



## The Effect of Family-centered Care on Reducing Anxiety in Mothers of PICU Children

Fatemeh Feizi<sup>1\*</sup>

Anahita Ma'soompoor<sup>2</sup>

A'zam Shirinabadi Farahani<sup>3</sup>

Maliheh Nasiri<sup>4</sup>

<sup>1</sup>MS student in pediatrics, School of Nursing & Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>2</sup>PhD in nursing, instructor of pediatrics, School of Nursing & Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>3</sup>Assistant professor in nursing, instructor of pediatrics, School of Nursing & Midwifery Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>4</sup>Assistant professor in biostatistics, School of Nursing & Midwifery, Shahid Beheshti University of Medical Sciences, Tehran, Iran

### Abstract

**Background & Objectives:** Family-centered care as a new and innovative approach in medical care can reduce anxiety in mothers of PICU (Pediatric Intensive Care Unit) children through the process of family members' contribution to daily care on the basis of talking and training to empower these mothers by the professional healthcare personnel. This study determined the effect of family-centered care on decreasing anxiety in mothers of PICU children.

**Materials & Methods:** In this descriptive study, 40 mothers of PICU children hospitalized in Mofid Subspecialty Pediatric Hospital in Tehran in 2019 were selected with convenient sampling method and assigned randomly into experimental and control groups. The data were collected with Demographic Questionnaire and Spielberger's Anxiety Checklist and analyzed with SPSS20 using descriptive and analytic statistics.

**Results:** The mean scores of overt and covert anxiety of case mothers were significantly reduced after intervention at the time of PICU discharge compared to before intervention on PICU admission ( $P < 0.05$ ).

**Conclusion:** Given the reduced rate of mothers' anxiety on PICU discharge following family-centered care intervention; it appears that this intervention can be effective in decreasing anxiety in mothers of PICU children.

### Keywords

Family-Centered Care; Anxiety; Mothers; Pediatric ICU

### Introduction

Hospitalization of children in pediatric ICUs is one of the most stressful experiences of parents [1]. About %3 of children are hospitalized in healthcare centers at least once and approximately 5% are admitted several times [2]. According to statistics reported by various pediatric hospitals and institutes, about 150000-200000 children are annually hospitalized in PICUs [3]. The prevalence of anxiety among the family members of PICU children has been reported to be %35-73 in various studies [1]. The results of a study in Iran showed that %68 of family members of PICU patients sustained anxiety, %53.7 suffered from depression, and 46.7% sustained moderate to severe stress [4]. Parents play a significant role in promoting their children's state so that their behaviors and attitudes affect those of their children. Parents with high levels of anxiety may lack the required ability to support their PICU children [5]. Considering the unstable state of inpatients and the necessity of the use of complex medical equipment by ICU nurses, they spend much of their time in giving care to patients and monitoring them and thus overlook the patient's family. Hence, parents are reluctant or unable to express their needs leading to adverse effects on child care [6]. Nurses have a unique opportunity for helping parents during this experience. Nurses' support for families is in line with family-centered care aiming at maintaining unity and empowering family members to accept roles and familial support in stressful situations. PICU nurses should not only give specialized care to each child, but also support their parents [7,8]. Implementation of family-centered care in ICUs converts patient care to family care since family members, especially mothers, are natural supporters of children and thus fulfilling their social, spiritual, and physical needs is seriously necessary [9]. Among the family members, the mother plays a significant role in determining goals and care-treatment planning due to her dominance over the child's and family's condition [10]. Unfortunately, despite the many advantages of this approach, it has not practically received due attention.

### Article Information

**DOI:** 10.31021/jddm.20203162

**Article Type:** Research Article

**Journal Type:** Open Access

**Volume:** 3 **Issue:** 5

**Manuscript ID:** JDDM-3-162

**Publisher:** Boffin Access Limited

**Received Date:** 28 April 2020

**Accepted Date:** 16 May 2020

**Published Date:** 19 May 2020

### \*Corresponding author:

**Fatemeh Feizi**

MS student in pediatrics, School of Nursing & Midwifery

Shahid Beheshti University of Medical Sciences

Tehran, Iran

Tel: 9809127029079

E-mail: f.feizi33@gmail.com

**Citation:** Feizi F, Ma'soompoor A, Farahani AS, Nasiri M. The Effect of Family-centered Care on Reducing Anxiety in Mothers of PICU Children. J Dents Dent Med. 2020 May;3(6):162.

**Copyright:** © 2020 Feizi F, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 international License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Lack of receiving sufficient amount of information promptly by the patient's family may cause insolvency with respect to the patient, treatment and care, resulting in less control on the stressful situation [11]. Mothers' needs during child's PICU hospitalization may be classified into domains of physical care, support, confidence in proper care of child, hope, proper responding to questions, useful and prompt transfer of information, observation of their self-esteem and respect by the treatment staff, contributing to child care planning, and understanding mother's condition. Lack of appropriate meeting of mother's needs and resolving of ambiguities may adversely affect the outcomes of child care [12]. Despite the personnel's awareness of the importance of family-centered care, there is still some evidence of problems among the personnel in planning care for families. Part of this problem is due to lack of perception of family needs and another part due to unawareness of components of family-centered care and the method of its administration [13]. However, in Iran in spite of the emphasis on implementing family-centered care in pediatric wards of pediatric hospitals, little information is unfortunately available on implementation of this care approach [14]. Given challenges like "shortage of nursing personnel for PICU children, the great number of PICU patients, the current financial problems, limited physical space of the ward, lack of sufficient training, lack of cooperation among nursing staff and parents, and ICU milieu with its limited supplies and equipment", the reduced quality of PICU care will be expected. Considering that many children annually require PICU hospitalization due to various medical reasons, this would lead to parents' confusion and anxiety, especially in mothers, so that the maternal role will be reversed if the condition persists [15]. Given the importance of family-centered care in managing PICU children and lack of sufficient studies in Iran in this field, the present study aimed at determining the effect of family-centered care on the rate of anxiety in mothers of PICU children.

## Methodology

The study population in this descriptive study included all mothers of PICU children hospitalized in Mofid Subspecialty Pediatric Hospital in Tehran, capital of Iran, that entered the study on the basis of inclusion criteria, i.e., mothers of PICU children aged 1-6 years, the ability to communicate, familiarity with Persian language, being literate, lack of history of child's hospitalization in PICU, and children cared for by family members other than mother. Besides, mothers with a history of anxiety and depression disorders, or affliction with physical impairments, death or transfer of the child to another ward before completion of the study, and lack of cooperation of the study samples in the course of the study, or lack of completion of the questionnaires formed the exclusion criteria. The samples were selected with convenient sampling method. In so doing, the research goals and procedures were explained to each sample that qualified for inclusion and informed written consent was obtained. To carry out the study, a two-part questionnaire was used. The first part included demographic information and the second part was Spielberger's Anxiety Checklist (1996). Galvan, et al [16]. investigated the psychometric features of Spielberger's Anxiety Checklist and reported an acceptable reliability coefficient (Cronbach's  $\alpha=0.83$ ). The study by Khanipour, et al. in Iran explored the validity and reliability coefficients of this checklist and confirmed them (Cronbach's  $\alpha=0.76$ ) [10]. Besides, the studies by Rabiee et al. [17] and Rouhi, et al. [18] reported the test-retest reliability coefficient of this checklist as 0.89 and 0.90, respectively. Having obtained the required permissions from hospital authorities, the researcher attended the research setting in person and explained the research goals and procedures. To collect data, mothers of PICU children that qualified for participation were selected with convenient sampling and entered the study after signing informed written consent. Family-centered care was implemented for the participating mothers on the basis of a protocol developed on the basis of library research, consultation, and the present scientific sources. Before the onset of intervention (24 h after child admission in PICU), mothers' level of anxiety was first measured with Spielberger's Anxiety Checklist. Then, a 30-45-min

| Age                                   | Mean $\pm$ SD           |                  | Frequency | Percentage |
|---------------------------------------|-------------------------|------------------|-----------|------------|
|                                       | Mother                  | 31.20 $\pm$ 2.83 |           |            |
|                                       | Child                   | 2.92 $\pm$ 1.57  |           |            |
| Demographics                          |                         |                  |           |            |
| Gender                                | Girl                    | 16               | 40        |            |
|                                       | Boy                     | 24               | 60        |            |
| Order of birth                        | First child             | 31               | 77.5      |            |
|                                       | Second child            | 8                | 20        |            |
|                                       | Third child onward      | 1                | 2.5       |            |
| Number of offspring in child's family | Single child            | 31               | 77.5      |            |
|                                       | Two children            | 8                | 20        |            |
|                                       | Three children and more | 1                | 2.5       |            |
| Mother's literacy level               | Illiterate              | 1                | 2.5       |            |
|                                       | Primary school          | 0                | 0         |            |
|                                       | Secondary school        | 2                | 5         |            |
|                                       | High school             | 27               | 67.5      |            |
| Mother's occupational Status          | Academic                | 10               | 25        |            |
|                                       | House-keeper            | 31               | 77.5      |            |
|                                       | Employed                | 9                | 22.5      |            |
| Child's place of residence            | Civil                   | 30               | 75        |            |
|                                       | Rural                   | 10               | 25        |            |

**Table 1:** Frequency distribution of demographics of mothers and PICU children

| Variable       | Mean  | SD   | T     | df | P-value |
|----------------|-------|------|-------|----|---------|
| Overt anxiety  | 74.27 | 2.29 | 63.12 | 39 | <0.001  |
|                | 26.27 | 3.59 |       |    |         |
| Covert anxiety | 65.90 | 2.53 | 61.03 | 39 |         |
|                | 27.50 | 3.23 |       |    |         |

**Table 2:** Comparison of changes in mean scores of mother's overt and covert anxiety on PICU admission with their mean scores on PICU discharge

training session was held to implement the protocol that included: making good rapport with the mother, familiarity with the ward and the existing supplies and equipment, creation of preparedness, justification of the contribution program and its implementation course, paying attention to child's and mother's needs, the required awareness on child's disease, hospitalization care and post-discharge care related to pediatric nutrition, changing clothes and nappies, measuring axillary temperature, controlling uptake and removal, pediatric cleansing, changing sheets, arranging child environment, and administration of oral drugs. To compare changes in the levels of mothers' anxiety after intervention (discharge time), Spielberger's Anxiety Checklist was again completed by mothers. The data gleaned in two stages were coded (before and after intervention) and imported to SPSS20 for analysis using descriptive and inferential statistics.

## Results

In this study, 40 mothers of PICU children hospitalized in Mofid Subspecialty Pediatric Hospital, Tehran, were studied. The results indicated that the mean (Mean  $\pm$  SD) age of children under study was  $2.92 \pm 1.57$  years and that of mothers was  $31.20 \pm 2.83$  years. Of 40 children under study, most ( $n=24$ , 60%) were male. Also, 31 (77.5%) were the first child of the family and the only offspring. Besides, 31 mothers of children (77.5%) were housekeepers, 27 (67.5%) held a high school diploma, and 30 children (75%) resided in civil regions (Table 1). The results of paired t-test (Table 2) demonstrated that the mean score of mothers' overt anxiety on children's PICU admission was  $74.27 \pm 2.29$  and the mean score of covert anxiety was  $65.90$

| Admission/discharge time  | Variable          | Level             | Frequency | Percentage |
|---------------------------|-------------------|-------------------|-----------|------------|
| On admission<br>in PICU   | Overt<br>Anxiety  | Mild              | 0         | 0          |
|                           |                   | Low moderate      | 0         | 0          |
|                           |                   | High moderate     | 0         | 0          |
|                           |                   | Relatively severe | 0         | 0          |
|                           |                   | Severe            | 29        | 72.5       |
|                           |                   | Highly severe     | 11        | 27.5       |
|                           | Covert<br>Anxiety | Mild              | 0         | 0          |
|                           |                   | Low moderate      | 0         | 0          |
|                           |                   | High moderate     | 0         | 0          |
|                           |                   | Relatively severe | 12        | 30.0       |
|                           |                   | Severe            | 28        | 70.0       |
|                           |                   | Highly severe     | 0         | 0          |
| On discharge<br>from PICU | Overt<br>Anxiety  | Mild              | 36        | 90.0       |
|                           |                   | Low moderate      | 4         | 10.0       |
|                           |                   | High moderate     | 0         | 0          |
|                           |                   | Relatively severe | 0         | 0          |
|                           |                   | Severe            | 0         | 0          |
|                           |                   | Highly severe     | 0         | 0          |
|                           | Covert<br>Anxiety | Mild              | 35        | 87.5       |
|                           |                   | Low moderate      | 5         | 12.5       |
|                           |                   | High moderate     | 0         | 0          |
|                           |                   | Relatively severe | 0         | 0          |
|                           |                   | Severe            | 0         | 0          |
|                           |                   | Highly severe     | 0         | 0          |

**Table 3:** Frequency distribution of mother's overt and covert anxiety on PICU admission with their frequency distribution on PICU discharge

± 2.53. Moreover, the mean score of mothers' overt anxiety on children's PICU discharge was  $26.27 \pm 3.59$  and the mean score of covert anxiety was  $27.50 \pm 3.23$  showing a significant reduction in the mean score of mothers' anxiety ( $P < 0.05$ ). The results given in Table 3 show those 29 mothers (72.5%) had severe levels of overt anxiety whereas 28 mothers (70%) manifested severe levels of covert anxiety. Investigation of mothers' anxiety level on children's PICU discharge (after intervention) revealed that 35 (87.5%) had mild levels of covert anxiety whereas 36 (90%) had mild levels of overt anxiety. Fisher's exact test suggested no significant correlation between "mothers' and children's age and children's gender, number of offspring's and the order of their birth, mothers' literacy level, occupation, children's place of residence" and "mothers' overt and covert anxiety levels" ( $P > 0.05$ ).

## Discussion

The present study investigated the level of anxiety in 40 mothers of PICU children before and after implementation of family-centered care. The findings showed that most mothers experienced severe anxiety at the time of admission of their children in PICU. The changes in mothers' anxiety level before and after intervention demonstrated that the training and implementation of family-centered care reduced their anxiety level significantly on children's discharge from PICU. In other words, mothers' contribution to their children's daily care program diminished their anxiety level significantly. The results of the study by Shooshi et al. [19] showed that the mean score of anxiety in family members was  $4.24 \pm 2.07$  on discharge from hospital and  $10.73 \pm 3.6$  during hospitalization [19]. This is consistent with our findings. Additionally, the findings of the study by Martin, et al. [21] on the effect of family-centered care on the incidence of anxiety in patients suggested that the mean score of anxiety was  $8.63 \pm 4.85$  on PICU admission and  $6.89 \pm 5.32$  on discharge from hospital [20]. Moreover, Sarin, et al. [21], investigated qualitatively the experiences of mothers of PICU children and found that all mothers experienced a lower level of anxiety after family-centered care intervention [21]. The findings of the last two studies are consistent with our findings. On the other hand, the results of the study by Sadeghi et al. [22] indicated a significant decrease in the mean score of anxiety in family

after training in family-centered care (before intervention =  $21.6 \pm 8.4$ ; after intervention =  $12.6 \pm 8.4$ ) [22]. Furthermore, Balbino et al. [23] showed that the mean score of anxiety in parents was decreased from 4.2 to 3.8 on discharge from PICU [23]. Riley et al. [24] also showed a significant decrease in their anxiety after intervention and discharge from ICU. The results of the systematic review by Shields et al. [25] demonstrated a significant decrease in parents' anxiety level after family-centered care intervention compared to PICU hospitalization. The findings of all of the studies above were consistent with our results indicating the positive effect of contribution of family members and family-centered care on diminishing anxiety among mothers. Given that specific situations like the status of ICU patients, especially decision-making about the course of patient treatment and care, may upset the patient mentally driving family members towards experiencing greater anxiety, contribution of family members to the course of care in ICUs seems mandatory. It was also observed that high level of anxiety among members of the family of ICU patients are manifested as changes in sleep patterns, nutritional diet, thought process, rate of energy and familial roles or their responsibility. Due to the effective role of this contributory high quality care-giving, a feeling of usefulness was induced in mothers that attenuated their anxiety level. Thus, family members not only visit the patient in a controlled mode, but also contribute to patient's care-giving program. The results of most studies on anxiety in parents and patient's family indicate that most causes of anxiety and stress in the family of ICU patients are attributed to lack of accessibility of information on patient prognosis and treatment and also lack of familiarity with ICU environment and its complex equipment. Increased ICU stay exposes families to these challenges to a greater degree. Therefore, patient's family members may be aided by increasing their performance and ability in giving care to the patient to prevent their mental and psychological problems. It should be mentioned that no results were found to contradict our findings. This suggests the importance of the family-centered approach as one of care-giving methods that shows the basic and vital role of the family in decision-makings for patient care and contributing to ICU interventions. Finally, it should be emphasized that ICU nurses can apply this approach to patient's family and increase coping in the patient and the family through cooperation of family members.

## Conclusion

Training individuals in family-centered care is effective in decreasing level of anxiety in mothers of PICU children. Hence, given the key role of nurses in education and provision of family-centered care-giving, an attempt must be made to highlight this educational approach in improving quality care and encouraging parents and family members to contribute to the process and take giant strands in decreasing anxiety in parents and families.

## Limitations of the Study

Since this study was conducted in just one subspecialty pediatric hospital, the results could not be safely generalized to new contexts or populations thereby jeopardizing the external validity of the findings.

## Acknowledgement

This paper is distilled from an MSc thesis in NICU nursing with code of research: IR.SBMU.PHARMACY.REC.1398.141. The study proposal was approved by Committee of Ethics in Human Research at School of Nursing and Midwifery, Shahid Beheshti University of Medical Sciences. The researchers extend their special thanks to all authorities in Mofid Subspecialty Pediatric Hospital and university authorities who supported them financially and spiritually.

## References

- Walakira EJ, Ochen E A, Bukuluki, P, Alllan S. Residential care for abandoned children and their integration into a family-based setting in Uganda: Lessons for policy and programming. *Infant mental health journal*. 2014 Mar-Apr;35(2):144-150.
- Fisher M, Broome ME, Friesth BM, Magee T, Frankel RM. The effectiveness of a brief intervention for emotion-focused nurse-parent communication. *Patient Educ Couns*. 2014 Jul;96(1):72-78.
- Ghaderi S, Alaei Karahroudi F, Yousefi-chaijan P, Nasiri Oskooi N. Effect of fathers' participation in the care of hospitalized child in pediatric intensive care unit on fathers' stress and coping strategies. *Arak Medical University Journal (AMUJ)*. 2014 Jan;16(79):61-69.
- Askari H, Azizzadeh Forozi, Navidian A, Haghdoost A. Psychological Responses of Family Members of Patients Admitted to Intensive Care Units. *Research and health*. 2013;3(1):317-324.
- Caicedo C. Health and functioning of families of children with special health care needs cared for in home care, long-term care, and medical day care settings. *J Dev Behav Pediatr*. 2015 Jun;36(5):352-361.
- Seliner B, Latal B, Spirig R. When children with profound multiple disabilities are hospitalized: A cross-sectional survey of parental burden of care, quality of life of parents and their hospitalized children, and satisfaction with family-centered care. *J Spec Pediatr Nurs*. 2016 Jul;21(3):147-157.
- Sikorova L, Kucova J. The needs of mothers to newborns hospitalised in intensive care units. *Biomedical Papers*. 2012 Dec;156(4):330-336.
- Malukani K, Keswani B, Chaturvedi S, Nandedkar S. Impact of Informational and Social Support Services on Patient's Perceived Satisfaction from Virtual Pathology Communities.. *Indian Journal of Basic & Applied Medical Research*. 2013 Mar;2(6):477-482.
- Hartog CS, Schwarzkopf D, Riedemann NC, Pfeifer R, Guenther A, et al. End-of-life care in the intensive care unit: a patient-based questionnaire of intensive care unit staff perception and relatives' psychological response. *Palliative medicine*. 2015 Jan;29(4):336-345.
- Khanipour H, Mohammadkhani P, Tabatabaei S. Thought control strategies and trait anxiety: predictors of pathological worry in non-clinical sample. *Journal of Behavioral Sciences*. 2011;5(2):173-178.
- Welch MG, Myers MM, Grieve PG, Isler JR, Fifer WP, et al. Electroencephalographic activity of preterm infants is increased by Family Nurture Intervention: a randomized controlled trial in the NICU. *Clin Neurophysiol*. 2014 Apr;125(4): 675-684.
- Sousa P, Antunes A, Carvalho J, Casey A. Parental perspectives on negotiation of their child's care in hospital. *Nurs Child Young People*. 2013 Mar;25(2):24-28.
- Salmani N, Mandegari Z, Bagheri I, Fallah Tafti B. Palliative Care in Neonatal Intensive Care Units: Challenges and Solutions. *Iranian Journal of Neonatology (IJN)*. 2018;9(2):33-41.
- Nouhi E, Karbalaizadeh M, Abazari F. The effect of mothers' participation and the family-centered care on mother's anxiety with children suffering from gastrointestinal infections: a randomized clinical trial. *Journal of Clinical Nursing and Midwifery*. 2015;4(3):47-55.
- Ahmadi Z, Joz Mohtashami M, Seyed Fatemi N, Haghani H. Study of relationship between social support and parents satisfaction of provided care for premature infants in selected hospitals of Tehran University of Medical Sciences 1394. *Iranian Nursing Scientific Association*. 2015;2(1):39-48.
- Perpina-Galvan J, Richart-Martinez M, Cabanero Martínez MJ. Reliability and validity of a short version of the STAI anxiety measurement scale in respiratory patients. *Archives de Bronconeumología (English Edition)*. 2011 Apr;47(4):184-189.
- Rabiee M, Kazemi Malek Mahmodi S, Kazemi Malek Mahmodi S. The effect of music on the rate of anxiety among hospitalized children. *Journal of Gorgan University of Medical Sciences*. 2007;9(3):59-64.
- Roohy GR, Rahmany A, Abdollahy AA, GhR M. The effect of music on anxiety level of patients and some of physiological responses before abdominal surgery. *Journal of Gorgan university of medical sciences*. 2005;7(1):75-78.
- Shoushi F JY, Mousavinasab N, Shafipour V. The Impact of Family Centered Care on Depression, Anxiety and Stress of Family Caregivers of Patients Undergoing Open Heart Surgery. *IJRN* 2017;3(2):53-60.
- González-Martín S, Becerro-de-Bengoa-Vallejo R, Angulo-Carrere MT, Iglesias MEL, Martínez-Jiménez EM, et al. Effects of a visit prior to hospital admission on anxiety, depression and satisfaction of patients in an intensive care unit. *Intensive and Critical Care Nursing*. 2019 Oct;46:53.
- Sarin E, Maria A. Acceptability of a family-centered newborn care model among providers and receivers of care in a Public Health Setting: a qualitative study from India. *BMC health services research*. 2019 Mar;19(1):184.
- Sadeghi Z PBM, Moosavi Nasab N. Effect of Family Participation in ICU Patients Care on Family's Anxiety level. *Nursing and Midwifery Care Journal (NMCJ)*. 2013;2(2):10-17.
- Balbino FS, Balieiro MMFG, Mandetta MA. Measurement of Family-centered care perception and parental stress in a neonatal unit. *Rev lat-am enfermagem*. 2016;24: e2753.
- Riley BH, White J, Graham S, Alexandrov A. Traditional/Restrictive vs Patient-Centered Intensive Care Unit Visitation: Perceptions of Patients' Family Members, Physicians, and Nurses. *Am J Crit Care*. 2014 Jul;23(4):316-324.
- Shields L, Pratt J, Davis L, Hunter J. Family-centred care for children in hospital. *Cochrane Database Syst Reviews*. 2007 Jan;24(1): CD004811.