



2nd ICHMS & 2nd LSC

PROCEEDING

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The 2nd International Conference of Medical and Health Sciences (ICMHS) and The 2nd Life Sciences Conference (LSC) 2016

*"Towards a Better Quality of Life
through Interdisciplinary Research"*

Yogyakarta, 9th-10th December 2016
The Alana Hotel and Convention Center

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**The 2nd International Conference of Medical & Health Sciences
and
The 2nd Life Sciences Conference 2016**

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Committee of ICMHS & LSC 2016

| | |
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| Partner | Dr Zahid Iqbal, Ph.D |
| Secretary | Winnie Setyonugroho, S.Ked, MT, Ph.D |
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**Chair person of The 2nd International Conference of Medical and
Health Sciences and The 2nd Life Sciences Conference 2016**



Welcome to Jogja, sugeng rawuh!

For the second time, the Faculty of Medicine and Health Sciences Universitas Muhammadiyah Yogyakarta is going to conduct the 2nd International Conference of Medical and Health Sciences (ICMHS) this December in vibrant Yogyakarta, Indonesia. This year we are going to collaborate with the Life Sciences Society of Pakistan for their 2nd Life Sciences Conference (LSC) with Dr. Zahid Iqbal as the general secretary.

This year's conference theme "Towards a better quality of life through interdisciplinary research" will be celebrating an era of seamless interdisciplinary integration and collaboration in scientific innovations with the involvement of more extensive topics and disciplines in the conference. We aim to exhibit the products of that kind of approach in solving challenges, improving the quality of life, and creating sustainable developments. We are happy to announce that our conference is filled with Invited speakers from Pakistan, United States of America, Uni Emirates Arab, Malaysia and Indonesia. Presentations will be conducted in oral as well as poster that covers topics from medicine, public health, dentistry, pharmacy, biomedical to agriculture. To put more credibility to the conference we are collaborating with Isra Medical Journal and the Asian Journal of Agriculture and Biology to publish selected papers from the event. Other paper will be published in the ISBN Proceeding book.

The last but not least, enjoy the conference, start networking and sharing ideas, and let immerse yourself to the heritage cultural ambient of Jogja, sumonggo!

Yogyakarta, 1st December 2016

dr. Iman Permana, M.Kes, Ph.D.

**The 2nd International Conference of Medical & Health Sciences
and
The 2nd Life Sciences Conference 2016**

**Dean of Faculty of Medicine and Health Sciences,
Universitas Muhammadiyah Yogyakarta**



Assalamu'alaikum Wr. Wb.

Science, especially in the areas of health and life growing more rapidly. We need to work together in the research of various disciplines to the advancement of science and to provide benefits to human life.

After successfully organized international scientific meeting last year, the Faculty of Medical and Health Sciences Universitas Muhammadiyah Yogyakarta, held the second scientific meeting ICMHS along with "2nd Life Sciences Conference". In this second scientific meeting, FKIK UMY collaborates with various researchers, among others from Pakistan, Malaysia, and the United States. Taking the theme "Towards a better quality of life through interdisciplinary research" we hope to establish cooperation with various parties to be able to contribute ideas to the civilization of human life.

Finally, we congratulate the scientific meeting in the city of Yogyakarta Indonesia. Enjoy the beautiful city of Yogyakarta with priceless historical relics. We hope that this meeting can run smoothly and provide benefits to the advancement of knowledge.

Wassalamu'alaikum Wr. Wb.

Yogyakarta, 1st December 2016

dr. Ardi Pramono, M.Kes, Sp.An.

**The 2nd International Conference of Medical & Health Sciences
and
The 2nd Life Sciences Conference 2016**

Rector of Universitas Muhammadiyah Yogyakarta



Assalaamu'alaikum Wr. Wb.

Ladies and Gentlemen,

Welcome to the 2nd International Conference on Medical and Health Science in conjunction with the 2nd Life Sciences Conference 2016

Welcome to Yogyakarta City of Tolerance

Our Faculty of Medicine and Health Sciences has been doing such international conference almost every year for the last ten years. This and other previous conferences are the things that supporting our vision as an excellence and Islamic university, a young and global university. We will always try to keep monitoring the development of science through sending more lecturers to do the sabbatical leave overseas, doing international research collaborations and also the international conference. Each department should do this strategy of internationalization so that each department has its own network. Faculty of medicine and health science is one of the most progressive units in implementing this strategy by inviting international experts on a regular basis. This program will certainly strengthen our vision.

International conference on medicine and health sciences is a smart choice to offer our lecturers access to the most recent development of the subjects. The participants will also gain the same knowledge and latest information on medicine and health sciences. As everyone knows that the development of science and technology are faster today compared to the previous period. Information technology, computer, and other development havefastened the transformation of medicine and health science into the different and more complex stage.

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Cellular technology, for instance, can be used for several functions including those that directly impacts our daily life. There is no long distance call anymore today because cellular phone can do everything we need to contact other people far from where we stand anytime anywhere. People will finally innovate cellular phone for the sake of personal health services. We will in the future using our simple cellular phone to detect our body temperature, blood pressure, even how much fat we have in our body and how much it is supposed to be. We may also be able to check the health of our body without leaving our house and order medicine without going into the drug store. Everything is almost possible as long as we think hard for the better of people in the future. Enjoy the conference and don't forget to visit our rich tourist destinations, mountains, beaches or caves (underground waterways).

Thank you

Wassalaamu'alaikum Wr. Wb.

Prof. Dr. Bambang Cipto, MA

**The 2nd International Conference of Medical & Health Sciences
and
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Keynote Speech

**by Head of Provincial Health Office Special Region of Yogyakarta
in International Conference
of Medical and Health Sciences and Life Sciences Conference**

The Alana Hotel and Convention Center, Yogyakarta, December 9-10, 2016

The honorable:

- Rector of Muhammadiyah University of Yogyakarta,
- The Dean of Medical and Health Sciences Muhammadiyah University of Yogyakarta,
- The chairman of organizing committee of the international conference of medical and health,
- Distinguished guests and colleagues.

Assalamu'alaikum Warahmatullahi Wabarakatuh,

First of all, we thank God for His blessings that today we may attend the International Conference of Medical Health Towards a Better Quality of Life Through Interdisciplinary Research in Yogyakarta.

My distinguished colleagues,

In Indonesia National Long Term Development Plan (2005-2024), the Indonesian Ministry of Health have determined a paradigm shift that have governed health services in health development plan. There has been a shift from Curative Health Services to Preventive and Promotive Health Services.

Recently, Indonesia suffers from a triple burden of diseases as health development challenges. The triple burden of diseases are: 1) the backlog of common infections, undernutrition, and maternal mortality; 2) the emerging challenges of non-communicable diseases (NCDs), such as cancer, diabetes, heart disease; and 3) mental illness, and the problems directly related to globalization, like pandemics and the health consequences of climate change.

Dear colleagues,

Here are some data that show several health problems in Indonesia:

1. Maternal mortality rate in 2015 is 4,809 cases, infant mortality rate in 2015 is 22,267 cases;
2. Regarding to children under the age of five, the national stunting rate is 37.2% which consists of 18% for very short dan 19.2% for short (Riskesdas 2013);

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3. HIV testing coverage is 14% dan antiretroviral (ARV) therapy coverage is 65.58% (Directorate General of Disease Control and Prevention Ministry of Health, 2015);
4. Tuberculosis (TB) notification rate in 2015 is 73.5% and tuberculosis treatment success rate is 72% (Directorate General of Disease Control and Prevention Ministry of Health, 2015).

Distinguished guests,

Indonesia Health Development Program in 2015-2019 strengths in improving human quality life through Health Indonesia Program with family approach. The Indonesian Ministry of Health issued The Minister of Health Regulation (Permenkes) No. 39 Year 2016 as a Guideline of Implementation of Health Indonesia Program with Family Approach. This program has 12 main indicators as markers of a family health status. Currently, many health programs have been implemented by Indonesian Ministry of Health, Provincial Health Offices, and District Health Offices. However, many health problems, some as mentioned above, still become health burdens. We may ask a question whether the programs that we conducted have answered the health problems we have in Indonesia.

It would be better if all health programs that we implement based on scientific health research, especially interdisciplinary research. The research should be related to detection, prevention, and treatment of diseases or problem solving for better health.

My dear colleagues,

Being a province with speciality, Special Region of Yogyakarta placed Traditional Medicine as one of the priority programs in Provincial Medium Term Development Plan (2017-2022). We still encounter many challenges in developing Traditional Medicine, especially in providing services which are based on scientific evidence.

Distinguished colleagues,

We look forward to results of interdisciplinary research which would support health problem solving, especially by developing traditional medicine in Yogyakarta. We believe that collaboration in interdisciplinary research would improve quality of human life.

Finally,

Thank you for your attention. We wish you a successful conference.

Wassalamu'alaikum Warahmatullahi Wabarakatuh,

On behalf of
the Head of Provincial Health Office
Special Region of Yogyakarta

Drg. Pembajun Setyaningastutie, M.Kes

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**SPEAKER OF
INTERNATIONAL CONFERENCE**

Zahid Iqbal

Al-Nafees Medical College Isra University Islamabad Campus Islamabad, Pakistan
“One Health Program for Public Health Benefit”

Prof. Dr. Abdul Khaliq

Professor, Department of Agronomy, University of Agriculture, Faisalabad
“Role of Agriculture in Poverty Alleviation of Rural Areas”

Fitri Arofati

Universitas Muhammadiyah Yogyakarta, Indonesia
“Continuing Professional Development of Practicing Nurses in Indonesia”

Tri Wahyuliati

Universitas Muhammadiyah Yogyakarta, Indonesia
“Diabetic Neuropathy - A Chance Towards A Better Treatment”

Mohammad Khalid Ashfaq

University of Mississippi, USA
“Natural Products –Use or Misuse”

Muhammad Mukhtar

American University of Ras Al Khaimah, United Arab Emirates
“Emerging Biotechnologies and Genomic Medicines in Human Health and Well-Being”

Muhammad Sasmito Djati

Brawijaya University Malang, Indonesia
“Herbal Medicine a Holistic Approach: in case of food supplement formulation of Sauropusandrogynus and Elephantopuscaberto modulate immune and hormonal system in pregnant Salmonella typhi infected mice”

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REVIEWER

1. Dr. Zahid Iqbal, Ph.D (Isra University, Islamabad, Pakistan)
2. Prof. Dr. Abdul Khaliq (University of Agriculture, Faisalabad)
3. Dr. Mohammad Khalid Ashfaq, DVM, DTVM, MS, Ph.D (University of Mississippi, USA)
4. Dr. Muhammad Mukhtar, Ph.D (American University of Ras Al Khaimah, United Arab Emirates)
5. Dr. Ir. Muhammad Sasmito Djati, MS. (Brawijaya University Malang, Indonesia)
6. Fitri Arofiati, S.Kep., Ns., MAN., Ph.D (Universitas Muhammadiyah Yogyakarta, Indonesia)
7. Dr. SN Nurul Makiyah, S.Si., M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
8. dr. Iman Permana, M.Kes, Ph.D (Universitas Muhammadiyah Yogyakarta, Indonesia)
9. Dr. dr. Ikhlas M. Jenie, M.Med, Sc (Universitas Muhammadiyah Yogyakarta, Indonesia)
10. Dr. dr. Arlina Dewi, M.Kes, AAK (Universitas Muhammadiyah Yogyakarta, Indonesia)
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13. Dr. drg. Tita Ratya Utari, Sp. Ort (Universitas Muhammadiyah Yogyakarta, Indonesia)
14. Dr. dr. Tri Wahyuliati, Sp.S, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
15. Dr. Elsy Maria Rosa, M.Kep (Universitas Muhammadiyah Yogyakarta, Indonesia)
16. Dr. dr. Titiek Hidayati, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
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18. Dr. dr. Sri Sundari, M.Ke (Universitas Muhammadiyah Yogyakarta, Indonesia)
19. Dra. Lilis Suryani, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
20. Drh. Tri Wulandari K, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
21. Dr. dr. Wiwik Kusumawati, M.Kes (Universitas Muhammadiyah Yogyakarta, Indonesia)
22. Sabtanti Harimurti, S.Si., M.Sc., Ph.D., Apt. (Universitas Muhammadiyah Yogyakarta, Indonesia)

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**SPEAKER OF
INTERNATIONAL CONFERENCE**

ICMHS-P-3-6

**The Effect of Normal Dose Extract Gempur Batu Kejibeling
(*Strobilanthus crispus* BL) to the Histological of
Rat's Digestive Tract**

Yoni Astuti^{1*}, Ali Usodo Mulyo², Harminani³

¹Biochemistry Department, Faculty of Medicine and Health Sciences,
Universitas Muhammadiyah Yogyakarta

^{2,3}Animal Physiology Department, Faculty of Biology, Gadjah Mada University

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Abstract

Gempur batu kejibeling is a traditional medicine to cure the stone-renal very effective. Daily intake of infusa gempur batu kejibeling is suspected to induce the bleeding in intestinal for long term. This research was carried out to detect the influence of intake extract gempur batu kejibeling for 9 week to the histological of digestive tract on female rat. The twenty rats were divided into 2 groups: as Group I Control and Group II daily intake 10 mg/200 grBB of extract gempur batu kejibeling for 9 weeks. Decapitation of rat was conduct to take the oesophagus, stomach/gastri, intestinum of rat. All the organs were kept in the container with the formalin 12 %. Hematoxylin eosin was used to identify the cell and tissue. The histological of oesophagus, gastric and intestinum was compared between control group and treatment group. The cell and tissue construct of oesophagus showed the normal histological. There was not any defect. The cell and tissue construct of gastric also intestinum showed the normal histological. The intake of extract gempur batu kejibeling (*Strobilanthuscrispus*,BL) dose 10 mg/200 gr BB during 9 week was not damage the histological of oesophagus, gastric and intestinum of rat.

Keywords: stone-renal, *Strobilanthuscrispus*,BL, digestive tract

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INTRODUCTION

Kidney stone diseases was caused by stone obstruction on calyx or pelvis renalis and also could induced nephritis diseases. Stone plugged urinary system that induced some bacteria in the urinary system. These bacteria infected the tissue .If this condition took longer urine could return to the inside of ren such as nephron, then pressed the space as hidronephrosis. Currently more than three decades, the incidence of kidney stones increased very significant as a health problem.^{1,2} Kidney stone disease is a risk factor for CKD,³ cardiovascular disease,^{4,5} and bone fracture.⁶ Kidney stone was by some studies have also suggested an increased risk of hypertension with kidney stones.⁷

Strobilanthus crispus L Blemek, (Acanthaceae) or locally known as pecahbeling (pecahkaca) has gained great attention due to its high medicinal values. Another name is daun picah beling (Jakarta) enyohkelo, kecibeling, ngokilo in Java. Hei mian Jian jun: Chinese. The leaves of this plant were oblong-lanceolate, rather obtuse and shallowly creante-crispate. Many scientific reports, gempurbatu kejieling possessed antioxidant, free radical scavenging, anticancer, antidiabetic, antimicrobial, wound healing and antiulcerogenic activities.⁸ *Strobilanthus crispus* contain of potassium, magnesium, sodium, iron, and phosphorous, vitamins (ascorbid acid, riboflavin, and thiamine), phenolic acids (p-hydroxybenzoic acid, p-coumaric acid, caffeic acid, vanillic acid, Ferulic acid and syringes acid), caffeine, tannin, alkaloid, catechin. *S. crispus* also contain of cystolith calcium carbonate in which the infuse was alkaline. Kecibeling was a traditional medicine to treat diabetes mellitus, diuretic and high blood pressure. Kejieling infusa was used to destroy kidney stone. Potasium in kejieling as a strong diuretic.⁹

Indonesian Community used to cure the kidney stone using kejieling leaf infusion. The infusion was mixed with other leaf such as tempuyung leaf, meniran, kumis kucing, and curcumin. It was not allow to use kejieling leaf only due to the hazard possese mainly to the urinary tractus and digestoria tractus. It was not allowed to consume 2 grams as powder kejieling, because of its strong diuretic. It was not permit to use kejieling infuse more than 2 months, because some people was had a bad experiences during consume kejieling infuse, they found their faces were bloody. This research conduct to prove the effect of kejieling leaf infuse on normal dose to the tractus digestivus tissue on rat for 9 weeks.

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MATERIALS AND METHODS

Material: a set of histological tissue equipment, a set of Hematoxylin Eosin equipment, a set of Extraction equipment, simplicia of *strobilanthus crispus*, BL.

Animal preparation: Twenty male Sprague Dawley rats, \pm 200 grams body weight, 2 m.o. divided into 2 groups: dose I (10 mg), control (aquadest). The acclimatization for mice was a week. Group dose 1 treated with 10 mg infusa kejobeling for 9 weeks one times a day. Group control with aquadest ad libitum. After 9 week rats are decapitated and organ of tractus digestivus were collecting and kept in formalin chamber. The research was conducted at Animal Laboratoy of UPHP Gadjah Mada university.

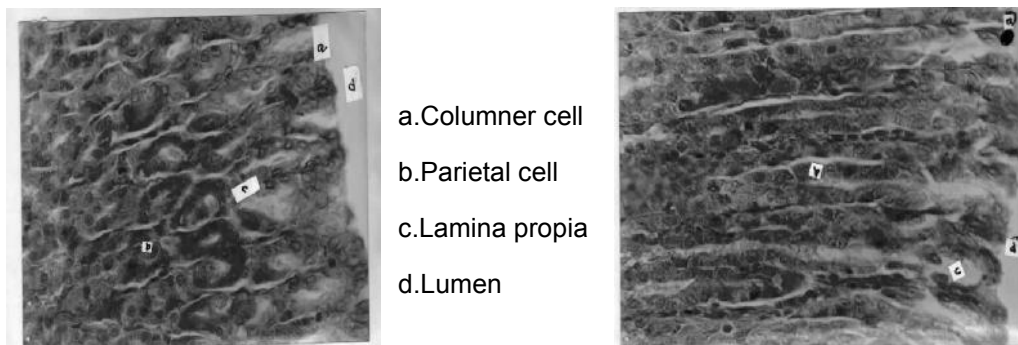
Ethanol extraction: A hundred grams powder of simplisia kejobeling put in extraction column then watering with ethanol 70%. The eluat was transferred to rotary evaporator until concentrated. Then prepare for 10mg dose of extract for treatment group.

Coloring Hematoxylin Eosin: Step 1: Deparafinisasi (XyloI), Rehidration (alcohol, 90%), coloring 1 (nucleus and cytoplasma) using hematoxylin, Diffrentiation to reduce strong color for nucleus using HCL 0.6%, Blueing with Lithium carbonat 0.5 %. Step 2: second coloring with eosin to clear sitoplasma, dehidrasi with alcohol 90 %,Mounting with Canada balsam.

Data analysis: Descriptive analysis compare with normal histology.

RESULTS

Picture 1. Showed the histological of Tractus digestivus part of ventriculus both of control group and treatment group.



1a. Ventrikulus , HE, 400X, control (aquadest)

1b. Ventriculus , HE, 400X, 10 mg/200g BB (extract kejobeling)

Figure 1. Histological of ventriculus after intake extract of *S. crispus* for 9 weeks (1a. Control ; 1b 10 mg/200g BB).

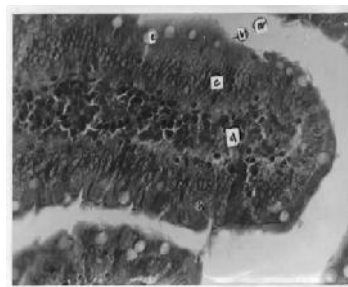
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Using HE coloring whole of ventriculus looked normal, both on control and treatment group also columnar cells consist as the common epithelial cell in ventriculus looked normal.

Picture 2 showed the histological of duodenum part of tractus digestivus both of control and treatment group.



- a. "Striated border" (microvilli),
- b. Epithelium Columnar cell
- c. Lamina Propria,
- d. Lumen ,
- e. Goblet cell



2a. Duodenum, HE, 400X,
control (aquadest)

2b. Duodenum , HE, 400X, 10 mg/200g BB
(extract kejieling)

Figure 2. Histological of duodenum after intake extract of *S. crispus* for 9 weeks (2a. Control ; 2b 10 mg/200g BB).

Using HE coloring whole of duodenum looked normal, both on control and treatment groups columnar cells consist as the common epithelial cell in duodenum looked normal.

DISCUSSION

The formation of Renal stone and the predominant chemical stone composition are age and gender dependent.¹¹ The formation also due to genetic and environmental factors. The changes in 2 of the most important environmental factors-diet and climate-have the most significant impact on these trends. Although genetic factors influence stone risk, changes in the gene pool occur at a slow rate. The increased consumption of starchy foods derived from corn promoted obesity, currently a known risk factor for stone formation. There is strong evidence that diminished fluid and calcium consumption are risk factors. Increased oxalate consumption has also been demonstrated to promote stone formation. Epidemiologic studies have demonstrated that increased sodium and animal protein intake have an equivocal impact on stone risk. Most stones are formed in older patients. However, clinical observations have indicated not only a changing frequency and composition of urinary calculi but also a shift in gender and age-related

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