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Developmental Care Contributes to Increasing Parent's Satisfaction

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ABSTRACT
Premature infant born with several of health problem and needs special care caused parent's anxiety and stress. Developmental care was nursing care based on infant's neurodevelopment needs and family support. A qualified nursing care by implementing developmental care can be accessed through parent satisfaction of premature infants. This study aimed to recognize the relationship of developmental care implementation perceived by nurse with parent's satisfaction of premature infant in perinatology care unit. This quantitative study used cross sectional design. The sample included 52 neonatal nurses and 52 parents of premature infant used consecutive sampling method. Data were collected using a questioner and analyzed using person correlation. The analysis results showed that there was significant relationship between developmental care implementation with parent's satisfaction of premature infants (p value=0,001, p<0,05). The implementation of developmental care to premature infant can improve the quality of care and increase parent's satisfaction. Developmental care need to be implemented as an effort to improve nursing care of infant and parent's satisfaction.

Keywords: Developmental Care, Premature Infants, Parents Satisfaction

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BACKGROUND

Baby born premature have vulnerable and weak organ systems compared to term babies. Vulnerable organ system of the premature baby causes the baby will experience various physiological problems (Wang, Dorer, Fleming, & Catlin, 2004;Gargus et al., 2009;Raju, Higgins, Stark, & Leveno, 2006) and development problem (Soleimani, Zaheri, & Abdi, 2014; Allen, 2008). Problems of premature babies are so complex causing premature need intensive care. Lee et al (2000) mentioned that about 65% of premature infant need special care at the NICU. Health conditions of premature that experience various health problems and need treatment can cause anxiety and stress in the parent. Literature review conducted by Obeidat, Bond, and Calliste (2009) stated that parents whose babies are hospitalized at the NICU are likely to depression, anxiety, and stress.

The challenge of nurses in neonatal intensive care unit not only provides general care that ensures the survival of premature infant but also to optimize infant development and provide support to parents. Developmental care based on Als synactive theory aims to improve physiological function and optimize neural development of premature infants (Haumont, 2014). Developmental care is also family-centered care. Atun-Einy and Scher (2008) explain that the implementation of developmental care is significantly proven to a positive influence on environmental changes and parental involvement in baby care.

Parent' satisfaction towards the service can be used as one of measurements in assessing health service quality. Patients' satisfaction is an important part as source of information in obtaining quality health service (Al-Abri & Al-Balushi, 2014). This study aims to determine the relationship between the implementations of developmental care to the Parents' satisfaction of premature parents in the perinatology room.

METHODS

Study design: This study employed a cross sectional research design.

Setting: The study was conducted in the second level neonate room at RSAB Harapan Kita and RSUP Fatmawati

Research subject: The research sample consisted of 52 nurses and 52 parents. Characteristics of nurse respondents are educated at least D3 nursing, have 6 month minimum work experience in neonatal room, are not on leave and are willing to become respondents. While the respondent's parents have inclusion criteria, parents both father and mother who are able to read and write, have premature babies treated for at least 3 days, parents always visit their babies at least once a day, and are willing become a respondent

Instrument: Data collection used questionnaires about development care and parentan's satisfaction. Developmental care instruments adapted from research Valizadeh, Asadollahi, Gharebaghi, and Gholami (2013) which assesses developmental care based on 4 areas of developmental care standards namely individualized care, appropriate development environment , family-centered care, and collaborative practice. The parent's satisfaction questionnaire was adapted from the questionnaire EMPATHIC-N *(EMpowerment of PArents in THe Intensive Care Neonatology)* (Latour, Duivenvoorden, Hazelzet, & van Goudoever, 2012)

Both of the questionnaires had passed through instrument trans-adaptation process which involves early translation, retranslation and validity and reliability tests. The test result of the validity and reliability on developmental care questionnaire are validity of 0,49-0,94 (r table=0,444) with cronbach alpha 0,975. EMPATHIC-N questionnaire got a result of validity 0,64 – 0,97 (r table 0,514) with cronbach alpha value, hence it can be concluded that the instruments are valid and reliable.

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Ethical consideration: This particular research has passed ethical clearance from the Faculty of Nursing University of Indonesia. The Number of ethical clearance was 0388/ UN2.F12.D/HKP. 02.04/2016.

Data analysis: The research data was analyzed using Pearson bivariate correlation analysis and multiple regression linier

RESULTS

Table 1 The Description of Respondents Based on Individual Characteristics of Nurses and Parents' Socio-demography in Perinatology Room In May – June Year 2016 (n=52)

Variable	Mean	Median	SD
Age of Nurse	35,69	32,50	10,88
length of work	91,67	39,00	111,93
Age of Parents	31,02	33,00	5,47
Length of stay	9,15	7,00	7,94

Table 1 shows the median age of the nurse at 32 years, while the mid-length of the nurse's work is 39 months (3.3 years). The median age of premature infants is 33 years and the median length of stay is 7 days.

Table 2 Distribution of Respondents Based on Individual Characteristics of Nurses and Sociodemographic of People in Perinatology Room May-June 2016

Variabel	Frekuensi	(%)
Nurse		
Level of education		
Vokasional	34	65,4
Profesional	18	34,6
Training Experience related to Developmental Care		
Yes	36	69,2
No	16	30,8
Orang Tua		
Sex		
Men	22	42,3
Woman	30	57,7
Level of education		
Elementary school	8	15,4
High school	33	63,5
College	11	21,2
Ethnic		
Jawa	20	38,5
Sunda	11	21,2
Betawi	15	28,8
Minang	5	9,6
Batak	1	1,9
Income		
< Rp. 3.100.000	28	53,8
>Rp. 3.100.000	24	46,2

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Payment		
Personal	8	15,4
Insurance	44	84,6
Breastfeeding		
Yes	20	38,5
No	32	61,5
Total	**52**	**100**

Table 2 showed the highest percentage of nurses' education is at vocational level (65.4%) and most nurses have been exposed to information related to developmental care through training (69.2%).

The percentage of parents who frequently visit their babies while hospitalized in the perinatology is female (57.7%), high school educated (63.5%), Javanese ethnic (38.5%) and 53.8% of the average income below the UMP (≤ Rp. 3,100,000). Baby care costs were mostly paid through insurance (84.6%). Most parents did not breastfeed their babies while hospitalized in the perinatology (61.5%).

Table 3 Description of the implementation of developmental care and parent's satisfaction in Perinatology May-June 2016 (n = 52)

Variable	Mean	Median	SD	Min-Max	95% CI
Developmental Care	4,27	4,26	0,37	3,42-4,89	4,17-4,38
Sub Variable of Developmental Care					
Individualized care	4,33	4,35	0,37	3,47-5,00	4,23-4,44
Appropriate development environment	4,19	4,20	0,50	2,70-5,00	4,23-4,44
Family Centered care	4,14	4,14	0,46	3,12-4,94	4,01-4,27
Collaboration	4,53	4,50	0,36	2,80-4,00	4,42-4,63
Parent's Satisfaction	4,99	5.01	0,70	2,34-6,00	4,79-5,18

Table 4 Relationship between the implementation of developmental care and Parent's Satisfaction in Perinatology May-June 2016 (n=52)

Variabel	Kepuasan Orang Tua	
	r	p
Developmental care	0,758	< 0,01
Sub variable of developmental care		
Individualized care	0,641	
Appropriate development environment	0,685	< 0,01
Family Centered care	0,688	
Collaboration	0,55	

Table 3 showed that the mean (SD) overall implementation of developmental care was 4.27 (0.37) from the range 1-5. While the mean of individualed care (4.35), family-centered care (4.14), collaboration (4.50), and Appropriate development environment of 4.19 from the range 1-5. The mean (SD) parent's satisfaction was 4.99 (0.70) from the range 1-6.

Table 4 showed that there was relation between implementations of developmental care with parents' satisfaction. It is also shows that strong and positive relationship. The implementation of the four standards developmental care also has relation toward parents' satisfaction with strong and positive relationship.

The results of multivariate analysis showed that the length of work in perinatology and the experience of training related to developmental care was the most contributing factor

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towards the implementation of developmental care by nurses (80.3%). The implementation of the four developmental care standards most related to parents' satisfaction is the implementation of individualized care and appropriate development environment. Both developmental care standards are most related to parental satisfaction (55.1%)

DISCUSSION

Description of the implementation of developmental care and parents' satisfaction

The results showed that the average implementation of developmental care perceived by nurses was 4.27 (92.8%). This finding is suitable with Hendricks-munoz and Prendergast, (2007) stated that the majority of nurses (93%) rated developmental care as an important and advantage part of newborns and nurses. The result of other studies conducted by Valizadeh et al., (2013) show the results of implementing developmental care in Iran that is 70%. While the results of Godarzi, Rahimi, Khalessi, Soleimani and Mohammadi (2015) show that the assessment of developmental care in Iran is 66.53%.

In this research, the principle of growth nurture which also considers individual babies' treatment which has a high value in this aspect consists of treatment by paying attention to babies' behaviors, by paying attention to the undisturbed sleep of the baby, by applying treatment tirelessly and by following the nutrition giving to the babies. The basic thing in giving individual growth nurture is the skill to pay attention to babies' behavior. Therefore, flexibility is needed and attention to keep assessing the behavior and skill of the babies' adaptation (Kenner & McGrath,2004). The giving of individual treatment that supports our babies' development needs to pay attention to some terms such as the given stimulus according to the exact time and the amount of stimulus given (Lickliter, 2000).

Individual care application by giving supported environment for this research has the act of shutting down alarm's noise soon and placing equipment to support babies' sleeping position. Kenner and McGrath (2004) clearly stated that the nurse could take control of the babies' sleeping bed and the environment surround it to support babies' development. Some interventions and changes of the environment shown are determining sleeping position, protecting the babies from too bright light directly, setting the voice accuracy, and placing equipment that will not disturb by money.

The third principle of growth nurture is in a form of nurture implementation with family-centered in this research has a median of 4,14. Interventions giving to parents such as social support, education for parents, and support therapy for children's growth could decrease worry and stress in parents when they were hospitalizing and treating their premature babies (Benzies, Magill-evans, Hayden, & Ballantyne, 2013).

The four standards of growth nurture with collaborative practice in this research are quite high with a median value of 4,50. General interventions of growth nurture can be used as a guideline to conduct collaboration for health officials, hence, flexibility in giving service and minimal handling can be implemented (Barbosa, 2013). Valizadeh, Asadollahi, Gharebaghi, and Gholami (2013) further explained some collaborative ways to create an optimal nursery system can be done through good direct communication or through medical records and by appreciating each of the treatment givers.

The relationship between the application of developmental care and parental satisfaction

The research findings show that there is a relation between developmental care implementation with parents' satisfaction. This research is suitable with the researches that are conducted by Wielenga, Smith, and Unk (2006) which showed that parents feel more

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satisfied with the support given by the nurses by applying growth nurture rather than parents who get support from the nurse who applies traditional nursery nurture towards their babies.

The implementation of developmental care in a form of individual care treatment has a relation with parents' satisfaction. This is suitable with the explanation of Holditch-Davis et al (2013), who mentioned that any interventions with characteristics of baby treatment focus or education for parents focus could give a positive experience for mother which eventually, increases parents' satisfaction.

The implementation of developmental care by considering a supported environment for babies' development has a relation with parents' satisfaction. This research explains that the hospital environment that becoming parents' consideration involves the cleanliness of the environment, room, food, physical comfort (Schaffer, Vaughn, Kenner, Donohue, & Longo, 2000). Raponso, Alves, and Duarte (2009) within their research findings explained one of the most important parts of parents' assessment towards service given is the facility of the particular hospital. Cleanliness, air temperature, and comfort in the facility have a big impact on the positive perception of the facility and its impact on satisfaction.

The implementation of developmental care could give a positive experience to parents. This could happen due to the treatment environment which applies the growth nurture considers actions that minimize stress and reduce and muffle noise, lighting sets, bed distance setting for babies, usage, and placement of the health equipment which considers the comfort of the baby (Kenner & McGrath, 2004).

Developmental care is family-centered, it has a purpose to give support towards the family by helping to develop the skill and ability of the family in taking care of premature babies including involving family as part of health service giver for premature babies (Sizun, Westrup, & ESF, 2004). This research shows that interpersonal relations including empathy, clinical competence recommended by patients, nonverbal communication, and patient empowerment significantly influence their satisfaction. Therefore, medical officials must increase their communication skills and clinical competence which can influence patients' satisfaction (Birhanu, Assefa, Woldie, & Morankar, 2010).

Intensive treatment rooms and baby-only treatment rooms are treatment areas with many health disciplinary fields with competence, knowledge, and special skill. Therefore, the partnership must be applied to give suitable treatment to the babies and the family necessities.

This research has delimitation on some question items that cannot be assessed fully by the respondents. On the parents' satisfaction questionnaire, one of the examples is on the assessment regarding punctual medicine administration. That is why the researcher removes one question item from the parents' satisfaction questionnaire.

The research implication of this study towards service is the nurses in giving nursery nurture to the premature babies to pay attention more on individual treatment and to strive for the supported environment for babies' development. Moreover, Policy Maker in the Hospital needs to push and motivate the nurses to join many kinds of training and seminars regarding developmental care to increase the nurses' potential in applying developmental care

CONCLUSION

The implementation of growth nurture with nurses' perception has a relation with parents' satisfaction of the premature babies. Four principles of developmental care application with nurses' perception have a relation with parents' satisfaction. The most

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related aspect with parents' satisfaction is individual treatment and treatment that gives a supported environment for babies' development.

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