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# Participation of Families and Nurses in Family-Centered Cares in Neonatal Intensive Care Unit

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## ABSTRACT

*Preterm neonates are generally admitted in intensive care unit (NICU) due to respiratory distresses and immaturity problems. In family-centered care notion, families engage in providing care services to their neonates so that they continually attend in NICUs with no limitation. This study aims to evaluate the participation of families and nurses in family-centered care of neonates in NICU. This is a descriptive study conducted on 150 mothers with neonates admitted in NICU and 100 nurses working in the NICU of hospitals affiliated to the Beheshti University of Medical Sciences. Data was collected using demographic information questionnaire as well as adjusted questionnaire for the participation of nurses and families in family-centered cares and was analyzes using SPSS 20 and descriptive and inferential tests. There was no significant relationship between the scores of family-centered care dimensions and the demographic variables of nurses and families. The maximum and minimum scores obtained by nurses and families belonged to the dimensions of the assessment of neonates' growth and family support, respectively. Nurses and mothers obtained low scores in the family support dimension of family-centered care. Therefore, arranging training workshops aiming at strengthening and promoting family supports seems necessary.*

**Key words:** Family, Family-Centered Care, Nurse, Neonatal Intensive Care Unit, Preterm Neonate

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## INTRODUCTION

Every year, more than 400 American families experience the birth of preterm neonates. In Iran, about 7% of neonates are preterm that should be admitted in NICU [1]. Although, there has been a significant rise in the rate of the birth of preterm neonates in recent decades, the fatality rate of such neonates has considerably decreased due to the creation of neonatal intensive care units (NICUs) [2]. Of total preterm neonates, 15% are admitted in ICU due to respiratory distresses and immaturity problems [3]. Such admission disrupts the growth of neonates with inverse effects on them and imposes serious stress to their parents due to the

considerable number of care providers, the use of different equipment such as ventilators, venous lines and chest lead monitoring, sleeping and waking cycle disorders, continuous sensual stimuli, early separation from parents, artificial nutrition and relaxation drugs [4]. The long-term admission of neonates in NICU insulates them from environment and leads to the early separation from their parents. This, in turn, converts their hope to anxiety [5]. Compared to normal families, separation and divorce rate is higher in families with ICU-admitted neonate(s). Therefore, such parents generally experience depression, loose their control and do not feel that they are a parent [6]. In early 20th century, providing care services to admitted infants was exclusive to therapy team so that parents had a limited access to their admitted infants and this was even forbidden in some cases [7]. Family-centered care is a unique term in infant health field. It indicates that those infants who are admitted in therapy centers should not be treated as a person separated from his/her family and the family should be considered as a part of the caring unit [8]. Family-centered care is a team-based and multi-disciplinary approach engaging families in special care activities including breastfeeding, kangaroo mother care (KMC) and planned cares and provide parents with the opportunity of the continuous, and unlimited, presence near their admitted infants. This makes it possible to provide high quality and ideal cares, cut treatment costs, shorten admission time, decrease infectious diseases and decrease the frequency of admissions [9, 10]. In addition, it decreases the stress, anxiety and depression of parents and promotes their self-confidence in caring their neonates during admission and following discharge. In general, family-centered care empowers parents to care their neonates [11, 12]. Parents' low information and skill in caring their neonates is one of the most important challenges of nurses and therapy team. This increases the rate of readmission so that in the U.S., more than 45% of extremely low birth weight preterm neonates need readmission [13]. The readmission of preterm neonates is a main problem increasing admission duration and fatality rate on the one hand and leads to parents extreme worries and imposes high costs to the health system on the other hand [14]. According to statistics, 20.3% of preterm neonates in Iran needed readmission during infancy period only due to jaundice [15]. Sometimes, neonates, or their families, are not ready to be discharged from hospitals [16]. In addition, no appropriate relationship is established between parents and nurses [17]. These are factors necessitating the readmission of preterm neonates. Considering above discussion, the researcher decided to design a study aiming at determining the status of the participation of families and nurses in providing family-centered cares in NICU in order to define the rate of parents' participation.

## MATERIALS AND METHODS

This is a descriptive study conducted on parents with neonates admitted in the NICUs of hospitals affiliated to the Beheshti University of Medical Sciences (Imam Hosein, Mofid, Tajrish and Mahdiye hospitals) as well as the nurses of the centers in 2017. Inclusion criteria are nurses with a B.S. degree, or more, with >6 months record in the units and parents with neonates who are admitted in the unit for more than one day. Sampling of nurses was practiced using census method. In addition, 150 mothers were included in the study.
Data was collected using demographic information questionnaires for parents, neonates and nurses as well as self-assessment questionnaire for parents and families regarding their attitudes to the notion of family-centered care. The demographic questionnaire of parents and neonates had items covering neonate sex, weight, admission duration, pregnancy weeks, frequency of childbirth, parents' education level, parents' job, financial status of family and preterm childbirth while that of nurses had items covering nurses' education level, age, training background and record in NICU.

The questionnaires of nurses and parents' participation in family-center care had 109 and 98 items, respectively scored using Likert 4-point scale (always=3, often=2, sometimes=1 and never=0). The questionnaires were constituted by 12 parts namely: 1) decision maker team, 2) family support, 3) supporting families by families and peers, 4) diagnosis, 5) providing continuous cares and supports, 6) assessment of neonates' growth, 7) medical records accessibility, 8) visiting schedule, 9) receiving the feedback of cares and policies of the medical center, 10) policies of medical centers for supporting family-centered cares, 11) studying language and culture, and 12) community-based information and referral services.

In the next step, the consent of the questionnaire designer was obtained through Family Voice (Sedaye Khanevade) website, the questionnaire was translated and the items that were associated

with ICU were separated. Of total items of nurses and mothers questionnaires, 32 and 24 items were not associated with NICU, respectively and removed. Then, content validity ratio (CVR) and content validity index (CVI) were assessed for remainder items. In CVR and CVI assessments, 24 and 10 items were removed from both questionnaires, respectively. The final questionnaires of families and nurses' attitudes towards family-centered participation had 40 items. The questionnaires were checked on 15 nurses as well as the family members of NICU-admitted neonates in order to assess their scientific confidence. The reliability of the questionnaires for mothers and nurses was obtained using Cronbach's alpha, which was 0.88 and 0.89, respectively.

Next, the process of approving research design was completed and the permit of ethics committee was obtained. Immediately after obtaining the approval of the authorities of Beheshti University of Medical Sciences, relevant permits and letters of recommendation were obtained and submitted to the authorities and nurses of the aforementioned centers. Data was analyzed using SPSS 20 through descriptive statistics tests (frequency, percent, mean and standard deviation), independent t-test and variance and correlation analyses. P-value was set to be p≤0.05

## RESULTS

**Table 1. demographic information of the studied mothers**

| Variable | | number | percent |
|---|---|---|---|
| Childbirth frequency | 1 | 69 | 46 |
| | 2 | 52 | 34.7 |
| | >2 | 29 | 19.3 |
| Mothers' education level | Primary and guidance school | 27 | 18 |
| | High school and diploma | 76 | 50.8 |
| | Academic degree | 47 | 31.3 |
| Mothers' job | Housekeeper | 133 | 88.7 |
| | Employed | 17 | 11.3 |
| Labor type | Natural | 53 | 35.3 |
| | Cesarean | 97 | 64.7 |
| Premature labor background | Yes | 9 | 6 |
| | no | 141 | 94 |
| Financial status | Acceptable | 128 | 85.3 |
| | Non-acceptable | 22 | 14.7 |

The studied cases consisted of 100 female nurses working in ICU with a mean age of 32.1±6.08. The majority of cases had B.S. degree (92%) with a background of <5 years (32%) who had not passed family-centered care training courses (88%). The majority of neonates were male (56.7%) with a weight of >2.5kg (40%) at the time of birth who were admitted for less than 1 week (38%) in NICU. The following table shows the personal information of the studied mothers.

According to the results of this study, the relationship of the demographic properties of nurses and families with the score of family-centered care dimensions was not significant.

**Table 2. mean and standard deviation of the scores of family-centered care dimensions**

| Dimension | Families | | nurses | |
|---|---|---|---|---|
| | Mean | STD | Mean | STD |
| **Decision maker team** | 1.57 | 0.58 | 1.9 | 0.44 |
| **Supporting family, as the sustainable factor of neonates' life** | 0.80 | 0.79 | 1.45 | 0.67 |
| **Supporting families by families and peers** | 0.46 | 0.54 | 0.83 | 0.57 |
| **Diagnosis** | 1.65 | 0.78 | 1.91 | 0.60 |
| **Providing continuous support and care** | 1.52 | 0.73 | 1.75 | 0.49 |
| **Assessment of neonates' growth** | 2.36 | 0.84 | 2.41 | 0.73 |
| **Medical records accessibility** | 1.05 | 1.11 | 1.76 | 0.99 |
| **Visit schedule** | 1.93 | 0.78 | 2.21 | 0.67 |
| **Receiving the feedbacks of cares and policies of the medical center** | 0.60 | 0.91 | 1.28 | 0.97 |
| **Policies of medical centers for supporting family-centered cares** | 0.69 | 0.67 | 1.01 | 0.58 |
| **Studying language and culture** | 0.78 | 0.74 | 1.33 | 0.56 |
| **Community-based information and referral services** | 1.18 | 0.96 | 1.05 | 0.82 |
| **Sum** | 1.30 | 0.43 | 1.62 | 0.36 |

According to above table, the minimum and the maximum scores obtained by mothers and nurses in family-centered care dimensions belong to the family support and the assessment of neonates' growth, respectively.

## CONCLUSION

According to our findings, the minimum and the maximum scores obtained by mothers and nurses in family-centered care dimensions belong to the family support and the assessment of neonates' growth, respectively. In other words, the

participation of mothers and nurses in family-centered cares was similar to each other. The maximum score of mothers in the assessment of neonates' growth dimension may be traced in the fact that neonates' growth is more tangible and sensible. The engagement of parents in the problems of their admitted neonate(s) makes them pay less attention to the family support dimension while parents like to have accurate information about their admitted neonate(s). Moreover, they like to be more engaged in caring their neonate(s) and expect health care providers to provide them with information about expectable changes in the physical status of their neonate(s) [18].

The studies of Akbar Begloo et al indicated that nurses provide the maximum supports in emotional and qualitative care fields while the minimum supports belong to the self-confidence and communication-information fields. In other words, nurses give lower importance to the self-confidence and communication-information fields [19]. Mooch et al (2006) conducted a study in Hong Kong to evaluate the supportive behaviors of nurses against mothers with preterm neonates. Their results indicated that the studied parents received communication-information supports more than any other support [20]. The comparison of the two studies highlights the attitude of Iranian and Hong Kongese nurses towards the importance of the provided supports. Although the dimension of supporting families received the minimum score, among all other dimensions, a study in Japan showed that the supportive role of nurses (emotional supports) is the most important role of nurses enabling them to respond the problems of family members and to assist them in stating their emotions [21].

The results of this study indicated the importance of paying more attention to the dimension of supporting families. Griffin et al believe that supporting families and providing them with required information and training courses can help them better control their feelings in different situations. Indeed, the existence of a realistic view, in addition to receiving necessary supports, can aid the formation of a compound process and can make families more participate in neonate caring activities [22]. Nurses' supports of families may broaden the relationship of nurses and families. This, in turn, results in the more engagement of parents in neonate caring activities while it can impose occupational stresses to nurses. The results of Dip et al in Australia showed that the majority of nurses and therapy team was not interested in the participation of parents in caring activities (family-centered care) and they did not allow parents to attend near their neonates during treatment procedures while the parents insisted on the engagement in such activities [23].

In summary, the results of this study showed that the maximum and minimum participation of nurses and parents belonged to the dimensions of the assessment of neonates' growth and supporting family, respectively and both groups, i.e. nurses and families, had almost the same participation. The results of this study can be used in clinical cases in order to increase concentrations on the supportive dimension of family-centered cares. In other words, both nurses and families were unanimous that this dimension receives less attention and besides considering the physiological dimensions (neonates' growth) NICU nurses can provide neonates' families with necessary aids and supports. The employed questionnaires can be used to determine the participation of parents and nurses in family-centered cares where the strengths and weaknesses of the questionnaires can be defined following relevant analyses. Then, the defined strengths can be used to solve problems and the weaknesses can be improved by making desired changes.

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