

# Stress among Mothers Whose Neonate Admitted in NICU

Amar Mulla<sup>1</sup>,

M. Sc. (N), PhD Scholar, Assistant Professor,  
Shri Vinoba Bhav College of Nursing, Silvassa, DNH

Brijal Patel<sup>2</sup>,

Assistant Professor,  
Nootan College of Nursing, Visnagar, Mehesana, Gujarat

**Abstract:- Background:** Stress is an uneasy feeling due to under undue pressure. This pressure is experienced due to an increased day to day life situational demands on an individual. It has an overall effect of all the stressors. When a newborn is admitted in NICU due to any reason may need to stay for a day, week or month depending on its condition. This can be a stressful situation for parents to deal with. **Aims:** Aim of the study was to assess the mothers stress level due to neonate's admission in NICU. **Methodology:** A descriptive study was done on 50 samples using Stress level modified PIP scale. The results were analyzed by using appropriate statistical tests. **Result:** Majority of mothers (n=43, 86%) had severe stress level whose neonate admitted in NICU. **Conclusion:** Hence, it can be concluded that admission of the neonate to NICU exposes the mother to severe stress.

**Keyword:-** Stress, NICU, Neonate, Mother.

## I. INTRODUCTION

Stress is an uneasy feeling due to an increased demand of situations or conditions. This pressure is usually experienced in everyday life. Situations such as financial needs, adjustment to new job, family arguments, adjustment to new circumstances etc. can expose an individual to stress. It has an overall effect of all such events.<sup>1</sup>

Scientists are working hard to define stress but till today it lacks definite explanations. It is usually viewed as an individual's reaction to different events which are called as stressors and it requires some adjustment by the individual with some response.<sup>2</sup>

Stress is part and parcel of human life. Every individual has different problems or obstacles like career choices, economical needs, working conditions, family demands, etc. Body's defenses change every time while facing it and as time passes it slows down.<sup>3</sup>

For every parent the birth of a baby is unique experience. It brings emotional and physical changes in them. As far as child is in mother's womb it doesn't require to do anything for survival but after delivery it needs to make ex-utero adjustments and babies who fail in it needs specialized NICU care.<sup>4</sup>

Admission of a newborn in NICU is great trauma for parents irrespective of the medical diagnosis. Parents of newborns admitted in NICU has reported a loss of control on a vital life event. This stress may aggravate due child's appearance, difficult medical terminologies, use of medical equipment, and fear of death of newborn. This also may expose the parents to posttraumatic stress. This period may continue for 6-8 months.<sup>5</sup>

Initial days of newborn's life are critical for its survival. Neonatal death rate was found to be highest at an average global rate of 18 deaths per 1,000 live births in 2018 as compared to age 1 was 11 and after age 1 but before turning age 5 was 10. Globally, 2.5 million children died in the first month of life.<sup>6</sup>

Myanmar had highest crude death rate of 8.2 deaths per 1000 population.<sup>7</sup> As per Public Health Minister of the Maharashtra Eknath Shinde 16539 neonatal deaths took place in 2018-19 in the state.<sup>8</sup>

- *Purpose of the study:* to find out mother's stress level.
- *Objectives of the study:*
  - Assess mothers stress levels and find its association with selected demographic variables.
- *Assumption:*
  - Mother may have stress due to neonate's admission in NICU.
- *Conceptual framework:*
  - Roy's adaptation model was accepted for the present study. The model focuses on mother's ability to adapt the situation and stressors raised due to neonate's admission in critical care unit. Mother every time interacts with the environment and uses her knowledge to adapt different responses to cope with it. Mother may succeed in it and manage stress but when she fails in it she might be using maladaptive responses.

## II. METHODOLOGY

**Research approach:** In this study quantitative approach is used.

**Research design:** Descriptive research design was selected for present study.

**Variables:** *Dependent variable:* Stress was dependent variables.

*Extraneous variables:* In this study following were the extraneous variables: **a) III Neonate:** Age, sex, birth order, diagnosis, duration of illness, siblings, gestational age, type of assistive devices used, general condition, **b) Mother's**

**data:** Age, age of spouse, parity, religion, previous experience of handling sick neonate, educational level, educational level of spouse, occupation, occupation of spouse, monthly family income, type of family, area of residence

**Research setting:** The present study was conducted in Shri Vinoba Bhav Civil Hospital, Silvassa, Dadra & Nagar Haveli.

**Population:** The population for the present study was the mothers of neonates.

**Target Population:** It comprise mothers whose neonates are admitted in NICU of SVBCH, DNH.

**Sample:** Mothers who had admitted their neonates in NICU, and who met the inclusion criteria.

**Sample size:** Fifty mothers were included in the study.

**Sampling technique:** In present study judgmental sampling technique was used.

**Sampling Criteria:**

a) **Inclusion criteria:** This study will include the mothers of neonates admitted in NICU fulfilling following inclusion criteria:

- Mother whose neonate is admitted in inborn or outborn NICU of SVBCH, Silvassa, DNH.
- Mothers who can speak and understand English or, Gujarati and Hindi.
- Mothers willing to participate in the study.

**Exclusion criteria:**

- Not residing in Dadra & Nagar Haveli.
- Mothers who have hearing and speech impairment.

**Ethical Consideration:** Ethical clearance was obtained from the Institutional Ethical Committee of Shri Vinoba Bhav Civil Hospital, Silvassa, DNH, Administrative permission was taken from Director, Medical and Health Services, Dadra & Nagar Haveli and informed written consent was taken from research participants.

**Data Collection Tool:** To assess the stress among mother whose neonate is admitted in NICU following tools were used:

1. Part A: Demographic Proforma: It contains the variables related to ill neonate, mother.
2. Part B: Standardized tool adopted from Pediatric Inventory for Parents developed by Randi Streisand (2001) which is further modified by the researcher.

**Part A: Demographic Proforma:** It contains the variables related to ill neonate, mother.

**A. Ill Neonate:**

Age, sex, birth order, diagnosis, duration of illness, siblings, gestational age, type of assistive devices used, general condition.

**B. Mother's data:**

Age, age of spouse, parity, religion, previous experience of handling sick neonate, educational level, educational level of spouse, occupation, occupation of spouse, monthly family income, type of family, area of

residence <sup>26</sup>

**Part B: The Pediatric Inventory for Parents (PIP)**

The pediatric inventory for parents (PIP) is a standardized tool which was developed by Randi Streisand in 2001. It is a 42 -item self-report measure that asks caregivers to rate the frequency and intensity of particular stressors. The PIP assesses stress (both difficulty and frequency) under the areas of communication, emotional functioning, medical care, and role functioning. PIP utilized a 5-point Likert scale (1 = not at all to 5= extremely) for difficulty and a 5-point Likert scale (1 = never to 5 = very often) for frequency. The items on the PIP were summed separately to yield difficulty and frequency scores and were added together to form an overall score. Higher scores on the PIP represented higher levels of parenting stress.

**Translation of the tool:** The tool was translated to Gujarati and Hindi by language experts. The language validity was determined by giving the tool to another language expert to retranslate the tool to English.

**Content Validity:** The prepared tool along with objectives was given to Professor, Associate Professor, Assistant Professor, Clinical Instructor in the area of the Child Health Nursing, Obstetrical and Gynecological Nursing, Medical Surgical Nursing, Community Health Nursing, Mental Health Nursing, Neonatologist, HOD of Pediatric Department and Psychiatrists.

**Pretesting and reliability of the tool:** The tool was given to mothers each in Hindi and Gujarati language for pretesting whose neonates were admitted in NICU of Shri Vinoba Bhav Civil Hospital, Silvassa, some items of the tool were modified. Average time taken by mothers to complete the tool was 30-45 minutes.

The reliability was established by test-retest method and it was found to be 0.704 which means the tool is highly reliable.

**LEVELS OF STRESS AS PER SCORE:**

Minimum Score: 32  
Maximum Score: 160

Levels of Stress	Score range	Percentage (%)
Mild Stress	< 54	< 34 %
Moderate Stress	54-109	34-68 %
Severe Stress	> 109	> 68 %

**Pilot Study:** The Pilot study was conducted in Shri Vinod Bhav Civil Hospital, Silvassa on 10% of the sample size same as the final study.

**Data Analysis:** Appropriate descriptive and inferential statistical tests were employed to analyze the data.

**III. RESULTS**

Analysis and interpretation were done according to the objectives of the study and were put under following headings:

**Section -1:** Sample characteristics

**Section-2:** Mothers’ level of stress whose neonate admitted in NICU

**Section-3:** Association between mother’s level of stress with selected demographic variables

**A. SAMPLE CHARACTERISTICS:**

It revealed that out of 50 sample in case of ill neonate 32 (64%) were in the age (in days) 0-3, 26 (52%) were male, 34 (68%) were first in birth order, 20 (40%) were diagnosed as preterm baby, 41 (82%) had 0-3 days of duration of illness, 34 (68%) had no siblings, 25 (50%) were in 33-37 weeks of gestational age, 42 (84%) had cardiac monitor as assistive device, 24 (48%) had fair general condition. According to mother’s data out of 50 26 (52%) were in the age group of 18-22, 24 (48%) had spouse age in the age group of 21-25 years, 32 (64%) were multipara, (84%) belong to Hindu religion, 33 (66%) had no previous experience, 18(36%) were educated up to high school

certificate, 26 (52%) had spouse education up to high school certificate, 24 (48%) mothers were unemployed, 12 (24%) had spouse occupation as skilled worker and shop and market sales worker, 13 (26%) had monthly family income of Rs. 3908-11707/-, 29 (58%) belong to joint family, 2 (54%) were residing in rural area.

**B. Mothers Stress levels:**

**Objective 1:** To assess the level of stress among mothers of neonates admitted in NICU.

N=50

Stress Score			
Level of Stress	Score	Frequency (n)	(%)
Mild	<54	0	0
Moderate	54-109	7	14.0
Severe	>109	43	86.0

Minimum Stress Score= 32 Maximum Stress Score= 160

**C. Association between mother’s level of stress and selected demographic variables N=50**

b) Mother		Stress (f)		Cal. Value	df	p-value
		Moderate (n)	Severe (n)			
Monthly family income (in rupees)	≥ 78,063	2	6	13.178	6	0.040*
	39,033–78,062	2	8			
	29,200–39,032	0	5			
	19,516–29,199	2	1			
	11,708–19,515	0	8			
	3,908–11,707	0	13			
≤ 3,907	1	2				

‘\*’ = significant at the level of ‘p’<0.05

The table depicts that as per monthly income of family, majority of mothers (13) were having severe stress having monthly family income of Rs. 3,908-11,707/-. Calculated chi square value is (13.178, df 6). Calculated ‘p’ value (0.040) is less than level of significance and hence it is significant. It means that there is association between monthly income of family and level of stress among mothers whose neonate is admitted in NICU.

Remaining all extraneous variables found to be non-significant.

**IV. DISCUSSION**

The present study was conducted to assess the stress among mothers of neonates admitted in NICU in selected hospital of Silvassa, DNH. The study findings have been discussed with reference to objectives and hypotheses in the light of other studies.

**Objective 1: Assess the level of stress among mothers of neonates admitted in NICU:**

The findings of the present study revealed that majority of mothers 43 (86%) had severe stress followed by 7 (14%) in moderate stress level. No mother had mild stress.

As per areas of stress, the highest stress levels were in emotional functioning area.

Similar findings were supported in a study conducted by Heidari H., on enhancing the Stress management among Parents of Neonates Hospitalized in NICU<sup>9</sup>.

**Objective 2: To find association between stress among mothers of neonates admitted in NICU with selected demographic variables**

The findings show that, monthly income of family, calculated chi square value is (13.178, df 6), calculated ‘p’ value (0.040) is less than level of significance and hence it is significant. It means that there is association between monthly income of family and level of stress among mothers whose neonate is admitted in NICU. No association was found between levels of stress and other selected demographic variables. But the similar study done by Madhu Sadhana K. P. to assess the level of stress and coping strategies of mothers of neonates admitted in NICU concluded that there is no significant relationship between income and stress<sup>10</sup>.

Similar findings were examined in the study conducted by Doering LV et al. findings showed that parents experienced high level of anxiety, hostility, depression, poorer family function, lower level of social adjustment. Parental status (mother or father). Ethnicity, employment status and education were significantly related to the parental responses<sup>11</sup>.

This was consistent with the findings of Carter JD, Mujder RT, Bartram AF. Compared and stated that parents of control group, a higher percentage of NICU parents had clinically relevant anxiety and more stress than they likely to have had a previous admission<sup>12</sup>.

## V. CONCLUSION

The study findings conclude that majority of the mothers (n=43, 86%) experienced severe stress whose neonates were admitted in NICU. Monthly family income found to be significant extraneous variable.

## REFERENCES

- [1]. Crum, A.J. Salovey, P. Achor, S. Rethinking stress: The role of mindsets in determining the stress response, *Journal of Personality and Social Psychology*, 104 (4) 716 – 733, 2013.
- [2]. Townsend. M. C, "Psychiatric Mental Health Nursing" 8<sup>th</sup> edition Jaypee Brothers Medical Publishers (p) Limited, New Delhi, 2013
- [3]. Chris W, M.S. Aging and Stress *Journal of Personality and Social Psychology*, Aug;83(2):261-70.
- [4]. Carlos E, MD. The Neonatal Intensive Care Unit. Stanford Children's Health, Surgical Specialties Clinic. September 23, 2013.
- [5]. Yamana S, Altaya N. Posttraumatic stress and experiences of parents with a newborn in the neonatal intensive care unit *Journal of Reproductive and Infant Psychology*, 2014.
- [6]. Estimate of neonatal mortality rate. UNICEF; September 2019. available from <https://data.unicef.org/topic/child-survival/neonatal-mortality/>.
- [7]. Esther Shaulova, Lodovica Biagi of Crude death rate in Southeast Asia in 2019, Available from <https://www.statista.com/statistics/615579/crude-death-rate-in-southeast-asia-2016-by-country/>
- [8]. Deshpande. A. Maharashtra Sees Rise In Infant Deaths In Three Years June 22, 2019. Available from <https://www.thehindu.com/news/national/other-states/maharashtra-sees-rise-in-infant-deaths-in-three-years/article28104269.ece>
- [9]. Heidari H, Hasanpour M, Fooladi M. Stress Management among Parents of Neonates Hospitalized in NICU: A Qualitative Study, *J Caring Sci*. 2017 Mar; 6(1): 29–38.
- [10]. Padmaja, A, Lakshmi, Rajya, A Study to Assess the Level of Stress and Coping Strategies among Mothers of Neonates Admitted in Neonatal Intensive Care Unit at S.V.R.R.G.G.H, Tirupati, *Journal of Nurse Midwifery and Maternal Health Vol – 2*, 2016.
- [11]. Goldberg S, Simonons RT, Newman J, Campbell K, Fowler RS. Congenital heart disease, parental stress and infant mother relationships. *Journal of pediatrics*. 1991; 119:661-666.
- [12]. Doering LV, Moser DK. Correlates of anxiety, hostility, depression, and psychosocial adjustment in parents of NICU infants, *Neonatal Netw*. 2000 Aug; 19(5):15-23.)