

Family Centered Care Intervention Effectively Reduces Parental Anxiety in Perinatology Ward

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ABSTRAK

Perpisahan karena hospitalisasi dan kondisi penyakit anak dapat menimbulkan stress dan kecemasan pada orang tua. Kecemasan orang tua dapat memengaruhi hubungan orang tua-bayi dan menimbulkan gangguan perkembangan pada bayi. *Family Centered Care* (FCC) merupakan salah satu upaya untuk menurunkan kecemasan orang tua saat bayi menjalani perawatan. Penelitian ini bertujuan untuk mengidentifikasi pengaruh intervensi FCC terhadap kecemasan orang tua bayi di ruang perinatologi. Penelitian ini menggunakan rancangan *quasi experimental* dengan *one group pretest posttest design*. Pengambilan sampel menggunakan teknik *consecutive sampling*, sebanyak 29 orang tua bayi dengan kriteria inklusi yaitu bayinya sedang menjalani perawatan di ruang perinatologi, bayi yang tidak langsung terintubasi ketika masuk ke ruang perinatologi, bersedia menjadi responden, mampu membaca dan menulis; sedangkan kriteria eksklusi adalah orang tua yang tidak mengikuti proses intervensi sampai akhir intervensi, bayi terintubasi saat proses intervensi. Intervensi dilakukan dengan memberikan edukasi FCC dan melibatkan keluarga selama 3 hari perawatan bayi. Pengukuran kecemasan pada orang tua dilakukan sebelum dan setelah dilakukan intervensi dengan menggunakan kuesioner *Parental Stressor Scale-NICU* (PSS-NICU). Analisis data yang digunakan adalah uji *Wilcoxon*. Hasil penelitian ini menunjukkan terdapat perbedaan yang bermakna rerata kecemasan orang tua sebelum dan setelah dilakukan intervensi FCC ($p = 0,001$). Intervensi *family-centered care* efektif untuk menurunkan kecemasan orang tua. Disarankan agar intervensi ini dapat diterapkan di ruang perawatan kepada orang tua bayi sejak awal masuk.

Kata-kata kunci: *family-centered care*, kecemasan, orang tua, perinatologi.

ABSTRACT

Separation due to hospitalization and the condition of infant diseases can cause stress and anxiety in parents. Parental anxiety can affect the parent-infant relationship and cause developmental problems in infant. Family Centered Care (FCC) is an effort to reduce parental anxiety when infants undergo treatment. This study aimed to identify the effect of FCC intervention on parents' anxiety in the perinatology ward. This study used a quasiexperimental design with one group pretest posttest design. A total of 29 parents were recruited by consecutive sampling technique, with following inclusion criteria: parents of infants who were undergoing treatment in the perinatology ward, infants who were not immediately intubated when admitted to the perinatology ward, willing to become respondents, able to read and write; Meanwhile, the exclusion criteria were parents who did not follow the intervention process until the end of the intervention, and infants who were intubated during the intervention process. The intervention was carried out by providing FCC education and involving families for 3 days of baby care. Parental anxiety measurements were carried out before and after the intervention using the Parental Stressor Scale-NICU (PSS-NICU) questionnaire. The data analysis used Wilcoxon test. The results of this study showed that there was a significant difference in the mean anxiety of parents before and after the FCC intervention ($p = 0.001$). FCC intervention is effective in reducing parental anxiety. It is recommended that this intervention can be applied to the parents from the beginning of the treatment in perinatology ward.

Keywords: *family-centered care*, anxiety, parent, perinatology ward.

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BACKGROUND

Separation due to hospitalization and children's illness can cause parental anxiety and stress. While infants are receiving treatment in an intensive room, parents tend to experience stress due to condition of their infants, changes in role of parents, and influence of infant hospitalization resulting in poor psychological health (1). Parental stress since early life of infants can cause post-traumatic stress disorder which can have a negative impact on relationship between parents and their infants (2). This can have long-term effects on child's development and behavior. Therefore, it is necessary to develop strategies and programs that can help parents reduce stress and support them in their difficult times.

Family-Centered Care (FCC) including parental presence in an unrestricted intensive room, parental involvement in child care, and open communication with parents. Various studies have shown benefits of FCC such as increased infant weight, increased breastfeeding on discharge from hospital, and decreased stress upon discharge after receiving FCC intervention (3). Implementation of Family-Centered Care model for infants receiving treatment in NICU can increase satisfaction, reduce parental stress, and increase infant weight (4). These benefits, both for parents and infants, suggest that FCC needs to be implemented.

In fact, nurses play an important role in facilitating family involvement in providing nursing care (5). It is not easy to implement FCC, especially in busy areas of practice. Knowing FCC concept through lectures and workshops, nurses cannot automatically apply theories (6)(7). Not all health teams are willing to make behavioral changes in Family Centered-Care approach, with justification that they follow hospital rules that have not made changes to support FCC, such as limiting family attendance, limiting family participation in bedside rounds or during procedures for giving treatment (8).

Additionally, previous studies have identified that mothers feel sad, guilty, worried, fearful, and insecure when they first see their premature infants (9). Based on results of interviews with several parents whose infants were undergoing treatment in perinatology ward, parents were still afraid to hold or be involved in care of their infants. Besides, parents were worried about amount of medical equipment their infants used and stated that they did not understand what their infants were using. Results of observations show that parents only saw infants but did not touch them. This study aims to determine the effect of Family-Centered Care intervention on parental anxiety in perinatology ward at one of national referral hospitals in Jakarta.

METHODS

This study used a quasi-experimental design with one group pretest posttest design, which was carried out at one of national referral hospitals in Jakarta in March-April 2018. Sampling was done using consecutive sampling technique, obtaining 29 parents of infants with following inclusion criteria: infants were undergoing treatment in perinatology ward and not immediately intubated when they entered this ward, were willing to be respondents, able to read and write. There were also 2 exclusion criteria: parents who did not follow intervention process until process ended, infants were intubated during intervention process.

In this study, anxiety measurement was performed before FCC intervention (pretest). Intervention was carried out for three days of treatment. Its procedures were carried out by educating parents using a flipchart containing definitions, goals and benefits of FCC, ward orientation and tools in perinatology ward, and parental involvement during treatment in perinatology ward including infection prevention, interactions with infants, breastfeeding, and kangaroo care. After education was given, parents were involved in three days of care, namely visiting infants, having interaction with infants (touching), and

Table 1. Characteristics of Respondents/Infant Parents (n=29)

Variable	Median	Min-Max
Age (year)	33	21-72
Variables		%
Gender	Female	5 (17.2)
	Male	24(82.8)
Education	Elementary School	1 (3.4)
	Junior High School	4 (13.8)
	Senior High school	11 (37.9)
	Higher Education	13 (44.8)
Previous Experience	With Complication	9 (31)
	Without Complication	20 (69)
Types of Delivery	Sectio Caesarea (SC)	22 (75.9)
	Normal	7 (24.1)

delivering breast milk. Finally, anxiety measurement was then carried out after intervention (posttest).

Parental anxiety measurement was done using Parental Stressor Scale-NICU (PSS-NICU) questionnaire, to which back translation into the Indonesian language had been carried out (10). This questionnaire consists of 34 statements/situations consisting of 3 aspects, namely situation and views in NICU (6 statements), clinical condition and behavior of infants (17 statements), as well as relationship between parents and their infants and role of parents (11 statements).

More importantly, there was also a univariate analysis to describe characteristics of parents as respondents. Bivariate analysis was performed to determine differences in mean parental anxiety before and after intervention with Wilcoxon test. This study has passed Ethical Clearance from Faculty of Nursing, Universitas Indonesia No.71/UN2.F12.D/HKP.02.04/2018. Before starting this study, researchers had provided an explanation of research procedure and asked parents for consent through informed consent which was then signed.

RESULTS AND DISCUSSION

Table 1 shows that median age of respondents was 33 years; majority were male respondents

(82.8%); majority of respondents had completed higher education/college (44.8%); majority of previous experiences of delivery were without complication (69%); and majority of types of delivery were via SC (75.9%).

Table 2 demonstrates that there was no significant relationship between age and parental anxiety ($p > 0.05$); there was a significant relationship between gender of parents and anxiety ($p < 0.05$); and there was no significant relationship between education, previous experience and type of delivery with anxiety ($p > 0.05$).

Based on results of this study, it can be identified that mean age of parents was 33 years old. Moreover, results of analysis demonstrated that there was no significant relationship between parents' age and anxiety level. It is in line with another study identifying that age was not associated with anxiety (11). However, its negative pattern indicates that the lower the age, the higher the anxiety level. An older person tends to have more experience, so he/she is certainly better prepared to face particular problem. Mothers, who are considered to be more mature, are able to use adaptive coping mechanisms when facing problems or difficult situations (12).

Table 2. Relationship between Age, Gender, Education, Previous Experience of Delivery, and Type of Delivery with Anxiety Score (n=29)

Variable	Anxiety Score		
	R		<i>p</i> value
Parents' Age	-0.235		0.075*
Variables	n	Median (Min-Max)	<i>p</i> value
Gender			
Female	5	3.38 (2.40-4.11)	0.028**
Male	24	2.41 (1.47-4.08)	
Education			
Elementary School	1	2.35 (2.35-2.35)	0.604***
Junior High School	4	2.88 (2.26-4.11)	
Senior High School	11	3.02 (1.47-4.08)	
Higher Education	13	2.30 (1.67-3.47)	
Previous Experience			
With Complication	9	2.80 (1.47-4.11)	0.608**
Without Complication	20	2.49 (1.67-4.08)	
Types of Delivery			
Sectio Caesarea (SC)	22	2.41 (1.47-4.11)	0.173**
Normal Delivery	7	2.80 (1.90-4.08)	

* Spearman's Correlation Test, ** Mann Whitney U Test,

***Kruskal-Wallis Test

Furthermore, results showed that there were more male parents than female parents. In this study, there were more fathers than mothers since mothers are recovering from delivery. It was also found that there was a significant relationship between gender of parents and anxiety level. Women worry more easily than men (13). This is because men tend to use logic, while women use feelings. This study showed that most respondents were fathers, which, based on results of analysis, were

related to anxiety because fathers usually think about and consider many things when a new member of family is born such as pressure to meet needs of the family, financially and emotionally. It can cause worry, anxiety and decreased productivity (14). Results of this study are in line with another study that identified a relationship between gender and anxiety, but this study concluded that mothers were more anxious than fathers due to feelings of concern about not being able to properly

Table 3. The Difference in Mean Anxiety Score Before and After FCC Intervention

Variables	Median (Min-Max)	p value
Before	2.52 (1.47-4.11)	0.001*
After	1.35 (0.60-3.97)	

*Wilcoxon Test

care for their infants (15).

Besides, this study found that majority of parents of infants who underwent treatment were college graduates. Results of analysis revealed that there was no significant relationship between parental education and anxiety level. It is not in line with a study which explained that level of education of fathers was related to anxiety level, where parents with a low level of education had a higher level of anxiety than parents with a higher level of education (15). However, this previous study identified that there was no significant relationship between level of mother's education and anxiety level. According to researchers' analysis, there was no significant relationship between level of parental education and anxiety because researchers did not separately analyze father and mother but combined the two.

Based on previous experience of delivery, majority of parents were without complication. Results of statistical analysis showed that there was no significant relationship between past experiences and parental anxiety level. This study is supported by a previous study showing that there was no significant relationship between previous experience of having premature infants in both father and mother and anxiety level (15). According to researchers' analysis, parents who have been exposed to previous traumatic experiences or previous delivery with complication will be better prepared to face similar difficult conditions. Unfortunately, there is also possibility of a condition that parents who have had previous delivery with complication become more anxious because of trauma from past experience (16).

Based on results of this study, it can be identified that majority of types of delivery were via Sectio Caesarea (SC). Results of statistical analysis showed that there was no significant relationship between type of delivery and parental anxiety level. This is not in line with a study which identified that there was a significant difference between type of delivery and maternal stress level (17). Majority of mothers with a greater likelihood

of experiencing severe stress were mothers with normal unplanned delivery compared to mothers who underwent a SC delivery. Pregnancy complication that necessitates an unplanned SC delivery may affect maternal anxiety, but anxiety will be reduced if cesarean delivery has been planned in advance.

Table 3 shows that there was a significant difference in mean anxiety score of parents before and after FCC intervention (p value $< \alpha$).

More importantly, parents of infants who underwent treatment in perinatology ward experienced anxiety. A study examined psychological status of 600 parents (400 fathers and 200 mothers) of infants during the first week of treatment which identified that 20% of fathers and 24% of mothers had anxiety symptoms and 30.8% of fathers and 35% of mothers had symptoms of depression (18). Anxiety level and depression in parents of neonates who underwent hospitalization was significantly higher than parents of healthy neonates. Cause of such psychological problem can be due to level of problems faced and lack of social support for parents.

Results of analysis using Wilcoxon test showed that there was a significant difference in mean anxiety score of parents before and after FCC intervention. Results of this study are in line with a previous study which identified a significant difference between anxiety scores of parents before and after the group given FCC intervention, although there was no significant difference when compared to the group that was not given FCC intervention (19). Another study supporting results of this study identified that parents who participated in FCC group were more satisfied and experienced lower feelings of stress than those who did not get FCC intervention (4). In addition, infants in FCC group showed an increase in body weight after 60 days of hospitalization, indicating that FCC intervention had a positive effect on parents and infants.

Parental anxiety can have an impact on their interactions with their infants. Mothers who

had high anxiety level tended to show lower sensitivity compared to mothers who had low anxiety level. Additionally, there was a decrease in emotional tone during interactions with their infants (20). Another study showed that depression in mothers was related to interaction between mothers and premature infants (21). This is basically a challenge for nurses to be able to anticipate emergence of anxiety and depression in parents.

Implementation of FCC and Family Integrated Care (FIC) provides significant benefits to infants, as well as reducing stress, anxiety, and depression in families, especially parents, increasing coping skills through educational programs, and finally creating a harmonious relationship between parents and other health teams (22). It is necessary for health team to have empathetic communication with parents from the beginning of infant treatment to reduce stress (23).

FCC is actually one of main keys in formation of Neonatal Integrative Developmental Care model: the healing environment (24). To support collaboration with parents, nurses can take several actions such as making parents feel welcome and valued, involving parents to be active as a member of care team, and conducting parent-infant skin-to-skin contact to improve bonding and attachment. Training for nurses to provide support to families is needed to support FCC (25). Additionally, there is also a need for hospital facilities that support implementation of FCC (26).

Infant care environment, especially NICU room, not only gives pressure to parents but also provides support such as number and quality of communication with health team, attitude of staff in providing care, support when feeling isolated in infant care, support from other families whose babies are in NICU, physical environment and rules in NICU room (27). In this case, staff and nurses can play an important role in providing support for parental coping strategies by facilitating parental participation in infant care, emphasizing importance of documenting infant development, demonstrating affection for infants, preparing parents to go home,

providing accurate information, limiting non-emergency calls, holding activities or programs between parents who have infants with similar condition (28). Additionally, nurses need to receive training in caring, communication, empathy, and behaviors that can enhance experience of parents in NICU.

Parent involvement is very crucial in child care. They are mostly involved in infection prevention including washing hands, touching and communicating with infants, breastfeeding, and performing Kangaroo Care. Nurses also need to identify other needs that parents want as an attempt to facilitate more optimal involvement. Needs of parents in child care are related to assurance that their infants receive the best care, the need for honest, clear and routine information about condition, development, and actions taken, and the need to always be close and have contact with their infants (29). It can be concluded that needs of parents are in principle more focused on their infant welfare.

Last but not least, presence and involvement of parents in infant care such as providing touch can support infant physiological status. In this context, tactile stimulation or touch by parents can significantly affect physiological status including oxygen saturation, pulse rate and respiratory rate, and can improve parent-infant bonding (30).

Finally, this study recommends implementation of FCC by providing education about FCC from the beginning of patient entering perinatology ward in order to reduce parental anxiety in having interaction with their infants.

LIMITATIONS

Number of samples in this study is relatively small, but has met minimum sample size based on calculation of sample requirements.

RESEARCH ETHICS

This study has passed Ethical Clearance from Faculty of Nursing, Universitas Indonesia No.71/UN2.F12.D/HKP.02.04/2018.

CONFLICT OF INTEREST

Researchers declare that there is no conflict of interest with any party in this study.

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CONCLUSION

This study concludes that FCC intervention is effective in reducing parental anxiety. Nurses are expected to be able to understand that FCC can provide benefits for all parties involved; not only infants and families but also health team. Nurses need to implement FCC as an important part of care process so that they do not only focus on infants but also have to provide care to family to support their infants' recovery.

Hospitals are advised to make policies that support FCC such as educational room facilities, visiting hours for parents, and increasing ability of nurses through training on FCC and effective communication.

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