RESEARCH ARTICLE

Premature infant parents' Need at Neonatal Intensive Care Unit in Erbil City, Iraq: A descriptive cross-sectional Study

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Abstract

Objectives: To assess the perceived needs of parents who had premature infants in a neonatal intensive care setting.
Method: The descriptive cross-sectional study was conducted at the Raparin Teaching Hospital for Children, Erbil, Iraq, from April to June 2021, and comprised parents with premature infants who were enrolled during their infants' stay at the neonatal intensive care unit. Data was collected using a two-part questionnaire. The first part entailed an interview exploring socio-demographic data, while the second part was a self-report questionnaire adapted from the Critical Care Family Needs Inventory, and had five domains; support, information, proximity, assurance, and comfort. Data was analysed using SPSS 25.
Results: There were 57 sets of parents and premature neonates. The mean gestational age of the neonates was 33.37±3.29 weeks, mean age of fathers was 31.44±7.24 years, and mean age of mothers was 27.51±6.19 years. Among the neonates, 31(54.4%) were boys, and 32(56.1%) had been delivered through caesarean section. Of the total 114 mother and father, 106(93%) required assurance, 98(86%) needed comfort, and 96(84.2%) confirmed proximity as the most essential need. Besides, 84(73.7%) required information and 79(69.3%) required support.
Conclusion: Parents of premature infants hospitalised in neonatal intensive care unit needed assurance, comfort, proximity, information and support in order of priority.
Key Words: Premature, Infant, Parents, Erbil. **DOI: https://doi.org/10.47391/JPMA.IQ-12**

Introduction

Worldwide, of the 130 million neonates born every year, 15 million neonates are born prematurely,[1] and the highest incidence of preterm births is commonly reported in low and middle-income countries (LMICs), but they are also reported in high-income countries (HICs), such as the United States and Austria.[2]

A baby is called preterm if it is born before 37 weeks of pregnancy, or 259 days after conception, while a full-term birth occurs between 37 and 40 weeks of gestation. Preterm infants can be categorised as moderate to late extremely preterm (>28 weeks), very preterm (28–≤32 weeks), and moderate to late preterm (33–<37 weeks), depending on the gestational age.[3]

Due to preterm birth and other birth-related issues, the majority of these patients are referred to the neonatal intensive care unit (NICU).[4] The leading direct cause of infant fatalities is complications related to premature deliveries. Preterm births are commonly caused by maternal infections, diabetes, hypertension, smoking, advanced maternal age, prim parity, foetal distress, multiple gestations, antepartum haemorrhage, and limited access to antenatal care services throughout pregnancy.[5] Parents experience considerable stress, worry, fear, despair, acute stress disorder and depression when their infant is in the NICU.[4]

Parental needs can be characterised as a requirement that, when met, lessens parents' anxiety and boosts their sense of sufficiency.[6] The viewpoints of both the mothers and the fathers must be heard by the medical community to recognise, comprehend and fulfil parental requirements during an infant's NICU stay. It is well acknowledged that meeting parental needs are essential to providing excellent family-centred and integrated healthcare services and enhancing parents' quality of life.[7]

One of the earliest attempts to investigate and characterise these needs was made in 1979.[8] In 1983, the first version of the standardised questionnaire was developed, and it was named the Critical Care Family Needs Inventory (CCFNI).[9]

The current study was planned to assess the perceived needs of parents who had premature infants in an NICU setting.

Subjects and Methods

The descriptive cross-sectional study was conducted at the Raparin Teaching Hospital for Children, Erbil, Iraq, from April to June 2021, and comprised parents with premature infants who were enrolled during their infants' stay at the NICU using a convenient sampling technique. Those

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included were parents aged 18 years and above with singleton premature babies with gestational age between >25 and <37 weeks. Those excluded were parents with premature infants having any disease that could interfere with their communication, like asphyxia, neurological problems, genetic disease, and intracranial haemorrhage. Also excluded were parents who had prior experience with premature infants in NICU settings, parents with psychological disorder, or having a history of any emotional trauma, including divorce, separation from a spouse.

Data was collected using a two-part questionnaire. The first part entailed an interview exploring data, having 8 items related to the infant, like gestational age, birth weight, infant's length of stay in the NICU in terms of days, baby's gender, neonate's birth order, medical diagnosis of the infant, the number of children the parents had, and the type of birth, and 3 items related to the parent, like parents' age, socioeconomic status, and method of education preferred by the fathers and the mothers.

The second part was a self-report questionnaire adapted from the CCFNI,[9,10] and had 56 items spread across 5 domains of support, information, proximity, assurance and comfort. It had 15 items related to the emotional support needed by the family, 12 related to the need to get accurate information about the infant, 7 items about the need to remain close to the infant, 15 items about the need to feel confident about the infant's prognosis, and 7 items related to the need for personal physical comfort. All items were scored on a 4-point Likert scale, ranging from not important to very important. Official permission was granted from the Nursing College/ Hawler Medical University. Another approval was issued by the General Director of Health/Erbil city. Moreover, verbal and written consents were obtained from each parent. The participants were asked to complete the survey on their own, while a researcher was accessible only to clarify the parts that were unclear to the subjects.

Each questionnaire took about 20-30 minutes and the whole process was completed at the NICU. Over the course of 2 months, the questionnaires were collected 3 days a week after visiting hours. Fathers rarely came to the NICU, and the focus was kept on parents who were present together at the NICU during the data collection period.

The questionnaire was translated from English into Kurdish and then back-translated into English. The translation was reviewed by a panel of two multilingual translation professionals. Only minor changes were necessary and were duly incorporated. Any disagreement between the two experts was resolved by mutual discussion and changes were incorporated with consensus in the Kurdish version.

The face validity of the questionnaire was evaluated by 6 field experts: 2 each in paediatric nursing, community nursing, and paediatricians. All the experts approved the instrument's validity and relevance to the study (r=0.8). In the sample sizes, 57 parents (father and mother) with their premature infants were selected.

$$n = \frac{(Z^2\ pq)}{d^2}$$

Z= confident interval 95% $(1.96)^2$, p= prevalence (0.0203), q= (1-p)= (0.9797), d= sampling error (0.04).

$$n = \frac{(1.96)^2\ *(0.0203)*(0.9797)}{(0.04)^2} = 48$$

The sample size estimation was 48 parents the researcher increased it to 57 parents making a total of 114 in order to be more reliable. The finding was based on the prevalence of premature birth (0.03%) in Erbil City.[11] the sample size was determined by utilizing Cochran's formula (sample size = $(Z)^2pq/(d)2$).[12]

Data were analysed using SPSS 25. Data were expressed as frequencies and percentages, or as mean and standard divisions, as appropriate. The statistical values were compared to draw inferences.

Results

There were 57 sets of parents and premature neonates. The mean gestational age of the neonates was 33.37±3.29 weeks, mean age of fathers was 31.44±7.24 years, and mean age of mothers was 27.51±6.19 years. Among the neonates, 31(54.4%) were boys, 32(56.1%) had been delivered through caesarean section (CS), 22(38.6%) had neonatal jaundice, and 22(38.6%) had respiratory distress syndrome as the cause of hospitalisation (Table 1).

With respect to the method of education, 28(49.13%) fathers and 15(26.32%) mothers preferred demonstration (Figures 1-2).

Of the 114 parents, 112(98.2%) wanted to feel respected by hospital staff, 111(97.4%) wanted to have questions about infants answered honestly, 101(88.6%) wanted to have someone show concern for their health, 111(97.4%) wanted to know the exact condition of the baby, and 100(87.7%) wanted to feel accepted by hospital staff (Table 2).

The least important parental needs across all domains was the information related to the approximate NICU expenditure 21(18.4%), and feeling that it was acceptable to cry and relieve all emotions 28(24.6%) (Table 3).

The most important of the 5 domains cited was assurance 106 (93%) (Table 4).

Table-1: Sociodemographic characteristics of the sample (n = 57)

Infant and parent characteristics	n (%)	Mean ± SD
Gestational age by week		
<29 week	7 (6.1%)	33.37 ± 3.29
29-31 week	8 (7.0%)	
32-34 week	13 (11.4%)	
35-<37 week	29 (25.4%)	
Birth weight by Kg		
<1	3 (2.6%)	2.28 ± 7.74
1-1.999	16 (14.0%)	
2-2.999	26 (22.6%)	
>3	12 (10.5%)	
Infants' length of stay in NICU (days)		
1-5	49 (43.0%)	3.07 ± 3.04
6-10	7 (6.1%)	
11-15	0 (0%)	
16-20	1 (0.9)	
The number of children parents have		
1-2	35 (30%)	2.40 ± 1.44
3-4	16 (14.0)	
5-6	6 (5.3%)	
Father's age		
<22 year	4 (3.5%)	31.44 ± 7.24
22-30 year	24 (21.1%)	
31-39 year	20(17.5%)	
>40 year	9 (7.9%)	
Mother's age		
<22 year	12 (10.5%)	27.51 ± 6.19
22-30 year	27(23.7%)	
31-39 year	17(14.9%)	
>40 year	1(0.9%)	
Baby gender		
Male	31(54.4%)	
Female	26(45.6%)	
Neonate birth order		
First	19 (33.3%)	
Second	11 (19.3%)	
Third or more	27 (47.4%)	
A medical diagnosis of premature		
Neonatal Jaundice	22 (38.6%)	
Respiratory Distress Syndrome	22 (38.6%)	
Sepsis	7 (12.3%)	
Macrosomia baby	1 (1.8%)	
Premature only	5 (8.8%)	
Types of birth		
Normal vaginal delivery	25(43.9%)	
Caesarean section	32(56.1%)	
Socioeconomic status scale		
High	10 (17.5%)	
Medium	42 (73.7%)	
Low	5 (8.8%)	

SD: Standard deviation, NICU: Neonatal intensive care unit.

Table-2: The 10 most important needs identified by the parents (n= 114).

Sub-domains of parents' need	Domains	n (%)	Means± SD
To feel respected by the hospital staff	Proximity	112(98.2)	3.98 ± 0.13
To have questions about my infant answered honestly	Assurance	111(97.4)	3.98 ± 0.161
To be assured that the best care possible is being given to my infant	Assurance	111(97.4)	3.97 ± 0.16
To be recognized as important in my infant's recovery	Assurance	111(97.4)	3.96 ± 0.23
To feel hopeful about my baby's outcome	Assurance	110(96.5)	3.96 ± .18
To know the exact condition of my baby	Information	111(97.4)	3.97 ± 0.16
To have someone show concern for your health.	Support	101(88.6)	3.85 ± 0.47
To have a private place to breastfeed or use a breast pump	Support	108(94.7)	3.91± .43
To receive a description of the environment before entering the neonatal intensive care unit (NICU) for the first time.	Support	107(93.9)	3.92 ± 0.36
To feel accepted by the hospital staff	Comfort	100(87.7)	3.83 ± .48

Table-3: The five least important needs identified by the parents (n = 114).

Sub-domains of parents' need	Domains	n (%)	Mean± SD
To talk about the possibility of my infant's death.	Support	60(52.6)	3.61 ± .78
To be able to talk to other parents whose infant is in the NICU or who have experienced a similar situation.	Support	41(36.0)	2.52 ±1.31
To have a place to be alone while in the hospital.	Support	19(16.7)	3.30 ± 1.15
To feel that it is acceptable to cry.	Information	28(24.6)	2.83 ± 1.23
To know the approximate expenditure for the NICU stay.	Information	21(18.4)	3.21 ±1.19

Table-4: Distribution of the sample according to the domains of needs (n = 114)

Domains of parents need	n (%)	Mean ± SD
Assurance	106 (93)	3.86 ± .22
Comfort	98 (86)	3.75 ± .34
Proximity	96 (84.2)	3.72 ± .30
Information	84 (73.7)	3.61 ± .36
Support	79 (69.3)	3.60 ± .29

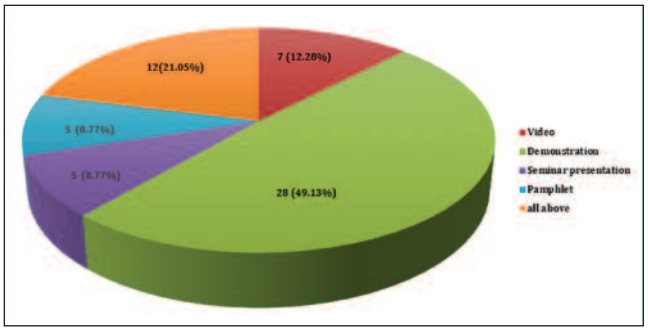

Figure 1: Method of education preferred by the father (n=57).

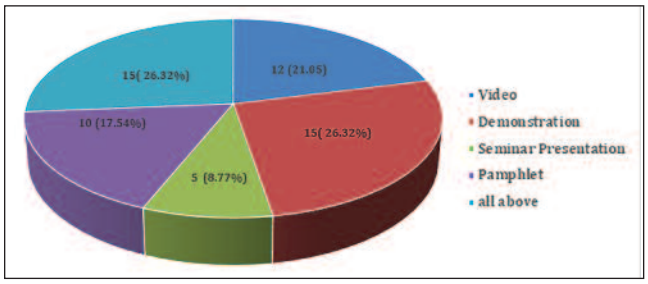

Figure 2: Method of education preferred by the mothers (n=57).

Discussion

The mean ages of fathers, mothers and premature infants were consistent with an earlier study done in Georgia.[13]

The mean length of hospitalisation was 3.07±3.04 days, the birth-weight of premature neonates was 2.28±7.74kg, and 31(54.4%) were boys in the current study. The corresponding data in a study done in the United States reported 18.14±14.46 days, 2.44±9.76kg, and 31(54.4%).[14] The differences between the two data sets included hospital overcrowding, a lack of beds, equipment and medical staff, and poor-quality educational material for parents.

In the current study, the highest percentage of premature infants were hospitalised for having neonatal jaundice, and more than half of them were born by CS. This agrees with a study done in the United Arab Emirates (UAE).[15]

In order to inform the couples of various factors prior to engagement, health counsellors do not have access to hospitals in Iraq. Congenital issues, a child's illness in an intra-family marriage, and infections during a woman's pregnancy are some of these factors prospective parents need to know. Additionally, if the foetus is in an abnormal position, a CS may be performed as long as both the mother and the foetus are kept safe. The parent's decision to have the surgery is final.

In the present study, the most important parental need regarding the proximity domain was "to feel respected by the hospital staff". The study agrees with an earlier study in Lebanon.[16] The staff should give parents clear instructions and listen carefully to them in order to improve the physical and mental quality of life for people with serious illnesses, such as growing up being born prematurely. Parents trust the medical staff because they are confident that the doctors will help them, and because the setting for the current study had highly cultural and religious underpinnings. The parents have a right to be respected at a health facility.

One of the most essential domains that the parents identified was assurance. The highest mean scores were for having "a question about the infant answered honestly", "to feel there is hope for the baby's outcome" and "to be certain the best care possible is being given to the infant". The findings were consistent with a study in Turkey and Iran.[17,18] The finding related to the parental need "to be recognised as important in the infant's recovery" was in agreement with the study conducted in South Korea.[19]

Regarding the information domain, the highest mean score of the parents' need was for knowing "the exact condition of the infant". This was in agreement with a study done in the Caribbean.[20]

The support domain had the highest mean score for the parental need "to receive a description of the environment before entering the NICU for the first time," followed by the need "to have someone show concern for your health," and "to have a private area to breastfeed or use a breast pump". The findings were in line with earlier studies.[21,22]

On the other hand, the current study showed the highest parental need in the comfort domain as the need "to feel accepted by the hospital staff", which is in agreement with findings elsewhere.[23,24]

In the present study, the least important needs were found in the support domain, with the lowest score for the need to have a "conversation about the possibility of the infant's death". The finding was in contrast with a previous study.[25] The need to "feel that it is acceptable to cry" identified in the current study was in agreement with literature.[26,27]

In the current study, the parents identified the overall domains and their most important needs. The highest mean score was for the domain of assurance, followed by comfort. The finding agreed with the global literature.[28,29,30]

Conclusion

The majority of parents identified their needs in the NICU setting as being related to assurance and comfort, followed by proximity, information, and support.

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