

Assessment of anxiety Level among mothers of neonates admitted in Neonatal Intensive Care Unit in Raparin Hospital/ Erbil City-Iraq

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Abstract

Background and objective: The neonatal intensive care unit (NICU) environment has the potential to exacerbate the anxiety of mothers of neonates admitted to the NICU. The study done by Margaret B. in India showed that mothers whose neonates which hospitalized in NICU showed high levels of anxiety. The aim of this study was to assess the anxiety level among mothers of neonates admitted in (NICU).

Methods: A quantitative design a descriptive study was conducted at Raparin Pediatric Teaching Hospital in Erbil City in Kurdistan Region / Iraq. During the period from 2^{ed} November 2015 to 15th January 2016. Purposive sample was used for selection of 116 mothers who had neonates were admitted in Neonatal Intensive Care Unit. A questionnaire was constructed and adapted which consist of two parts: the 1st one socio-demographic characteristic of the mothers and their newborns, and the 2^{ed} one standardized questionnaire which is called a Zung Self-Rating Anxiety Scale.

Results: The highest percentage (62.1%) of mothers had a normal level of anxiety, while 37.9 % had a mild to moderate level of anxiety.

Conclusion: Mothers had mild to moderate anxiety levels.

Keywords: Assessment, Anxiety and Neonates.

Introduction

Anxiety disorder refers to a group of conditions in which the affected person experiences persistent anxiety that they cannot dismiss and it interferes with his or her daily activities.¹ For parents, the admission of their child to a pediatric intensive care unit (PICU) is a stressful experience. Acute stress disorder has been documented in almost one third of all parents had children were admitted to the PICU and other studies have shown that these symptoms persist beyond the child's discharge. Major stressors to parents with a critically ill child are well described, including alterations of the parental role; fear of the child's suffering from painful procedures, potential for death, and long-term consequences of the child's illness. Parental anxiety is high following a child's admission to the PICU. Physicians failed to recognize high-parental anxiety in nearly one third of the parents. Increased maternal age, prematurity of baby, longer NICU stay and inability to directly breastfeed the baby were associated with higher stress levels.² The birth of a newborn requiring admission to a Neonatal Intensive Care Unit (NICU) can represent a traumatic

experience for the parents. The neonatal intensive care unit environment also has the potential to exacerbate the anxiety of mothers of neonates admitted to the NICU. The study done by Margaret B. in India showed that parents whose neonates are hospitalized in NICU showed high levels of anxiety, depression and hostility which also revealed problems of psychosocial adjustment of the parents. About 50% of mothers of premature infants have elevated levels of anxiety symptoms during hospitalization. Maternal anxiety can have deleterious effects on mother-infant interaction, particularly on mothers' abilities to form an attachment to their baby maternal anxiety was significantly ($p < 0.05$) related to the infants gender and duration of hospitalization.³ Parents of premature infants experience multiple stressors related to preterm birth, the medical condition of the postpartum mother and/or infant, admission of their infant to the neonatal intensive care unit.⁴ Parental stress emanating from the NICU experience is important, potentially influencing parenting behavior as well as producing long-term emotional problems and health alteration. Parents' stress, anxiety, depression, and fatigue alter parenting behavior and perception of parental competence, parent infant interaction, and ultimately infant outcomes such as cognitive development, emotional regulation, and health. Notably the NICU experience is associated with long-term effects on parents' emotions.⁵ So the researchers interested to conduct the study on anxiety among mothers of neonates admitted in Neonatal Intensive Care Unit in Erbil city in Kurdistan Region / Iraq. Because no previous study was done regarding this topic, Therefore, the aim of this study was to assess the level of anxiety among mothers of neonates admitted in Neonatal Intensive Care Unit.

Methods

A quantitative design a descriptive study was conducted of Raparin Pediatric Teaching Hospital in Erbil City of Kurdistan Region of Iraq. During the period from 2^{ed} November 2015 to 15th January 2016. Purposive sample was used for selection of 116 mothers who had neonates were admitted in Neonatal Intensive Care Unit. A questionnaire format was adapt and developed for the purpose of data collection. It contained of two parts; Part one consisted of socio-demographic characteristics of the mothers and newborns, and part two consisted of a Zung Self-Rating Anxiety Scale standardized questionnaire which used to measure the level of anxiety, including 20 questions and each question has 4 responses that are ranked from 1 to 4 and the client selects one response that is more suitable with his emotional state, level of anxiety according this scale is determined as following: 20-44 normal, 45-59 Mild to moderate, 60-74 severe and 75-80 Extreme anxiety level.⁶ The ethical approvals for conducting this study and were obtained from ethical committee in College of Nursing / Hawler Medical University. Before interview with mothers the purpose of the study was explained and verbal consent was taken. The mothers informed that they have right for withdrawal from the study at any time. In order to analysis the results of the study data were entered in SPSS (version 22) frequency, percentage and Chi-square test was used for interpretation of data.

Results

1. Socio-demographic and obstetric characteristics of mothers

Table 1 show that the socio-demographic characteristics of the study sample. Regarding to the mothers age group, the highest percentage (48.3%) of them were in the age group between 25-35 years old. While the majority (85.3%) of the mothers was married between age 14-24 years old. More than half (56 %) mothers were illiterate. More than half (56.9%) of the study samples had a fair economic status. The highest percentage (86.2 %) mothers were housewives. Regarding the residential area, most (62.1%) of the study sample was from urban area. Most (61.2%) of the study sample were nuclear family. The majority of mothers (71.6%) was multi-para. Regarding the number of abortion was highest percentage (94%) were between 0-2 abortions. More than half (55.2%) of the mothers had planned pregnancy. Regarding the type of delivery, most of the mothers (61.2%) were delivered last baby through normal vaginal delivery. Majority (70%) of mothers was first time admitted in to the hospital with her baby.

Table 1: Distribution of Socio-demographic and obstetric characteristics of the mothers (N=116)

Socio-demographic characteristics of mothers		Frequency	%
Age group (years)	14-24	36	31.0
	25-35	56	48.3
	36-46	24	20.7
Marital age of mothers	14-24	99	85.3
	25-35	17	14.7
Level of Education mothers	Illiterate	65	56.0
	Primary School Graduated	16	13.8
	Secondary School Graduated	23	19.8
	Institute Graduated	6	5.2
	College Graduated	6	5.2
Economic status	Insufficient	37	31.9
	Fairly	66	56.9
	Sufficient	13	11.2
mothers job	House Wife	100	86.2
	Employee	16	13.8
Residential area	Urban	72	62.1
	Rural	44	37.9

Socio-demographic characteristics of mothers		Frequency	%
Type of family	Nuclear Family	71	61.2
	Joint Family	45	38.8
Parity	Primi-Para	33	28.4
	Multi-Para	83	71.6
Abortion	0-2	109	94.0
	3-5	7	6.0
Pregnancy	Planned	64	55.2
	Unplanned	52	44.8
Type of delivery	NVD	71	61.2
	LSCS	45	38.8
Did the mother admitted first time to the hospital	Yes	87	75.0
	No	29	25.0

2. Socio-demographic characteristics of the newborns

Table 2 shows that the highest percentages (76.7%) of the newborns were in the age group between 1-15 days old. Concerning the baby gender, shows that most of them (58.6%) were males, while 41.4% of them were females, regarding the maturity of newborn, 61.2% were full term baby. Regarding the type of child's feeding, 40.5% the babies had breast feeding. Concerning the reason of hospitalization shows that 42.2% were hospitalized because of chest infection.

Table 2: Socio-demographic characteristics of the newborns (N=116)

Socio-demographic characteristics of newborn		Frequency	%
Age Group / days	1-15 days	89	76.7
	16-30 days	27	23.3
Sex of newborn	male	68	58.6
	female	48	41.4
Maturity of newborn / weeks	Pre-term	35	30.2
	Full term	71	61.2
	Post-term	10	8.6
Type of child's feeding	bottle feeding	27	23.3
	breast feeding	47	40.5
	mixed feeding	42	36.2
Reason of hospitalization	chest infection	49	42.2
	jaundice	37	31.9
	septicemia	8	6.9
	poor feeding	5	4.3
	premature	8	6.9
	Gastrointestinal infection	5	4.3
	meningitis	4	3.4

3. Severity levels of anxiety among mothers

Table 3 shows that the occurrence of anxiety among mothers as estimated on Zung Self-Rating Anxiety Scale reveals that, 62.1% had normal anxiety, while 37.9 % of had mild to moderate anxiety level.

Table 3: Severity levels of anxiety among mothers (N=116)

Severity of anxiety of mothers	Frequency	%
Normal anxiety	72	62.1
Mild to moderate anxiety level	44	37.9
Total	116	100

4. Association between socio-demographic characteristics of the mothers and severity levels of anxiety

Table 4 shows the association between socio-demographic characteristics of the mothers and severity levels of anxiety. There were non-significant associations between severity of anxiety and socio-demographic characteristics of mothers.

Table 4: Association between socio-demographic characteristics of the mothers and severity levels of anxiety (N=116)

Socio-demographic		levels of anxiety of mothers		P-value Chi-square Test
		normal anxiety No	mild to moderate anxiety level No	
Age Group (years)	14-24	23	13	0.779
	25-35	23	23	
	36-46	16	8	
Marital age of mothers (years)	14-24 years	60	39	0.433
	25-35 years	12	5	
Level of education	Illiterate	41	24	0.636
	Primary School Graduated	12	4	
	Secondary School Graduated	12	11	
	Institute Graduated	3	3	
	College Graduated	4	2	
Economic status	Insufficient	20	17	0.459
	Fairly	43	23	
	Sufficient	9	4	
mothers job	House Wife	64	36	0.212
	Employee	8	8	
Residential area	Urban	47	25	0.237
	Rural	25	19	

Type of family	Nuclear Family	41	30	0.157
	Joint Family	31	14	
Number Children	1-4	59	34	0.351
	5-8	13	10	
Parity	primi-para	23	10	0.197
	Multi-Para	49	34	
Abortion	0-2	68	41	0.537
	3-5	4	3	
Pregnancy	Planned	39	33	0.466
	Unplanned	33	19	
Type of delivery	NVD	42	29	0.417
	LSCS	30	15	
Did the mother admitted first time to the hospital	YES	57	15	0.135
	NO	15	14	

5. Association between some socio-demographic characteristics of the newborns and mother's severity levels of anxiety

Table 5 shows that there were no significant associations between severity of anxiety of mothers and socio-demographic characteristics of newborns.

Table 5: Association between some socio-demographic characteristics of the newborns and mother's severity levels of anxiety (N=116).

Socio-demographic of newborn		levels of anxiety of mothers		P-value Chi-square
		normal anxiety	mild to moderate anxiety level	
		No	No	
Newborn Age Group / days	1-15 days	57	32	0.282
	16-30 days	15	12	
Sex of newborn	male	39	29	0.146
	female	33	15	
Maturity of newborn / weeks	Pre-term	22	13	0.986
	Full term	44	27	
	Post-term	6	4	
Type of child's feeding	bottle feeding	14	13	0.154
	breast feeding	34	13	
	mixed feeding	24	18	
Reason of hospitalization	chest infection	29	20	0.194
	jaundice	28	9	
	septicemia	3	5	
	poor feeding	4	1	
	premature	4	4	
	Gastrointestinal infection	3	2	
	meningitis	1	3	

Discussion

Regarding the age group, the highest percentage of the study sample was in the age group between 25-35 years old, this result which measured the parental anxiety admission to the pediatric intensive care unit supported by the study which was done by Needle Jennifer S. (2009).² Nevertheless other study done by Erdem Y. (2010) concordance with the present study results.⁷ Regarding the most of the study sample graduated from secondary school, were Housewife, joint family, and it was first time admitted to hospital. The results of this study was similar to the study done by Patil Sangeeta (2014) which the most of mothers graduated from Secondary School, were housewife and first time admitted to the hospital, from joint family.⁸ Regarding the pregnancy, most of the mothers had planned to their pregnancy, there were also other study whose results were similar to those of our study (except parity, this finding can be a result of mother's cultural and religious values).⁷ Regarding the gender of the baby, majority of them were males and the age group between 1-15 days old and maturity of baby was full term baby, the present study was agree with results of the study done by Margaret B., *et al.* (2014) regarding maternal anxiety and family support among mothers of neonates admitted in Neonatal Intensive Care Unit.³ The present study showed that 37.9 % of mothers had symptoms of anxiety, so this result agree with the study done by Kong LP.(2013) showed that 20% of fathers and 24% of mothers had symptoms of anxiety⁽⁹⁾. On the other hand the level of anxiety in the present study was mild to moderate anxiety level, while in the study results done by Mizrak Berrak, *et al.* (2015) shows higher levels of anxiety in mothers whose babies were in the NICU ⁽¹⁰⁾. there is little bite difference between level of anxiety of mothers, so may be related to different culture, sample size, scale to measure anxiety, despite that in our community good relationships between hospital staff and patients and family members as affecting factors on level of anxiety. On the other hand there were some factors that led to difference in level of anxiety in mothers such as prolonged periods in the NICU, inability of the mother to care for the baby, and lack of information about the baby's health. In the literature, studies showed that mothers need to inform about their baby's status from nurses and interact with nurses freely led to a decrease in the anxiety levels of mothers. Mothers should be involved in activities such as touching, holding and feeding their babies. In this way, anxiety levels can be decreased via the development of competence and parenting roles. There were non-significant associations between severity levels of anxiety of mothers with mothers and newborns socio-demographic characteristics. The study results supported by the studies which were done by Mizrak Berrak, *et al.* (2015) in Turkey.¹⁰ On the other hand the result of preset study agrees with the study done by Melnyk, *et al.* (2008).¹¹

Conclusion

The study showed that most of the mothers were age group between 25-35 years old, graduated from secondary school, Housewife, joint family, first time admitted to hospital, planned to their pregnancy, from urban area. Majority of newborns were males and the age group between 1-15 days old and full term baby. Mothers had mild to moderate anxiety levels. There were non-significant associations between severity levels of anxiety of mothers with mothers and newborns socio-demographic characteristics.

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