	6	13,95	0	0,00
42-56	(very severe anxiety)	0	0,00	0	0,00
Jumlah		43	100	43	100

Based on table 3, in the experimental group pretest, the majority had moderate anxiety level of 39.53% whereas in posttest mostly had no anxiety anxious level of 58,14%.

4. The difference in levels of anxiety toward menarche before and after given intervention in the control and experimental group.

Table 4
The mean score of the respondent's level of anxiety before and after had been given the intervention about menstruation in the control group and experimental group.

Group	*Pretest Mean*	*Posttest Mean*	SD		*Paired t-test*	*p*
			Pretest	*Posttest*		
Control	21.33	16.56	5.53	4.08	13.29	0.00
Experimental	22.07	13.81	6.28	4.12	17.76	0.00

Based on table 4, it can be known paired t-test result on the control group was 13.29 while on experimental group was 17.76 with p 0.05, it means there was a significant difference between the score of pretest and posttest on two groups.

5. Difference of treatment on the level of anxiety toward menarche before and after given intervention in the control and experimental group.

Table 5
The difference in the average score of the pretest and posttest of menstruation in the control and experimental group

Group	*Pretest Mean*	*Posttest Mean*	Mean Difference	*Independent t-test*	*P*	CI
Control	21.33	16.56	4. 78		0,00	95%
Experimental	22.07	13.81	8.26	5.92	0,00	95%

Based on table 5 The result of difference test Independent Sample t-test shows t count obtained score t count > t table (1.671) and p-value 0.00 (p-value < 0.05) which means there was a method difference between leaflets and video media.

DISCUSSION

From the research which is conducted at grade IV, V, and VI with the ranges of age 9-12 years who has not experienced menarche, it is known that there is a difference on the level of anxiety before and after the intervention were given, that is changing anxiety level from moderate anxiety to mild anxiety level. However, the decreasing of anxiety level with the leaflet media is smaller compared to video playback.

It is found that the leaflets and the video are given to ten years old students. It is a great time to start giving reproductive health education at the age of ten since group at the age of 6-18 years has the highest percentage compared to the other age groups.[13]

Every individual is able to accept changes during adolescence, toward menarche. Anxiety is a symptom that is common and very conspicuous in menarche which is later reinforced by the desire to reject the physiological process.[4]

On the research which is given an intervention in the form of video playback about menstruation, it is found that the advantage of video playback is presenting the study object concretely or learning message realistically, influencing the motivation of learning, and increasing the durability of the memory or retention of learning objects which are studied. Video media can help to stimulate the senses of vision and hearing at the time of education processes.[14] Media are used to deploy the senses as much as possible to an object so it is easy to understand.[16]

This is in accordance with the cone theory of Egar Dale that states the function of props is based on the principle that existing knowledge is received through the five senses and influenced by the intensity of different props. The more senses used to receive something then the more and clearer also the knowledge received.[14]

Health education method with video playback makes the learning process runs by using the sense of vision and the sense of hearing. The senses that transfer the most knowledge to the brain are the eyes. Approximately 75-85% of human knowledge acquired or transmitted through the eyes of 13-25% while the other flows through other sensor.[17]

The respondents that are given leaflets as well as video playback also manage to do three things in the process of remembering and learning those are getting information, saving the information before taking posttest for approximately 20 minutes and recalling the information by filling out the questionnaire. According to the theory of the learning outcome by Ebbinghaus, it is stated that not long after memorizing, the memory goes down sharply. New memory retention is quite stable when the memory remains little. The percentage of the materials recalled 20 minutes after learning is about 53%.

The success in overcoming anxiety before the menarche on the respondents who are given leaflets and video playback is reached by moving coping source in the environment such as: personal ability, material assets, social support, and positive beliefs. Coping mechanisms used by respecting other people.[18] This can be seen by a decrease in the level of anxiety in the posttest score.

This study shows a significant difference that there is a difference between video and leaflets media to the anxiety level toward menarche. Giving information about menstruation is one of the efforts in dealing with the respondent's coping mechanisms of anxiety toward menarche.

CONCLUSION

There is a difference in average levels of anxiety toward menarche on students of grade IV, V, and VI at SDN Serayu. It is found that in video playback is lower compared to leaflets, 5) there is a difference in average levels of anxiety toward menarche on students of grade IV, V, and VI at SDN Serayu by giving video playback and leaflets.

SUGGESTION

Principals and teachers of SDN Serayu can use video media as educational media about menarche to lower anxiety level toward menarche and may provide guidance to the anxiety level toward menarche.

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PHYSICAL HEALTH OF A CHILD IS VERY IMPORTANT TO BE ABLE TO GROW OPTIMALLY

Muhammad Raftaz Kayani & Jenita Donsu

E-mail: kayani4u@gmail.com
Department of Physics Post Graduate College H-8/2 Islamabad Pakistan

ABSTRACT

Early childhood years are critical for human development. The emotional, social and physical development of young children has a direct effect on their overall development and on the adult they will become. That is why understanding the need to invest in very young children is so important, so as to maximize their future well-being.

Neurological research shows that the early years play a key role in children's brain development. Babies begin to learn about the world around them from a very early age including during the prenatal, perinatal (immediately before and after birth) and postnatal period. Children's early experiences the bonds they form with their parents and their first learning experiences deeply affect their future physical, cognitive, emotional and social development. Optimizing the early years of children's lives is the best investment we can make as a society in ensuring their future success.

When the brain develops most rapidly and the neural connections are formed that are the foundation of a child's physical and mental health and lifelong health and well-being. Brains are built over time, from the bottom up. The basic architecture of the brain is constructed through an ongoing process that begins before birth and continues into adulthood. Simpler neural connections and skills form first, followed by more complex circuits and skills. In the first few years of life, 700 to 1,000 new neural connections form every second. After this period of rapid proliferation, connections are reduced through a process called pruning, which allows brain circuits to become more efficient.

Brain architecture is comprised of billions of connections between individual neurons across different areas of the brain. These connections enable lightning-fast communication among neurons that specialize in different kinds of brain functions. The early years are the most active period for establishing neural connections, but new connections can form throughout life and unused connections continue to be pruned. Because this dynamic process never stops, it is impossible to determine what percentage of brain development occurs by a certain age. More importantly, the connections that form early provide either a strong or weak foundation for the connections that form later.

The interactions of genes and experience shape the developing brain. Although genes provide the blueprint for the formation of brain circuits, these circuits are reinforced by repeated use. A major ingredient in this developmental process is the serve and return interaction between children and their parents and other caregivers in the family or community. In the absence of responsive care giving or if responses are unreliable or inappropriate the brain's architecture does not form as expected, which can lead to disparities in learning and behavior. Ultimately, genes and experiences work together to construct brain architecture.

Cognitive, emotional, and social capacities are inextricably intertwined throughout the life course. The brain is a highly integrated organ and its multiple functions operate in

coordination with one another. Emotional well-being and social competence provide a strong foundation for emerging cognitive abilities, and together they are the bricks and mortar of brain architecture. The emotional and physical health, social skills, and cognitive-linguistic capacities that emerge in the early years are all important for success in school, the workplace, and in the larger community.

Toxic stress weakens the architecture of the developing brain, which can lead to lifelong problems in learning, behavior, and physical and mental health**.** Experiencing stress is an important part of healthy development. Activation of the stress response produces a wide range of physiological reactions that prepare the body to deal with threat. However, when these responses remain activated at high levels for significant periods of time, without supportive relationships to help calm them, toxic stress results. This can impair the development of neural connections, especially in the areas of the brain dedicated to higher-order skills.

Support for optimal infant and young child feeding; prevention and management of childhood illness; parents to develop skills of sensitivity and responsiveness, play and communication; social protection measures such as conditional cash transfers; attention to maternal physical and mental health and timely intervention; maternal education, quality child care and pre-school education.

During emergency situations, disease and death rates among under-five children are higher than for any other age group; the younger the infant the higher the risk. Mortality risk is particularly high because of the combined impact of a greatly increased prevalence of communicable diseases and diarrhea and soaring rates of under-nutrition. Appropriate feeding and care of infants and young children is essential to preventing malnutrition, morbidity and mortality. Major health problems among Haitian children, which have been exacerbated by this crisis, are acute and chronic malnutrition and communicable diseases. Given the structural damage caused by the earthquake to water supply systems, there is an additional risk of water borne diseases affecting large numbers of the urban, rural and displaced populations. Many infants and young children have been orphaned or separated from their mothers. Risks to children in Haiti are exacerbated by pre-earthquake poor infant and young child feeding practices and malnutrition. In this emergency situation, the lifeline offered by exclusive breastfeeding to children for the first six months of life and continued breastfeeding with complementary feeding for two years or more is of utmost importance and must be protected, promoted and supported as much as possible.

Most mothers initiate breastfeeding in Haiti, and the majority of infants less than six months of age were at least partially breastfed prior to the earthquake. At this stage it is critical to encourage and support mothers to initiate breastfeeding immediately after the delivery, exclusively breastfeed up to six months and for those with infants below six months who 'mix feed' to revert to exclusive breastfeeding. Non breastfed infants are at especially high risk and need early identification and targeted skilled support, including re-establishing breastfeeding (relaxation). Protection and support for breastfeeding women No food or liquid other than breast milk, not even water, is needed to meet an infant's nutritional and fluid requirements during the first six months of life. The valuable protection from infection that breastfeeding confers is all the more important in environments without safe water supply and sanitation.

Therefore, creation of a protective environment and provision of skilled support to breastfeeding women are essential interventions. There is a common misconception that in emergencies, many mothers can no longer breastfeed adequately because of stress or inadequate nutrition. Concern for these mothers and their infants can fuel donations of breast milk substitutes (BMS) such as infant formula. Although stress can temporarily interfere with

the flow of breast milk, it is not likely to inhibit breast milk production, provided mothers and infants remain together and are supported to initiate and continue breastfeeding. Mothers who lack food or who are malnourished can still breastfeed. Provision of adequate fluids and food for mothers must be a priority as it will help to protect their health and well-being as well as that of their young children. Basic interventions to facilitate breastfeeding include prioritising mothers with young children for shelter, food, security, and water and sanitation, enabling mother-to-mother support, providing specific space for skilled breastfeeding counseling and support to maintain or re-establish lactation. Traumatized and depressed mothers may have difficulty responding to their infants and require particular mental and emotional support. UNICEF, WHO and other organizations involved in infant feeding in emergencies 2 will support training of staff on individual assessment of the best options for feeding infants, as well as education and support of caregivers on optimal infant feeding in these emergency circumstances.

Feeding of the non-breastfed child less than six months of age Infants less than six months of age who are not breastfed need urgent identification and targeted skilled support. The priority to feed these infants should be relaxation. If this is not possible or when artificial feeding is indicated by skilled staff such as health providers or infant feeding counselors, breast-milk substitutes are necessary and must be accompanied by training on hygiene, preparation and use to minimize their associated risks. Artificial feeding in an emergency carries high risks of malnutrition, illness and death and is a last resort only when other safer options have first been fully explored. Any needed breast-milk substitutes should adhere to Codex Alimentarius Standards and should be procured in an efficient and rapid manner, in coordination with UNICEF, the nutrition coordinating agency in Haiti. The preferred type of breast-milk substitute is ready-to-use formula. Any distribution and use of breast-milk substitutes should be carefully monitored to ensure that only the designated infants receive the product. For further information UNICEF should be contacted (see contact below). When breast-milk substitutes are used caregivers should be encouraged and taught to feed with a cup and spoon. Bottles and teats should not be provided as they are more difficult to clean. Skilled support by appropriately trained staff should be provided to caregivers on how to use the breast-milk substitute safely. Because infants' receiving breast-milk substitutes are at increased risk for illness, a mechanism to monitor their health should be established. Donations and procurement of breast-milk substitutes and other milk products In accordance with internationally accepted guidelines, donations of infant formula, bottles and teats and other powdered or liquid milk and milk products should not be made. Experience with past emergencies has shown an excessive quantity of products, which are poorly targeted, endangering infants' lives. Any procurement of breast milk substitutes should be based on careful needs assessment and in coordination with UNICEF.

Human milk donations while safe when processed and pasteurized in a human milk bank also require fully functioning cold chains. Such conditions are not currently met in Haiti and human milk donations cannot be used at present. All queries and any donations that do appear should be directed to UNICEF, the designated nutrition coordinating agency in Haiti. Complementary feeding of children above six months of age Children from the age of six months require nutrient-rich, age-appropriate and safe complementary foods in addition to breast milk. Priority should be placed on locally available, culturally acceptable, nutritionally adequate and age-appropriate foods. When cooking facilities are non existent or severely limited, ready-to-use fortified foods are an option. Micronutrient powders that can be added to local foods, emergency rations or blended foods will also improve dietary quality. In addition,

once cooking facilities have been set up, provision of fortified blended food is recommended. A monitoring system to ensure the appropriate targeting, distribution and use of food and food products for infants and young children should be established. Feeding infants and young children in the context of HIV Mothers known to be HIV-infected should be supported to exclusively breastfeed their infants for the first six months of life, to introduce appropriate complementary foods thereafter, and to continue breastfeeding for the first 12 months, along with provision of ARVs, as per current WHO recommendations on HIV and infant feeding (see references below). If an HIV-positive mother was already giving her child commercial infant formula, she should receive an adequate supply of ready-touse formula and support. A separate guidance is being prepared for the situation in Haiti. Treatment of severe acute malnutrition Treatment of severely malnourished children, whether facility or community based, should be implemented in accordance with international standards and best practice and closely monitored. Specially formulated therapeutic milks F75 and F100 and ready to use therapeutic food are required.

This Programme Guidance contains detailed programming information on IYCF, including breastfeeding, complementary feeding and infant feeding in general and in especially difficult circumstances including in the context of HIV and in emergencies. It also briefly addresses maternal nutrition. The "key action areas" for these components are detailed at the different levels, including national policy/strategy level, health services, and community. The document provides strategic programme recommendations for priority IYCF actions and their operationalization that will support achievement of MDGs 1 and 4, among others, as well as UNICEF Medium Term Strategic Plan (MTSP) Focus Area 1 on Young Child Survival, Growth and Development. The document emphasizes that breastfeeding and complementary feeding both play a significant role in the reduction undernutrition (both stunting and wasting) which is a key strategic area of UNICEF's equity focus. The document briefly summarizes UNICEF's role in IYCF programming, but the document is not focused on UNICEF actions alone it may be used by a broad range of partners involved in IYCF programming. The Programme Guidance serves as a single reference on IYCF programming – updating existing guidance where necessary (e.g. HIV and infant feeding1 and the Code2) and adding new or more detailed guidance where little existed previously (e.g. complementary feeding, community-based programming and communication). It draws upon and builds on existing tools such as the 2007 WHO/UNICEF Planning Guide for National Implementation of the Global Strategy for IYCF, with additional detailed and practical guidance on the "how" the design and implementation of the recommended key IYCF action areas at scale in a comprehensive manner. For each component, the document describes the best practices, based on lessons learned, case studies, reviews and evidence of impact. It suggests options to implement proven effective interventions, such as institutionalizing the BFHI, building skills of community health workers to counsel and support mothers on IYCF and describing improved approaches to communication for behaviour and social change. The guidance highlights that communication alone is not sufficient for improving breastfeeding and complementary feeding practices, and needs to be complemented by counselling and support by skilled workers at community and health system levels. The new guidance on complementary feeding programming includes the process and tools for assessment of various parameters to understand the local complementary feeding situation, a decision tree on selecting appropriate programmatic options depending on the local situation and the use of different types of products within complementary feeding programmes. Annex 1:

Resources, tools & useful websites contains a listing with active web links of major reference materials, tools and resources on IYCF to facilitate the planning and implementation process. The Programming Guide aims to be comprehensive. However, users may elect to use only those chapters, resources and tools that provide the direction they are seeking on a specific topic. The potential for modular use of the guidance is the reason why there is a certain amount of repetition in the document.

This document may be used to help design and implement comprehensive IYCF programmes, but also to assess the extent to which existing programmes are congruent with the recommended key action areas. The associated IYCF Assessment Matrix (Resources Annex 1-1) is to be used to provide a detailed overview of the scope and scale of all of the action areas in each country. This overview will serve as a baseline, and after a certain number of years the matrix can be updated to assess the progress in each country with the various programme components. Finally, UNICEF has also recently developed a number of new tools for IYCF: a complete generic training package and planning/adaptation guide for community based IYCF counselling; a set of training slides and resource module on communication on exclusive breastfeeding (currently being conveyed through webinars but can be used in the field too) and an e-learning course for programme managers and technical staff on IYCF, currently under development in collaboration with Cornell University. A slide set on the programme guidance can be used to promote and advocate for increased attention to IYCF or to orient stakeholders on the key IYCF action areas.

Conclusion UNICEF, WHO and WFP strongly urge all who are involved in funding, planning and implementing the emergency response in Haiti to avoid unnecessary illness and death by promoting, protecting and supporting breastfeeding and appropriate complementary feeding and by preventing uncontrolled distribution and use of breast-milk substitutes. Public and private sector entities and individuals who wish to support infants and young children and their mothers and caregivers in this emergency should donate funds rather than send goods. We further urge governments and partners to include capacity building for breastfeeding and infant and young child feeding as part of emergency preparedness and planning, and to commit financial and human resources for appropriate and timely protection, promotion and support of optimal infant and young child feeding in this and other emergencies.

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THE EFFECTIVENESS OF SMS GATEWAY AND WEB SITE TOOLD IN IMPROVING TRACER STUDY OF POLTEKKES KEMENKES YOGYAKARTA IN 2013

Sujiyatini, Roosmarinto

Health Polytechnic of Health Ministry Yogyakarta, Indonesia
Email : sujiyatini@yahoo.com

ABSTRACT

Tracer study can measure and tract the performance graduates to obtain clear indicators about the profiles of graduates from every institution. Higher education institutions can tract their graduates to learn how university graduates take part in the development process in the areas that are relevant to their educational background. This was a quasi experimental research with *post tes only two group design.* The population in this study was 259 graduates who use text messages and 250 who use website. The samples were 89 (58.5%) graduates who activated their ID. On sms gateway, there were 36 (23.7%) graduates on workplace activation and 27 (17.7%) graduates on diploma legalization, with as many as 56 (80%) activated their ID. On the website, there were seven (10%) graduates on workplace activation and seven graduates (10%) on diploma legalization. Mann Withney independent analysis showed the difference in the average numbers of ID in sms gateway and the website at 2.64 and 1.61 respectively, with the p value of 0.43 > 0.05. Workplace identity on sms gateway and the website were1.66 and 0.38 respectively, with the p value of 0.00 < 0.05. Diploma legalization on sms gateway and the website were 2.07 ad 0.53 respectively with the p value of 0.00 < 0.05. There were no difference in the number of ID activations on sms gateway and the website. But, there were differences in the number of workplace identity activation and diploma legalization on sms gateway and the website.

Keywords **:** *Sms Gateway, Web Site*, Alumni, tracer study

INTRODUCTION

Elements of assessment in the Diploma Course Accreditation Instruments in 2009 are about teachers ‘ management, leadership, management system and quality assurance that require the existence of a source of feedback from lecturers, students, alumni, as well as users. By implementing the system, it is expected that the quality of education can be ensured. Alumni information tracking is very important for the institution to get responses so standards that satisfy the users can be developed when the alumni tracker can be carried out regularly and continuously.[1]

A college is expected to have a program to track the alumni in the form of fast and continuous tracer study (graduates data tracking). Tracer study aims not only to know the necessary competence in the working area but also to gain information of the competence alignment defined in the curriculum to the market needs[1]. This will greatly help the Government’s program in order to map out and harmonize the workforce needs with the competence of the college graduates.

Tracer study can improve the alignment of workforce needs with higher education by giving constructive feedback from graduates to college so it can prepare graduates to be more ready to take part in the world. Tracer study is also a form of responsibility to the

community to know the performance of the graduates with alignment of graduates capabilities and the workforce needs[2].

Standard of successful college can be measured by the large number of graduates who are accepted in the work field that is relevant to their background. Graduates who work in accordance with his profession at work is the benchmark of success of teaching and learning process in college, so the tracer study in a college will get input from alumni in order to improve the competence of graduates in the job market.[1]

Tracer study can measure and track the performance of graduates so that clear information about the profile of graduates from each major can be obtained. Tracer study is an approach that enables higher education institutions to obtain information about the shortcomings that may occur in education and learning process and it is the basis for activities planning for the refinement of organizing education.[3]

Poltekkes Kemenkes Yogyakarta implements tracer study by distributing questionnaires to alumni and filling the data when the alumni legalize the diploma or academic transcript.

Internet technologies and text message are the right tools to connect various people all over the world, because internet can be used as a medium to connect with others, share files and information, entertain and many other activities that are useful and beneficial in many ways.[4] Both technologies are familiar to people in the current era. Almost everyone nowadays can contact others quickly and easily, as a world without limits. Even so, each of these technologies has a deficiency and excess.

Not all of the people in Indonesia have free internet access, especially in areas far from the capital city, they cannot communicate via internet at any time, while the system of sms gateway is a system application that is easy to respond because everyone has hand phone as a communication tool.[5]

Tracer study of Poltekkes Kemenkes Yogyakarta tracks the performance of alumni at some hospitals in Yogyakarta including the users of the alumni, to know/identify whether the graduates performance in the field are relevant with the competencies and as good as the users expected.

Poltekkes Kemenkes Yogyakarta in 2009 did an evaluation to the alumni about the performance in each workplace by distributing questionnaire to the graduates of Poltekkes Kemenkes Yogyakarta in the form of performance satisfaction in some regional hospitals, clinics and private practices. The results obtained that it did not get satisfying responses which can be seen from the number of questionnaires that have not been back to Poltekkes Kemenkes Yogyakarta so that there was a mismatch between the distributed questionnaires with the questionnaires that were submitted back to Poltekkes Kemenkes.

Based on these problems, the researcher was interested in conducting a research on the effectiveness of sms gateway and web site tools in improving the tracer study of Poltekkes Kemenkes Yogyakarta in 2013.

METHOD

This research was a quasi-experimental design with post only two groups design. This research was carried out in Poltekkes Kemenkes Yogyakarta from 12 September until 6 November 2013. The independent variable was the effectiveness of Tools sms gateway and website while the dependent variable was graduates data tracking (tracer study). Instrument in this study was data input from provider and from the web site that can be accessed through http://web-tracer-study.poltekkesjogja.ac.id/ and Sms Gateway cooperates with providers to send registration text

so responses containing the ID activation, identity activation, workplace activation and diploma legalization activation can be obtained. Bivariate analysis was done to find out the effectiveness of sms gateway and website tools to graduates data with Mann Withney tests with 95% confident intervals (CI). SPSS program for windows was used for the statistical analysis.

RESULTS AND DISCUSSION

Research results

This research observed the difference of speed of ID activation, BIOS activation, workplace identity, and diploma legalization between sms gateway and web site. The subject of this research was all graduates of Poltekkes Kemenkes Yogyakarta, which had been at a graduation ceremony on 12 September 2013 as many as 517 graduates with details of 259 were given sms gateway standard operation procedure (SOP), those who activated the ID were 89, activated the identity of the workplace were 36 alumni , and activated diploma legalization were 27 alumni and 258 were given Web site SOP, those who activated the were 56, activated the identity of workplace were 7 and activated diploma legalization were 7 people.

This research used a provider to get access to all phone number of the graduates with sms gateway system and by opening a web site http://web-tracer-study.poltekkesjogja.ac.id/ to get access to all alumni.

a. The number of ID activation, workplace identity activation, and diploma legalization on the model of sms gateway tools from graduates of Poltekkes Kemenkes Yogyakarta in 2013

Table 1.
Number of ID activation, workplace identity activation, and diploma legalization on the model of sms gateway tools from graduates of Poltekkes Kemenkes Yogyakarta in 2013

No.	Type of activation	Amount	Percentage
1	ID activation	89	58.5%
2	Workplace identity activation	36	23.7%
3	Diploma legalization	27	17.7%
	Total	152	100%

From the table above, it was found that the alumni who activated their ID as many as 58.5% and for the workplace identity activation and diploma legalization were 23.7% and 17.7% respectively of the total data of alumni who did the activation.

b. The number of ID activation, workplace identity activation, and diploma legalization on the model of web site tools from the graduates of Poltekkes Kemenkes Yogyakarta in 2013

Table 2
Number of ID activation, workplace identity activation, and diploma legalization on the model of web site tools from the graduates of Poltekkes Kemenkes Yogyakarta in 2013

NO	Type of activation	Amount	Percentage
1	ID activation	56	80%
2	Workplace identity activation	7	10%
3	Diploma legalization	7	10%
	Total	70	100%

From the table above, it was found that the alumni who activated their ID were 80%, and for the workplace identity activation and diploma legalization were 10% and 10% respectively of the total data of graduates

c. The result of data normality Kolmogorov Smirnov test
From the result of data normality Kolmogorov Smirnov test, it showed that that data were not normally distributed. If the significance of value was 0.00 (0,00 <). 05) and one sample kolmogorov Smirnov was 0.29 (0.29 < 0.05), it means that the data were not normally distributed.

d. Results of the Mann-Whitney Test

Table 3.
Analysis result of the difference in the number of ID activation, workplace identity activation and diploma legalization on the model of web site tools from graduates of Poltekkes Kemenkes Yogyakarta in 2013.

	Mean sms getway	Mean web base	N sms getway	N web base	Mann-Whitney U	Z	sig
ID activation	2.64	1.61	89	56	517.000	-0.77	0.43
Workplace identity activation	1.66	0.38	36	7	60	-3.49	0.00
Diploma legalization	2.07	0.53	27	7	36	-2.61	0.00

Data were analyzed using Mann-Whitney because it can tell the difference of the responses from two independent groups. From the table above, it was obtained N in sms gateway as many as 89 alumni on the activation ID, 36 alumni on the identity of the workplace, and 27 alumni on diploma legalization whereas responses from the website as many as 56 graduates activated their ID, 7 alumni responded to workplace identity, and 7 alumni activated diploma legalization. The result of mann withney analysis obtained the mean scores on ID activation were 2.46 and 1.61 for sms gateway and website respectively with p value of 0.05 > 0.43. It meant there was no difference in ID activation through sms gateway and website. On the workplace identity, it was obtained the mean score on sms gateway was 1.66 and on website was 0.38 p value 0.00<0.05. It meant that there was a difference between workplace identity activation on sms gateway and website. While for the diploma legalization, it was obtained the mean score on sms gateway was 2.07 and on website was 0.53 with p value 0.00 < 0.05. It meant there was a difference on the number of diploma legalization activation on sms gateway and website.

Discussion

The results of the research show that there is no difference in the speed of the total number of ID activation, and there are differences in the workplace identity activation and diploma legalization on sms gateway and the website from graduates of Poltekkes Kemenkes Yogyakarta in 2013.

The website and sms gateway were activated quickly by the graduates because sms gateway and website are types of internet technology or global library that do not have a central catalog card thus any party are allowed to use internet point as well as hand phone for the purposes of commercial or any purpose. For this reason, internet and telephone are

booming this year. Internet is a system; it is a network of various computer networks around the world. [6.10]

Network connecting media are; wires, radio waves, light (fiber optic). SMS (text message) can become popular because it certainly has advantage, which is simple and easy to check. All hand phones have text message features, either the one that supports 3G and touch screen or old mobile phone that only has one line on the screen and as simple as calculator. SMS also can still be sent even though the mobile phone of the recipient is not active in limited time because text message has active period. 10, 11

SMS gateway is activated more by alumni since they have hand phones that can be used at any time so there are more alumni that respond to the activation and respond the incoming activation of Poltekkes Kemenkes Yogyakarta immediately. In addition to that, sms delivery is generally fast and not disturbing. Its relatively cheap cost also becomes the reason why sms is used extensively. SMS gateway is machine or engine to send and receive messages, so the developer can use the functions provided to fulfill the data base needs.[6,11,12]

In text message technology, the amount of data that can be carried is very limited. To eliminate this problem, a technique of expansion or merging messages called Concatenated sms has developed. Concatenated sms can contain more than 160 standard characters (English characters). Thus, Sms gateway technology cannot be able to cover the whole message as expected to get more information for example how alumni's performance in each institution is. It can only answer short questions such as years of work and the workplace.[13,14]

SMS gateway is a platform that provides a mechanism to send and receive sms from mobile equipment (HP, PDA phone, etc.) via sms short code gateways (for example 9221). SMS gateway enables the UAE to communicate with Telco SMSC (telkomsel, indosat, etc.) or sms platform for sending and receiving SMS messages easily, because sms gateway will do all the processes and connection with Telco. SMS gateway also provides UAE with an easy interface and standard.

SMS gateway is a gateway for distributing information via sms. The message can be distributed to hundreds of numbers automatically and fast. It is directly connected with a database of cell phone numbers so it is not necessary to type hundreds of numbers and messages on the cell phone because all numbers will be taken automatically from the database.

SMS gateway can customize the messages that will be sent. With the use of additional programs that can be made on their own, the senders can send the messages flexibly because usually the messages sent to each recipient are different.[7,9]

Service Center (SC) or SMS Center (SMSC) plays an important role in the architecture of SMS. The main function of the SMSC is broadcasting short message between SME and storing and forwarding the short messages or saving the SMS if the sms recipient is not connected to the network. [8.10]

Website is a part of computer technology with the ultimate application – something that significant, unique, powerful, forcing people to go along with the comparable technology. Nowadays, web server is an application that becomes the main part of internet technology in the information technology era that has been very well known by most people. Web server has wide range of applications that can be operated, starting from homepage information, blogs, email, banking, and many more. [8]

Sms gateway based information provides a reliable service in informing messages with no limitation of time and location of the student/alumni. For the development of further research, more detail information via sms gateway can be developed such as schedules, curriculum, announcements and other things needed in studying.[9]

The use of graduates tracking devices (tracer study) to give information about expected graduates' data from a college according to Ban PT accreditation form cannot only use one system (software or sms gateway) due to the limitations of the screen to write the message delivered by alumni to the college or Poltekkes. Thus, it is expected that combination of sms gateway website based can be accessed by alumni, ranging from identity to the satisfaction of the users towards the performance of the alumni such as integrity (ethics and moral), fields of expertise (competence), English skills, use of information technology, communication, teamwork, self-development and the average waiting time for graduates to get their first jobs in the last five years is calculated from the date of graduation etc.[17]

By using a combination of sms gateway website based, the percentage of graduates in the last five years that are working in the relevant field with their expertise can also be accessed by tracer study. Besides that, this system can also record and map out the area where the graduates work so Poltekkes Kemenkes Yogyakarta can cooperate with institutions to send the graduates to work in those institutions in the last five years and in the future.[10,14]

CONCLUSION

1. In SMS gateway, the number of graduates who activate their ID is 58.5 per cent, the number graduates who activate their identity of workplaces is 23 percent.
2. In SMS gateway, the number of graduates who activate their diploma legalization is 17 percent. In the SMS web site, the number of alumni who activate their ID is 80 percent.
3. In the SMS web site the number of graduates who activate the identity workplace is 10 percent. In the SMS web site the number of graduates who activate diploma legalization is 10 percent.
4. There is no difference in the number of graduates in the IDactivation, and there is a difference in the number of activation for workplace identity and diploma legalization each day between sms gateway and the website. After activating their ID, it is more effective using sms gateway.

SUGGESTION

1. Director
   As a policy maker, it is expected that the Director would wisely decide related to devices procurement to track the graduates by using sms gateway model which integrates with the website and renting a separate provider number so it can be accessed easily.
2. Vice Director for Student Affair and Cooperation
   To provide and to propose sms gateway software devices procurement that is integrated with the website and the operators to trace and track the graduates by cooperating with providers and engaging the graduates in departments in order to monitor the membership of all alumni each year manually.

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THE EFFECT OF MASSAGE THERAPY ON INSOMNIA SCALE REDUCTION IN ELDERLY AT TRESNA WREDHA SOCIAL RECIDENCES (PSTW) YOGYAKARTA

Tri Prabowo, Siti Fauziah, Sari Candra Dewi

Nurse Department of Health Polytechnic of Health Ministry Yogyakarta, Indonesia

ABSTRACT

Sleep is a biological requirement. All living beings need it. It is the key to health, productivity, safety and quality of life. In order to function and live at our best, sleep is as necessary as the water we drink, the air we breathe and the food we eat. As we age, our brain waves change and we tend to experience less deep sleep. Elderly spent more time in bed, easy falling asleep, but also experience frequent arousals and awakenings and/or wake feeling unrefreshed. This condition causes the elderly experiencing insomnia complaints. Treatment is often done to reduce insomnia by taking sleeping pills, but the excessive use will have some side effects like addiction. Other therapy that deal with is Massage therapy. Massage has been proven to be beneficial in triggering the relaxation response and has been lauded as an effective treatment for insomnia. The aims to identify the the effect of massage therapy on insomnia scale reduction in elderly at TresnaWredha Social Recidences (PSTW) Yogyakarta. This research employed Quasi-experiment method with prêt-test and posttest approach. It was conducted at TresnaWredha Social Recidences (PSTW) Yogyakarta. The subject were 40 elderly with 20 elderly as an intervention group and 20 elderly as control who fit with the inclusion and exclusion criteria taken throught consequtive sampling. The statistical test used non parametric two-sample Kolmogorof Smirnov test. The research results indicated that the intervention group had an average decrease on insomnia scale than in the control group. Mean Insomnia Scale of the intervention group before and after the massage therapy 32.05 to 7.75 with p=0.000 whereas the control group 9,5 to 10,9 (p=0,152). The difference on the effect of massage therapy both groups showed the value of p=0.000. The conclusion of research, there is a deflation in the effect of massage therapy on the level of insomnia scale in elderly before and after the massage therapy, and there are significant differences level of insomnia scale among elderly who received massage therapy and were not given.

Keywords: elderly, massage, therapy, insomnia scale

BACKGROUND

Sleep is a biological need. All living beings need sleep. Sleep is key to health, productivity, safety and quality of life. Sleep is also an active process that gives energy, restores the brain and the human body. Sleep is important so that one can live and function properly. Sleep gives the potential for someone to grow and allow it to live a quality life. Good sleep is important for the ability to think and productive activities so as to live in a safe, effective and quality. The quality of sleep determined either by duration and depth of sleep.[1]

As we get older, a person's brain waves change and tend to sleep less deeply. Less time spent in sleep stages 3 and 4 while there may be a longer period of sleep stages 1 and 2. In fact, sleep stage 1 can be increased by as much as 8-15%. Most studies also show an overall decrease in REM sleep. Changes in sleep architecture that occur related to the aging process, but disturbances in sleep are likely due to the impact of medical or psychiatric condition.

Elderly spend more time in bed, easy to fall asleep, but also easily awakened from sleep. Changes are very prominent, namely a reduction in slow wave, especially stage 4, alpha waves decreases, and increased frequency of waking at night or increasing fragmentation of sleep due to frequent waking. Interference also occurs in them to sleep so the elderly are particularly sensitive to environmental stimuli. During the night's sleep, a normal young adult will be awakened around 2-4 times. Not so the case with the elderly, she often woke up. Nevertheless, the average total sleep time elderly is similar to younger adults.

Sleep-wake circadian rhythm of elderly are also often disrupted. Biological clock elderly shorter and more advanced sleep phase. Frequent waking at night cause fatigue, drowsiness, and easily falling asleep during the day. This condition causes the elderly have complaints often called insomnia.

Insomnia is defined as a complaint about the lack of quality sleep caused by one of the difficult entering sleep, frequent night awakenings then the trouble to go back to sleep, waking up too early, and sleep soundly.[2] Ham defined insomnia as the state of lack of sleep characterized by difficulty sleeping, wake up frequently, a shortage of time total to sleep.[3] Insomnia can be classified based on duration and etiology. Based on duration, insomnia divided into three type : *transient insomnia, short-term insomnia*, chronic insomnia. Based ætiology insomnia divided into insomnia primary and secondary insomnia. Based on the etiology, insomnia divided into primary insomnia and secondary insomnia.[4]

Insomnia is a very common sleep problem among adults. According to a poll conducted by NSF in the United States, 48% of older people experience one or all of these symptoms at least a few nights a week or more. 5% incidence of insomnia increases with age. National Institute of Health states that sleep disorders strike 50% of people aged 65 years or older living in the home and 66% of people who live in long term care facilities. The prevalence of sleep disorders in the elderly is high at around 67%.[5]

Treatment are often carried out to reduce insomnia is generally performed using sleep medication. However, excessive consumption carries side effects of addiction, overdose can be harmful if the wearer. The use of these drugs even if not accompanied by improvements in diet, sleep patterns as well as the completion of a psychological cause, then medications can only overcome the problems are temporary and do not cure.[6]

Darmojo and Hadi stated that in the elderly groups, the various physiological changes in the body's organs and systems will affect the body's response to drugs.[7] Some changes in the pharmacokinetics of the drug due to the aging process, among others, a decrease in the absorption, distribution, metabolism, and excretion of a drug in the body. The changes affect the administration of drugs in the elderly should be pursued as rationally as possible, including by way of minimizing the number / types of drugs, reduce drug dosage, as well as review the treatment. The elderly who suffer from insomnia can be treated with non-pharmacologic therapy among other things with massage therapy.

Massage be able to help relax and dilate the arteries, this would reduce the amount of pressure in the arteries, which would make the heart work easier, so that it can slow the heart rate accelerated. Massage may also help loosen respiratory hall, which will increase the flow of air into and out of the lungs. This also helps to relax and center of the mind, a mind is quiet. Massage also relax tense muscles and reduce the pressure on the joints.

Massage for the insomnia can help relax tense muscles that are relaxed and rebuilding the circulation to areas of the body that allows the system for the return to normal. Massage has long been known for the increase relaxation and improve sleep patterns. While the

massage itself is an effective method for relaxation, massage and insomnia studies showed that massage with essential oils, be able to result in improved quality of sleep, more stable mood, improve mental capacity, and reduce anxiety. Massage and insomnia clinical studies have found participants who received massages feel less anxious and more positive.

Researchers have found that decreased levels of serotonin be able to cause disorders such as sleep apnea and insomnia. Massage therapy can directly affect the body's production of serotonin. Thus seen a solid relationship between massage and treatment of insomnia. Massage is the right choice, healthy and substance free choice to help a large number of people who suffer from insomnia

This study aimed to know the effect of massage therapy on insomnia scale reduction in elderly at TresnaWredha Social Recidences (PSTW) Yogyakarta.

METHODS

This study was conducted in PSTW Budi Luhur Yogyakarta which is located in Kasongan Bantul, from September till November 2013. The study design with Quasi-Experimental with pretest-posttest approach Non-Equivalent Control Group Design. Population in this research is all elderly occupants PSTW Budhi Luhur Yogyakarta totaling 84 people. Samples taken by consecutive sampling with a sample size calculation as follows: When $\alpha = 0.05$ $z_{1-\alpha} = 1.645$; Power of test (β) = 80% $z_{1-\beta} = 0.842$; P1 = 0.60 based on the prevalence of sleep disorders in the elderly[8]; P2 = 0.20. A sample of 40 elderly, who were divided into 2 (two) groups: 20 elderly as the intervention group and 20 elderly control group. The independent variable is massage therapy, and the dependent variable is the scale of insomnia

Massage therapy conducted in the afternoon (at 17 pm) for 7 days straight. The final assessment (post test) scale insomnia in the experimental group performed after 7 days of massage therapy is completed. While the final assessment scale insomnia in the control group performed after the 7th day of scoring early insomnia scale. Assessment is done by using the insomnia scale assessment questionnaire modified from insomnia scale assessment Pittsburgh (Pittsburgh School of Medicine, 2002), containing 20 items questions relating to the history of respondents sleep last for 1 week

Data characteristics presented in the form of a descriptive subject. In the treatment group analysis results Shapiro-Wilk shows the distribution of the data to the score before the massage therapy normal distribution while the scores after massage therapy is not normal, so that the used of different test non parametric Wilcoxon test. In the control group the results of the analysis of Shapiro-Wilk normal distribution data shows both the data on the scores before and after, so that the use of different test dependent t-test. 2 different test groups unpaired using non-parametric test Kolmogorof Smirnov two-sample test.

RESULTS AND DISCUSSION

Characteristics of Respondents

Elderly occupants in PSTW Budhi Luhur totaling 84 people. Elderly who fulfilled the inclusion criteria as many as 59 people. After screening insomnia assessment scores showed a score of insomnia vary between 1-60, with details of as many as 20 elderly insomnia scores> 20, while the elderly with insomnia score of 1-19 a total of 39 people. Further determined that serve elderly treatment groups is elderly with insomnia scores>20 totaling 20 elderly people. The control group of elderly with a score of 20 elderly 1-19 taken by systematic random sampling.

Tabel 1.
Characteristics of Respondents

No	Characteristics	treatment group (n=20)		Contro groupl (n=20)	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1	age group				
	a. *Elderly* : 60 – 74	9	45	11	55
	b. *Old* : 75 – 90	10	50	9	45
	c. *Very old* : >90	1	5	0	0
2	Gender				
	a. Male	5	25	9	45
	b. Female	15	75	11	55

Table 2.
Distribution of Average Scale Insomnia Before and After Massage Therapy in the Treatment Group in PSTW Budi Luhur Yogyakarta in 2013

Variables	Mean	SD	Min-Max
Insomnia Scale			
a. Before*massage therapy*	32,05	9,185	20 – 54
b. After*massage therapy*	7,75	5,505	1 – 22

Differences insomnia scale before and after therapy in the elderly group of massage treatments.

Table 3.
Differences Before and After Massage Therapy in the Treatment Group in PSTW Budhi Luhur Yogyakarta Year 2013

		N	Mean Rank	Sum of Ranks	p
Delta skor	Negatif Ranks	20	10,5	210	0,000
	Positive Ranks	0	0	0	
	Ties	0			

Wilcoxon rank test analysis results showed a decrease insomnia scale after massage therapy on all respondents, with p=0.000, so it can be concluded that there are significant differences between the insomnia scale before and after massage therapy in the treatment group.

The difference in insomnia scale before and after the elderly control group

Table 4.
Differences Before and After Massage Therapy in the Control Group in PSTW Budhi Luhur Yogyakarta Year 2013

Variables	Mean	SD	SE	p
Insomnia Scale				
a. Before (pre)	9,5	4,072	0,91	
b. After(post)	10,9	3,508	0,784	
Delta skor	1,4	4,198	0,939	0.152

Insomnia scale distribution in the control group showed an average yield of insomnia scores at initial assessment (pre) was 9.5 with a standard deviation of 4.072. The final assessment (post) the average score of insomnia was 10.9 with a standard deviation of 3.508. Dependent test analysis results of t-test showed the value of the average difference between pre and post was 1.4 with a standard deviation of 4.198 and p=0.152, it can be concluded there was no significant difference between the scale before with insomnia after the control group.

Effect of massage therapy in both groups

Table 5.
Test Results Differences in the Treatment Group and Control Group in PSTW Budi Luhur Yogyakarta in 2013

	Kolmogorov-smirnov Z	p
Delta score Pretest-posttest massage therapy	3,162	0,000

This study shows that massage therapy impact the scale of insomnia in the elderly in PSTW Yogyakarta (p=0.000). Respondents said that after being given massage therapy be able to feel his deep sleep which was originally only 1-2 hours a night, respondents who had previously suffered from insomnia said that after being given massage therapy, the frequency of waking up at night experienced a slight reduction, and they wake respondents no longer find it difficult to fall asleep again. The presence of the effect of massage therapy on the quality of sleep of the respondents according to the statement Ayu that one of the direct benefits of massage is relaxation thorough and tranquility, which be able to provide comfort during sleep, it is because massage works directly on the skin, where the skin is an organ the greatest of human and full of nerve endings.[9] Massage can also trigger the release of endorphins, brain chemicals (neurotransmitters) that produces a feeling of comfort. While the level of stress hormones, like adrenaline, cortisol, and norephinefrine will be reduced.[10] It is also stated by Hadibroto and Alam that the direct mechanical effect of pressure in rhythm and movements used in massage, dramatically increasing blood flow.[11]

The benefits of massage are felt in the body, mind and soul. Induced stimulation of the nerve receptors also cause blood vessels to dilate reflexively, so that the blood flow which is very influential for health. Massage makes sleep quality, because massage can reduce stress on the muscles, improve blood circulation, reduce anxiety and depression, increase mental alertness, stimulate the system lymfatic, increase joint mobility and flexibility, refresh the skin surface in order looks bright, as well as accelerate the healing of soft tissue injuries.[12] Massage for the insomnia may help relaxation of tight muscles and rebuilding the circulation to areas of the body that allows the system for the return to normal. Massage has long been known for the increase relaxation and improve sleep patterns.[13] Massage is also an effective method for relaxation, massage and insomnia studies showed that massage with essential oils, be able to result in improved quality of sleep, more stable mood, improve mental capacity, and reduce anxiety. Clinical studies have found massage and insomnia respondents who received massages feel less anxious and more positive.[14]

Insomnia Massage be able to help relax and dilate the arteries, this would reduce the amount of pressure in the arteries, which would make the heart work easier, so that it

can slow the heart rate accelerated. Massage may also help relax the airways, which will increase the flow of air into and out of the lungs. Massage also helps to relax and calm the mind, relaxes tense muscles, which lowers the pressure on the joints. The researchers have found that decreased levels of serotonin be able to cause disorders such as sleep apnea and insomnia. Massage therapy can directly affect the body's production of serotonin, can show the relationship between massage and insomnia.[15]

CONCLUSION

The elderly who receive massage therapy decreased scores on a scale of insomnia better than no therapy. There are significant differences Score on a scale of insomnia before and after Massage Therapy (p=0.000). There is a Score on a scale of insomnia difference between groups getting Massage Therapy and did not get (p=0.000).

SUGGESTION

It is advisable to consider the use of massage therapy as the standard of nursing (SOP) in the elderly who suffer from insomnia, because this simple method is proven to help improve the comfort of the elderly so that to be fulfilled the need for rest and sleep.

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BACTERIAL POTENTIAL TEST OF *BACILLUS SUBTILIS, PSEUDOMONAS AERUGINOSA* AND *ESCHERICIA COLI* IN DEGRADING LINIER ALKIL SULFONAT (LAS) IN DETERGENT

Eni Kurniati

Medical Laboratory Technology Department of Poltekkes Kemenkes Yogyakarta, Indonesia
Email : eni.kur@gmail.com

ABSTRACT

One of the contaminated material samples in waste water is detergent. Detergent waste may harm water organism life because it slows down the oxygen supply so that the foam covers the water surface. The water we use is contaminated with detergent waste which can cause diseases in organ functions. In long term, it can ruin digestive system and liver function. It is caused by the composition of surfactant chemical chain in the detergent. The research aims to identify if there is effect differences of bacterial test affectivity, incubation period and LAS level in degrading LAS in detergent and to identify the interaction effects between bacterial species and incubation period, bacterial species and LAS, incubation period and LAS level, bacterial period and incubation period and LAS level. It is a quasi-experimental research. The research design is time series design. The data processing uses anova 3 way test (factorial analysis) The results of factorial analysis describes that the bacterial species, incubation period and LAS level give influence to LAS level degradation. Thus, the interaction among the threes has significant value of 0,000. The most effective bacterial species is *E. coli* with degradation value of 1118, 042. The most effective incubation period is 9 days with degradation value of 909,667. The most effective LAS level is 0,5% with degradation value of 1442,083. There are effect differences of bacterial species, incubation period and LAS level in degrading LAS to detergent. The most effective bacterial species in degrading LAS is *E.coli*, the incubation period is 9 days and the LAS level is 0,5%. There is interaction effect between bacterial species and incubation period, bacterial species and LAS level, incubation period and LAS level, bacterial species and incubation period in degrading LAS in detergent.

Keyword : Potential, *B. subtilis, P aeruginosa, E. coli*, Degrading, LAS

INTRODUCTION

Waste water is disposal water of the community as results of the rest of various human activity. Chemical contents in water waste is important to note as a first step to determine proper treatment for waste water. Furthermore, it is also to know the level of pollution happened. Organic materials in waste water can affect the lives of living such as some fishes, insects and other organisms that relies heavily on oxygen[1].

Contaminants material in waste water is detergents. Waste detergents can be dangerous for the life of the organism waters, causing air oxygen supply very slow due to its foam covering the water surface[2].

Detergents is common cleaning material used by industries or households. Cleaning material such as detergent, its production being increased to fill a public need. Detergents is a combination of various compounds of a major component of those combination is surface active agents or quaternary. Detergents quaternary most often used is Linear Alkyl Sulphonic (LAS) .

LAS has straight chain structure without branches, a benzen ring and a sulphonic. LAS is conversion of Alikil Benzen Sulphonic or ABS, easier degraded in water and 'soft'detergents / synthetic. ABS very unfavorable because there very slow decompose by decomposer bacteria caused by the branching chain on its structure. ABS detergent which can't decomposed biologically, gradually causing waters contaminated will covered by foam. LAS level in detergent that commonly found in detergen range 0,1-0,5 % .

Quaternary or surface active agent or wetting agent is organic material which act as the active ingredient in detergent, soap, and shampoo. Quaternary can be lowered the surface tension of allowing particles attached to materials washed detached and floats or dissolved in water. Quaternary classified into four , namely anion quaternary, cationic quaternary, non ionic quaternary, and amphoteric quaternary[3].

Detergents escaped through installation waste processing without changing (do not decomposed), causing foaming river, even caused PAM water frothy. In 1965, an industry which move in chemical turned into biodegradable detergents, as Alkyl Linear Sulphonic (ALS) compound with a straight chain instead of branched chain[4].

LAS has adverse effect on the environment, giving poison effects in water, destroy external layer of mucus that protects fish from bacteria and parasitic, it also can causing damage on the gills. Most fishes will death if LAS concentration reachs 15 parts per million. Low LAS concentration, 5 ppm, can kill fish eggs and proven reduce ability of waters organisms breeding. LAS has contributes in lowering the quality of water. LAS concentration, 2 ppm, can be absorbed by fish twice of other chemicals.

Besides destructive the natural environment, the impact is also resulting in interference in local human health. Water which is often used if contaminated waste detergents, can cause disease that can interfere organs functions. For a long time, can damage digestive system, and heart function. It caused by the quaternary chemical chain, that is in detergents.

Based on the characteristics of LAS easier degrade biologically, then the researcher intend research the potential of a bacillus subtilis bacteria, pseudomonas aeruginosa and escherichia coli in degrading LAS in detergent so as can be applied as biodegradable detergent.

METHOD

Type of Research

Is a quasi experimental research, provides treatment or intervention to a variable. Design research is time series design.

Mechanism

Testing mechanism as decreasing alkyl sulphonic in detergent:

In measuring LAS levels on samples with Methylene Blue Active Substance (MBAS) method, LAS content in the sample extracted to chloroform and bounded with methylene blue then measured using spectrophotometer at wavelengths 625 nm. It darkens blue occurring, the higher absorbans sample value.

Detergent sample made in 3 concentration each three pieces of where the concentration 0.3 % , 0.1 % , and 0.5 %. A test sample added 3 ml test inokulan bacteria in accordance with cloudiness standard brown III. Be left for 1 week in room temperature. After one week to sample taken each 100 ml and put into a separating funnel 500 ml. Added solution blue methylene 25 ml. Added 50 ml chloroform, shaken strongly for 30 seconds, once times

open-close mouthpiece to issue gas. Ignored until making separation phase, a separating funnel shaking slowly. Added 50 ml washing solution into a solution extract (chloroform combined) and shake strongly for 30 seconds. Ignored until resulting separation phase, shaking slowly, the lower (chloroform) expelled through fibers glass, put into erlenmeyer 100 ml (keep a layer of water not carried away). Extract solution put into cuvette on a of the spectrophotometer, read and noted its absorbance at wavelengths 652 nm, reading program is not more than 3 hours after extraction.

RESULT

The result of measuring LAS level 0,1% ; 0,3% dan 0,5% on detergent without adding bacteria and incubated:

Table 1.
The result of measuring LAS level 0,1% ; 0,3% dan 0,5% on detergent without adding bacteria

NO	LAS Concentration	Measuring Result (ppm)			Rate
		I	II	III	
1	0,1 %	646	611	627	628
2	0,3 %	2528,5	2570	2511	2536,5
3	0,5 %	3857	3791	3803	3817

The result of reducing LAS level after adding bacteria and incubated on 3,6,9 and 12 days:

Tabel 2.
The Rate of Decreasing LAS Level 0,1% ; 0,3% dan 0,5% on Detergent with Adding Various Bacteria

NO	Type Of Bacteria	LAS Concentration	Incubation Period			
			3 days	6 days	9 days	12 days
1	*B. subtilis*	0,1 %	184 (12,767)	231,5 (14,603)	248 (7,810)	250 (6,244)
	B. subtilis	0,3 %	753 (7,566)	819,5 (6,000)	824 (9,733)	826,5 (7,000)
	B. subtilis	0,5 %	869 (7,937)	1249 (9,165)	1325 (7,000)	1331 (11,269)
2	*P. aeruginosa*	0,1 %	58 (8,185)	160 (9,848)	199 (2,645)	217 (5,567)
	P. aeruginosa	0,3 %	740,25 (2,384)	933,5 (5,291)	955,5 (5,291)	946,5 (7,549)
	P. aeruginosa	0,5 %	1034 (6,557)	1119 (3,605)	1216 (10,535)	1216 (6,082)
3	*E. coli*	0,1%	236 (6,928)	374,5 (7,466)	287 (8,888)	290 (7,549)
	E. coli	0,3 %	916,5 (4,358)	1121,5 (7,000)	1123,5 (4,358)	1121,5 (7,211)
	E. coli	0,5 %	1917 (5,000)	2005 (4,358)	2009 (6,557)	2015 (7,000)

Statistic test using factorial analisys to determine whether there's decreasing significantly on each bacterias, incubation period and LAS concentration and its interaction

Tabel 3.
The Result Data of Factorial Anlisys Tests

Source	Type III Sum f Squares	df	Mean Square	F	Sig
Corrected Model	33431499,2a	35	955185,691	16566,407	,000
Intercept	80713610,3	1	80713610,26	1399869	,000
Konsentrasi _LAS	26723498,0	2	13361749,01	231741,5	,000
Bakteri	3473167,260	2	1736583,630	30118,701	,000
Masa_Inkubasi	519270,932	3	173090,311	3002,018	,000
Konsentrasi_LAS*Bakteri	2427187,646	4	606796,911	10524,074	,000
Konsentrasi_LAS* Masa_Inkubasi	75723,365	6	12620,561	218,887	,000
Bakteri*Masa Inkubasi	33553,365	6	5592,227	96,990	,000
Konsentrasi_LAS* Bakteri*Masa_Inkubasi	179098,604	12	14924,884	258,852	,000
Error	4151,375	72	57,658		
Total	114149261	108			

The result of Factorial analisys test is influencing LAS concentration with decreasing LAS level less than 0.05 so Ha can be accepted, it means that it's influencing towards various LAS concentration on decreasing LAS level.

To know the best group in decreasing LAS level using Post Hoc Duncan. On this model the group distinction characterized by different letters. If the letter (a column) is different so the statistic is different (Ha is accepted). The best group is the group that contributed the biggest dereasing rate. Here is the result of Post Hoc test with duncan model for some independent variable:

Tabel 4.
The result of Post Hoc Test with Duncan Model on LAS Early Concentration

LAS Early Concentration	N	Subset		
		1	2	3
0,1%	36	227,9167		
0,3%	36		923,4792	
0,5%	36			1442,0833
Sig		1,000	1,000	1,000

The results of Post Hoc Test with Duncan Model, LAS early concentration 0.1 %; 0.3 % and 0.5 % there is significant differences. It can be seen from the result that those concentrations is in a separate column. While to know which the best groups is in decreasing LAS level is concentration 0.5 % which this group contributed the biggest reducing rate 1442,0833.

Tabel 5.
The Result of Post Hoc Test with Duncan Model on Bacteria Type

Type of Bacteria	N	Subset		
		1	2	3
A. *Subtilis*	36	732,8958		
P. Aeruginosa	36		742,5417	
E. coli	36			1118,0417
Sig		1,000	1,000	1,000

The result of the post hoc test with duncan model has bacteria type B. subtilis, P. aeruginosa and E. Coli, and there is significant differences. It can be seen from the result that each test result is in a separate column. While to know which the best bacteria in decreasing LAS level is E. Coli where this group contributing largest rate in decreasing 1118,0417

Table 6.
The Result of Post Hoc Test with Duncan Model In Incubation Period

Incubation period	N	Subset		
		1	2	3
3 days	27	745,3056		
6 days	27		890,3889	
9 days	27			909,6667
12 days	27			912,6111
Sig		1,000	1,000	0,159

On the result of the post hoc test with duncan model times, the incubation period using 3 , 6 , and 9 , there are significant differences. It can be seen from the result those concentrations are in separate column. While for incubation period 9 and 12 days, there is no difference in statistic. It can be seen on the result that for 9 and 12 days is in the same column. To know which the most effective group in decreasing LAS level is 9 days because in 9 and 12 days there is no difference statistically in decreasing LAS level and the time in nine days is shorter.

The result shows that decreasing LAS level by bacteria B. Subtulis, P aeruginosa and E. Coli which means bacterias able to produce an enzyme involved in the mechanism of decreasing LAS. Degradation mechanism or decreasing LAS includes 3 important steps, alkyl chain oxidation, desulfonation and solving benzene ring. In the early process alkyl chain degradation, enzyme alkane monooxygenase and two dehydrogenases from bacteria has important roles, the rest of degradation an alkyl group and sulphonic will be phenil acetat or aam benzoate. Next, oxidizing acid phenil acetic or acid benzoate. Next, oxidizing acid phenil acetat by microbes will produce and fumaric acid asetoasetat .Whereas benzene will be converted into catechol[5]

The biggest in decreasing its level is 12 days incubation period, 1442,0833. It caused to degradating LAS takes long period. And after tested statistically, 9 days incubation period and 12 days is no difference. So, in terms of the effectiveness 9 days more suggested. For bacteria growth require enough nutrients so the longer will be more a little nutrients in detergent, it causes 9 and 12 days incubation has no differences.

In a research that microbial communities dominated by gram-negative bacteria, bacteria community from proteobacteria dominated bacteria community that capable detergents degrades. Microorganisms growth in a long time because influenced by temperature and nutrition needed.

LAS will decreasing in detergents with rising time. This is because aerobic microorganisms eat a substance that contained in detergents. Microbes ability especially bacteria in using detergents as a source of main carbon shows that bacteria take the role important.

Detergent with big LAS level needs long time for decomposition and detergent with low LAS level will be decomposed faster. And the longer of waste detergents circulation so LAS levels in all three brand detergents researched will decreased, because contact time between detergent water and aerobic microorganisms longer so as to give a long time for bacteria to decompose detergent[6].

CONCLUSION

1. There's differences of bacterial type influence in degrading LAS in detergent, E. coli is the most effective in degrading LAS
2. There's differences of incubation period influence in degrading LAS in detergent, and the most effective in degrading LAS is 9 days
3. There's differences of LAS level influence in degrading LAS in detergent, and the most effective in degrading LAS is 0.5% level
4. There's significance influence of interaction between bacteria type with incubation period in degrading LAS in detergent
5. There's significance influence of interaction between bacteria type and LAS level in degrading LAS in detergent
6. There's significance influence of interaction between incubation period and LAS level in degrading LAS in detergent
7. There's significance influence of interaction between bacteria type, LAS level and incubation period in degrading LAS in detergent

SUGGESTION

1. For laundry owner, detergent waste treatment can be done using various techniques, one of them is biology technique, bacterial relief
2. For consumer which using detergent, should choose environment friendly detergent so as can be decomposed by microorganism which in waste detergent

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THE DETERMINNANT OF PRETERM BIRTH AT dr. DORIS SYLVANUS HOSPITAL PALANGKA RAYA

Noordiati, Legawati, Erina Eka Hatini

noordiatinunung@yahoo.com, legawati_poltekkes81@yahoo.com, herinaeka@yahoo.com
The Faculty of Midwifery Poltekkes Kemenkes Palangka Raya

ABSTRACT

Preterm birth is one of leading causes of perinatal morbidity and mortality. In some developed countries the population of preterm birth has been increasing in the past 20 years. In Indonesia the rate of preterm birth ranges from 10-20%, while at dr. Doris Sylvanus Hospital the prevalence reaches 10-13%. Around 50% of preterm birth causes are still unknow. Some of risk factors assumed to increase the prevalence of preterm birth is adolescent pregnancy, mother education, quality of ANC, nutritional status and anemia. Finding of determinant the happening of preterm birth.An observational study with a case-control study design. Subjects were all women delivering at dr. Doris Sylvanus Hospital in the periode 2012-2013. Sampel size in this study was 161 women delivering at <37 week of gestational age as case and 161 women delivering at 37-42 week of gestational age as control. Data were gathered from the secondary data in medical record. Hypothesis test used chi-square test with p=0.05 an odds ratio (OR) with 95% confidence interval (CI). Analysis of multiple logistic regressions was used to analyze the determinant of preterm birth.The results of multivariable analysis showed that there was a significant relationship between adolescent pregnancy OR=2.2 (95%CI=1.01-5.28), nutritional status OR=2.4 (95%CI=1.03-5.38) and anemia OR=1.9 (95%CI=1.12-3.12) with preterm birth. Adolescent pregnancy, nutritional status and anemia increased the risk of preterm birth.

Keywords:.preterm birth, adolescent pregnancy, nutritional status, anemia

INTRODUCTION

The preterm birth is one of leading causes of perinatal morbidity and mortality. In some developed countries the population of preterm birth has been increasing in the past 20 years. The increasing preterm birth was related to the changing frequency of multi birth, the increasing obstetric intervention and the increasing usage of ultrasonography to determine the gestational age. The prevalence of preterm birth in The United States from 1990 – 2003 was more increasing, 10.6% in 1990; 12.1% in 2002 and 12.3% in 2003[1].

In Indonesia, the year of 2009 was noted to have preterm birth around 10 – 20% and it was the fifth rank country of preterm birth, which was also the leading cause of mortality in the field of perinatologi[2]. Based on the previous study of preterm birth at dr. Doris Sylvanus Hospital Palangka Raya, there was a tendency to increase in the past years. In 2012, the prevalence of preterm birth was 10% and it increased to 13% in 2013.

Almost 50% of the cause of preterm birth was unknown. From the point of view of epidemiology and demography, there were many factors assumed to increase the risk of preterm birth. The risk factors were: social economic, race, mother education, mother job, mother age, marital status, body mass index, antenantal care history, stress, the habit of smoking, drinking alcohol, and the consumption of dangerous medicine/drugs. The obstetric and medical factors assumed to increase the risk of preterm birth were abortion history, preterm birth history, multi birth, diabetic mellitus in pregnancy, anemia, preeclamsia/eclamsia,

cervix incompetency, infection of urethra, pre burst of fetal membrane, oligohidramnion, polihidramnion and placenta previa[3,4]

Other studies showed that preterm birth happened at 4.1% of vaginal douching was significantly related to vaginosic bacteria and it gave risks to 32 – 34 week of gestational age. Social economic factor related to mother nutrition during pregnancy was the environmental factor which significantly influenced the pregnancy condition. Lack of mother nutrition might contribute to the increasing prevalence of preterm birth, the growth of fetus retardation and the increasing mortality and morbidity risks for the mother. Life style factor, such as smoking pregnant women got a bigger possibility to deliver preterm birth[5].

The general objective of this study was to find out the determinant preterm birth at dr. Doris Sylvanus Hospital Palangka Raya. Spesifically, it also aimed to find out the determinant preterm birth of adolescent pregnancy, education, history of ANC, nutritional status and anemia.The result of this study could be used by the policy maker to make a decision related to the prevention of preterm birth. Efforts which could be done to prevent preterm birth were reproduction health promotion for adolescent, identification and management of pregnant women who got the risk of having preterm birth, and providing resusitation service for babies in order to increase the service quality and the degree of community health.

THE METHOD OF THE STUDY

The study was the observational study using the unmatched case-control study through quantitative approach. The study was done to analize the relationship between certain effects and certain factors. Case-control study was the study design of epidemiology which analized the correlation of a case with a certain exposure. The study was started by identifying the outcomes which were the case group (women who delivered preterm birth) and the control group (women who delivered aterm birth), then the exposure level in the past (adolescent pregnancy) was retrospectively seen against the outcome which would be studied at present[6].

The location of the study was at dr. Doris Sylvanus Public Hospital Palangka Raya in Midwifery instalation room. The population was all women who gave birth iin 2012 – 2013. The case was all women who gave birth at <37 week of gestational age at dr. Doris Sylvanus Hospital Palangka Raya in the period of 2012 – 2013 and who met the criteria of inclusion and exclusion. The control was all women who gave birth at 37 - 42 week of gestational age at dr. Doris Sylvanus Hospital Palangka Raya in the period of 2012 – 2013 and who met the criteria of inclusion and exclusion.

The sample size in the study was determined using Power Analysis and Sample Size (PASS)[7]. The calculation was done by finding out the P2, the proportion of adolescent pregnancy in aterm birth group which was 0.28 and odds ratio (OR) of 1.8[8]. If α was 0.05 and power was 0.28, the sample size of each group was 161 persons (1:1).

The statistical examination used was chi-square test, because the variable examined was categorizational. The result was $\chi 2$, *p value*. Special for the correlation analysis of free variable between pregnancy and spontaneous abortion binded variable, the value of Odds Ratio (OR) and Confidence Interval (CI) was 95%. The multivariation analysis was used to find out the influnce of free variable towards binded variable by controlling other variables. The statistical examination used was multiple logistic regression analysis. In this examination, the value of Odds Ratio (OR) was determined as an approach to find out the risk scale.

THE RESULT OF THE STUDY

Univariable Analysis

Univariable data analysis was meant to describe the distribution of preterm birth frequency (case) and those who did not have preterm birth (control).

Table 1.
Characteristic of subject of the study.

Characteristic of subject of the study	Case		Control		Total	
	N	%	n	%	n	%
Adolescent Pregnancy						
• Yes	23	14.3	9	5.6	32	9.9
• No	138	85.7	152	94.4	290	90.1
Education						
• Low	26	16.1	17	10.6	43	13.4
• High	135	83.9	144	89.4	279	86.6
ANC						
• <4x	30	18.6	17	10.6	47	14.6
• ≥4x	131	81.4	144	89.4	275	85.4
Nutritional Status						
• Poor	24	14,9	9	5,6	33	10,3
• Good	137	85,1	152	94,4	289	89,7
Anemia						
• Anemia	62	38.5	35	21.7	97	30.1
• Not Anemia	99	61.5	126	78.3	225	69.9

From all subjects of the study, it was known that the prevalence of adolescent pregnancy was 9.9%. The prevalence of adolescent pregnancy in preterm birth group was higher than aterm birth group. The majority of the women were well educated. The prevalence of ANC visit was less than 4 times, which was 14.6%. Most of the subjects of the study (89.7%) had good nutritional status and 10.3% had poor nutritional status. The prevalence of poor nutritional status in preterm birth group was higher than aterm birth group. The majority of the women did not suffer from anemia, however, the percentage of women who suffered from anemia were still high (30.1%). The preterm birth group who suffered from anemia was higher than the aterm birth group.

Bivariarible Analysis

Based on Table 2, adolescent pregnancy had signifikan correlation with preterm birth variable, with OR of 2.8 (95% CI: 1.29 – 6.13). This meant that the possibility of adolescent pregnancy was almost three times bigger in preterm birth group. Statistically, the education emia had had no significant correlation with preterm birth, which could be seen from the value range of 95% CI, passing 1. The ANC variable, nutritional status and anemia statistically had significant correlation with preterm birth, with the OR of 1.9 (95% CI: 1.04 – 3.43), 2.9 (95% CI: 1.37 – 6.41) and 2.3 (95% CI: 1.38 – 3.67). This meant that the possibility of finding out the irregularity of ANC was almost twice as much, poor nutritional status was almost three times bigger, and anemia was twice as much in preterm birth group.

Table 2.
The determinant of preterm birth

Variable of the study	Case		Control		OR	95%CI
	n	%	N	%		
Adolescent Pregnancy						
• Yes	23	14.3	9	5.6		
• No	138	85.7	152	94.4	2.8	1.29-6.13
Education						
• Low	26	16.1	17	10.6	1.6	0.85-3.12
• High	135	83.9	144	89.4		
ANC						
• <4x	30	18.6	17	10.6	1.9	1.04-3.43
• ≥4x	131	81.4	144	89.4		
Nutritional Status						
• Poor	24	14.9	9	5.6	2.9	1.37-6.41
• Good	137	85.1	152	94.4		
Anemia						
• Anemia	62	38.5	35	21.7	2.3	1.38-3.67
• Not Anemia	99	61.5	126	78.3		

Multivariable Analysis

Table 3.
Multivariable analysis

Variable	Model1 OR 95%CI	Model2 OR 95%CI	Model3 OR 95%CI	Model4 OR 95%CI	Model5 OR 95%CI
Adolescent pregnancy					
• Yes	2.8 (1.26-6.29)	2.5 (1.12-5.74)	2.4 (1.04-3.59)	2.3 (1.01-5.28)	2.2 (0.93-4.99)
• No	1	1	1		
ANC					
• <4x		1.7 (0.89-3.30)			1.6 (0.80-3.06)
• ≥4x		1			1
Nutritional status					
• Poor				2.4 (1.03-3.56)	2,3 (1,01-5,33)
• Good				1	1
Anemia					
• Anemia			2.1 (1.26-3.41)	1.9 (1.12-3.12)	1.8 (1.09-3.06)
• Not Anemia			1	1	1
Devance	439.4	436.7	431.1	426.7	425
R^2	0.016	0.022	0.034	0.044	0.048

From the result of multi logistic regression analysis, it was concluded that model 4 was the simplest, most effective and efficient model compared to model 1, 2 and 3, because it had higher R2 value, lower deviance value and all variables were still significant.

DISCUSSION

From this study, it was known that the prevalence of adolescent pregnancy delivering at dr. Doris Sylvanus Hospital was 9.9%. The prevalence was almost the same as the prevalence of adolescent pregnancy delivering at other places in Indonesia which was 10% (SDKI 2012).

The result of the study had lower OR value compared to the results of other studies which showed that pregnant women under 20 had the risk of having preterm birth 3.5 times higher than pregnant women of 20 – 34 years old[4]. An adolescent biologically might get pregnant, but she was obstetrically and psychologically unprepared because it was not supported by her immature organ reproduction in order to help her deliver aterm birth. The uterus and cervix of the mother had not fully grown so that the adolescent pregnancy increased the risk of mother and fetus' health and safety [9].

The conditions which could increase the risk of preterm birth for adolescent pregnancy were the immaturity of mother's biology and emotion. Adolescent pregnancy would be influenced by the physical growth of the mother, the immature reproduction organ and uterus. The blood supply to the cervix and uterus had not fully developed in some young mothers so that the nutrition supply for the development of the fetus was very low. Lack of blood supply to the genital organ might also increase the risk of infection and increase the production of prostaglandin which might result in preterm birth[10].

The study proved that practically and statistically there was a significant relatioship between ANC and preterm birth. The biological mechanism and ANC direct influence to the preterm birth was unknown. Some studies showed that ANC service was very effective to decrease the prevalence of preterm birth because the ANC service provided programs to value the risk factors related to pregnancy, counselling and further management[11].
Women who did not make use of the ANC service could not have an early detection on the health issues during pregnancy, and she would not know the development of the fetus and did not get important information related to her pregnancy, especially the efforts to prevent stress which might result in preterm birth[10].

Other studies also showed that the risk of having preterm birth increased 2.4 times among women who did <4 visit of pregnancy care compared to women who did >4 visit of pregnancy care during the pregnancy period[12]. After all, this study was on the contrary with other studies which proved that the risk of preterm birth did not increase for pregnant women who did not have ANC service. Researchers stated that the difference was caused by other factors which influenced the prevalence of preterm birth such as stress, race, ethnic, medical factors and other unknown factors[8].

In this study, the mother's nutrition status before pregnancy showed that there was a significant relationship between nutritional status and preterm birth. Nutrition factor was an important factor which influenced the prevalence of preterm birth. Lack of nutrition could be seen from the IMT scale and the upper arm measurement. Lack of nutrition on women during conception would result in too early maturity of fetus cortisol and preterm birth. A pregnant woman with poor nutrition status had the risk 1.82 times of having preterm birth compared to pregnant women with good butrition status[13]. Malnutrition on women influnced

the development and function of placenta, the small size of placenta, and the decreased content of DNA. This showed that the size of placenta was small so that the transfer of nutrition for the fetus was low, which resulted in abnormality of fetus development, pretem birth, and low weight of the new born baby[14].

The study showed that anemia had a significant relationship with preterm birth. Anemia on pregnant women might cause hypocia and increasing concentration of norepinephrine serum which could provoke stress on the mother and fetus so that it would stimulate the CRH synthesis. The high concentration of CRH hormone could increase the production of fetus cortisol hormone which would obstruct the development of the fetus and result in preterm birth. Pregnant women who suffered from anemia had a high risk of being infected. Infection on pregnant women might stimulate the production of CRH and prostaglandin so that it would increase the risk of having preterm birth[15]. This was in accordance with other studies which showed that pregnant women who suffered from anemia had a significant relationship with preterm birth p = 0.021[6].

Anemia was developing in the world because of the wrong fulfilment of nutrition needs. The pregnant women, especially in developing countries, got higher prevalence of anemia. Anemia had a significant effect for the mother and fetus' health, particularly for the pregnant women who suffered from acute anemia[17].

CONCLUSION AND SUGGESTION

Adolescent pregnancy, nutrition status and anemia increased the risk of preterm birth. Based on the result of the study, discussion and conclusion on the determinant of reterm birth, some suggestions which were given as considerations were: improving the educational activities of adolescent reproduction health, particularly on prevention of adolescent pregnancy by the use of contraception and the risk of preterm birth for adolescent pregnancy. This education should be routinely carried out in schools and youth groups. The health representatives should improve the service quality for the pregnant women using standard of ANC service, such as monitoring the nutritional status and improving the screening of anemia during pregnancy so that the risk factors for preterm birth could be detected earlier.

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EFFECT OF PARENTING ON NUTRITION STATUS OF CHILDREN AT *PUSKESMAS* MANTRIJERON, YOGYAKARTA

Sari Hastuti

Midwifery Department of Health Polytechnic of Ministry of Health in Yogyakarta, gitsari@yahoo.com,+6282136025689

ABSTRACT

Background: Nutritional problem in Indonesia causes more than 80% of death. Children under five are prone to suffer under nutrition and disease. Under nutrition (lack in quantity and quality) generally causes disturbance in growth process, energy production, immunity, brain structure and function. One of the factors that influence nutritional status is parenting style on eating (Phradan, 2010). The prevalence of children under five with under nutrition in Yogyakarta in 2011 was still high with 10.28% (Total PEM). While the highest level of under nutrition incidence in 2012 was in the area of Mantrijeron Public Health Center (*Puskesmas*) by 1.87%.
Purpose : The purpose of this research is to determine the relationship between parenting style and nutritional status in under five childrenat *Puskesmas*Mantrijeron, Yogyakarta
Method: The research design is cross sectional. The research was conducted at *Puskesmas*Mantrijeron with 70 respondents. The data were collected using questionnaire, scale, DV, and 24 hours recall questionnaire.
Result: It showed that there was a relationship between parenting style and under-nutrition status in children aged 24-59 months. The risk of under nutrition was higher in the group with lack of parenting.
Conclusion: Children that are raised with not goodparental feeding style have 4 times greater risk experiencing malnutrition compared to children with good parental feeding style.

Keywords: Parenting, under-five nutritional status

INTRODUCTION

The success of development in a country is determined by the availability of qualified human resources which have strong physical condition, strong mental, optimal health and high intelligence. United Nation Children's Fund (UNICEF) states that health development as a part of effort to develop human completely was conducted by promoting efforts in children health as soon as possible.

Under-five is one of groups that are prone to suffer under nutrition and disease. The occurrence of nutritional problems is actually public health problem that cannot be overcome only by medical approach and health service. Besides being poverty syndrome that is related to food security problem in home level, nutritional problem is also knowledge, attitude and behavior aspects that do not support healthy life style. Under nutrition will cause physical and intelligence growth disturbance, reduce productivity, decrease immunity, increase disease and death (Supariasa, 2012).[1]

According to Almatsier (2010) the effects of malnutrition on body process depend on the lack of nutritional substance. Under nutrition (lack in quantity and quality) generally causes disturbance in growth process, energy production, body endurance, brain structure and function. Malnutrition in childhood can influence the mental development and thinking ability. Brain reaches maximum form after 2 years; therefore malnutrition in childhood causes permanent brain disturbance.[2]

World Health Organization (WHO) estimated that 54% death in children was caused by bad nutritional condition while nutritional problem in Indonesia caused more than 80% death in children (WHO, 2011). Nutritional status prevalence is an indicator of Millenium Development Goals (MDGs) that should be reached in an area (regency/city) in 2015; that is the decrease of prevalence of under-five with malnutrition to 3.6% or under nutrition in under-five by 15.5%.[3]

The result of Basic Health Research (*Riskerdas*) in 2010 shows the number of under nutrition children was 17.9%, consisted of 4.9% malnutrition and 13.0% under nutrition, nowadays Indonesia still experience malnutrition. This problem does not only create health problem but also reduce the quality of human resources. Lack of nutrition can threaten national security (Sundari, 2013).[3] According the research results from Phradan (2010), one of the factors that influence nutritional status is parental feeding style.[4]

The nutritional status situation of people in Yogyakarta in 2011 was high prevalence of under-five with under nutrition by 10.28% (Total PEM), even though it had been decreased by 11.31% compared to 2010. The prevalence of under-five with under nutrition in Yogyakarta was still above 10% that means it was still above the universal limit of public health problem. While the prevalence of under-five with malnutrition was 0.68%, under nutrition status was 9.60% and under-five with over nutrition was 2.55% (*ProfilKesehatan DIY*, 2012).[5]

Although the number of under nutrition in Yogyakarta has passed the national target (percentage of under nutrition is less than 15% in 2015), patients of malnutrition still can be found in Yogyakarta. From 2008 to 2011 there was a decrease of under-five with malnutrition prevalence; however the number disparity of malnutrition prevalence should be reviewed in each regency/city and district. Malnutrition prevalence in 4 regencies hadreached the target with less than 1%, while in Yogyakarta city there was an increase of the prevalence of under-five with malnutrition which was 1.01% in 2010 and became 1.35% in 2011. Under-five nutritional status was influenced by nutrition of pregnant mother, birth weight, food intake and dietary habits in childhood (*ProfilKesehatan Kota Yogyakarta, 2012*).[6]

Based on Yogyakarta Health Profile in 2012, it was found that the number of highest malnutrition occurrence was in Mantrijeron*Puskesmas* area by 1.87%. According to preliminary study conducted in Mantrijeron*Puskesmas*it was found that from 2010 and 2013 in that area the number of malnutrition occurrence had not decreased even though complementary feeding program had been conducted by Integrated Service Center (*Posyandu*).

RESULT AND DISCUSSION

The relationship between parental feeding style and under-five nutritional status at MantrijeronPuskesmas in 2013 can be seen in the table below:

Table 1. Cross Table of the Relationship of the Factors that Influence Nutritional Status Based on Parental Feeding Style at MantrijeronPuskesmas in 2013

Parental Feeding Style	*Nutritional Status*				Total		*p-value*
	Under		Good				
	N	%	N	%	n	%	
Not Good	6	8.6	0	0.0	6	8.6	.000
Good	16	22,9	48	68,6	64	91.4	
Total	22	31,4	48	68,6	70	100,0	

Based on table 1, the analysis result of the relationship between parental feeding style and nutritional status of under-five aged 24-59 months shows that from 6 respondents that havenot good parenting style, all of them (8.6%) have under-nutrition status, while from 64 respondents that came from the family with good parenting, there were 48 respondents (68.6) with good nutritional status. Based on the result of statistical test, it was found that p-value score 0.000. It means that there was a relation between parental feeding style and under-nutrition status on children aged 24-59 months.

The influence of parental feeding styleon low nutritional status is shown in this table:

Table 2.Relative Risk between Parenting Style on Eating and Nutritional Status

Parenting style	Nutritional Status		Total	Risk
	Under	Good		
Not Good	6	0	6	6/6 = 1
Good	16	48	64	16/64 = 0,25
Total	22	48	70	Risk difference: 1-0,25 = 0,75 RR :1/0,25 = 4

Based on table 2, the counting result of risk ratio between parental feeding style and nutritional status of under-five aged 24-59 month showed that RR=4. It means that the risk of low nutritional status is higher in the group with not good parental feeding style.

DISCUSSION

Description of Nutritional Status

Nutrition is an organism process using food that is consumed normally through digestion, absorption, transportation, saving, metabolism and excretion of unused substances to preserve life, growth, normal function of organs and producing energy. Nutritional status is an expression of balance situation in the form of certain variable (Supariasa, 2012).

According to Almatsier (2009), nutritional status is a condition of body as an effect of consuming food and using nutritional substances. It is differentiated into under-nutrition, good nutrition and over-nutrition. Nutritional status is a condition of body as a result of using, absorbing and utilizing food in the body. Body weight is a parameter that gives an overview of body mass. Body mass is very sensitive to sudden change.

The picture of low nutritional status on children aged 24-59 months based on anthropometry Weight/Age is divided into two categories, those are low (if Z-score -3SD until < -2SD) and good (if -2 SD until 2 SD). This research result shows that from 70 respondents there are 48 people (68.6%) that have children aged 24-59 months with good nutritional status. It is higher than 22 respondents whose children are in low nutritional status (31.4%).

Some research results has stated that from several factors related to nutrition which influence low nutritional status on children aged 24-59 months are energy and protein consumption, parenting style on eating, education, occupation, and the number of family member with infectious disease.

Relationship between Parental Feeding Style and Under-five Nutritional Status

Parenting style consists of exclusive breast feeding, providing and feeding on children, weaning age and giving safety feeling to children. Parenting style on under-five according to this research result shows that most of children with good nutrition get good parenting by

91.4%. Based on the result of statistical test, it is found p value 0.000. it means there is a relationship between energy consumption and low nutritional status on children aged 24-59 months. While the result of risk ratio counting between parental feeding style and nutritional status of under-five aged 24-59 months shows that RR=4. It means that there is four times higher risk of low nutritional status on children with lack parenting style compared to the good ones.

The mother awareness of under-five children's health is increasing based on this research. Nowadays, most of mothers tend to give breastfeeding until six months. Breastfeeding is given continuously until 2 years and complimentary food is given as needed regularly. Thus, the parental feeding style at Mantrijeron*Puskesmas* is in a good condition.

CONCLUSION

1. There is a relationship between parenting style and low nutritional status on children aged 24-59 months
2. Children raised by not goodparental feeding style has risk to experience malnutrition four times higher compared to children with good parental feeding style.

SUGGESTION

Health service agency and *puskesmas* are expected to continue public nutritional education program and to promote how the good parental feeding style is.

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Contact Address of The Committee

The 2nd International Conference On Health Science 2015 Secretariat

Health Polytechnic of Health Ministry Yogyakarta

Jln. Tatabumi No. 3 Banyuraden, Gamping, Sleman, D.I.Yogyakarta, Indonesia

Telephone/Faximile : +62-274-617601

Website : ichs.poltekkesjogja.ac.id

Email : ichs.poltekkesjogja@gmail.com

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Email: ichs@poltekkesjogja.ac.id