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A Study to Assess the Level of Stress and Coping Strategies of Mothers of Neonates Admitted at Neonatal Intensive Care Unit in RMMCH at AU

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Abstract: ***Statement of the Problem: "A study to assess the level of stress and coping strategies of mothers of neonates admitted at neonatal intensive care unit in RMMCH at AU". Objectives: a) To identify the level of stress among mothers in Neonatal Intensive Care Unit (NICU). b) To identify the coping strategies used by the mothers in NICU. c) To correlate the stress with coping used by mothers in NICU. d) To determine the association of stress level and coping strategies with the selected demographic variables. Research Design and Method: Descriptive design was used to assess the Stress and coping strategies. Sample Size: The sample size consisted of 60 mothers. Sampling Technique: Convenient Sampling Technique was used to select the mothers for the study. Results: In the present study, 7(12%) mothers had severe stress and 17(28.3%) mothers had moderate stress and remaining 36(60%) mothers are with mild stress. The study findings showed that there is no significant association between the coping strategies such as age of the mothers, Occupation, monthly family Income, Religion, Area of living, Number of Children, Nature of treatment and Number of days hospitalized. While there is a significant association with educational status of the mother variable. Conclusion: The present study findings showed that there is a significance between these two variables number of days hospitalized and Occupation of the mother and there is no significant association between the stress level of mothers with selected demographic variables such as age of the mothers, educational status, monthly family Income, religion, area of living, number of children, and nature of treatment.***

Keywords: Stress, Assess, Mother, Neonates, Intensive care unit

1. Introduction

The birth of a child can represent a significant transition for most families and requires establishment of new family roles and routines. The birth of a child with a critical illness, however, creates unanticipated crises, alters family patterns in ways that are stressful and makes coping demands for dealing with a critical child more pronounced for the family system. How families respond to stress will depend on the interaction of multiple factors such as economic and social stability of the family and its internal support system, and the amount of external support to which the family has access

While looking at the various factors of neonatal illness and care of the mother with meticulous stress on mother internal and external environmental condition, we have often overlooked many other major factors influencing newborn care and survival. In a country plagued by differences of caste, creed, social and educational bias, we have often forgotten to link adverse social and cultural events to neonatal morbidity and mortality. Many contributory factors like poverty, illiteracy, poor maternal health, barriers to exclusive breastfeeding, harmful traditional practices and inadequate health care facilities and lack of psychological, emotional, social support to be studied in great deal and deficiencies adequately addressed before we expect to see a substantial dent in the indices of newborn as well as mother health .

Need for the Study

The global burden of neonatal deaths is estimated to be *5* million of which 3.2 million deaths occur during the first week of life. Almost a quarter of the burden of neonatal mortality is shared by India with three babies dying every minute, and every fourth baby born being low birth weight. The problems faced by newborn infants vary significantly in different parts of the globe; even among developing nations there is much heterogeneity in the causes of neonatal morbidity and mortality.

While planning and providing health care services to newborn infants, we have primarily looked at the information originating in specialized neonatal units rather than at the grass root level While looking at the various causes of neonatal illness and death, we have often overlooked many other major factors influencing newborn care and survival. In a country plagued by differences of caste, creed, social and educational bias, we have often forgotten to link adverse social and cultural events to neonatal morbidity and mortality. Many contributory factors like poverty, illiteracy, poor maternal health, barriers to exclusive breastfeeding, harmful traditional practices and inadequate health care facilities and transport need to be studied in great detail and deficiencies adequately addressed before we expect to see a substantial dent in the indices of newborn health.

Statement of the Problem

"A study to assess the level of stress and coping strategies of mothers of neonates admitted at neonatal intensive care unit in RMMCH at AU".

Objectives of the Study

- To identify the level of stress among mothers in Neonatal Intensive Care Unit (NICU).
- To identify the coping strategies used by the mothers in NICU.
- To correlate the stress with coping used by mothers in NICU.
- To determine the association of stress level and coping strategies with the selected demographic variables

Hypothesis
There is no significant association between the stress level and coping strategies used by mothers admitted their neonates in NICU.

Delimitations
The study could be generalized only to mothers who were with the critically ill and sick neonates during their admission to the Neonatal Intensive Care Unit.

2. Review of Literature

Seideman. Et al.,(2010) conducted a study on parents stress and coping in NICU and PICU. The purpose of the study was to identify and compare parental perception of their stress and coping experience with children in pediatric intensive care unit and neonatal intensive care units. The sample consisted of 31 NICU and 20 PICU parents. Parents in both units experience the most stress from alternation in their parenting role and in their infant's behaviour and appearance. Parents in both units considered problem focused coping was more helpful than appraisal or emotion focused coping .

Kratochvil MS, **Robertson CM, Kyle JM.(2011)** Length of stay in neonatal intensive care and outcome were among the not significant variables. Parents of 597 survivors indicated whether the initial illness and separation had had a long-term effect on their parent-child relationships. Forty percent felt there was an effect on the parent-child relationship, sixty percent did not. Neonatal, medical and social conditions, and the child's outcome (i.e., disabled or not) were variables analyzed to determine differences between the two groups of parents. Parents who felt an effect from the initial illness and separation had children who required supplemental oxygen significantly longer and were from significantly higher socioeconomic and education

3. Methodology

Research Design
The research design used for this study was descriptive.

Setting of the Study:
The setting of this study was in NICU. In this present study the population consisted of mothers admitted their neonates in NICU at RMMCH

Sample:
In this study sample consisted of 60 mothers in NICU, and who met the inclusion criteria.

Sampling Technique: In this study convenient sampling technique was adopted.

Sampling Criteria:

Inclusion Criteria
- Mothers of neonates who are admitted in NICU in RMMCH
- Mothers who were willing to co-operate.

Exclusion criteria
- Babies with anomalies and other associated problems
- Babies who are in a mechanical ventilator

Selection and Development of Tool:
The instrument was developed based on related studies, informal discussion with opinion of experts, based on review of literature and it is based on research problem and objectives of the study the following steps were undertaken.

Development of Tool:
A structured interview schedule was prepared to assess the level of stress and coping strategies of mothers of neonates who are admitted in NICU (3 point likert scale).

The tool was developed:
- After reviewing the related literature
- Based on the experience of the investigator and
- Based on the contact and consultation of the subject experts.

Description of the tool: The researcher developed a structured interview schedule, which contains items on the following aspects.

Part I: Demographic data of mothers admitted their neonates in NICU.
Part II: Three point likert scale for assessing the level of stress of mothers admitted their neonates in NICU and
Part II: Three point likert scales for assessing coping strategies of mothers admitted their neonates in NICU.

Stress questionnaire consists of 40 items. It is measured with the help of modified likert scale. Each item has 3 alternatives agree, can't say, disagree. It includes physical stress, physiological, psychological, emotional, cognitive, communication with staff, parental role alteration and socioeconomic domains.

Coping questionnaire consists of 40 items. It is measured with the help of modified likert scale. Each item has 3 alternatives agree, can't say, disagree. It includes following domains such as physical, cognitive, emotional, spiritual, social and divertional activities.

Reliability of the Tool:
The reliability of the tool is computed by using split half technique with raw score method - Spearman Brown Prophecy Formula **Spearman Brown Prophecy Formula for reliability**

$$r^1 = \frac{2^r}{1+r} \text{ where}$$

r^1 = is the estimated reliability of the item
r = is the correlation co-efficient computed on split halves. For computing coefficient the formula used is

Deviation method

$$r = \frac{\sum xy}{\sqrt{[\sum x^2 \text{ X } \sum y^2]}}$$

The reliability obtained by using Spearman Brown Prophecy formula is 0.96 so the questionnaire found to be reliable.

Data Collection Method

Permission was granted from the medical superintendent RMMCH . The doctors and staff nurses in charge were made aware of the nature of the study and assured that the study would not affect their daily routine. The data collection was done for 4 weeks.

Plan for Data Analysis

The data was planned to be analyzed on the basis of objective and hypothesis of the study.

- The collected data was coded and transformed to master sheet for statistical analysis.
- Demographic data was planned to represent in terms of frequency and percentage.
- Mean, median and standard deviation for total scores of the parents was computed.
- Chi-square test was computed for finding out the association between level of stress and demographic variables.

Karl Pearson's Coefficient of Correlation was calculated to find the relationship between stress and coping.

4. Analysis

This chapter is divided in to five sections.

Section - I: Describes the distribution of demographic variables of others admitted their neonates in NICU.

Section - II: Describes the stress of mothers admitted their neonates in NICU.

Section - III: Describes the coping strategies of mothers admitted their neonates in NICU.

Section - IV: Describes the relationship between stress and coping strategies of mothers their neonates admitted in NICU.

Section - V: a) Association between stress level with selected demographic variables. b) Association between coping strategies with selected demographic variables.

Section - I Describes the distribution of sample variables of mothers admitted their neonates in NICU.

The data on sample characteristics were analyzed using descriptive statistics and presented in terms of frequency, percentage and diagrams. The data obtained from sample are presented in terms related to the mothers age, Educational qualification, Occupation of the mother, Monthly family Income, Religion, Area of living, Number of Children, Nature of treatment and Number of days hospitalized.

Section I: Description of baseline Variables of mothers admitted their neonates in NICU.

Table 1.1: Shows the distribution of mothers by age group

Distribution of Subjects by Age Group of the Mother (N= 60)		
Age (in years)	Frequency	Percentage
Below 20	10	16.7
21-25	29	48.3
26-30	20	33.3
> 30	1	1.7
Total	60	100.0

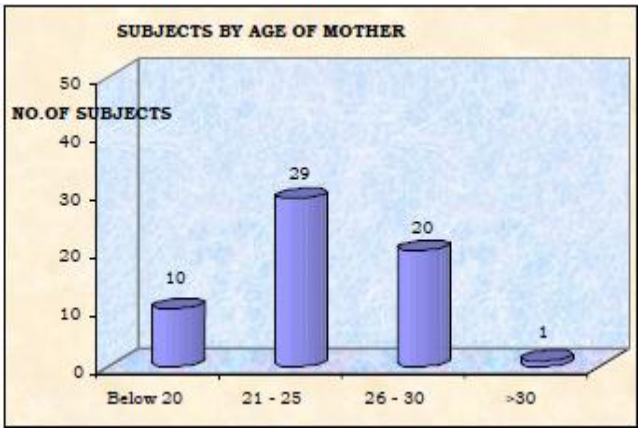


Figure 3: Age of the Mother

The data presented in the table 1: 1 and fig: 3 reveals that a majority of mothers 29(48.3%) were in age group of 21-25yrs, 20(33.3%) mothers were between 26-30yrs age group and 10(16.6%) mothers were belonging to below20yrs and followed by only one(1.7%) mother is above 30years age group.

Table 1.2: Shows the distribution of mothers educational qualification (N=60)

Education	Frequency	Percentage
Not literate	6	10.1
Primary	14	23.3
High School	29	48.3
Graduate	11	18.3
Total	60	100.0

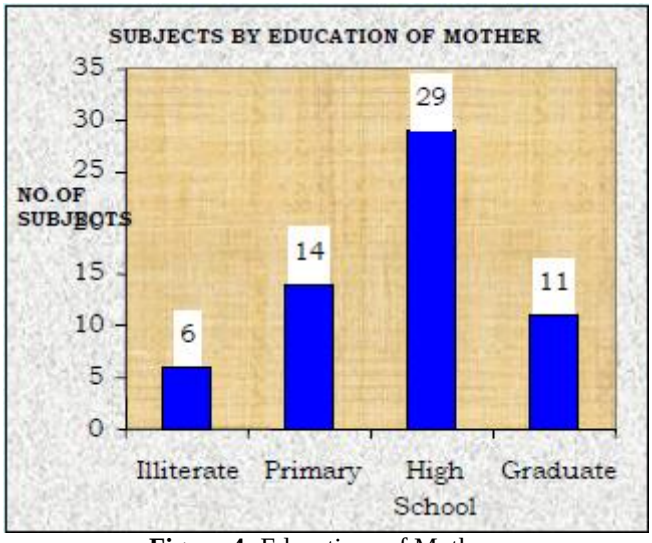


Figure 4: Educations of Mothers

The above table and figure represented the educational status of the mother. It is evident that majority 29(48.3%) of mothers were educational back ground was high school, 14(23%) were educated upto primary school, and 11(18.3%) were degree educational qualification, and 6(10%) were not literates.

Table 1.3: Shows the distribution of mothers occupation (N= 60)

Distribution of Subjects by Occupation of Mother (N= 60)		
Occupation	Frequency	Percentage
House Wife	37	61.7

Govt. Employee	6	10.0
Pvt. Employee	17	28.3
Total	60	100.0

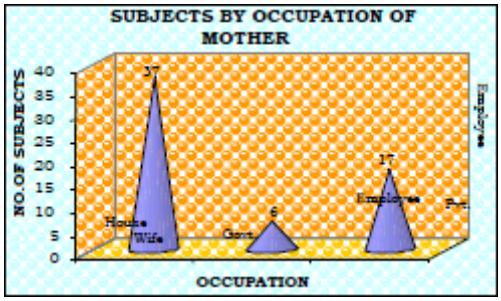


Figure 5: Occupation of Mother

The above table and figure explains that the occupation of mothers it is observed that majority 37(61.7%) of the mothers were housewives; whilel7 (28.3%) of mothers were private employees and 6(10%) were government officials.

Table 1.4: Shows the distribution of subjects monthly family income

Distribution of Subjects By Monthly Family Income (N= 60)		
Income in Rupees	Frequency	Percentage
<1000	2	3.3
1001-200	20	33.3
2001-3000	15	25
> 3000	23	38.3
Total	60	100.0

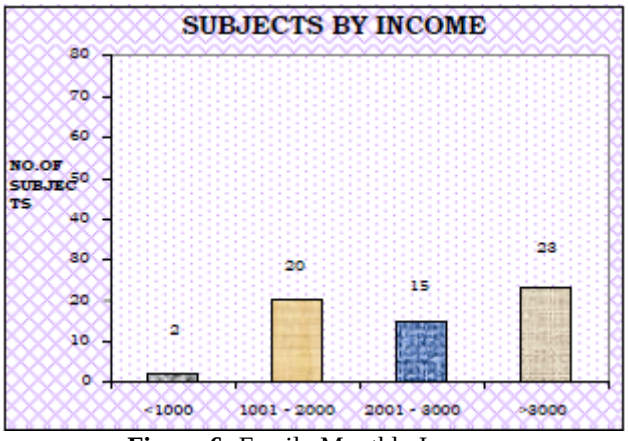


Figure 6: Family Monthly Income

The monthly family incomes of the mothers of neonates were admitted in NICU. It is observed that a majority 23(38.3%) of parents belonged to the income group of above 3000, 20(33.3%) of family income were between 1001-2000, *15(25%)* of the family income were between 2001-3000, and only 2(3.3%) of the family income was below 1000.

Table 1.5: Shows the distribution of subjects by area of living

Distribution of Subjects by Area of Living (N= 60)		
Area of Living	Frequency	Percentage
Urban	34	56.7
Rural	26	43.3
Total	60	100.0

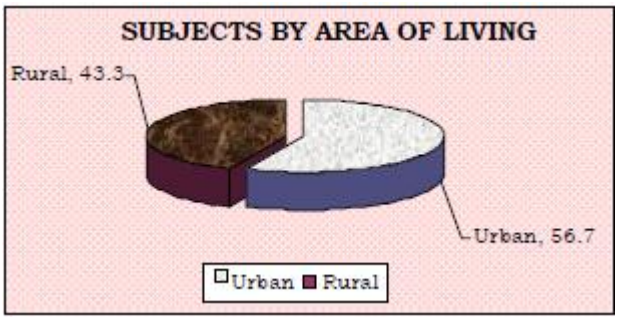


Figure 7: Area of Living

The above table and figure reveals that *34(56.7%)* of mothers are hailed from urban area and 26(43.3%) of mothers are living in rural area.

Table 1.6: Shows the distribution of subjects by religion

Distribution of Subjects By Religion (N= 60)		
Religion	Frequency	Percentage
Hindu	41	68.3
Christian	9	15.0
Muslim	10	16.7
Total	60	100.0

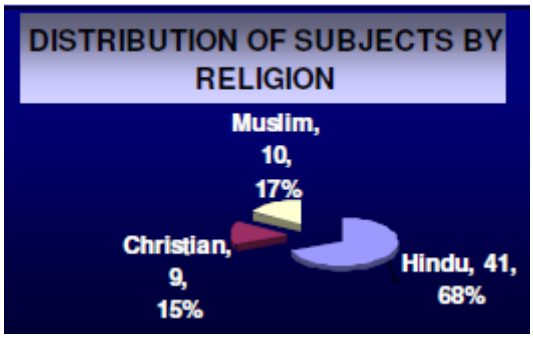


Figure 8: Religion of mother

The data presented in the table 1.6 and figure 8 show that a vast majority of mothers hailed from Hindu religion that is 41(68.3%), Muslims were 10(16.7%) and followed by Christians they were *9(15%).*

Table 1.7: Shows the distribution of subjects by number of children

Distribution of Subjects by Number of Children (N= 60)		
Number of Children	Frequency	Percentage
One	26	43.3
Two	26	43.3
Three and above	8	13.4
Total	60	100.0

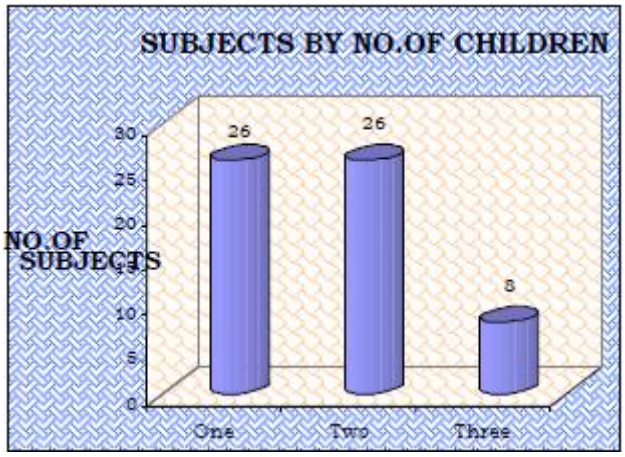


Figure 9: Number of Children

The above table explained the number of children that mothers were having. As per present day norm the number of children in the family is one or two. It can be seen that majority of the parents had one two child 26(43%) and 26(43%) each and minimum of children 8(13.3%) were having more than three.

Table 1.8: Distribution of Subjects by Admission Condition

Distribution of Subjects by Admission Condition (N= 60)		
Admission Condition	Frequency	Percentage
Medical	49	81.7
Surgical	5	8.3
Others	6	10
Total	60	100.0

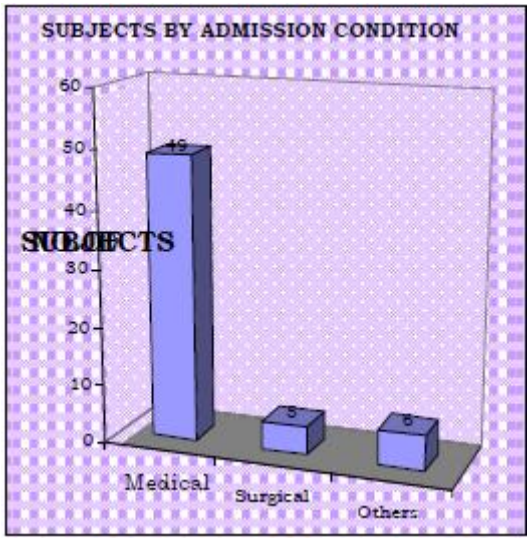


Figure 10: Admission Condition

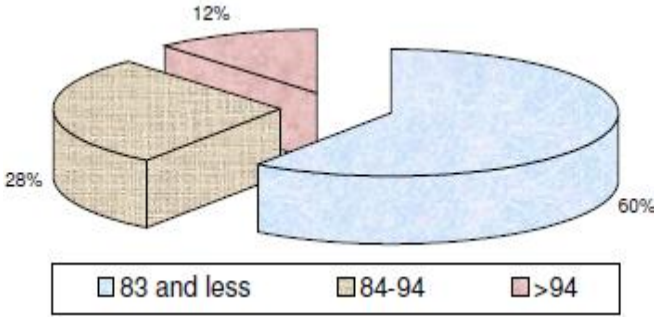
The above table and figure represents the admission condition status of the neonate to the NICU. It is evident that majority 81 % of neonates are admitted with medical problem, 10% were admitted with other diagnostic purpose and constant observation and 8.3% had admitted for surgical treatment and for constant observation.

Section - II Distribution of mothers according to their Stress level

This section deals with the analysis and interpretation of data with regard to the stress level of mothers of neonates admitted in NICU obtained through the stress rating scale. The scores obtained by each sample were tabulated in a master data sheet. Data regarding the stress scores was analyzed using descriptive and inferential statistics. The data were presented in the form of tables & diagram.

Table 2: Distribution of mothers according to their Stress level (N=60 SI)

No	Stress Score	No	%	Category
1	83 and less	36	60.0	Mild stress
2	84-94	17	28.3	Moderate stress
3	> 94	7	11.7	Severe stress
	Total	60	100.0	



11. Stress level of mothers

The data depicted in table - 2 and fig: 11 in the present study it was show that 7(12%) mothers had severe stress and 17(28.3%) of mothers had moderate stress and remaining 36(60%) of mothers are with mild stress.

Table 3: Area wise Categorization of Stress level of mothers admitted their neonates in NICU at selected hospitals (N=60)

Sl. No	Stress Scale	Number	Min	Max	Mean	Median	Mean %	SD
		40	63	106	83.15	81	100%	10.32
1	Physical	6	8	18	12.55	12	15%	2.76
2	Physiological	10	10	37	17.28	18	20.78%	4.52
3	Emotional	5	8	17	12.42	12	14.93%	2.02
4	Cognitive	6	9	18	13.05	13	15.69%	2.92
5	Communication with staff	6	6	18	11.12	11	13.37%	3
6	Parental Role Alternation	4	5	12	8.78	9	10.55%	1.76
7	Socio Economic	5	5	12	7.95	8	9.56%	2.02

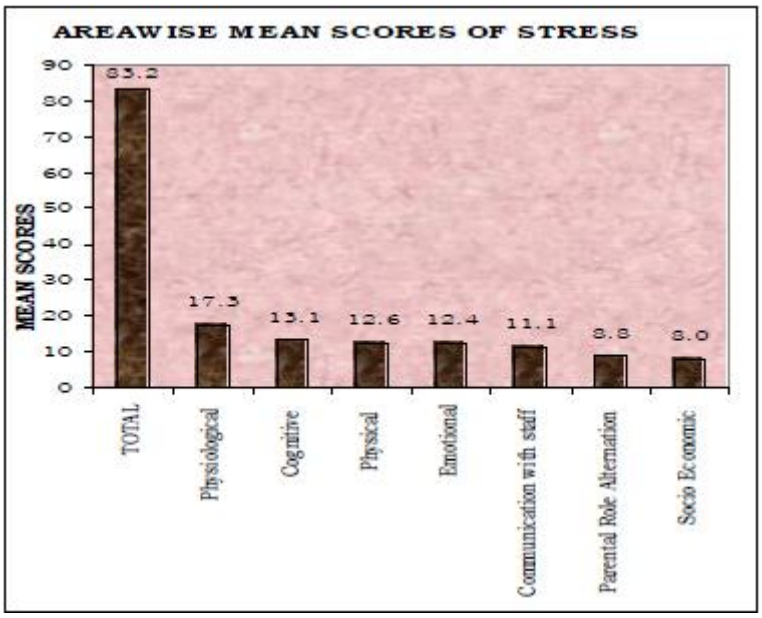


Figure 12: Area wise Categorization of Stress level of Mother

The data depicted in table 3 and fig: 12 shows that the mothers admitted their neonates in NICU had more stress in physiological domain (mean score 20.78 *%),* cognitive domain (mean score *15.69%)* stress and physical and emotional domain stress (mean score 15%), and it is followed by communication with staff that is (mean score 13.37%).

Section - III Distribution of mothers According to their Coping strategies

This section deals with the analysis and interpretation of data obtained through a coping scale with regard to coping methods adopted by the mothers of neonates admitted in NICU. Data regarding the coping methods was analyzed using descriptive and inferential statistics. This data is also represented in the form of tables and diagrams.

No	Coping Score	No	%	Category
1	83 and less	13	21.6	Poor coping
2	84-102	35	58.3	Moderate coping
3	> 102	12	20.0	Good coping

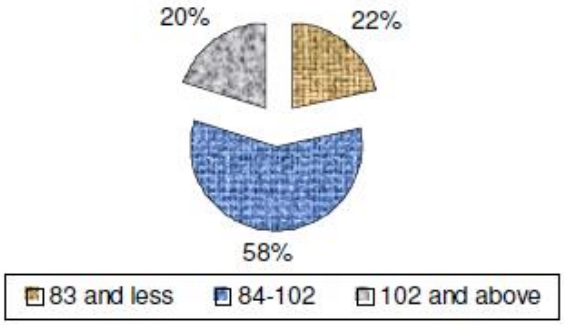
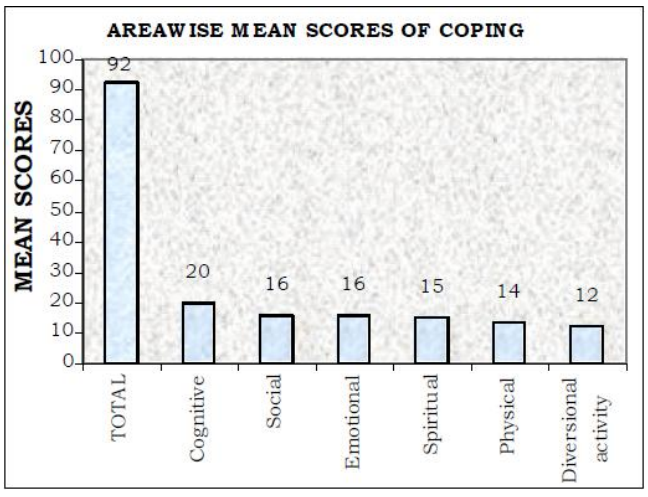


Figure 13: Coping scores of mothers

The data presented in the Table-4 and Fig: 13 shows that 12(20%) of mothers had good coping, *35(58.3%)* of mothers had moderate coping and remaining 13(21.6%) of mothers had poor coping.

Table 5: Area wise Categorization of coping strategies of mothers admitted their neonates in NICU at selected hospitals

S. No	Coping Total	Number	Min	Max	Mean	Median	Mean %	SD
		40	73	115	92.32	92.5	100	9.44
1	Physical	6	10	18	13.63	13	14.76	2.02
2	Cognitive	8	14	24	20.02	20.5	21.68	2.78
3	Emotional	7	12	21	15.77	16	17.33	2.37
4	Spiritual	6	9	18	15.07	15	16.24	1.95
5	Social	7	9	21	15.83	16	17.33	3.23
6	Diversional activity	6	6	18	12	12.5	13.53	3



The data depicted in table 5 and fig: 14 shows that the mothers admitted their neonates in NICU had Cognitive domain as good coping strategies (mean score 21.68%), Emotional and Social coping domain are (mean score 17.33 %) respectively, Spiritual coping domain of (mean score 16.24%), and it is followed by Physical domain (mean score 14.76 %), and divertional activity domain was (mean score *13.53%).*

Section IV: Relationship between Stress Level and Coping strategies of mothers admitted their neonates in NICU at selected hospitals

This section presents the relationship between stress level and coping strategies of mothers admitted their neonates in neonatal intensive care unit. In order to test the relationship, a null hypothesis has been formulated.

Ho: There is no significant relationship between the stress and coping strategies of mothers admitted their neonates in neonatal intensive care unit.

The hypothesis was tested by using Karl Pearson's Coefficient of correlation.

Table 6: Relationship between Stress level and Coping strategies of mothers admitted their neonates in NICU at selected hospitals

Variable	Mean ± SD	Correlation Coefficient	Inference
Stress	83.15±10.32	r = 0.06	Not Significant (P = 0.67)
Coping strategies	92.32 ± 9.44		

Data in the table-6 show that there is no significant relationship between coping and stress scores (r = 0.06, P = 0.67). Hence the null hypothesis is accepted.

Section - V

This section deals with the analysis and interpretation of the association between the stress of mothers admitted their neonates in neonatal intensive care unit with selected demographic variables. This was tested by using Chi-square (x^2) test by preparing contingency table. The stress scores were put in the master data sheet.

a) Association between Stress levels with selected demographic variables of mothers admitted their neonates in NICU at selected hospitals, Median = 81

Variables	*Stress scores Median & below Median*	*Stress scores above median*	χ^2	*P*
Age				
25 and less	19	20	0.39**	0.53 (NS)
> 25	12	9		
Educational Status				
Illiterate/Primary	10	10	0.79**	0.67 (NS)
High School	14	14		
Graduate	7	4		
Occupation of Mothers				
House Wife	13	24	10.65**	<0.01 (Significant)
Govt. Employee	5	1		
Pvt. Employee	13	4		
Income				
2000 or Less	8	14	3.26**	0.07 (NS)
>2000	23	15		
Area of living				
Urban	19	15	0.56**	0.45 (NS)
Rural	12	14		
Religion				
Hindu	19	22	1.87**	0.39 (NS)
Christian	5	4		
Muslim	7	3		
No. of children				
One	11	15	1.61**	P=0.21 (NS)
Two/Three	20	4		
Admission condition				
Medical	23	26	2.99**	0.22 (NS)
Surgical	5	1		
Other	3	2		
Number of days Hospitalized				
Less than 2 days	15	4	8.34*	<0.22 (Significant)
2-4 days	9	15		
> 4 days	7	10		

***= Significant**
**** = Non- Significant**

The obtained chi-square value is less than the table value indicating that there is no significant association between the stress level of mothers with selected demographic variables such as age of the mothers, Educational Status, Monthly family Income, Religion, Area of living, Number of Children, and Nature of treatment While there is a significance between these two variables number of days hospitalized(X^2=8.34, p<0.22) and Occupation of the mother (^{2}=10.65, p<0.0l).

b) Association between coping strategies with selected demographic variables of mothers admitted their neonates in NICU at selected hospitals

Table 8

Variables	*Coping scores Median & below Median*	*Coping scores above median*	χ^2	*P*
Age				
25 and less	18	21	0.66**	0.42 (NS)
> 25	12	9		
Educational Status				
Illiterate/Primary	14	6	6.08**	<0.05 (Significant)
High School	10	19		
Graduate	6	5		
Occupation of Mothers				
House Wife	18	19	1.22**	0.54 (NS)
Govt. Employee	2	4		
Pvt. Employee	10	7		
Income				
2000 or Less	9	13	1.15**	0.28 (NS)
>2000	21	17		
Area of living				
Urban	16	18	0.27**	0.60 (NS)
Rural	14	12		
Religion				
Hindu	18	23	2.32**	0.31 (NS)
Christian	5	4		
Muslim	7	3		
No. of children				
One	12	14	0.27**	0.60 (NS)
Two/Three	18	16		
Admission condition				
Medical	22	27	2.98**	0.23 (NS)
Surgical	4	1		
Other	4	2		
Number of days Hospitalized				
Less than 2 days	12	7	2.04**	0.36 (NS)
2-4 days	18	14		
> 4 days	8	9		

***= Significant**
**** = Non- Significant**

The obtained chi-square value is less than the table value indicating that there is no significant association between the coping strategies such as age of the mothers, Occupation, Monthly family Income, Religion, Area of living, Number of Children, Nature of treatment and Number of days hospitalized. Number of days hospitalized. While there is a significant association with educational status of the mother (x^2 -6.08, p<0.05).

5. Discussion

The present study was conducted to explore the level of stress and coping strategies of mothers admitted their neonates in neonatal intensive care unit in RMMCH at AU. The findings of the study have been discussed based on the objectives of the study and findings of other similar studies. For a better clarity and thorough understanding, this chapter is divided into the following sections:

1) Stress level of mothers admitted their neonates in NICU at selected hospitals

In this present study it was shows that (12%) mothers had severe stress and (28.3%) of mothers had moderate stress and remaining (60%) of mothers are with mild stress. The area wise categorization of stress scores among the mothers showed, show that the mothers admitted their neonates NICU had stress in physiological domain (mean score 20.78 %), cognitive domain (mean scorel5.69%) stress and physical and emotional domain stress (mean score *15%),* and it is followed by communication with staff that is (mean score 13.37%). While the findings were consistent with the findings of Doering LV, Dracup K, Moser D. mothers were more poorly adjusted and were more anxious, hostile, and depressed than fathers, but mother significantly experienced more level of distress 38 Shields PD, Pinelli J. did a descriptive study on how parents perceived the severity of their infant's illness was the most powerful variable associated with their stress scores. Trait anxiety, desire for the pregnancy, and where and when parents first saw the baby were other variables significantly correlated with stress scores 23

Holditch DD, Miles MS. The study indicates that health care providers, and especially nurses, can have a major role in reducing parental distress by maintaining ongoing communication with parents and providing competent care for their infants 27

2) Coping strategies of mothers admitted their neonates in NICU at selected hospitals

In this study it was found that more than half of mothers *35(58.3%)* were had moderate coping strategies to counter the stress, and remaining mothers 12(20%) with good coping and remaining mothers 13(21.6%) had poor coping methods. The findings also revealed the area wise categorization of coping scores among mothers admitted their neonates in NICU had Cognitive domain as good coping strategies (mean score 21.68%), Emotional and Social coping domain are (mean score 17.33 %) respectively, Spiritual coping domain of (mean score 16.24%), and it is followed by Physical domain (mean score 14.76 *%),* and divertional activity domain was (mean score 13.53 *%).*

The finding was consistent with the report of Ward K. found in his data were analysed that participants reported assurance and, information related treatment plan, procedures were required most important perceived need of parents of NICU infants43.

3) Relationship between stress level and coping strategies of mothers

Present study found that there is no correlation between stress and coping ((r = 0.06, ^{p} = 0.67). Christopher SE, Bauman KE, Veness-Meehan K. written an article in that they state all hypotheses were rejected. Neither social supports nor perceived stress were related to affectionate behaviors, and no statistical interactions among the 3 variables were identifie.

4) Association between stress levels with selected demographic variables

The present study found that there is no significant association between the stress level of mothers with selected demographic variables such as age of the mothers, Educational Status, Monthly family Income, Religion, Area of living, Number of Children, and Nature of treatment. While there is a significance between these two variables number of days hospitalized $_{(X2=8.34,}$ p<0.22) and Occupation of the mother(X^2= 10.65, p<0.01).

This was supported by the study conducted by Doering LV, Moser DK, Dracup K. stated that parents experienced high level of anxiety, hostility, depression, poorer family functioning, lower level of social adjustment. Parental status (mother or father), ethnicity, employment status, and education were significantly related to parental responses.

This was consistent with the findings of Carter JD, Mujder RT, Bartram AR 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 Docherty SL, Miles MS, Holditch-Davis D. This study examined child health worry among mothers of medically fragile infants with differing health problems and identified factors associated with maternal worry. Medically fragile infants were term (38%) and preterm (62%) infants who had a life-threatening health problem that necessitated a long hospitalization and dependence on technology for survival. The 78 mothers were recruited during their infants' hospitalization. Their mean age was 26 years. Most had a high school education, were married, and were from diverse ethnic/racial backgrounds .The chi-square test did not establish any significant relationship between income and stress. With regard to number of children, there is no association between number of children and stress.

5) Association between coping strategies with demographic variables

The present study findings showed that there is no significant association between the coping strategies such as age of the mothers, Occupation, Monthly family Income, Religion, Area of living, Number of Children, Nature of treatment and Number of days hospitalized. While there is a significant association with educational status of the mother *(x^2* =6.08, p<0.05).While it is supported by the study of

Kratochvil MS, Robertson CM, Kyle JM. Shows that length of stay in neonatal intensive care and outcome were among the not significant variables.

This is supported by the study done by Shyamala Kumari who found in her study that the mothers of children with leukemia used the coping behaviour pray to God and reported as being the most helpful coping behaviour. The findings of the present study indicate that one of the most frequently used coping behaviour is pray more than usual (72%). Also another coping behaviour used in this context by the mothers is making special offering (62.7%). This shows that mothers had belief in the spiritual systems as it would give peace and reduce their stress level and better coping The study did not establish any significant association between the stress and previous hospitalization. This was supported by the study done by Goldberg 5, Simonons RT, Newman J, Campbell K, Fowler RS. Who found that previous hospitalization does not have any association with stress

6. Summary, Conclusion, Implications and Recommendations

The aim of the study was to assess the level of stress and coping strategies of mothers of neonates admitted in NICU at RMMCH. The sample of the study consisted of 60 mothers of neonates admitted in NICU at RMMCH. Structured interview schedule was used to collect the data. It consists of 3 sections.

Part I: Demographic variables which include age of the mother, educational status of mother, occupation of the mother, income of their family, Religion, Area of living number of children, Admission Condition, and number of days hospitalized.
Part II: Stress questionnaire consists of 40 items and
Part III: Coping questionnaire consists of 40 items. It is measured with the help of modified three point Likert scale.

The organization and presentation of the obtained data were entered in to the master sheet for tabulation and statistical processing that is results were computed using descriptive statistics in terms of frequencies and percentage and inferential statistics like chi square test, standard deviation, and pearson's correlation coefficient were computed.

The following conclusions were based on the findings. The results were described by using descriptive and inferential statistics.

7. Major Findings of the Study

In the present study it was show that 7(12%) mothers had severe stress and 17(28.3%) of mothers had moderate stress and remaining 36(60%) of mothers are with mild stress.

- Area wise distribution of stress scores show that the mothers admitted their neonates in NICU had more stress in physiological domain (mean score 20.78 %), cognitive domain (mean score 15.69%) stress and physical and emotional domain stress (mean score 15%), and it is followed by communication with staff that is (mean score 13.37%)
- The data presented in the present study shows that 12(20%) of mothers had good coping, *35(58.3%)* of mothers had moderate coping and remaining 13(21.6%) of mothers had poor coping.
- Area wise distribution of coping scores shows that the mothers admitted their neonates in NICU had Cognitive domain as good coping strategies (mean score 21.68%), Emotional and Social coping domain are (mean score 17.33 %) respectively, Spiritual coping domain of (mean score 16.24%), and it is followed by Physical domain (mean score 14.76 *%),* and divertional activity domain was (mean score 13.53 *%).*
- Relationship between Stress level and Coping strategies of mothers admitted their neonates in NICU at selected hospitals, shows that there is no significant relationship between coping and stress scores (r = 0.06, ^{p} = 0.67). Hence the null hypothesis is accepted.
- The present study findings showed that there is no significant association between the stress level of mothers with selected demographic variables such as age of the mothers, Educational Status, Monthly family Income, Religion, Area of living, Number of Children, and Nature of treatment. While there is a significance between these two variables number of days hospitalized (x2 =8.34, p<0.22) and Occupation of the mother(X^2= 10.65, p<O.Ol).
- The present study findings showed that there is no significant association between the coping strategies such as age of the mothers, Occupation, Monthly family Income, Religion, Area of living, Number of Children, Nature of treatment and Number of days hospitalized. While there is a significant association with educational status of the mother (x^2 =6.08, p<0.05).

Nursing Implications
Nurses have a vital role in helping the mother to cope with stressful situation. They can do much help the mothers to cope with crisis during admission and separation, from the child. Nurses can explain to the mothers according to the level of understanding and mental status of mothers regarding the condition and treatment. They can give continues reassurance to the mothers admitted their neonates in NICU by giving report of their children on time to time.

Enough time should be spent with the mothers during the admission of their children and to reduce stress. It also helps to identify the stressor along with the initial assessment. It helps in planning individualized and family centered care. Those who are willing to work or posted in NICU have to be given regular in service education programme to gain adequate Knowledge and development positive attitude A "Nurse Educator" can be posted as a "Nurse counselor" in NICU.

Nurses should be able to recognize coping strategies used by the mothers to provide adequate counseling and guidance to them and to promote their coping strategies. The guide prepared by the investigation will be used for the Nurses working in NICU, to enhance their knowledge and there by in providing quality care.

Nursing Service

Nurses have a unique role in providing comprehensive holistic care to critically ill or sick children, their mothers and families. Understanding the level of stress and coping strategies, can act as reference for nurses in planning appropriate interventions to minimize the stress level. Nurses need to help mothers get adjust to NICU environment by giving information and proper explanations through out the child's stay. Such information should include orientation of mothers about the condition of their child in the NICU. To provide this information, nursing staffs need to be educated on concept of stress and coping of mothers admitted their neonates in NICU and on the factors to be considered while providing information and explanation.

The present study revealed that cognitive domain and physiological domain are the most important cause stress in the mothers; therefore nurses have the opportunity to provide a large percentage of the information on these domains. Nurses must be very active and anticipate the psychological burden on mothers, by recognizing and attempting to meet these information needs and help to perceive their needs in more realistic way. This would provide useful information for planning individualized and family care and counseling aimed at enhancing better health outcomes of mothers.

Nursing Education

Nurses are the ones who are with the patient for a longer time than any other health personnel. When the mothers are stressed, they can not verbalize their feelings of anxiety, tension, and frustration. As a nurse educator, we need to contribute to the existing body of nursing knowledge about the needs of psychological and emotional support to mothers of neonates admitted in NICU to facilitate a more holistic approach to meet both the needs of neonates and mothers. Concepts such as comprehensive nursing and mother participation should be taught and more emphasis should be given on the NICU environment and routines. But babies with life- threatening disorders need intensive care from specialist nurses and doctors, using highly specialised techniques and equipment, delivered in a family and child-focused environment.

Nursing Research

Nursing research can be done in the area of stress and coping to identify stressors of mothers during their neonates stay in the neonatal intensive care unit. The child with a critical illness, however, creates unanticipated crises, alters family patterns in ways that are stressful and makes coping demands for dealing with a critical child more pronounced for the family system. Research can help the nurses to develop confidence as well as faith in mothers whose neonates are admitted in NICU and also to develop constructive coping methods among them. Increasing capability of technology and development of health care expertise has led to greater numbers of very small babies being born alive and surviving, in the past many such babies died before or just after birth. Now very premature or very low birth weight babies require very prolonged periods of intensive supportive care, often over several weeks. Capacity needs to develop to meet this demand and make mother to understand about advancement in saving babies life. So the nurses need to make the mother aware of recent advances and how to handle stressful situation in neonatal intensive care unit.

8. Limitations

The limitations of the present study were: -

- The study was conducted using purposive sample, which restricted the generalization that could be made.
- The study is limited to specific dimensions of stress and coping of mothers admitted their neonates in NICU.

9. Recommendations

- In the view of the findings reported, the following recommendations are made for further research. A similar study could be conducted with larger sample size to confirm the result of the study.
- A comparative study regarding the parents (father & mother) stress and coping can be done.
- An evaluative study can be done to determine the effectiveness of relaxation therapy in reducing stress.
- A comparative study on NICU parents and PICU parents stress and coping can be carried out.
- A comparative study can be done on literate mothers stress and coping with non-literate mothers.
- An evaluative study on the effectiveness of the stress management techniques among mothers admitted their neonates in NICU. Developmental studies are recommended for constructing standardized tool on stress and coping in Indian setting context. Organization of stress management programs for mothers admitted their neonates in NICU.

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