

# Knowledge and attitudes of neonatology nurses towards developmental care : A Descriptive study

Rahmah, Maya febriana, Abdullah

*Department of Pediatrics, school of nursing, University Muhammadiyah of Yogyakarta, Yogyakarta, Indonesia*

## **Abstract**

**Objective:** Developmental care is essential component in the nursing care of infant. To provide successful developmental care for the infant, nurse can make conducive environment to positive sensory input which is crucial for normal fetal development. To Improve nurse awareness she must has knowledge about developmental care. The goal of this study was to assess the nurse's knowledge and attitude towards developmental care.

**Methods:** This research was a descriptive study conducted thirty two nurses perinatology of Muhammadiyah hospital in Yogyakarta. They completed a questionnaire intended to know their individual identity information, knowledge and attitude towards developmental care.

**Results:** 90.62 % of nurses answered correctly on the definition of developmental care. Only 46.87 % answered correctly about the goal of developmental care. 25 % of nurses have an attitude conducive to the implementation of developmental care in neonatal unit.

**Conclusion:** nurse in neonatal unit have moderate knowledge of developmental care definition. They are also not clear about the goal of developmental care and environmental control of light. Still there are nurses who have the attitude was not conducive to developmental care. There is a need to enhance their knowledge regarding developmental care and emphasize the need of developmental care.

**Keywords:** developmental care; Knowledge; attitude

## **Introduction**

Development of the child in the womb has begun and will continue until the birth and the next period and the period after birth. After a period after birth, the baby must adapt to its environment that is outside the womb. This adjustment becomes more difficult in infants at high risk who are hospitalized. Especially high-risk infants, requiring adequate stimuli from the environment for growth and development in infants.

The results of observation turns intensive care environment causes excessive stimulus, which causes stress and the other negative impacts for infants<sup>1</sup>. Various attempts have been developed in order to minimize the negative impact of treatment in hospital, one of which is the development of care.

Developmental care is care that facilitates the growth and development of infants through environmental management treatment and observation on the behavior of the baby so the baby gets adequate stimulation from environment. Adequate environmental stimulation causes a decrease stress<sup>2</sup>. Additionally Developmental Care is modifying the environment, and improve growth and development for the newborn<sup>3</sup>. The principles of developmental care who was in the hospital, can be done when the baby is in a stability conditions<sup>4</sup>. These principles include family involvement, position and nesting, skin care, minimizing stress and pain, optimizing nutrition, improve sleep quality baby. Adequate environmental stimulation causes a decrease stress<sup>5</sup>.

Developmental care has principles that can minimize the negative impact on the baby include family involvement, handling and postural care, skin care, minimizing stress and pain, optimizing nutrition, improve sleep quality baby. Principles of developmental care who was in the hospital, can be done when the baby is stability conditions.

However, most of the nurses in fact not much that implement developmental care in the hospital. This is evident on routine nurses working in hospitals.

In recent years, developmental care (DC) has been receiving a lot of attention in the field of neonatology refer to the care designed to promote neurosensory and emotional development in newborns while reducing stress during admission to the neonatal unit. DC includes modifying external stimuli (visual, auditory, tactile and vestibular), handling and postural care, reinforcing the bond between family and infant, several publications suggest that these methods have a positive impact on infant care. However, the majority of health care professionals working on the neonatal unit receive no training in DC in nursing school, and very few receive any training during their period of working. in addition as shown in the literature, there are vast differences in the application of DC. The aim of our study was to determine whether the degree of knowledge and attitude possessed by the neonatal nurse.

## **Methods**

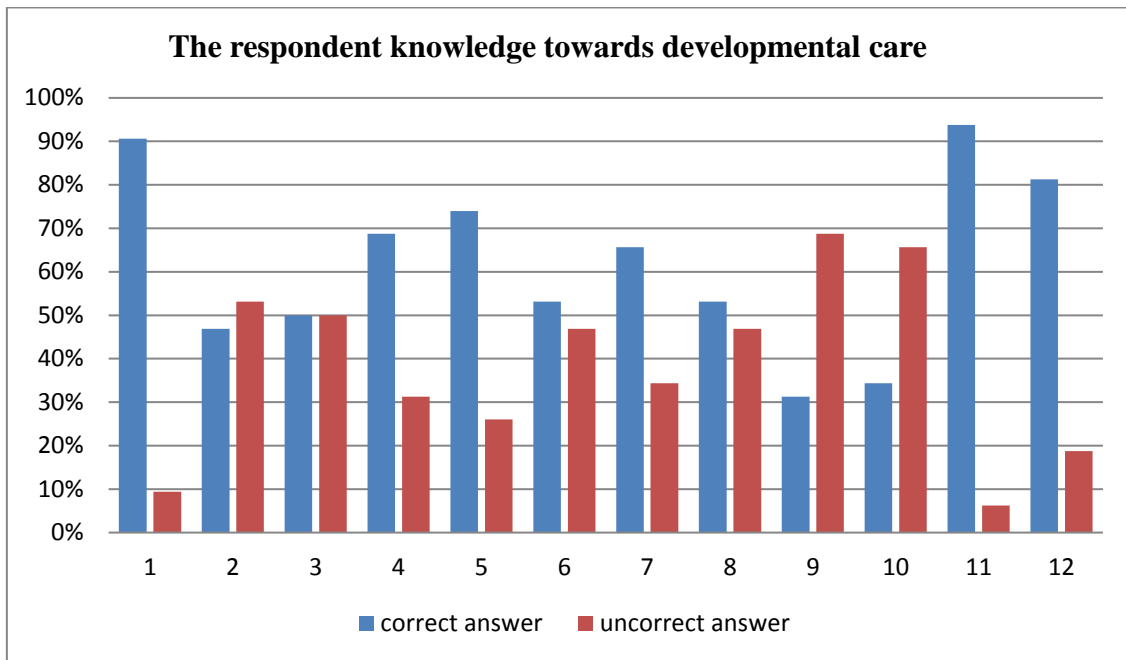
The major objective of the current study was to evaluate the level of DC awareness among neonatal nurse in Yogyakarta Muhammadiyah hospital. The instrument used in this study was a questionnaire in the form of a list of about 12 questions for the questionnaire about knowledge. Especially, we focused on their understanding about the definition of DC, goal; principal associated with DC (modifying external stimuli, clustering nursing care activities, positioning and containment, and reinforcing the bond between family and infant). Permission and ethical approval to conduct the study was granted by the university Deanship of scientific research. Participants were drawn by total sampling from neonatal nurse in Yogyakarta Muhammadiyah hospital.

Data collection was accomplished by using a questionnaire for knowledge and attitude developed by zubaidah (2012) based on information in the literature on definition, goal and principal associated with DC. Test - retest technique was adopted to check the reliability and validity of the questionnaire. Reliability of the questionnaire was calculated by measuring Cronbach's alpha. It came out to be 0.959.

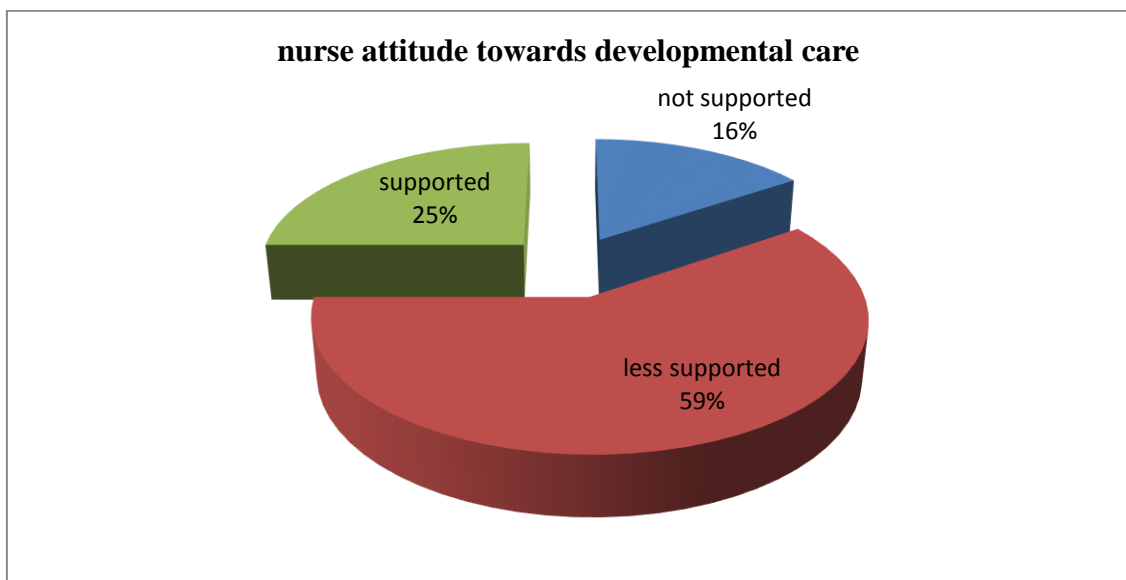
Final form of the questionnaire had a total of 12 question for assessed knowledge , of which 1 assessed the awareness about the definition, 1 assessed knowledge about the goal of DC, and 10 assessed about the principal of DC (Handling, postural care, minimize pain and noise).

### **Results**

The average age of respondents was 33.88 years (95% CI: 23 – 44). The working experience of the respondents in hospital was about 10.47 years (95% CI: 1 – 19), but the working experience in neonatal unit was about 5 years (95% CI : 1 – 19). All of nurses in neonatal unit is female with diploma nurse education level was about 90.6% and bachelors nurse was about 9.4%.



**Figure 1** Comparison of percentage of correct and incorrect answers. The figure shows percentage of incorrect answers in those questions with a rate of overall correctness < 50 %. Question 2 = goal of developmental care. Question 3 = principal of developmental care. Question 9 = environmental control of light. Question 10 = intervention related to the consequences of exposure to pain.



**Figure 2** Comparison of percentage nurse attitude towards in neonatal unit

## **Discussion**

The study shows that most nurse working in neonatal units in PKU Muhammadiyah have an acceptable level of knowledge of DC, but the study shows that most nurse have a less supported of attitude of DC. Delivering developmental care to premature infants requires a particular state of mind on the part of the entire health care team. When Heidelise Als originally developed the neonatal individualized developmental care and assessment program (NIDCAP) her goal was to create a NICU environment in which nurses observed the behavior of premature infants to determine how to make their environment less stressful<sup>6</sup>. Developmental care was essential for the low birth weight infants aiming to minimize the effects of short long term as a result of experiences in the hospital. Premature infants born between 23 and 32 weeks gestations spend 2 to 4 months growing and developing outside of their mothers' wombs<sup>7</sup>. They leave the quiet, dark, painless intrauterine environment much too early and enter a world filled with bright lights, noise, painful stimuli and separation from their parents. NIDCAP and other types of developmental care have been extensively studied as mean of individualizing care and improving outcomes with variables results; most positive some neutral but none negative<sup>8</sup>.

All neonatal health care professional should have knowledge that premature infants have unique personalities and responses, and that understanding their differences, altering their environment to suit their needs, allowing them unlimited time with devoted parents, and protecting them from pain and other noxious stimulation, so all neonatologists have responsible for saving these tiny, medically fragile, neurologically immature patients<sup>7</sup>.

NICU staff need to keep their voice down, dim the lights when possible, allow infants uninterrupted periods of sleep, and minimize painful procedures when feasible. That it is critical to consider more than genetic variation, new medical treatment and technology, and improved nutrition to optimize their outcome<sup>7</sup>.

### **Acknowledgements**

We are very grateful to all of the nursing participant in neonatology unit from RS PKU Muhammadiyah Yogyakarta, RS PKU Muhammadiyah Gamping and RS PKU Muhammadiyah Bantul.

### **References**

1. Zubaidah (2012). Pengaruh pemberian informasi tentang *developmental care* terhadap pengetahuan, sikap, dan tindakan perawat dalam merawat BBLR di RSU Dr. Kariadi Semarang. *Tesis*, Universitas Indonesia.
2. Byers, J. F., Waugh, W. R., Lowman, L. B. (2006). Sound level exposure of high-risk infant in different environmental conditions. *Neonatal netw*, 5(1), 25-31
3. Horner, S. (2012) developmental care. Article of Neonatal Intensive Care chicago children's memorial hospital. <http://www.childrensmemorial.org/depts/neonatology/developmental.aspx>.
4. Altimier, L. (2011). Mother and child integrative developmental care model: A simple approach to a complex population. *Newborn & infant nursing review*, 11(3), 105-108.
5. Liaw, J.J., Yang, L., Chang, L.H., Chou, H.L., & Chao, S.C. (2009). Improving neonatal caregiving through a developmentally supportive care training program. *Applied Nursing Research*, 22,86-93

6. Smith, G.C., Gutovich, J., Smyser, C., Pineda, R., Newnham, C., Tjoeng, T.H., Vavasseur, C., Wallendorf, M., & Neil, J., (2011). NICU stress is associated with brain development in preterm infants. *Ann Neurol.* 2011 October; 70 (4): 541-549.
7. Goldstein, R.F (2012). Development care for premature infants : A state of mind. [www.pediatrics.org](http://www.pediatrics.org)
8. Pena, R.M., Pablos, D.L., Munoz, A.P., Velasco, N.U., Pumarega, M.T.M., & Alonso, C.R.P. (2015). Impact of a developmental care training course on the knowledge and satisfaction of health care professionals in neonatal units ; a multicenter study. <http://www.pediatr-neonatal.com>