Stress and Coping Strategies among Mothers of Neonates in Neonatal Intensive Care Unit

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ABSTRACT

Background

The birth of a baby is a happy moment for parents. When a newborn is admitted to Neonatal Intensive Care Unit due to morbidities, stress provoking for the parents. To overcome stress, parents, especially mothers adopt different types of coping strategies.

Objective

To assess the stressor and coping strategies adopted by mothers of neonates in Neonatal Intensive Care Unit.

Method

This is a cross-sectional, analytical study design conducted in mothers whose neonates were admitted 72 hours prior to data collection in the Neonatal Intensive Care Unit. The study was conducted after the approval received from the Institutional Review Committee-Kathmandu University School of Medical Sciences. Consecutive sampling methods was used to select the mothers. Data was collected using Parent Stressor Scale (PSS: NICU) for stress and BRIEF Coping Orientation to Problems Experiences (COPE) Inventory for coping strategies. Four points Likert scale was used to collect data. Data was analyzed using descriptive analysis, independent t-test and pearson correlation was used to see the correlation between independent and dependent variables.

Result

Overall stress among mothers is 111.4 ± 9.82 and among which most stressful events is neonates, looks and behaviour 54.4 ± 6.56 followed by parental role 34.10 ± 2.50 and sight and sounds of Neonatal Intensive Care Unit 23.06 ± 2.85 respectively. The direction of the relationship is positive between stress and coping strategies in neonates mothers ($p < 0.001$) in Neonatal Intensive Care Unit.

Conclusion

Understanding the stress of mothers and their coping strategies when their neonates admitted in Neonatal Intensive Care Unit will help the nurses to plan care for admitted neonates.

KEY WORDS

Coping strategies, Mothers, Neonates, Neonatal intensive care unit, Stress

INTRODUCTION

In Nepal, in the year 2020 birth rate was 19.362 per 1000 out of which newborns cases treated in health facilities were 29, 106.[1,2] The infant that needs care in a Neonatal Intensive Care Unit (NICU) can be stressful for the parents.[3-7] Mothers of admitted neonates experiences NICU environment as stressful.[6,8] Uncertainty about the outcome and the baby's look changes in parental role are the main stressor of stress.[6] Parents became distraught, worried and anxious about the care of their infant.[7]

Stressed parents adopt different coping strategies and they are praying, attachment with baby and acceptance of the situation when their newborn is admitted in NICU.[9] Identifying the stressor which causes stress in NICU mothers will help in order to develop interventions for improving mental health in NICU mothers.[10] As a health care provider it is important to understand mothers' individual coping strategies to care for mothers of the neonatal care unit.[9] This type of study is not conducted in the study hospital.

METHODS

A cross-sectional, analytical study design was adopted to conduct the study. The study was conducted after the approval received from the Institutional Review Committee Kathmandu University School of Medical Sciences (IRC-KUSMS) -65/2021, for a period of July 2021 December 2022. Those mothers whose newborns admitted 72 hours prior in the NICU and were stable according to the Doctor's and willing to be a part of the study were included. Those mothers were excluded from those who do not visit the newborn in the NICU. Consecutive sampling methods were used to select the mothers but due to refusal by some mothers it was not followed properly. There was a total of 160 mothers who met eligible criteria but only 137 were included in the study. Six pairs were twins so, interviewed only once. Interview schedule was pretested on 10% of the mothers and they were not included in the main study.

Those mothers who met the inclusion criteria, was approach and explain the purpose of the study and they were explain refusal to participate in the study is of their choice and if when they agree to participate then only verbal consent was taken. Mothers were assured of confidentiality and anonymity in the study. Mothers room was taken to interview the mothers. Nepali version questionnaire was used to interview the mothers. It takes 40-45minutes to be complete the interview. SPSS version 20.0 was used for data analysis. Data was analyzed using descriptive statistical tests (frequency, mean and SD) and inferential statistic (Pearson correlation, t-test).

Demographic data of newborns: gestational age, sex and stay in NICU was taken. Data was collected using Parent Stressor Scale (PSS: NICU): The PSS:NICU was used to measure parental perceptions of stressors arising from the NICU environment. The instrument includes four dimensions: Sights and sounds of the unit, staff behavior and communication, parental role alterations and infant's appearance and behaviors. This scale has been widely used in neonatal literature. In the present study only three dimensions were taken like sights and sounds of the unit, parental role alterations and infant's appearance and behaviors. Nepali version of Parent Stressor Scale (PSS: NICU): was adapted after getting permission to use it from the author and English version was adapted from Miles1983.[11,12] The Brief Cope comprised fourteen subscales of two items each with 28 items under three major domains. The three domains are emotion focused, problem-focused and dysfunctional coping strategies. Emotion-focused coping strategies include (religion, positive reframing, and use of emotional support, acceptance, and humor). Problem-focused coping strategies include (use of instrumental support, active coping, and planning). Dysfunctional-coping strategies include (self-distraction, denial, venting, substance use, behavioral disengagement, self-blame). This tool is a 4-rating Likert scale in which each item has 4 options (1-not doing at all to 4-doing this a lot). Responses will be then added to obtain a total score. The higher score specified the higher use of the coping strategies. Coping scores will be classified as: maladaptive coping (score from 28-56) and adaptive coping (score from 57-112). Nepali version of BRIEF COPE Inventory was adapted after getting permission to use it from the author and English version from Carver CS 1997.[13,14]

RESULTS

In table 1, male neonates were two-third (70.8) more than female neonates and term neonates are double to that of preterm neonates. The mean NICU stay of neonates is 1.49 ± 0.50 days.

Table 1. Socio-demographic characteristics of neonates (n=137)

Variables	Frequency (Percentage)
Neonate sex	
Male	97(70.8)
Female	40(29.2)
Gestational age	
Term	93(67.9)
Preterm	44(32.1)
Mean NICU stay	1.49±0.50

Overall stress among mothers is 111.4±9.82 and among which most stressful events is infants looks and behaviour 54.4 ± 6.56 (Table 2).

Regarding the sex (p-value = 0.157) and gestational age (p-value = 0.494) of the infant, its shows that there is no association with PSS: NICU (Table 3).

Table 2. Parent stress scale: NICU subscale and total mean scores (n-137)

Subscales and Components	Stress occurrence scale Mean (SD)	Overall stress score Mean (SD)
Sight and sounds	22.9 ± 2.90	
Parenting role alteration	34.0 ± 2.59	111.4 ± 9.82
Looks and behaviour of infants	54.4 ± 6.56	

SD: standard deviation; n=frequency

Table 3. Mean comparision between neonate characteristics and Parent stress scale: NICU (n=137)

Demographic variables	Sig (p-value)	t-value*	PSS: NICU Mean (SD)
Sex of the newborns	0.157	1.437	
Male (n=97)			112.40±8.07
Female (n=40)			109.22±12.9
Gestational age	0.494	0.685	
Preterm (n=44)			110.6±9.3
Term (n=93)			111.8±10.0

SD: standard deviation; n=frequency; * Paired-t test

Table 4. Correlation between stress and coping strategies (n=137)

Variables	Mean ± SD	Correlation Coefficient (r)	p-value
Stress score	111.47±9.82	0.331	.000
Coping strategies	69.87±10.14		(<0.001)

**correlation is significant at the 0.01 level(2-tailed)

Pearson Correlation Coefficient for stress and coping is 0.331, which is significant ($p < 0.001$ for a two-tailed test). The direction of the relationship is positive between stress and coping. The magnitude or strength of the association between stress and coping is approximately mild.

DISCUSSION

The study was conducted to assess stress and coping strategies among the mothers whose neonates were admitted to the NICU. In the study male neonates were two-third (70.8) more than female neonates and term neonates are double to that of preterm neonates. The mean NICU stay of neonates was 1.49 ± 0.50 days. The total stress score in NICU admission for mothers was 111.47 ± 9.82. Similar stress score 78.68 ± 4.41 found in study by Shanmugam.[17] In contrast to it in India stress score 2.73 ± 0.334, 2.87 ± 0.69 and in Greece 3.44 ± 1.31, 3.60 [0.23].[3,5,18,19] The difference in stress score may be because of orientation the parents got of NICU, previous experience, duration of stay in NICU.

The highest stress experienced by mothers was baby looked and behaved (54.81 ± 6.44) followed by parental role (34.10 ± 2.50) and sight and sounds of NICU (23.06 ± 2.85) respectively.

In the present study baby looked and behaved is 54.81 ± 6.44. In contrast to it 3.78 ± 77 and 2.11 respectively.[6,10] The mothers are stressed because the babies are very small, and they have very little movement.

In the present study sight and sounds of NICU (22.9 ± 2.90). In contrast to it (3.04 ± 1.04), (2.00) and (1.75 ± 0.317).[6,7,10] The mothers have little stress related to sight and sound because, maybe they were familiar of the sights and sounds of NICU on the time of admission of their neonates.

In the present study parental role alteration mean score is 34.0 ± 2.59. In contrast to the present study mean score =3.74 ± 0.637), (3.23 ± 0.92) and (3.87 ± 78).[3,5,11] May be some mothers are mature enough to cope with the situation when their newborns got admitted in the NICU.

In the current study the neonates' mothers mean coping strategies was 69.87 ± 10.14. Similarly, $p < 0.05$ found in another study conducted in India.[17] The direction of the relationship is positive between stress and coping (< 0.001) in the present study. This relationship in contrast to it there is no significant relationship between stress and coping strategies was seen (r= -0.09).[15]

and correlation coefficient r = 0.06 in two different study in same country.[20] Coping strategies are different for individual mothers because may be the mothers are of different ages and of the gravida and from different countries too.

The main limitation of the study is that consecutive sampling methods were not done properly as due to refusal by some mothers as they do not want to recall the stress when their newborns were admitted in the Neonatal Intensive care Unit. The sample size is relatively small, and the study was conducted in a single hospital.

CONCLUSION

Neonates admitted to the NICU itself is very stressful for the parents, especially mothers. To overcome the stressful situation parents(mothers) adopt different types of coping strategies. So, by understanding stress and coping strategies nurses can plan the care to the neonates in the NICU.

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