

## A Study to Estimate the Level of Stress and Coping Strategies among Mothers Whose Neonates are Admitted in Neonatal Intensive Care Unit (NICU) at Lalla Ded Hospital, Srinagar, Kashmir

Shazia Gurgani<sup>1</sup>\*, Suhail Jogi<sup>2</sup>

<sup>1</sup>Bibi Halima College of Nursing and Medical Technology, Srinagar, Jammu and Kashmir, India

<sup>2</sup>Sher-i-Kashmir Institute of Medical Sciences, Srinagar, Jammu and Kashmir, India

### ABSTRACT

*The study was conducted with the aim to identify and analyze the stressful factors and coping strategies used by mothers whose neonates are admitted in neonatal intensive care unit (NICU). Identifying the stressful events and coping strategies used by mothers would help nurses to modify the care provided to the mothers and neonates in such a way to reduce stress and enhance coping strategies.*

#### **Objectives:**

- *To identify the level of stress among mothers of neonates admitted in NICU.*
- *To identify the coping strategies used by the mothers of neonates admitted in NICU.*
- *To correlate the level of stress with coping strategies used by mothers of neonates admitted in NICU.*
- *To determine the association of level of stress and coping strategies with selected demographic variables (age, educational qualification, parity, area of living, type of family, period of neonate's stay in hospital).*

**Hypotheses:** *H<sub>1</sub>: There is a significant correlation between the level of stress and coping strategies used by mothers of neonates admitted in NICU at 0.05 level of significance. H<sub>2</sub>: There is a significant association of the level of stress and coping strategies used by mothers with selected demographic variables at 0.05 level of significance.*

**Methodology:** *Quantitative descriptive design was used to assess the level of stress and coping strategies among mothers whose neonates were admitted in NICU since it aided in attaining first-hand information and enhanced obtaining accurate and meaningful information data. Purposive sampling technique was used to collect data from mothers who fulfilled the inclusion criteria. Data was collected using structured interview schedule and interview technique was adopted for recording the responses of the mothers. The tool was validated by 9 experts. Reliability of the tool was established by using Karl Pearson's correlation coefficient ("r" = 0.94). Pilot study was conducted on six mothers admitted in postnatal wards whose neonates were admitted in NICU. The main study was conducted on 60 mothers admitted in postnatal wards whose neonates were admitted in NICU at Lalla Ded Hospital Srinagar Kashmir from 16-11-2015 to 05-12-2015. Ethical clearance was obtained, and study was found ethically exempted. Data was analyzed using descriptive and inferential statistics.*

**Results:** *The result of the study revealed that majority of the subjects 51(85.0%) had moderate stress, 5(8.3%) subjects had severe stress and 4(6.7%) subjects had mild stress which showed that majority of the subjects whose neonates were admitted in NICU experienced moderate level of stress. Also, majority of the subjects 56(93.3%) had average coping, 4(6.7%) subjects*

had good coping, and none of the subject in this study had low coping which showed that majority of the subjects used coping strategies moderately to overcome their stress.

Further, there was no significant association found between the level of stress and coping strategies used by subjects with selected demographic variables (age, educational qualification, parity, area of living, type of family, period of neonate's stay in hospital).

**Conclusion:** The findings of the study concluded that majority of the mothers whose neonates were admitted in NICU experienced moderate level of stress as they were having less familial support and majority of the mothers used coping strategies moderately to overcome their stress as they were having previous experience of admission of neonate in NICU.

**Implication:** Identifying the experiences perceived as most stressful and coping strategies used by mothers can help the nurse in anticipating mother's needs and formulation of policies and interventions.

**Keywords:** coping strategies, mother, neonate, neonatal intensive care unit, postnatal period, stress.

**\*Corresponding Author**

E-mail: gurganishazia@gmail.com.

## INTRODUCTION

*"For Mother's sake the child is dear and dearer is the mother for the child."*

*Samuel Taylor Coleridge*

Parenting is a process of role attainment and role transition that begins during pregnancy. The transition ends when the mother develops a sense of comfort and confidence in performing the mother's role. The moment of giving birth is considered as a happy stage in life and can have a positive impact on women and their mental status. The period immediately after the birth should be conducive to develop good maternal infant bonding. Rapid changes mark the first days and weeks after a baby enters the world, both for mother and newborn, as well as for their family and supporting people. The maternal body begins its gradual return to the non-pregnant state with variations in duration, influenced by, the choice of newborn feeding method; the woman's own unique physiology; the condition under which she is making the transition to motherhood and other factors. Whereas, the newborn is embarking on a series of rapid and remarkable changes that allow

him or her not only to survive but also to thrive in the extra uterine environment [1]. "Congratulations on the birth" of your child is a common expression heard by many mothers after the labor and birth experience is over. Hearing their newborn's first cry typically provides a feeling of relief, joy, excitement and accomplishment for parents. During the first minutes and hours after birth, bonding takes place which is essential for further development of the neonate. On the contrary, when the child becomes sick, especially in the early days and if neonate is admitted in neonatal intensive care unit (NICU) soon after the birth, it becomes a psychological threat and stressful situation for mothers because of lack of bonding and attachment, altered parental role, also sight of NICU, which ultimately leads to state of anxiety, depression and stress in mothers [2].

The birth of a child represents 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 [3].

Meeting the needs of parents of children hospitalized in NICU is increasingly being recognized as important factor related to their future parenting as well as child's clinical outcome. Having a child admitted in NICU creates stressful situation for parents and interrupts the normal family activities and their parental responsibilities [4].

The field of neonatal intensive care has changed dramatically in the past 40 years. Technological and scientific advances have progressively decreased neonatal morbidity and mortality. However, the environment of NICU is one of the factors causing high stress, crises, and turbulent emotions for the families of premature and ill neonates. In human life, stress is often equated with tension, anxiety, worry and pressure. When child is admitted in hospital, the effects of stress will be more [5].

Less attention has been focused on finding the best ways to meet the psychosocial needs of the infant and family than on meeting the infant's physical needs. Parents play the central role in providing for most children's emotional, physical, social, and developmental needs, yet historically they have been limited in participating in their child's care in the NICU [6].

Nystrom and Axelessor (2006) conducted a descriptive study on mothers of neonates admitted in NICU to elucidate the mothers experiences related to separation from their newborns during their first week of

life; when the newborns had been transferred to NICU. 80 women whose full-term newborn had been treated in the NICU for 2–10 days and then declared healthy and sent home were included. Findings revealed that their experiences had caused them emotional strain and anxiety. From the analysis, three themes emerged. Being an outsider was based on feeling of despair, powerlessness, homelessness, and disappointment. Lack of control included emotional instability, threat, guilt, and insecurity. The theme of care included trust, love, anxiety, relief, closeness and explanations [7].

Family centered care places the need of the individual infant in the context of the family and redefines the relationship between parents and caregivers. Information sharing, and collaboration are cornerstones of family centered care, and they shape a unit's culture, policies, programs, and facility design as well as the day-to-day interactions among mothers, caregivers and families. The potential benefits of family centered care includes improved satisfaction with care, less parental stress, more parental comfort and competence with post discharge care, improved success with breastfeeding, shortened length of hospital stay, decreased readmissions post discharge, and increased staff satisfaction [8].

Stress in human life includes tension, anxiety, worry and pressure. It is an accepted fact that stress is necessary for life and it can be either beneficial or detrimental [9]. Stress usually affects all the domains. These effects can be physiological such as difficulty in breathing, head ache, loss of appetite, etc.; emotional such as helpless, irritable, aggressive; cognitive such as unable to think about the possible outcome of the situation, and social such as unable to interact with family members. Illness is an

added stressful event for a person and a quick resolution of such stressful situation is sometimes needed to test the possibility of an escalating stress that could overwhelm a person experiencing it. Understanding the concept of stress is therefore necessary as it provides a way of understanding a person as a unified being who responds in totality to a variety of chaos that takes place in daily life [10].

Stress is the non-specific response of the body to any demand regardless of its nature. This response includes a series of physiologic reactions that he labelled as general adaptation syndrome, which has 3 stages: Alarm, resistance and exhaustion. During the alarm stage, physiological mechanisms in the body are mobilized, so that the person can deal with whatever is threatening homeostasis. During this immediate and involuntary phase, a hormone called epinephrine is released among plenty of other biochemical messengers. These biochemicals cause lot of changes including an increase in blood pressure, heart rate and respiratory rate. Psychologically speaking, a person may also experience fear, anxiety and restlessness in this phase. During the resistance stage, the person is adapting to the stressor and is trying to return to a stage of equilibrium. The person in the resistance stage tries to calm down, deny the problem, shutdown the emotions and isolates himself in order to re-establish a sense of normality. The stage of exhaustion occurs when the body stressor is overwhelming in intensity or duration and the person no longer has the resources to handle the situation. Entering such a stage usually means that the person was unable to recover from the stressor during the resistance phase [11].

Every person experiences stress in his day to day life and responds differently. So, there is no “one size fits all” solution to manage the stress. But if this stress becomes out of control or the person can

no longer manage the situation, then it's time to take actions. Coping is constantly changing cognitive and behavioral efforts to manage specific external and internal demands that are appraised as taxing or exceeding the resources of the person. They identified two types of coping responses as problem focused and emotion focused. Problem focused coping involves changing or modifying the fundamental cause of the stress. Emotion focused coping is aimed at reducing emotional distress and maintaining a satisfactory internal state for processing information and action e.g. distraction [12]. Other types of coping involve physical coping such as engaging in exercise; cognitive coping such as coming up with strategy; emotional coping such sharing feelings with family members; spiritual coping such as putting trust in God; social coping such as talking to family members and friends and use of diversional activities such as listening to music. One more type of coping response is appraisal focused. The appraisal focused strategies are those coping mechanisms which involve the change in mindset or a revision of thoughts. Denial is the most common coping mechanism under this category [13].

Early birth of a baby or unplanned admission in a NICU presents a crisis for the parents. Similarly, unplanned admission of a child in NICU will produce negative feelings of aggression, anxiety, guilt, shock, fear and confusion to the mothers. Hospitalization involves that parents are in an unfamiliar environment and their parental role changes. Parents of children with critical conditions often face agonizing situation about NICU. Nurses and physicians can best support families in this situation, showing sensitivity to the steps that parents use to cope up [14].

Carter conducted a comparative study on parents of infants admitted in NICU and parents of infants not admitted in NICU to compare their psychosocial functioning.

Data was collected randomly from 447 parents (242 mothers; 205 fathers) with infants admitted to a regional NICU during a 12 months period; 189 parents (100 mothers; 89 fathers) with infants born at term and not requiring NICU admission. Findings revealed that overall levels of anxiety and depression were low in both parent groups though infant's prematurity impacted negatively on the father as well as on the mother. [15].

Michael conducted a descriptive study on parents of infants admitted in special care nursery to assess family stress, coping, perceptions about their infant, and alterations in mood that may result from the hospitalization of their critically ill newborn. Eligible sample were those parents whose infants were hospitalized in the Special Care Nursery (SCN) at Christiana Care Health Services, who were born up to 31 weeks gestational age. Twenty-seven families (mothers and/or fathers) completed four questionnaires in 2-week intervals during the course of their premature infant's hospitalization. A score for neonatal acute physiology (SNAP) was obtained in each infant to know the effect of the severity of neonatal illness on the questionnaire variables. Findings revealed that families with high stress scores on the parental stressor scale had different coping strategies than those with less stress scores. A high level of maternal depressive symptomatology was associated with altered methods of coping, general stress, and perception of infant health. There was no relationship between the SNAP score and the overall level of stress. Families who completed more than two questionnaires were different from those who only completed two or less questionnaires [16].

Eva, Bergström, Lars and Gill conducted a longitudinal cohort study on mothers of infants cared in two NICU to investigate the incidence of postpartum depression

(PPD) and factors related to PPD onset. 123 mothers were posted the Edinburgh Post-Natal Depression Scale (EPDS) and a questionnaire to record infant and maternal data at 1 month, and a repeat EPDS scale at 4 months post-discharge. Findings revealed that PPD incidence was 15% in 1st month and 14% in 4th months. Pre-pregnancy and/or antenatal depression was significantly associated with the incidence of PPD. Mothers who experienced PPD in 1st month had an almost eightfold risk of experiencing PPD in 4 months. Women who were not offered counselling during their infant's stay on the NICU had 60% increased risk for PPD onset [17].

### NEED FOR THE STUDY

The global burden of neonatal deaths is estimated to be 3.1 million deaths occurring during the first week of their 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, one usually looks primarily at the information originating in specialized neonatal units rather than at the grassroot level [18].

While looking at the various causes of neonatal illness and death, the major factors influencing newborn care and survival are usually overlooked. In a country plagued by differences of caste, creed, social and educational bias, the link among adverse sociocultural events and neonatal morbidity and mortality has usually forgotten. Many contributory factors like poverty, illiteracy, poor maternal health, barriers to exclusive breastfeeding, harmful traditional practices

and inadequate healthcare facilities are needed to be studied in detail [19].

Mother with high-risk pregnancy has increased risk for subsequent parenting problems. If the need for NICU is anticipated before birth, maternal transport to tertiary care facility should be planned. Repeated studies have confirmed better survival rate of high risk infants whose mothers were transported to specialized centers for delivery compared to infants who were transported after birth to NICU. It is also very helpful to orient the parents before delivery to the NICU which will help on decreasing the stress and increase the coping [20].

One of the major causes of stress for parents of neonates admitted in NICU is their child's separation. When a child is admitted in NICU, the parent's role is altered. Holding, touching and eye contact, talking to the child is important for the child as well as the parents. Before parents visit the NICU for the first time, there is need to prepare them for the unfamiliar environment of the NICU as the flashing lights and buzzers on the monitors and all the equipment attached to the child can be very frightening. Other sources of stress for parents of NICU infants can be loud sounds, unpleasant sights and NICU procedures, uncertainty about the infants' outcome and ineffective patterns of communication among health care providers and parents [21].

Jennifer and Liz conducted a longitudinal study on parents of preterm babies to compare patterns in the stress, coping and parenting efficacy of mothers and fathers of low risk preterm infants. 25 couples completed a survey about their perceptions on their stress, coping, social support and parenting efficacy just prior to their infant's discharge from hospital and again three months later. Findings revealed that for both mothers and fathers, negative stress appraisals decreased, and

controllability appraisals increased in three months following discharge. There were also changes in their coping strategies and social support. Psychological distress was higher among mothers than fathers, but mothers tend to appraise the situation more optimistically than fathers. Parenting efficacy also increased for mothers in the three months following discharge but was unchanged for fathers [22].

Melnyk and Small conducted a study to examine the relationship of family coping, resources and strains on family adjustment over time following the NICU experience. Findings of the study showed improved family adjustment over time for mothers and fathers. Family resources were related to family adjustment and decreased over time for both parents. Families used more coping mechanisms and different coping patterns over time [23].

Sujaa, Leslie and Mayya conducted a correlational study on parents of preterm infants admitted in NICU to investigate the interrelationships among stress, coping and nursing support of parents of preterm infants and the level of stress among mothers and fathers was compared. Descriptive cross-sectional survey was conducted via interview at tertiary level in NICUs of six hospitals of India among 62 mothers and 38 fathers of preterm infants. Findings revealed that there was a mild negative correlation between nursing support and stress ( $r = -0.199$ ,  $p = 0.047$ ) implying that nursing support reduced stress and significant difference in mean stress scores among parents indicate that mothers experienced more stress in compared to fathers [24].

Akbarbegloo and Valizadeh conducted a study in three teaching hospitals to compare mother's and nurse's viewpoint about stressors for parents with premature newborn in NICU. A comparative descriptive design was used. Data was collected by parental stress scale (PSS)

questionnaire. The study population consisted of all mothers with hospitalized premature newborn in NICU (n=300) and nurses (n=32) in three teaching hospital in Tabriz City, Iran. Findings of the study showed that there was a significant difference between nurses and mothers viewpoints about stressors for parents of premature babies hospitalized in NICU [25].

Margaret, Shetty and Lewis conducted a descriptive study to determine the maternal anxiety and family support experienced by mothers of neonates admitted in NICU and to find the relationship between them. Data was collected from 20 mothers of neonates admitted in NICU. Findings revealed that majority of 65% mothers had high levels of anxiety and 80% mothers had high family support. Also, maternal anxiety and family support were negatively correlated which means as family support increases there will be decrease in anxiety level [26].

Miles, Shandor, Burchinal, Holditch and Diane conducted a descriptive study on 31 black and white mothers of hospitalized medically fragile infants to assess the perceptions of stress, worry and support. Findings revealed that all mothers reported high level of stress associated with the appearance of their infants and moderately high stress associated with their altered parental role, and moderately high level of worry about infant's health problems and high support from nursing and healthcare team. Black mothers were more stressed by sight and sounds of the NICU environment, but level of their stress was only moderate. On the other hand, mothers with less education expressed more worry about their infants than mothers with more education [27].

Debra, Chiara and Evans conducted a descriptive study to assess the prevalence of acute stress disorder (ASD) and post-traumatic stress disorder (PTSD) in mothers and fathers of neonates admitted

in NICU. 86 mothers and 41 fathers completed measures of ASD 3-5 days after the neonate's admission in NICU(T1), and measures of PTSD 30 days later (T2). Findings revealed that 35% of mothers and 24% of fathers met ASD diagnostic criteria at T1, 15% of mothers and 8% of fathers met PTSD diagnostic criteria at T2 [28].

Based on the studies reviewed, it is evident that mothers experience stress and anxiety when their neonates are admitted in NICU. Also, during the experience in NICU, the investigator came across many mothers who being full of stress were enquiring about their newborn. The investigator therefore, felt the need to conduct such study on mothers whose neonates are admitted in NICU. Nurses working in NICU can help these mothers to cope with the situation. This study is to identify the level of stress and coping strategies of the mothers of neonates admitted in NICU. Identifying the experiences perceived as most stressful and coping methods used by mothers can help the nurses in anticipating mother's needs and formulation of policies and interventions [29].

## STATEMENT OF THE PROBLEM

A study to assess the level of stress and coping strategies among mothers whose neonates are admitted in NICU at Lalla Ded Hospital Srinagar Kashmir

## OBJECTIVES

The objectives of the study are:

- To identify the level of stress among mothers of neonates admitted in NICU.
- To identify the coping strategies used by the mothers of neonates admitted in NICU.
- To correlate the level of stress with coping strategies used by mothers of neonates admitted in NICU.
- To determine the association of level of stress and coping strategies with selected demographic variables (age, educational qualification, parity, area

of living, type of family, period of neonate's stay in hospital ).

## **HYPOTHESES**

H1 - There is a significant correlation between the level of stress and coping strategies used by mothers of neonates admitted in NICU at 0.05 level of significance. H2: There is a significant association of the level of stress and coping strategies used by mothers with selected demographic variables at 0.05 level of significance.

## **OPERATIONAL DEFINITIONS**

### **Mother**

In this study, mother refers to the woman admitted in postnatal ward irrespective of mode of delivery whose neonate is admitted in NICU.

### **Stress**

In this study, stress is defined as the factors that have the potential of weakening the normal lines of defense among mothers of neonates admitted in NICU. The domains selected under stress for the study included physiological domain (difficulty in breathing), emotional domain (irritable and helpless), cognitive domain (unable to think), parental role alteration (not able to take care of infant) and socioeconomic domain (less interaction with family and friends).

### **Coping Strategies**

In this study, coping strategies refer to the mother's activities to deal with stressful situations when their neonates are admitted in NICU. The coping strategies selected are physical coping (engaged in activity), emotional coping (sharing feelings), cognitive coping (coming up with strategies), spiritual coping (praying more), social coping (talking to family) and diversional activities (listening music).

### **Neonate**

In this study, neonate refers to a newborn between age of 0 to 28 days and admitted in NICU.

### **Neonatal Intensive Care Unit:**

In this study, NICU is a specialized unit designed to provide facilities for the care of ill neonates (0 to 28 days) who need continuous supervision, specialized care such as monitoring, resuscitation, and nutrition by skilled healthcare personnel.

## **ASSUMPTIONS**

- There is high level of stress among mothers of hospitalized neonates.
- The mothers try to adapt the situation by using various coping strategies.
- Mother's perception of stress differs according to their age, educational qualification, parity, area of living, type of family and period of neonate's stay in hospital.

## **DELIMITATIONS**

The study is delimited to:

Mothers who are admitted in postnatal wards irrespective of mode of delivery whose neonates are admitted in NICU at Lalla Ded Hospital, Srinagar, Kashmir.

## **CONCEPTUAL FRAMEWORK OF THE STUDY**

The conceptual framework serves as a springboard for theory development and scientific advancements. The theoretical context enhances the importance of the study, where a model symbolically represents a phenomenon. It is a device that helps to stimulate research and the extension of knowledge by providing direction, impetus as well as application of this process in clinical area [29].

The conceptual model used for the present study is Sister Callista Roy's Adaptation theory as given in Figure 1. The Roy's adaptation model focuses on the response of the adaptive system to a constantly



changing environment. Adaptation is the central feature and a core concept of the model. Problems in adaptation arise when the adaptive system is unable to cope with or respond to constantly changing stimuli from the internal and external environment in a manner that maintains the integrity of the system [30].

The person is identified as a biopsychosocial being and as an adaptive system. System is defined as 'a set of parts connected to function as a whole for some purpose, and it does so by virtue of the interdependence of its parts'. Adaptive means that 'human system has the capacity to adjust effectively to changes in the environment and in turn affect the environment [30]. In the present study, mothers are considered as an adaptive system and they function as a whole through interdependence of their parts. The system consists of input, control processes, output and feedback.

The input is stimuli from the external environment and the internal self. Each person is affected by various stressors called stimuli. Stimuli can be focal, contextual or residual. The focal stimuli may immediately confront the person [30]. In the present study, focal stimuli includes stress from hospital environment (NICU instruments and equipment). A contextual stimulus includes all the stimuli in the internal and external environment of the individual that have a positive or negative influence on the situation [30]. In the present study, it includes demographic variables of the mothers i.e. age, educational qualification, parity, area of living, type of family and period of neonate's stay in hospital. Residual stimuli are external and internal factors that affect the reaction of the system, but their immediate effects are not understood [30]. Here, it includes mother's attitude, beliefs and past experiences which are not under study.

The adaptive system has two major internal control processes called the regulator and cognator subsystems. The regulator subsystem responds automatically through neural, chemical and endocrine coping processes. The cognator subsystem responds to inputs from internal stimuli that involve psychological, social, physical, and physiological factors [30].

Regulator and cognator activity is manifested through coping behaviours in 4 adaptive or response modes.

### **Physiological mode**

This is associated with the way the person responds as a physical being to stimuli from environment. Behaviour in this mode is the manifestation of the physiological activities of all the cells, tissues, organs, and systems comprising the human body. Five needs serve to promote physiological integrity (oxygenation, nutrition, elimination, activity, rest and protection) and four processes which help to maintain physiological integrity are senses, fluid and electrolytes, neuro and endocrine function. Here, physiological mode includes adequate diet, adequate rest, exercise which is not included in the study.

### **Self-concept mode**

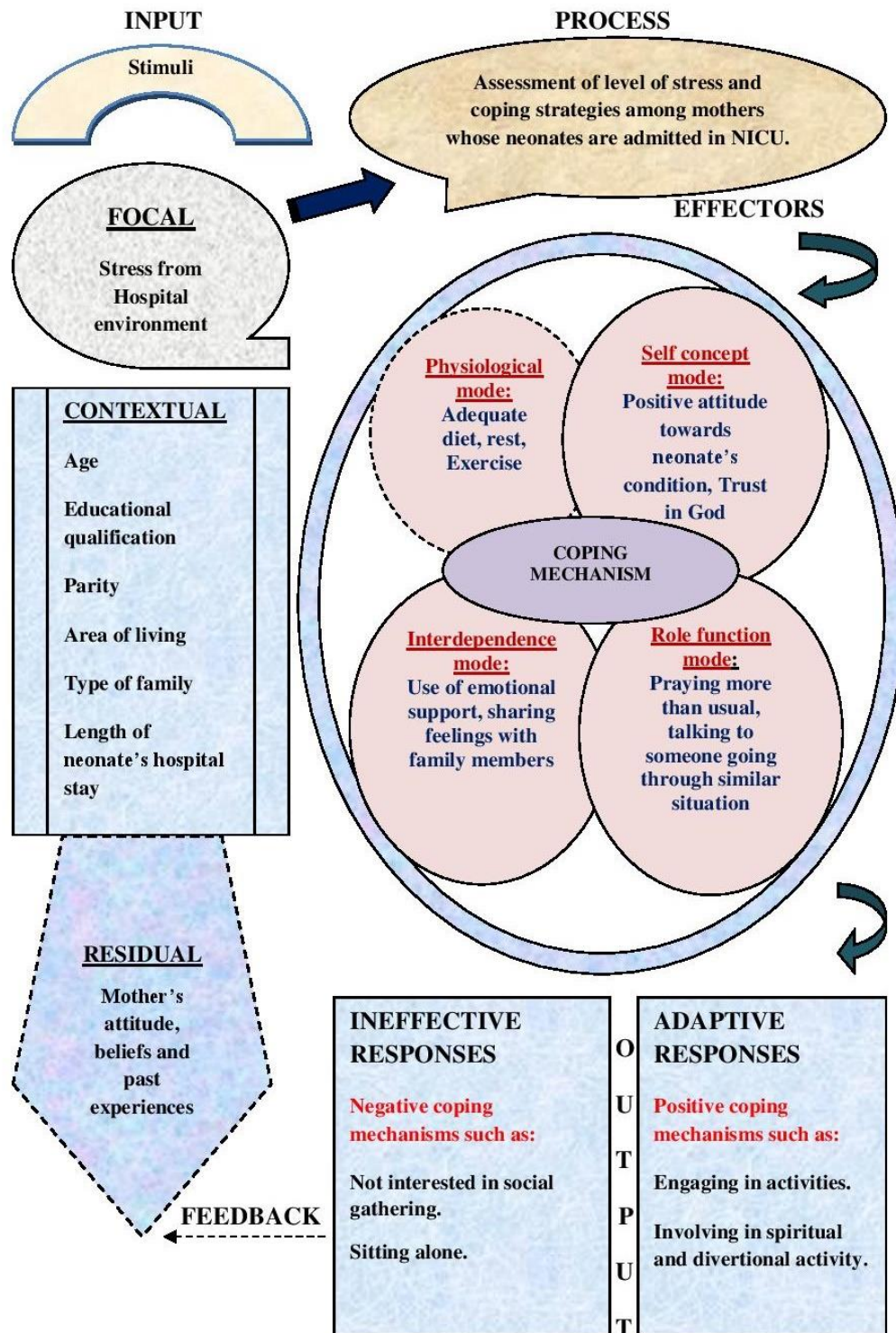
Self-concept mode encompasses perception of the physical self and the personal self. It focuses on the need for psychic integrity that is 'the need to know who one is, so that one can be or exist with a sense of unity'. In this study, positive attitude towards neonate's condition, trust in God, etc., are included in self-concept mode.

### **Role function mode**

This emphasizes the need for social integrity. Roles are classified as primary, secondary and tertiary. The primary role determines the majority of behaviours engaged in by the person during a particular period of life. Secondary roles are those that are assumed by a person to complete the task

associated with a developmental stage and primary role. Tertiary roles are related primarily to secondary roles and represent ways in which individuals meet the role associated obligations. Role function modes

of coping behaviors for the present study include praying more than usual, talking to someone, going through similar situation, etc.



Key: \* — \* Included in the study, \* - - \* Not included in the study

Fig. 1. Conceptual framework based on Roy's adaptation theory

### Interdependence mode

This also emphasizes the need for social integrity. Interdependence is a 'way of maintaining integrity that involves the willingness, ability to love, to accept love and respect given by others.' In the present study, interdependence mode includes use of emotional support and sharing feelings with family members. Output is the adaptive and maladaptive behavior response. Adaptive responses promote integrity of the person whereas maladaptive responses to stimuli that leads to disruption of the integrity of the person [30]. Output behaviors demonstrated in this study are inferred by use of positive coping mechanisms such as engaging in activities, involving in spiritual and diversional activities, talking with the family, etc., and negative coping mechanisms such as not interested in social gathering, sitting alone, blaming herself, etc.

Feedbacks of information regarding the behavioral responses are conveyed as an input in the system. In the present study, feedback is not included.

### REVIEW OF LITERATURE

It refers to an extensive, exhaustive and systematic examination of publications relevant to the study. It is an essential part of every research, which helps to support the hypotheses under the study and to critically analyses the structure and content of the research report. Review of literature makes a researcher familiar with the existing studies and provides information, which helps to focus on a particular problem and lays a foundation upon which the new knowledge can be based [31].

The review of literature relevant to this study has been arranged in the following categories:

- Studies related to general aspects of stress and coping of mothers.

- Studies related to symptoms, type and intensity of stress in mothers.
- Studies related to coping strategies of mothers.

### STUDIES RELATED TO GENERAL ASPECTS OF STRESS AND COPING OF MOTHERS

Young, Watson, Corff and Odle conducted a comparative study among 31 parents whose neonates were admitted in NICU and 20 parents whose neonates were admitted in pediatric intensive care unit(PICU) to identify and to compare parental perceptions of their stress and coping experiences with children in NICUs and the pediatric intensive care units(PICU). Findings revealed that parents in both units experienced the most stress from alteration in their parenting role and in their infants' behavior and appearance. Parents of children in PICU found assistance with parenting role more helpful than parents of children in NICU. Parents staying with the children in the PICU perceived problems-focused coping more helpful than parents with children in the NICU; parents of children in NICU found emotion-focused coping more helpful than parents of children in PICU. Parents in both units considered problem-focused coping more helpful than appraisal- or emotion-focused coping [32].

Bhowmik conducted a descriptive study on 50 parents of neonates admitted in NICU in West Bengal to determine the stressors and coping strategies of parents. Findings revealed that majority of parents experienced moderate level of stress. Twenty percent experienced high level of stress and 80% experienced moderate level of stress. There was moderately significant relationship between stressors and coping strategies of the parents ( $r = 0.556513$ ,  $p < 0.05$ ) [33].

Patil conducted a descriptive study on 40 mothers of neonates admitted in NICU to assess the level of stress and coping strategies of mothers of neonates admitted in NICU. Descriptive approach was selected with convenient sampling technique. Findings revealed that majority of the mothers (70%) had moderate stress and 30% mothers had severe stress. Also, majority of the mothers (87.5%) had average coping and 12.5% had good coping [34].

Sujaa, Leslie, Mayya (2010) conducted a correlational study on parents of preterm infants admitted in NICU to investigate the interrelationship among stress, coping and nursing support of parents of preterm infants and to compare the level of stress among mothers and fathers. Descriptive cross-sectional survey was conducted via interview in tertiary level NICUs of six hospitals of India among 62 mothers and 38 fathers of preterm infants. Findings revealed that there was a mild negative correlation between nursing support and stress ( $r = -0.199$ ,  $p = 0.047$ ) implying that nursing support reduced stress and significant difference in mean stress scores among parents indicating mothers experienced more stress in comparison to fathers [24].

#### **STUDIES RELATED TO SYMPTOMS, TYPE AND INTENSITY OF STRESS IN MOTHERS OF NEONATES ADMITTED IN NICU**

Sarkar conducted a descriptive study on 60 mothers of neonates who were admitted to Pariyaram Medical College, Kannur, Kerala, India to determine the factors related to stress and the level of stress experienced by them. Findings revealed that the majority of mothers (78.33%) had moderate stress whereas only 5% mothers had mild stress and 16.67% had severe stress. The mean stress was (71.58%) [35].

Erdem (2012) conducted a descriptive study on 80 mothers whose neonates were

hospitalized in NICU in Turkey to assess the anxiety levels of the mothers. Findings revealed that 50% mothers had elevated levels of anxiety symptoms and maternal anxiety was significantly ( $p < 0.05$ ) related to infant's gender and duration of hospitalization [36].

Doering and Moser conducted a correlational study to identify the relation between parental anxiety, hostility, depression, and psychosocial adjustment in 469 parents (mothers and fathers) whose infants were hospitalized in NICU. Findings revealed that parents experienced high levels of anxiety, hostility, and depression. Poor family functioning, lower levels of social support, and lower perceived control were associated with higher levels of anxiety, hostility, and depression. Parental status (mother or father), ethnicity, employment status, and education were significantly related to parental responses [37].

Thomas and Karen conducted a descriptive and exploratory study on parenting stress experienced by mothers of preterm infants in USA. 29 mothers and their preterm infants were included in the study. Findings revealed that mothers of preterm infants experienced stress that was largely attributable to the particular characteristics of less gestation infants [38].

Matricardi, Agostino, Fedeli and Montiroso conducted a study to examine the effects of parental intervention to reduce parent's (mothers and fathers) stress levels during the hospitalization of their very preterm infants in NICU. Parent of infants born < 32 weeks gestational age (GA) were randomly assigned to a standard support group (N=21) and intervention group (N=21). The intervention was based both on a joint observation method and infant massage provided by both parents. Parents' stress was assessed by the parental stress scale

(PSS). Results revealed that at discharge, intervention group parents had significantly lower level of stress related to infants' appearance and parental role alteration than those of standard support group. Overall, mothers reported more stress compared with fathers ( $P < 0.05$ ). The intervention was effective in reducing the stress role alteration in mothers but not in fathers [39].

Miles and Margaret conducted a study on infants' hospitalization designed to measure parents' perception of stress associated with experience of having an infant admitted to hospital environment. The infants were hospitalized in a tertiary care university hospital in the southeast. The units included 16 bed NICU, 20 bed neonatal intermediate care nursery, 16 bed pediatric ICU and 3 pediatric medical / surgical units. Medically fragile infants in this study were term (30%) and preterm (70%) infants who were seriously ill and hospitalized. Parental stress scale (PSS) was applied on the parents. Findings revealed that correlation between the total score and subscale score were high. About two weeks from enrollment, correlation from time 1 and time 2 were significant for the total score. Construct validity was supported by significant correlation between PSS and maternal distress outcomes, namely depressive symptoms and the personal development of mother [40].

Miles, Carlson and Funk conducted a descriptive study on parents of infants admitted in NICU to identify the perceptions of parents of critically ill infants about the helpfulness of support provided to them by family, health care professionals, and others when their infants were in a NICU. Findings indicated that these parents experienced a moderately high level of support and perceived NICU nurses as very helpful. Nurses need to continue to develop their

role in helping families by identifying specific supportive interventions [41].

Bell conducted a descriptive study to determine the mother's perception of the NICU environment. Forty-six mothers were included in the study. Findings revealed that the most stressful aspects of the NICU were parental role alternation and the infant's appearance and behaviours. Less stressful were the sights and sounds of the NICU and communication with staff members [42].

Richard, and Thomas conducted a descriptive study on parents of infants admitted in NICU in Packard Children's Hospital, Palo Alto to determine the prevalence of acute stress disorder. Forty parents were assessed after the birth of their infants. Findings revealed that acute stress disorder was associated with female gender, alteration in parental role, family cohesiveness, and emotional restraint. Family environment and parental cope up styles were significantly associated with the development of trauma symptoms. Results from this study suggest potential interventions to help minimize psychological distress in parents [43].

Haydeh, Marzieh and Marjan conducted a descriptive study on parents, nurses and physicians to determine the parental experiences with the infant care in NICU and explore their concerns regarding nursing supports for parents and offers nurses' perspectives on performing duties. The 21 participants were 6 fathers, 7 mothers, 5 nurses and 3 physicians. According to the results obtained from this study, the fear of losing the infant is agonizing to parents, in addition to the worries about the infants' future health. The results of this study indicated that upon hospitalization of the infant in NICU the feeling of guilt overwhelmed the parents [44].

Valizadeh conducted a descriptive cross-sectional study on mothers with infants in NICU to determine the sources of stress in mothers with infants in NICU and surveyed 50 mothers using a questionnaire to measure parents' stress. The findings showed that the apparent stress provoking factors for parents involved in their infant's behavior such as: Infant being in pain, interruption in birthing process, intravenous or tube feeding; watching the infant in a dreadful mood and having their infant in an isolate. Researchers found the stress creating sources with respect to the infant-parent relation were separation, non-feeding, not having free time to spend with the infant and a sense of being unable to help the infant who was in pain. Researchers indicated that in spite of the variety in the sources of stress, a family-centered instead of infant-centered NICU could help reduce stress. Researchers only evaluated mothers' feelings and reported that a family-centered approach will enhance fathers' contribution to the family stability as a vital caregiver [45].

Akbarbeglou and Asad conducted a descriptive study on mothers with premature infants in NICU to find the effects of stress on mothers. They sampled and surveyed 300 NICU mothers. Findings revealed that NICU was a stress provoking environment for parents. Parents identified noise from monitor and special devices and placing two infants in one isolate very stressful. Parents experienced high stress level when their infants were in distress during medical procedures and treatments as they watched abnormal breathing pattern, medical accessories and devices surrounding and attached to infant, sudden skin color changes, the helplessness of a tiny infant making facial grimaces indicating pain. Other stressful factors included the parent-infant relation such as separation, a sense of not being able to help the infant and not being able to protect the infant during painful procedures [46].

## STUDIES RELATED TO COPING STRATEGIES

Olley conducted a survey on 200 mothers of children with sickle cell disease in western Nigeri to perceive stress factors and coping mechanisms. Findings revealed that acceptance was the predominant mode of coping as reported by 80%, 38% tried to avoid the problem, 19.5% would complain and 10% confront it [47].

Melynk, Grillis, Fairbanks, Sinken, Stone and Small conducted a randomized controlled trail on families with preterm infants to evaluate the effect of coping program to reduce period of stay in hospital. 260 families were included in the study. Parents in the cope group received information and behavioural activities about the appearance and behavioural characteristics of preterm infants and how best to parent them. The comparison group got information regarding hospital services and policies. Study findings revealed that infants in the cope group had a 3–8 day shorter NICU length of stay (mean: 31.86 Vs 35.63 days) and 3–9 day shorter total period of stay in hospital (mean 35.29 Vs 39.19 days) than did comparison infants [48].

Valliammal and Ramachandra conducted a descriptive study on 100 mothers of neonates admitted in NICU to assess the level of stress and coping strategies used by them. Findings revealed that majority of the mothers (38%) had severe stress, 34% mothers had mild stress and 28% mothers had moderate stress. Further, majority of the mothers (50%) had moderate coping, 25% mothers had good coping and 25% mothers had poor coping. There was a significant correlation between stress and coping strategies at  $P < 0.05$  level and there was no significant association between the stress and coping strategies with selected demographic variables [49].

Browne and Talmi conducted an experimental study on high risk mothers of infants to examine the effect of family-based intervention to enhance infant-parent relationship in the NICU. The study included 84 high risk mothers of infant. Samples were randomly assigned to two intervention groups and one control group. Group 1 participated in a demonstration of infant reflexes, attention, motor skills and sleep-awake states. Group 2 viewed educational materials. Group 3 controls participated in an informal discussion. Parent infant interactions were assessed by nursing child assessment feeding scale. Parenting stress index was used to assess stress level of the mothers. Study findings revealed that knowledge of preterm infant behaviour scale (KPIBS) scores for knowledge were significantly lower for the control groups than intervention groups. In nursing child assessment feeding scale (NCAFS), control group scored significantly higher than intervention group, indicating lower relationship quality [50].

Melynk, Gillis, Feinstein, Johnson, fiarbanks and Rubenstein conducted a randomized controlled trail on critically ill young children and their mothers to assess the effects of coping program on the mental health and coping outcomes. The sample included 174 mothers and their 2-7 years old children. Mothers in the experimental group followed a 3-phase educational-behavioral intervention program at

1. (6-16 hours after PICU admission)
2. (16 hours after transfer to the general pediatric unit) and
3. (2-3 days after their children were discharged from the hospital).

Control mothers received a structurally equivalent control program. Follow up assessments were done at 1,3,6 and 12 months after hospitalization. Parental stress inventory was used to collect the

data. The study results showed that cope mothers reported significantly less parental stress and participated more in their children's care compared with control groups. One year after discharge, a significantly higher percentage of control group children (25.9%) exhibited behavioral symptoms compared with cope children (2.3%) [51].

Pinelli conducted a correlational study on mothers of neonates to investigate relationship between family coping and resources, and family adjustment and parental stress in the acute phase of the NICU experience. Data was collected from 124 mothers using the family crisis oriented personal evaluation scales, and the general functioning subscale of the McMaster family assessment device. The results indicated that adequate resources were more strongly related to positive adjustment and decreased stress than were either coping or being a first-time parent. The relationships among the variables were generally the same for both parents. Mothers utilized more cope up strategies than fathers and it was recommended that families with limited resources should be identified early to facilitate their adjustment to the NICU [52].

Ward conducted a descriptive study to identify the perceived needs of parents of infants admitted in a NICU. A convenience sample of 52 parents of infants from NICU completed the NICU family needs inventory (NFNI) that was modified from the critical care family needs inventory (CCFNI). Findings revealed a significant difference between mothers' and fathers' responses. Fathers ranked support, information, and assurance needs more significantly less important than mothers did. The results suggested the need to inform parents about the infant's treatment plan and procedures; answer the parents questions honestly; actively listen to parents fears and expectations; assist

them in understanding infant responses to hospitalization; and other effective nursing interventions to help meet the needs of parents of NICU infants [53].

Doucette conducted a correlational study on mothers of neonates to examine relationship of family coping, resources, and strains on family adjustment over time following the NICU experience. The Data was based on the resiliency model of family stress, adjustment and adaptation model from 71 couples, 18 to 24 months following the birth of their infant. The results showed that family adjustment for mothers improved over time but decreased for fathers. Fathers of infants with ongoing health problems reported significantly poorer family adjustment. Family resources were related to family adjustment and decreased over time for both parents [54].

Sudhana conducted a descriptive study on 60 mothers of neonates admitted in NICU to assess the level of stress and coping strategies used by them. Findings revealed that 12% mothers had severe stress and 28.3% of mothers had moderate stress and remaining 60% of mothers had mild stress. Also 20% of mothers had good coping, 58.3% mothers had moderate coping and remaining 21.6% mothers had poor coping [55].

Franck, Cox, Allen and Winter conducted an evaluator survey study of the adequacy of nursing care and psychosocial support services for parents of ill infants in NICU of UK and US to measure the parental stress. Consecutive samples of parents (n=257) of infants in 9 UK NICU and 2 reference US units completed the PSS (Parental Stressor Scale) and the Spielberger state trait anxiety scale approximately 1 week after admission. Findings revealed that with the help of PSS, NICU scores were similar in the UK and US samples and high internal consistency reliability was found for all

metrics. Stress occurrence and overall stress were moderately correlated with state anxiety in both sample ( $r=0.46-0.61$ ,  $P<0.001$ ). Thirty one percent of the variance in stress occurrence in UK sample was explained by state anxiety, infant severity of illness score, parent gender and less frequent visitation [56].

Preyde and Ardal conducted a study on the effectiveness of parents on buddy program for mothers of very preterm infants in a NICU. In the cohort study, 32 mothers were recruited for the interventional group from the Mount Sinai hospital and 28 mothers were recruited for the control group from sunny brook and Women's college health science center, both located in Toronto. Mothers in the intervention group were paired with trained mothers who previously had a very preterm infant in the NICU and provided principally telephone support. Participants in both groups received standard medical and social work services. Findings revealed that at fourth week after enrolment in the study, mothers in the intervention group reported less stress than in control group (mean score 1.54 vs. 2.93,  $p<0.001$ ). At sixteenth week after enrolment, the intervention group reported less anxiety (mean score 31.4 vs. 38.6  $p<0.05$ ), less depression (mean score 2.20 vs. 4.88,  $p<0.01$ ) and greater perceived social support (mean score 6.49 vs. 5.48  $p<0.01$ ) than the control group [57].

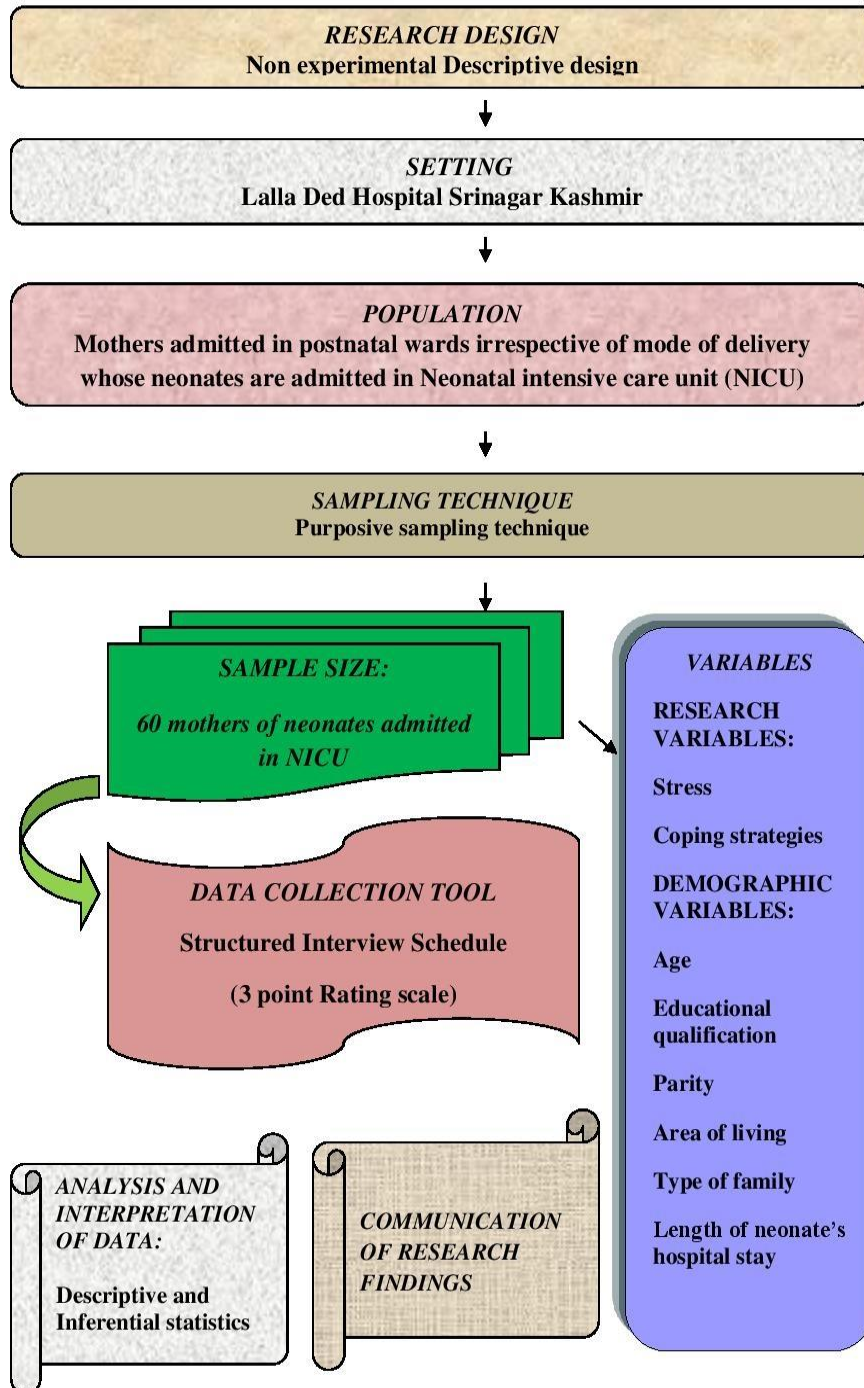
## METHODOLOGY

Figure 2 depicts that the research methodology is a way to systematically solve the research problem. Research methods are the techniques used by the researcher to structure a study, gather and analyze the information relevant to the research questions [58]. The research methodology includes research approach, research design, study setting and sampling technique, data collection method,



development of the tool, description of the tool and data analysis. The present study aims to assess the level of stress and coping strategies among mothers whose neonates are admitted in NICU at Lalla Ded

Hospital, Srinagar, Kashmir, India. The research methodology organizes all the component of the study, providing the overall framework for availing valid answer to the sub problems that have been stated.



*Fig. 2. Schematic representation of research methodology.*

**RESEARCH APPROACH**

Research approach is a systematic, controlled, empirical and critical

investigation of natural phenomena guided by theory and hypotheses about the presumed relations among such phenomena

[59]. A quantitative approach is used to accomplish the objectives of the present study and intended to gather data concerning level of stress and coping strategies. It describes the situations as they exist in the world and provides an accurate account of characteristics of sample, individuals, and situations. The outcome of quantitative descriptive research provides a basis for future research.

### **RESEARCH DESIGN**

The research design is the researcher's overall plan for answering the research questions. A research design is a blue print for conducting the study that could maximize control over factors that could interfere with the validity of findings [60]. The selection of research design depends on the purpose of the study. The research design used for the present study was non-experimental descriptive design. The descriptive design was selected since it aided in attaining first-hand information and enhanced obtaining accurate and meaningful information data.

### **VARIABLES**

Variable is an attribute of a person or an object that varies and takes on different values. The present study aims to assess the level of stress and coping strategies among mothers whose neonates are admitted in NICU at Lalla Ded Hospital, Srinagar, Kashmir [61].

The selected variables under the study were:

#### **Research Variables**

Research variables are the qualities, properties or characteristics that are observed or measured in a natural setting without manipulating and establishing cause and effect relationship [59]. The research variables of the present study were stress and coping strategies used by mothers whose neonates are admitted in NICU.

### **SETTING OF THE STUDY**

Setting is a specific place where data collection is done on the basis of the nature

of research questions and the type of information needed to address it [58]. The setting of the present study was "Lalla Ded Hospital", a government maternity hospital in Srinagar (J&K). It is a five storey building with 700 bed strength, situated on the bank of river Jhelum. People from all corners of the valley avail its maternity services and it is also utilized by medical and nursing students for their clinical experience. 80% of these patients are from rural areas of Kashmir valley. Nearly 100 babies are born in the hospital in every 24 hours. The hospital was selected for the present study because it is the largest maternity hospital in the state and has all the needed facilities. The study was conducted in postnatal wards and recovery room. There are 16 labor rooms (including 1st and 2nd stage labour rooms), 10 postnatal wards, 1 recovery room and 1 Neonatal ICU in the hospital. There are 48 beds in each postnatal ward which is divided into six cubicles with eight beds per cubicle. At the time of data collection, the hospital received 700 patients in its out-patient department (OPD) and 120–130 patients were admitted daily with average 40–60 discharges every day.

### **Population**

A population is the entire aggregation of cases in which a researcher is interested [62]. In the present study, the population consisted of mothers admitted in postnatal wards irrespective of mode of delivery whose neonates were admitted in NICU at Lalla Ded Hospital Srinagar Kashmir from 16-11-2015 to 05-12-2015.

### **Sample**

A sample is a small proportion of a population selected for observation and analysis. It is a set of elements that make up the population and an element is the most basic unit about which information is collected [63]. The process of sampling makes it possible to draw valid inferences and generalization. In this study, sample

consisted of 60 mothers admitted in postnatal wards irrespective of mode of delivery who had admitted their neonates in NICU at Lalla Ded Hospital, Srinagar, Kashmir from 16-11-2015 to 05-12-2015 and who met the inclusion criteria.

**Sampling Technique**

Sampling technique is a process of selecting a portion of the population to represent the entire population. The purpose of sampling is to obtain a sample of subjects that can represent the whole population in terms of important variables [59]. In this study, purposive sampling technique was adapted, and it is referred as selective sampling, which involves the conscious selection by the investigator on the basis of accessibility as showed in table 1. Mothers admitted in postnatal wards whose neonates were admitted in NICU were selected purposively by the researcher.

*Table 1. Schematic representation of selection of subjects (n=60)*

S.No.	Place of sample selection	Number of subjects selected
1.	Postnatal ward (Room no 103)	08
2.	Postnatal ward (Room no 117)	06
3.	Postnatal ward (Room no 205)	08
4.	Postnatal ward (Room no 202)	10
5.	Recovery room	10
6.	Postnatal ward (Room no 218)	08
7.	Postnatal ward (Room no 116)	10

**Inclusion Criteria**

- Mothers admitted in postnatal wards irrespective of mode of delivery whose neonates were admitted in NICU.
- Mothers who were willing to participate.

**Exclusion Criteria**

- Mothers with associated co-morbid conditions (hypertension, cardiac disease, diabetes mellitus and

rheumatoid arthritis).

- Mothers with postpartum complications.

**DATA COLLECTION TOOL AND TECHNIQUE**

Data collection tool is a written device that the researcher uses to collect data [64]. Data collection tool used for the present study was structured interview schedule. Interview technique was adopted for recording the responses of the subjects as the mothers were likely to be illiterate or low literate. Recording was done to maintain the accuracy of the response.

**Development of Tool**

A structured interview schedule was prepared to assess the level of stress and coping strategies among mothers whose neonates were admitted in NICU.

The tool was prepared on the basis of:

- Objectives of the study.
- Conceptual framework.
- Guidance of supervisor guide.
- Extensive review of literature: Related literature reviews like books, journals, articles, periodicals, published and unpublished research studies were reviewed and used for the development of the tool.
- Discussion with experts: Experts in the fields of medicine, mental health and nursing were consulted for developing an appropriate tool.
- Informal discussion with peer group.
- Personal experience.

**Description of the Tool**

Structured interview schedule comprised of three parts.

**Part I:** Demographic variables of mothers whose neonates were admitted in NICU. It had six items namely; age, educational qualification, parity, area of living, type of family and period of neonate’s stay in hospital.

**Part II:** Rating scale for assessing level of stress. It consisted of 25 items. Each item had 3 alternatives viz agree, can't say, disagree. It included physiological, emotional, cognitive, parental role alteration and socioeconomic domains.

**Part III:** Rating scale for assessing coping strategies. It consisted of 25 items. Each item had 3 alternatives viz agree, can't say, disagree. It included physical, cognitive, emotional, spiritual, social coping and diversional activities as showed in table 2.

**Table 2. Tabular form of tool**

Part		Items	No. of subitems
I	Demographic variables	• Age	04
		• Educational qualification of mother	04
		• Parity	03
		• Area of living	02
		• Type of family	02
		• Period of neonate's stay in hospital	04
II	Stress rating scale	Physiological domain	08
		Emotional domain	05
		Cognitive domain	05
		Parental role alteration	04
		Socio economic domain	03
III	Coping rating scale	Physical coping	03
		Cognitive coping	04
		Emotional coping	04
		Spiritual coping	05
		Social coping	04
		Diversional activity	05
			[TOTAL=50]

**Scoring Pattern**

Scoring key was prepared for Part I by coding the demographic variables. For part II and III, the structured interview schedule consists of 50 items with 3-point rating scale was prepared. The items were rated against a 3-point scale such as – agree, can't say and disagree where score was given 3, 2, and 1 respectively. Based on the scores obtained by the respondents, the level of stress and coping strategies were categorized as follows:

*Level of Stress* Max score- 75.

Severe stress: 60–75

Min score- 25.

Moderate stress: 42–59

Mild stress: 25–41

*Level of Coping* Max score- 75

Good coping: 60–75

Min score- 25

Average coping: 42–59

Low coping: 25–41.

**Content Validity of Tool**

Content validity refers to the degree to which an instrument measures what it is intended to measure [59]. The prepared instrument along with the objectives and criteria checklist was submitted to nine experts who had specialization in various areas like obstetrics and gynecology, community health, medical and surgical nursing, mental health and mental health nursing for establishing content validity. Suggestions and recommendations given by the experts were accepted and necessary corrections were done to modify the tool. The tool was found to be practicable, feasible and valid.

**Tool Try Out/Pretesting of Tool**

Pretesting of the tool was done to check the clarity and feasibility of the tool. Tool try out was carried out on 09/11/15. It was administered to 5% of the total sample size, i.e., 3 mothers whose neonates were admitted in NICU at Lalla Ded Hospital,

Srinagar, Kashmir. It was found that tool was clearly understood to mothers and tool had no ambiguity. It was found that structured interview schedule took an average of 35–40 min. to complete.

### **Reliability**

Reliability of the tool is the major criteria for assessing the quality and accuracy. It is the degree of accuracy or consistency with which it measures the attributes it is supposed to measure. The tool after validation was tested for reliability. The reliability of the tool was determined by administering structured interview schedule to 4 mothers whose neonates were admitted in NICU at Lalla Ded hospital, Srinagar, Kashmir. In order to establish reliability of the tool, the test retest method was used and by using Karl Pearson correlation coefficient formula. Reliability computed was “r” = 0.94 and the tool was found to be reliable.

Karl Pearson’s correlation coefficient

$$r = \frac{\sum_1^n (x_1 - \bar{X})(y_1 - \bar{Y})}{\sqrt{\sum_1^n (x_1 - \bar{X})^2 \sum_1^n (y_1 - \bar{Y})^2}}$$

### **PILOT STUDY**

Pilot study is a small-scale version or a mini study of the major study. The main objectives of pilot study are to help the researcher to become familiar with the use of tools and to find out the difficulties to overcome before the conduction of main study. [65]. The pilot study was conducted at Lalla Ded Hospital, Srinagar, Kashmir from 11/11/2015 to 14/11 2015 to estimate the feasibility of the study. The investigator obtained permission from the concerned authority prior to the study. The purpose of the study was explained to the respondents prior to the study and informed consent was obtained to get their cooperation. Six respondents were assured of the confidentiality of their identity in a similar way as the final data collection and they were selected by using purposive

sampling technique. The subjects found the language of the tool simple and understandable. After conducting pilot study, it was found that the study was feasible, the tool was relevant, and the cost of the study was within the limit.

### **Ethical Consideration**

The researcher had taken permission from the parent institution to conduct research study and ethical clearance was also obtained and study was found ethically exempted. Permission was taken from the Medical superintendent and Nursing superintendent of Lalla Ded Hospital Srinagar to conduct the study. Consent was taken from mothers before data collection.

### **Data Collection Procedure**

Data collection is the gathering of information needed to address a research problem. Prior to data collection, permission was taken from Principal, Madre Meherban Institute of Nursing Sciences and Research for conducting a research study. A formal written permission was obtained from the medical superintendent of Lalla Ded Hospital, Srinagar to conduct the study. Nursing superintendent and other nursing staff were contacted and explained the purpose of the study to gain their cooperation for collecting data from the mothers. The data was collected from 16/11/2015 to 05/12/2015 from mothers admitted in postnatal wards whose neonates were admitted in NICU and who fulfilled the inclusion criteria. Sample of 60 mothers were included in the study. The investigator established good rapport and written consent was obtained after explaining the importance and purpose of study. Samples were selected by using purposive sampling technique; 35–40 minutes were taken for conducting interview. The interview was conducted at the bed side in the postnatal wards and recovery room.

The data collection was done in a systematic way. Data was collected from eight mothers on first two days in postnatal ward (Room no 103). The responses were recorded during interview in order to maintain accuracy. On 3rd and 4th day, data was collected from six mothers at the bed side in postnatal ward (Room no. 117). From 5th to 8th day, data was collected from eight mothers in postnatal ward (Room no 205). From 9th to 11th day, data was collected from ten mothers at the bed

side in postnatal ward (Room no. 202). From 12th to 15th day, data was collected from ten mothers in recovery room. From 16th to 17th day, data was collected from eight mothers at the bed side in postnatal ward (Room no. 218). On last three days, data was collected from ten mothers at the bed side in postnatal ward (Room no. 116). Overall data was collected from 60 mothers admitted in postnatal wards irrespective of mode of delivery whose neonates were admitted in NICU in 20 days as depicted in table 3.

**Table 3.** Tabular form of data collection schedule (n=60)

Date	Day	Place of Data Collection	No. of Subjects
16/11/15–17/11/15	Day (1–2)	Postnatal ward (Room no 103)	08
18/11/15–19/11/15	Day (3–4)	Postnatal ward (Room no 117)	06
20/11/15–23/11/15	Day (5–8)	Postnatal ward (Room no 205)	08
24/11/15–26/11/15	Day (9–11)	Postnatal ward (Room no 202)	10
27/11/15–30/11/15	Day (12–15)	Recovery room	10
01/12/15–02/12/15	Day (16–17)	Postnatal ward (Room no 218)	08
03/12/15–05/12/15	Day (18–20)	Postnatal ward (Room no 116)	10

### Plan for Data Analysis

Data analysis is conducted to organize and give meaning to the data. The data collected will be analyzed by using descriptive and inferential statistics. The data was planned to be analyzed on the basis of objective and hypotheses 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 mothers was computed.

- Karl Pearson's coefficient of correlation was calculated to find the relationship between stress and coping.
- Chi-square test was computed for finding out the association of level of stress and coping strategies with demographic variables.

### Analysis and Interpretation

The term analysis is the categorizing, ordering, manipulating and summarizing of the data to obtain answers of research questions. Analysis of data can be defined as the systematic organization and synthesis of research data and testing of research hypotheses using those data. The purpose of analysis is to reduce data to an interpretable form so that the relations of

research problems can be studied and tested.

This portion deals with the statistical analysis, which is a method of rendering quantitative information in a meaningful and intelligible manner. Statistical procedure of the data is gathered to assess the level of stress and coping strategies among mothers whose neonates are admitted in NICU and enables the researchers to organize, interpret, and communicate information meaningfully.

The data collected were grouped and analyzed using descriptive and inferential statistics to assess the level of stress and coping strategies among mothers whose neonates were admitted in NICU. Tables and Figures are used to explain the results.

The analysis and interpretation of the data of this study are based on the data collected through structured interview schedule on the level of stress and coping strategies among mothers whose neonates were admitted in NICU. This whole data was organized and presented on the basis of following objectives of the study.

### OBJECTIVES OF THE STUDY

- To identify the level of stress among mothers whose neonates are admitted in NICU.
- To identify the coping strategies used by the mothers whose neonates are admitted in NICU.
- To correlate the level of stress with coping methods used by mothers whose neonates are admitted in NICU.
- To determine the association of level of stress and coping strategies with selected demographic variables (age, educational qualification, parity, area of living, type of family, period of neonate's stay in hospital).

Based on research statement following hypotheses were formulated:

**H<sub>1</sub>**- There is a significant correlation between the level of stress and coping strategies used by mothers of neonates admitted in NICU at 0.05 level of significance.

**H<sub>2</sub>** - There is a significant association of the level of stress and coping strategies used by mothers with selected demographic variables at 0.05 level of significance.

The data was coded, entered in word excel and analyzed by one of Statistical Package for Social Sciences version 20 and Microsoft Excel. Organization and presentation of the obtained data were entered the master sheet for tabulation and statistical processing, that is, results were computed using descriptive and inferential statistics. The analysis of data was organized and presented under the following sections.

This part is divided into five sections:

**SECTION I:** Describes the distribution of demographic variables of subjects whose neonates were admitted in NICU.

**SECTION II:** Describes the level of stress among subjects whose neonates were admitted in NICU.

**SECTION III:** Describes the coping strategies used by subjects whose neonates were admitted in NICU.

**SECTION IV:** Describes the relationship between stress and coping strategies used by subjects whose neonates were admitted in NICU.

**SECTION V:** (a) Association of the level of stress with selected demographic variables. (b) Association of coping strategies with selected demographic variables.

**SECTION I:** Describes the distribution of demographic variables of subjects whose neonates were admitted in NICU. This section deals with the distribution of subjects according to their demographic

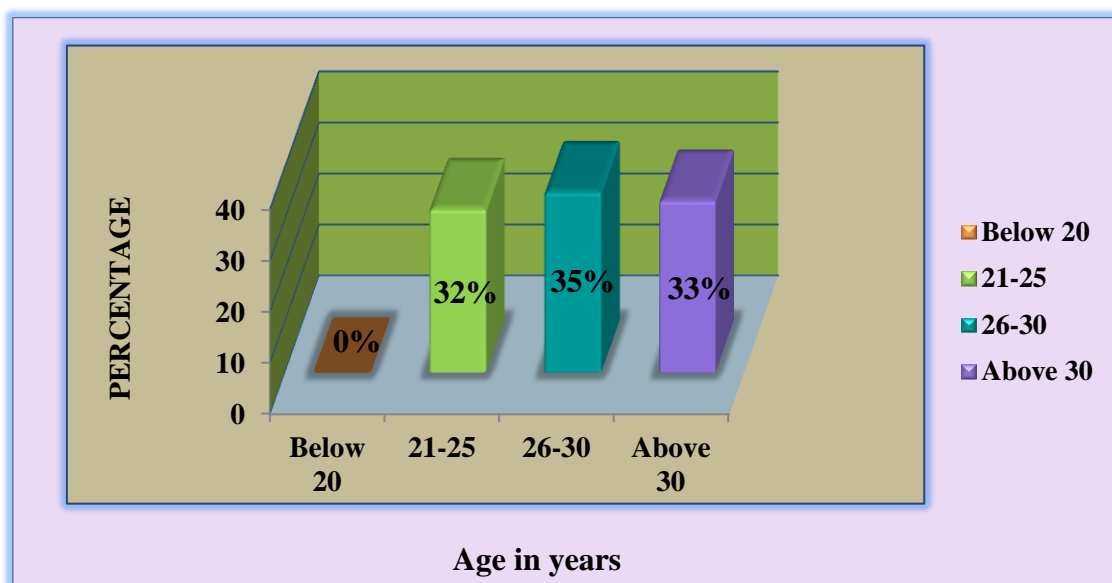
variables. The data obtained on the demographic variables are described in terms of age, educational qualification, parity, area of living, type of family and period of neonate’s stay in hospital.

**Table 4.** Frequency and percentage distribution of subjects according to their age. (n=60)

Age (years)	Frequency	Percentage
-------------	-----------	------------

Below 20 years	0	0
21–25 years	19	32
26–30 years	21	35
Above 30 years	20	33

According to age: Subjects were categorized into four groups, age below 20 years, age between 21–25 years, age between 26–30 years and age above 30 years. It is summarized and analyzed in Table 4.



**Fig. 3.** Percentage distribution of subjects according to their age

The data presented in Table 4 and Figure 3 revealed that maximum number of subjects 21(35%) were in age group of 26–30 years, 20(33%) subjects were above 30 years, 19(32%) subjects were between 21–25 years of age and none of the subject in this study belonged to age group below 20 years.

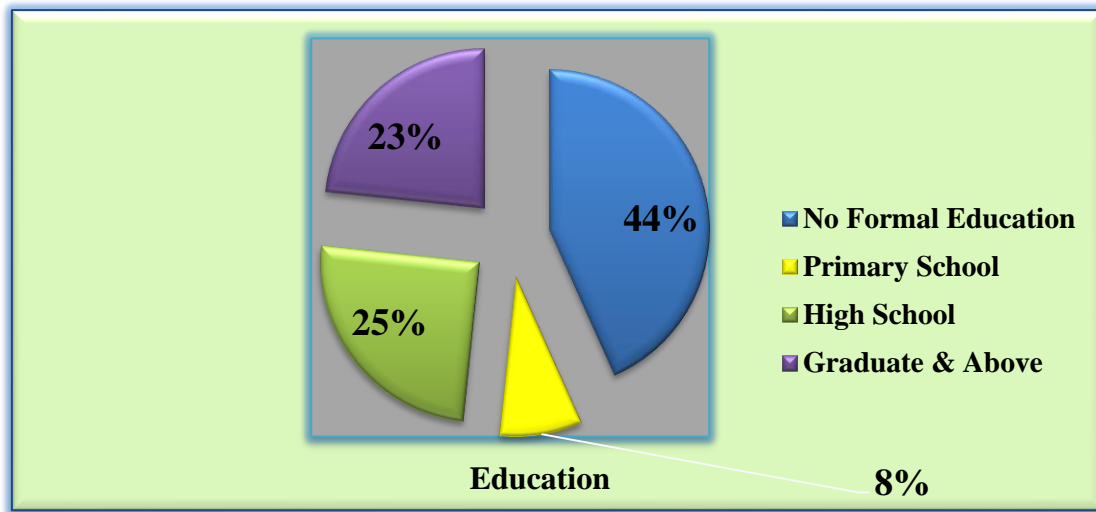
According to educational qualification: Subjects were categorized into four groups, i.e., no formal education, primary

school, high school and graduate or above. It is summarized and analyzed in Table 5.

**Table 5.** Frequency and percentage distribution of subjects according to their educational qualification. (n=60)

Educational qualification	Frequency	Percentage
No formal education	26	44
Primary school	05	08
High school	15	25
Graduate or above	14	23





**Fig. 4.** Percentage distribution of subjects according to their educational qualification.

The data presented in Table 5 and Figure 4 reveals that maximum number of subjects (26, 44%) were having no formal education, 15(25%) subjects were educated up to high school, 14(23%) subjects were graduates and above, and 5(8%) subjects were educated up to primary school.

According to parity: Subjects were categorized into three groups, i.e., primiparity, multiparity and grand multiparity. It is summarized and analyzed in Table 6.

**Table 6.** Frequency and percentage distribution of subjects according to their parity. (n=60)

Parity	Frequency	Percentage
Primiparity	23	38
Multiparity	37	62
Grand Multiparity	0	0

The data presented in Table 6 and Figure 5 reveals that maximum number of subjects (37, 62%) were multiparous, 23(38%) subjects were primiparous and none of the subject was grand multiparous.

According to area of living: Subjects were categorized into two groups, i.e., urban and rural. It is summarized and analyzed in Table 7.

**Table 7.** Frequency and percentage distribution of subjects according to area of living (n=60)

Area of living	Frequency	Percentage
Urban	23	38
Rural	37	62

The data presented in Table 7 and Figure 6 reveals that maximum number of subjects (37, 62%) belonged to rural area and 23(38%) subjects were from urban area.

According to type of family: Subjects were categorized into two groups, i.e., joint and nuclear family. It is summarized and analyzed in Table 8.

**Table 8.** Frequency and percentage distribution of subjects according to their type of family (n=60)

Type of family	Frequency	Percentage
Joint family	45	75
Nuclear family	15	25

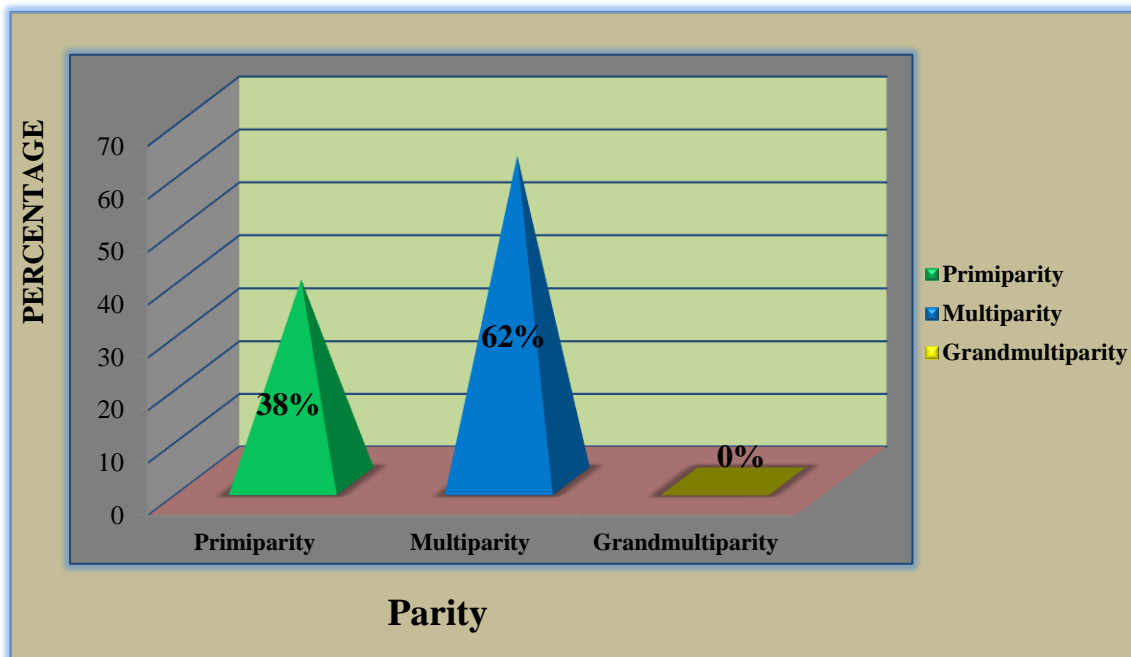


Fig. 5. Percentage distribution of subjects according to their parity.

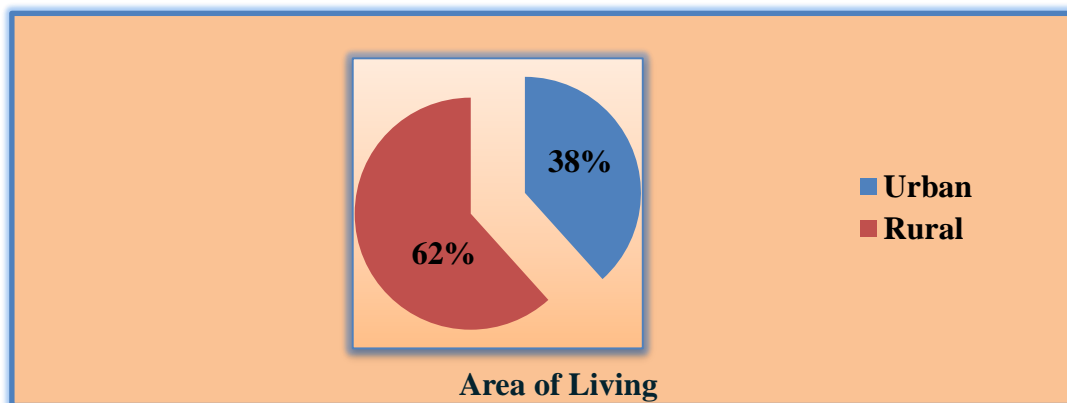


Fig. 6. Percentage distribution of subjects according to their area of living

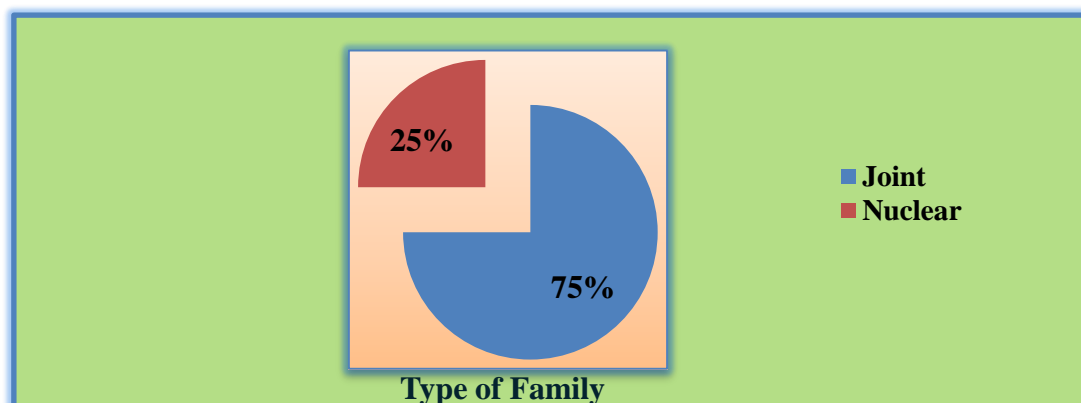


Fig. 7. Percentage distribution of subjects according to their type of family.

The data presented in Table 8 and Figure 7 reveals that maximum number of subjects (45, 75%) belonged to joint family and

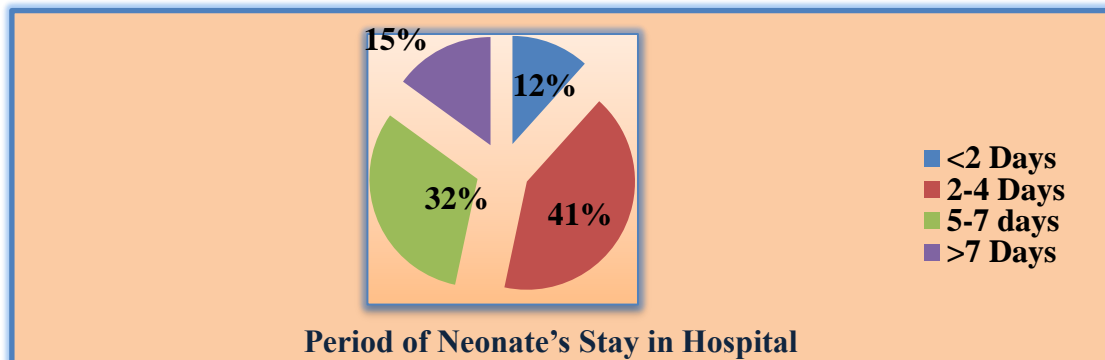
15(25%) subjects belonged to nuclear family.

According to period of neonate’s stay in hospital: Subjects were categorized into four groups, i.e., < 2 days, 2–4, 5–7, >7 days. It is summarized and analyzed in Table 9.

**Table 9.** Frequency and percentage distribution of subjects according to period of neonate’s stay in hospital.

(n=60)

Period of neonate’s stay in hospital	Frequency	Percentage
< 2 days	07	12
2–4 days	25	41
5–7 days	19	32
>7 days	09	15



**Fig. 8.** Percentage distribution of subjects according to period of neonate’s stay in hospital

The data presented in Table 9 and Figure 8 reveals that maximum number of neonates (25, 41%) were admitted for 2–4 days, 19(32%) neonates were admitted for 5-7 days, 09(15%) neonates were admitted for > 7 days and 07(12%) neonates were admitted for < 2 days.

SECTION: II Describes the level of stress among subjects whose neonates were admitted in NICU.

This section deals with the analysis and interpretation of data about the level of stress among subjects whose neonates were admitted in NICU; which was obtained through the stress rating scale. The scores obtained by each sample were tabulated in a

master datasheet. Data regarding the stress scores was analyzed using descriptive statistics. The data were presented in the form of Tables and diagrams.

The data in Table 10 depicts that mean stress score was 51.17, standard deviation was 6.723, median was 51, maximum possible score was 75 and mean percentage was 68.22. This shows that the subjects whose neonates were admitted in NICU experienced stress.

The data in Table 11 and Figure 9 in the present study reveals that majority of the subjects (51, 85.0%) had moderate stress, 5(8.3%) subjects had severe stress and 4(6.7%) subjects had mild stress.

**Table 10.** Mean, median, standard deviation, maximum possible and mean percentage of stress among subjects whose neonates were admitted in NICU (n=60)

Stress score	Mean ± Sd	Median	Max possible	Mean percentage%
	51.17 ± 6.723	51	75	68.22

**Table 11.** Distribution of subjects according to their level of stress (n=60)

Level of Stress		
Category Score	Frequency	Percentage
Severe (60–75)	5	8.3
Moderate (42–59)	51	85.0

Mild (25-41)	4	6.7
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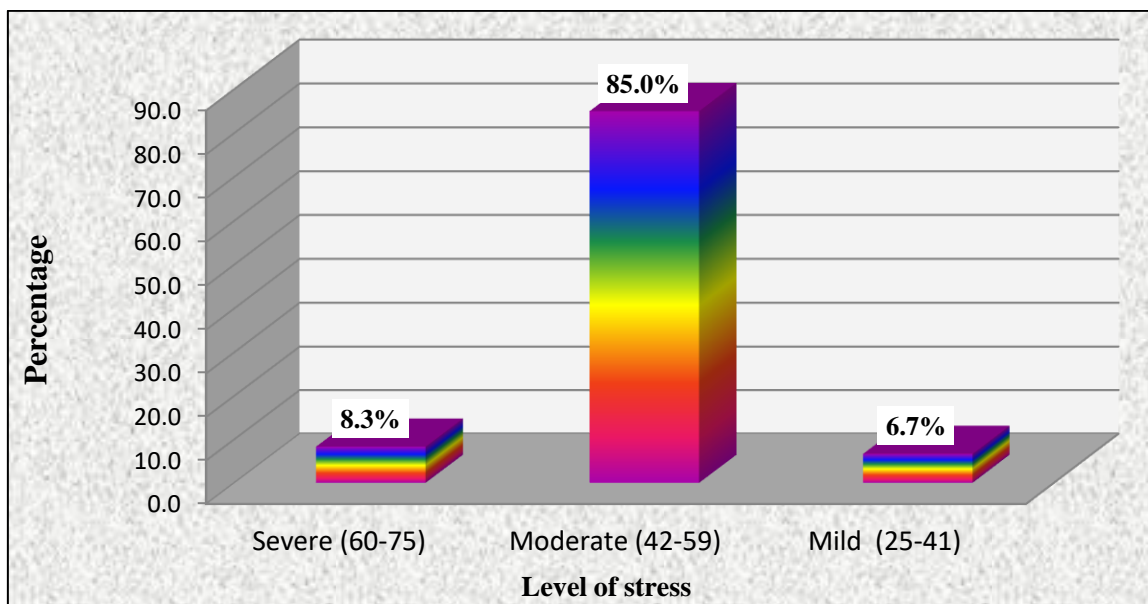
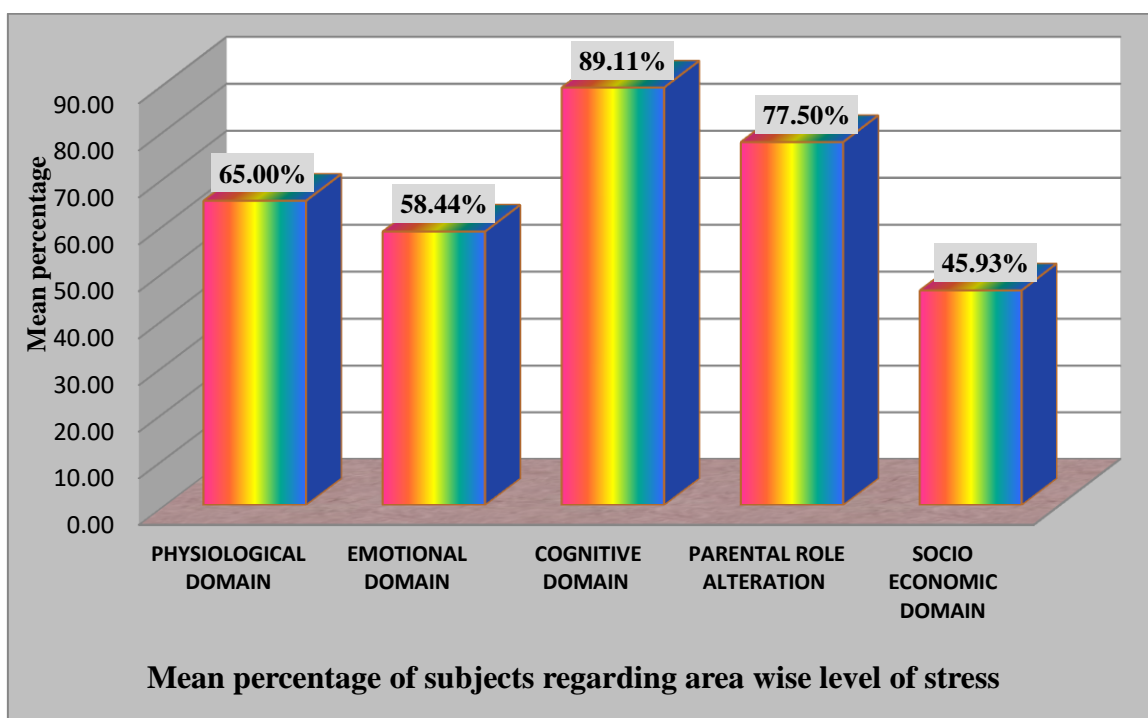


Fig. 9. Level of stress among subjects

Table 12. Area wise mean score, standard deviation, median score, maximum possible, mean percentage and ranks regarding level of stress among subjects (n=60)

Domains	Mean ± S.D.	Median	Max Possible	Mean Percentage%	Rank
Physiological domain	15.60 ± 3.788	16	24	65.00	3
Emotional domain	8.77 ± 2.332	8	15	58.44	4
Cognitive domain	13.37 ± 0.780	13	15	89.11	1
Parental role alteration	9.30 ± 1.555	10	12	77.50	2
Socio economic domain	.13 ± 1.780	3	9	45.93	5



**Fig. 10.** Mean percentage of subjects regarding area wise level of stress

The data in Table 12 and Figure 10 shows that the subjects whose neonates were admitted in NICU had stress that mostly affected the cognitive domain, i.e., thinking regarding child’s condition, expected outcome (mean percentage 89.11%) followed by parental role alteration, i.e., unable to attend the child’s needs (mean percentage 77.50%), physiological domain, i.e., difficulty in breathing, restlessness (mean percentage 65%), emotional domain, i.e., feeling helpless and lonely (mean percentage 58.44%) and socio economic domain, i.e., less interaction with family members and unable to manage economic crisis (mean percentage 45.93%). This shows that the

stress experienced by subjects affected all the domains especially cognitive domain as they are separated from their neonates.

SECTION– III Describes the coping strategies used by subjects whose neonates were admitted in NICU.

This section deals with the analysis and interpretation of data which was obtained through a coping scale about coping strategies used by the subjects whose neonates were admitted in NICU. Data regarding the coping strategies was analyzed using descriptive statistics. This data is also represented in the form of Tables and diagrams.

**Table 13.** Mean, median, standard deviation, max possible and mean percentage of coping strategies used by subjects whose neonates were admitted in NICU (n=60)

	Mean ± SD	Median	Max Possible	Mean Percentage
<b>Coping Score</b>	54.12 ± 3.893	55	75	72.16

The data in Table 13 depicts that mean coping score was 54.12, standard deviation was 3.893, median was 55, maximum possible score was 75 and mean

percentage was 72.16 indicating that the subjects whose neonates were admitted in NICU had used coping strategies to overcome stress.

**Table 14.** Distribution of subjects according to their coping strategies (n=60)

Levels of Coping		
Category Score	Frequency	Percentage
Good (60–75)	4	6.7
Average (42–59)	56	93.3
Low (25–41)	0	0.0

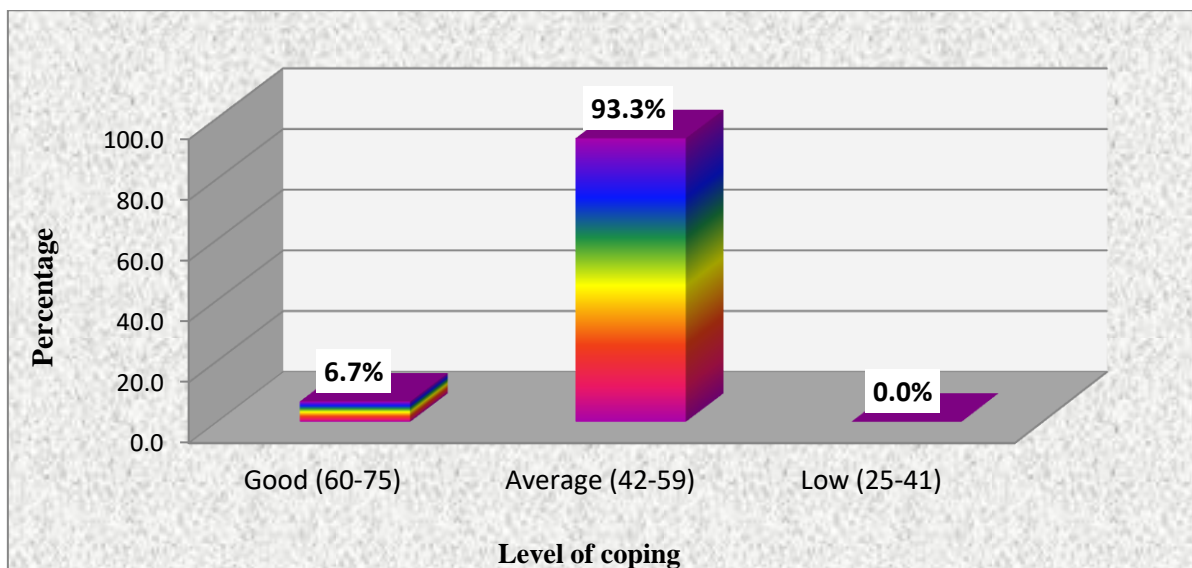


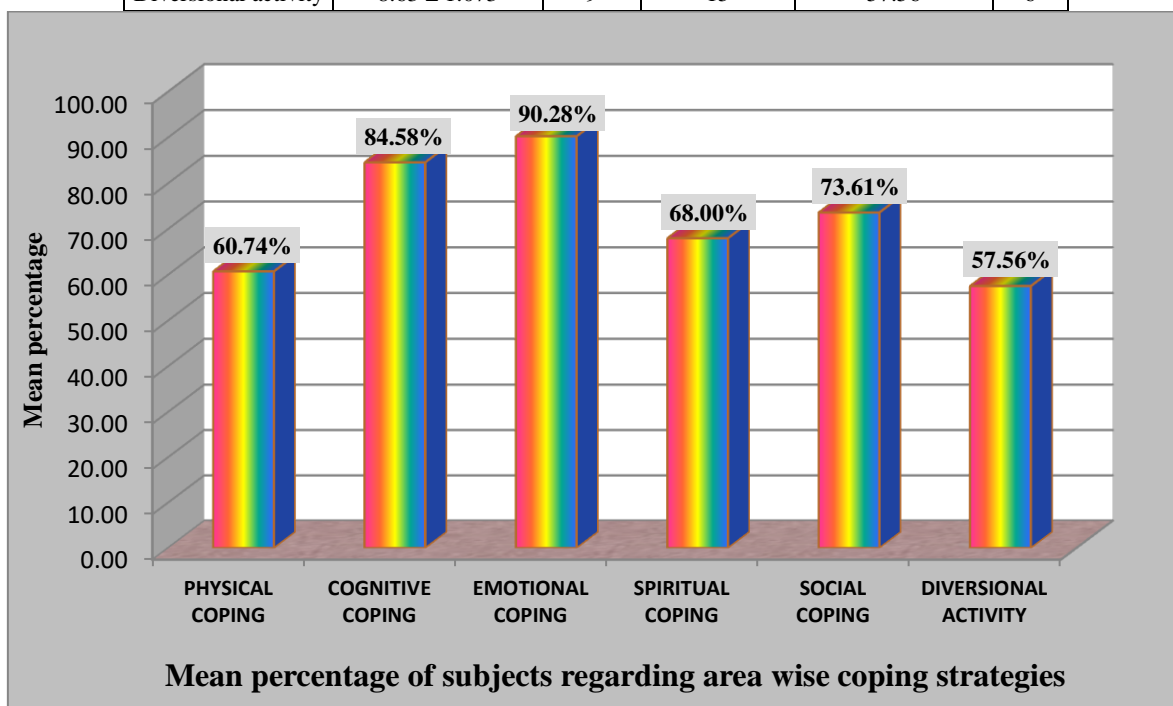
Fig. 11. Coping level of subjects

The data in Table 14 and Figure 11 in the present study reveals that majority of the subjects (56, 93.3%) had average coping,

4(6.7%) subjects had good coping and none of the subject in this study had low coping.

Table 15. Area wise mean score, standard deviation, median score, maximum possible, mean percentage and ranks regarding coping strategies used by the subjects (n=60)

Coping Strategies	Mean Score ± S.D.	Median	Max Possible	Mean Percentage	Rank
Physical coping	5.47 ± 0.947	5	9	60.74	5
Cognitive coping	10.15 ± 1.424	10	12	84.58	2
Emotional coping	10.83 ± 2.156	12	12	90.28	1
Spiritual coping	10.20 ± 1.848	9	15	68.00	4
Social coping	8.83 ± 1.342	8	12	73.61	3
Diversional activity	8.63 ± 1.073	9	15	57.56	6



**Fig. 12.** Mean percentage of subjects regarding area wise coping strategies

The data presented in Table 15 and Figure 12 shows that the subjects whose neonates were admitted in NICU had good emotional coping strategies, i.e., went out their emotions and feelings with others (mean percentage 90.28%) followed by cognitive coping strategies, i.e., thinking about the fast recovery of the neonate (mean percentage 84.58%), social coping strategies, i.e., talking to someone going through similar situation (mean percentage 73.61%), spiritual coping strategies, i.e., putting trust in God (mean percentage 68.%), physical coping strategies, i.e., keeping themselves busy in physical activity (mean percentage 60.74%) and diversional activity, i.e., thinking about good moments (mean percentage 57.56%). This shows that the subjects whose neonates were admitted in NICU mainly used emotional coping strategies to overcome their stress.

SECTION – IV: Relationship between stress and coping strategies used by subjects whose neonates were admitted in NICU.

This section presents the relationship between level of stress and coping strategies used by subjects whose neonates were admitted in NICU.

Here, the researcher tests the null hypothesis to find out the relationship between level of stress and coping strategies used by subjects whose neonates were admitted in NICU.

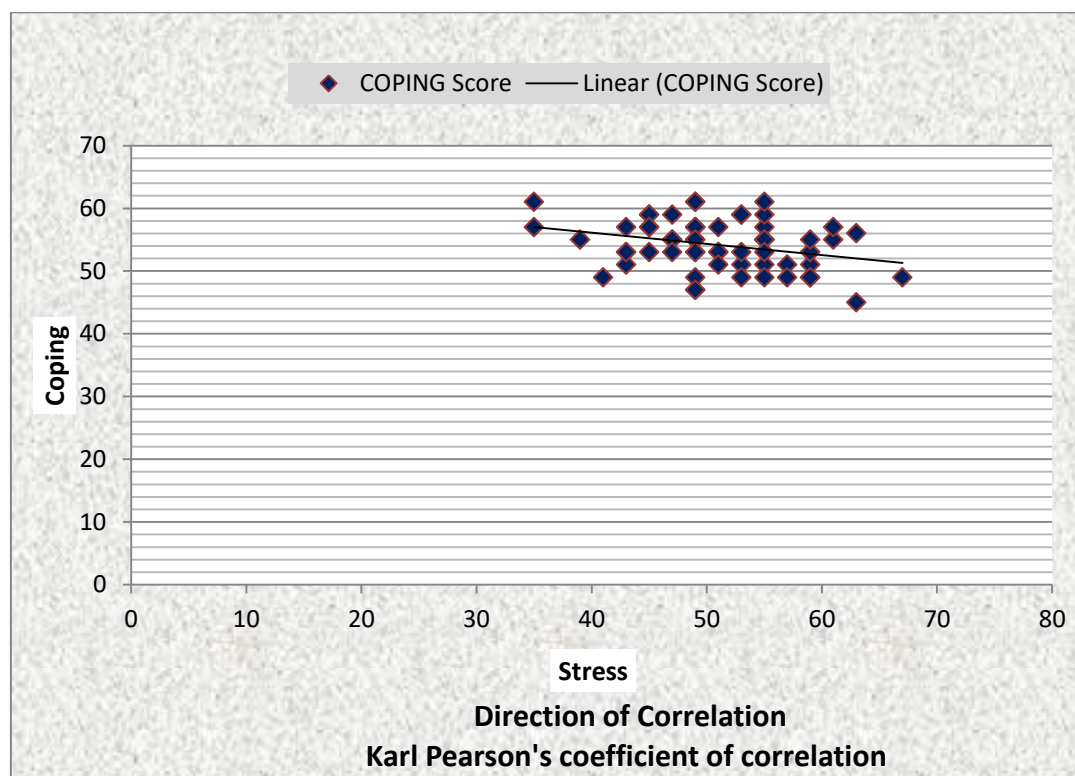
**H<sub>01</sub>**- There is no significant correlation between the level of stress and coping strategies used by mothers of neonates admitted in NICU.

The hypothesis was tested by using Karl Pearson’s coefficient of correlation.

**Table 16.** Relationship between level of stress and coping strategies used by subjects whose neonates were admitted in NICU (n=60)

Stress score		Coping score		Pearson’s correlation	P value
Mean	Standard deviation	Mean	Standard deviation		
51.17	6.723	54.12	3.893	-0.308	0.017 *S

\*S-Significant at p≤ 0.05 level



**Fig. 13.** Relationship between level of stress and coping strategies used by subjects whose neonates were admitted in NICU.

Data in the Table 16 and Figure 13 shows that there was significant negative correlation between coping and stress scores ( $r = -0.308$ ,  $P = 0.017$ ). Hence, the researcher rejected the null hypothesis and accepted the research hypothesis  $H_1$ , which states that there is a significant correlation between the level of stress and coping strategies used by mothers of neonates admitted in NICU.

This shows that increase in coping resulted in moderate level of stress.

**SECTION: V:** Association of the level of stress with selected demographic variables. Association of coping strategies with selected demographic variables.

This section deals with the analysis and interpretation of the association of level of stress and coping strategies used by subjects whose neonates were admitted in NICU with selected demographic variables such as age, educational qualification, parity, area of living, type of family,

period of neonate's stay in hospital. Each demographic variable was sub categorized into following:

According to age: Subjects were categorized into four groups, i.e., age below 20 years, age between 21–25 years, age between 26–30 years and age above 30 years.

According to educational qualification: Subjects were categorized into four groups, i.e., no formal education, primary school, high school and graduate or above.

According to parity: Subjects were categorized into three groups, i.e., primiparity, multiparity and grand multiparity. According to area of living: Subjects were categorized into two groups, i.e., urban and rural.

According to type of family: Subjects were categorized into two groups, i.e., joint and nuclear family.

According to period of neonate's stay in hospital: Subjects were categorized into



four groups, i.e., < 2 days, 2–4, 5–7, >7 days.

Association of the level of stress and coping strategies with selected demographic variables was tested by using Chi-square ( $\chi^2$ ) test and following null hypothesis was formulated.

H<sub>02</sub> There is no significant association of the level of stress and coping strategies used by mothers with selected demographic variables.

**N.S –Not significant**

The data presented in Table 17 shows that there was no significant association of the level of stress with selected demographic variables such as age, educational qualification, parity, area of living, type of family and period of neonate’s stay in hospital.

This shows that these demographic

**Table 17.** Association of the level of stress with selected demographic variables (n=60)

Variables	Subitem	Severe level	Moderate level	Mild level	Chi square Test	Df	P Value
Age	Below 20	0	0	0	2.460	4	0.652 N.S
	21-25	2	17	0			
	26-30	1	18	2			
	Above 30	2	16	2			
Educational qualification	No Formal Education	2	21	3	5.742	6	0.453 N. S
	Primary School	1	3	1			
	High School	1	14	0			
	Graduate and Above	1	13	0			
Parity	Primiparity	2	21	0	2.667	2	0.264 N. S
	Multiparity	3	30	4			
	Grand Multiparity	0	0	0			
Area of living	Urban	2	21	0	2.667	2	0.264 N.S
	Rural	3	30	4			
Type of family	Joint	3	38	4	1.940	2	0.379 N. S
	Nuclear	2	13	0			
Period of neonate’s stay in hospital	<2 Days	1	6	0	10.899	6	0.092 N. S
	2–4 Days	2	23	0			
	5–7 days	0	17	2			
	>7 Days	2	5	2			

variables did not affect the level of stress among subjects whose neonates were admitted in NICU.

**N.S: Not significant**

The data presented in Table 18 reveals that there was no significant association of the coping strategies with selected demographic variables such as age, educational qualification, parity, area of living, type of family and period of neonate’s stay in hospital. This shows that these demographic variables did not affect the coping strategies used by subjects whose neonates were admitted in NICU.

Hence, the researcher accepted the null hypothesis and rejected the research hypothesis H<sub>2</sub> which states that there is a significant association of the level of stress and coping strategies used by mothers with selected demographic variables.

**Table 18.** Association of coping strategies with selected demographic variables (n=60)

Variables	Subitem	Good	Average	Low	Chi-square Test	Df	P Value
Age	Below 20	0	0	0	0.425	2	0.809 N. S
	21–25	1	18	0			
	26–30	2	19	0			
	Above 30	1	19	0			
Educational qualification	No Formal Education	1	25	0	1.996	3	0.573 N. S
	Primary School	0	5	0			
	High School	1	14	0			
	Graduate and Above	2	12	0			
Parity	Primiparity	2	21	0	0.247	1	0.619 N. S
	Multiparity	2	35	0			
	Grand multiparity	0	0	0			
Area of living	Urban	2	21	0	0.247	1	0.619 N. S
	Rural	2	35	0			
Type of family	Joint	2	43	0	1.429	1	0.232 N. S
	Nuclear	2	13	0			
Period of neonate's stay in hospital	<2 Days	0	7	0	1.526	3	0.676 N. S
	2–4 Days	1	24	0			
	5–7 days	2	17	0			
	>7 Days	1	8	0			

**SUMMARY:** This part has dealt with analysis and interpretation of data collected from 60 mothers in postnatal wards whose neonates were admitted in NICU at Lalla Ded Hospital, Srinagar, Kashmir. Descriptive and inferential statistics were used for whole analysis.

## DISCUSSION

This part deals with the discussion of the major findings of study and relation to similar studies conducted by other researchers. The present study was undertaken to assess the level of stress and coping strategies among mothers whose neonates were admitted in NICU at Lalla Ded Hospital, Srinagar, Kashmir. The data was collected from 60 mothers in postnatal wards whose neonates were admitted in NICU at Lalla Ded Hospital Srinagar Kashmir. The findings of the study are discussed about objectives and hypotheses stated.

## OBJECTIVES

- To identify the level of stress among mothers whose neonates are admitted in NICU.

- To identify the coping strategies used by mothers whose neonates are admitted in NICU.
- To correlate the level of stress with coping strategies used by mothers whose neonates are admitted in NICU.
- To determine the association of level of stress and coping strategies with selected demographic variables (age, educational qualification, parity, area of living, type of family and period of neonate's stay in hospital).

## HYPOTHESES

**H<sub>1</sub>**- There is a significant correlation between the level of stress and coping strategies used by mothers of neonates admitted in NICU at 0.05 level of significance.

**H<sub>2</sub>** - There is a significant association of the level of stress and coping strategies used by mothers with selected demographic variables at 0.05 level of significance.

SECTION I: Discussion of demographic variables of the subjects

- Maximum number of subjects (21, 35%) were in age group of 26–30 years.
- Maximum number of subjects (26, 44%) were having no formal education.
- Maximum number of subjects (37, 62%) were multiparous.
- Maximum number of subjects (37, 62%) belonged to rural area.
- Maximum number of subjects (45, 75%) belonged to joint family.
- Maximum number of neonates (25, 41%) were admitted for 2–4 days.
- SECTION II: Level of stress among subjects whose neonates were admitted in neonatal intensive care unit.

### Objective 1

- To identify the level of stress among mothers whose neonates are admitted in neonatal intensive care unit.

The findings of this study revealed that majority of the subjects (51, 85.0%) had moderate stress, 5(8.3%) subjects had severe stress and 4(6.7%) subjects had mild stress. The area wise stress scores showed that the subjects whose neonates were admitted in NICU had stress that mostly affected the cognitive domain, i.e., thinking regarding child's condition and child's expected outcome (mean percentage 89.11%) followed by parental role alteration, i.e., unable to attend the child's needs(mean percentage 77.50%), physiological domain, i.e., difficulty in breathing, restlessness (mean percentage 65%), emotional domain, i.e., feeling helpless and lonely (mean percentage 58.44%) and socio economic domain, i.e., less interaction with family members and unable to manage economic crisis (mean percentage 45.93%). This shows that the stress experienced by subjects whose neonates were admitted in NICU affected all the domains especially

cognitive domain as they were separated from their neonates.

The findings of the present study are similar to the findings of a descriptive study conducted by Sarkar [35]. on 60 mothers of neonates who were admitted to Pariyaram Medical College, Kannur to determine the factors related to stress and the level of stress experienced by them. The results of the study showed that majority of mothers (78.33%) had moderate stress, whereas only 5% mothers had mild stress and 16.67% had severe stress. The study concluded that majority of the mothers of neonates admitted in NICU experienced moderate level of stress, thus supported the findings of present study which had shown moderate level of stress among subjects whose neonates were admitted in NICU.

The findings of present study are further supported by the findings of study conducted by Bhowmik to determine the stressors and coping strategies of parents. Findings revealed that majority of parents experienced moderate level of stress. 80% mothers experienced moderate level of stress and 20% mothers experienced high level of stress. The study concluded that most of the mothers experienced stress because of their separation from neonates [33].

SECTION III: Coping strategies used by subjects whose neonates were admitted in neonatal intensive care unit.

### Objective 2

- To identify the coping strategies used by mothers whose neonates are admitted in neonatal intensive care unit.3

The findings of this study showed that majority of the subjects (56, 93.3%) had average coping, 4(6.7%) subjects had good coping and none of the subject in this

study had low coping. The area wise coping scores showed that the subjects whose neonates were admitted in NICU had good emotional coping strategies, i.e., went out their emotions and feelings with others (mean percentage 90.28%) followed by cognitive coping strategies, i.e., thinking about the fast recovery of the neonate (mean percentage 84.58%), social coping strategies, i.e., talking to someone going through similar situation (mean percentage 73.61%), spiritual coping strategies, i.e., putting trust in God (mean percentage 68%), physical coping strategies, i.e., keeping themselves busy in physical activity (mean percentage 60.74%) and diversional activity, i.e., thinking about good moments (mean percentage 57.56%). This shows that the subjects whose neonates were admitted in NICU mainly used emotional coping strategies to overcome their stress.

The findings of present study are similar to the findings of a descriptive study conducted by Sudhana on 60 mothers of neonates admitted in NICU to assess the level of stress and coping strategies used by them. The result of the study showed that majority of the mothers (58.3%) had moderate coping, and study concluded that most of the mothers use coping strategies moderately to overcome their stress [55].

The findings of present study are further supported by the findings of study conducted by Valliammal and Ramachandra on 100 mothers of neonates admitted in NICU to assess the level of stress and coping strategies used by them. The result of the study showed that majority of the mothers (50%) had moderate coping, 25% mothers had good coping and 25% had poor coping. The study concluded that most of the mothers had moderate level of coping [49].

The findings of present study are further supported by the findings of a descriptive study conducted by Patil who showed that majority of the mothers (87.5%) had average coping and 12.5% had good coping. The study concluded that majority of the mothers whose neonates were admitted in NICU used average level of coping to overcome their stress [34].

SECTION IV: Relationship between stress and coping strategies used by subjects whose neonates were admitted in neonatal intensive care unit.

### Objective 3

To correlate the level of stress with coping strategies used by mothers whose neonates are admitted in neonatal intensive care unit.

The findings of present study showed that there was significant negative correlation between coping and stress scores ( $r = -0.308$ ,  $P = 0.017$ ). This shows that increase in coping resulted in moderate level of stress.

The findings of present study are similar to the findings of a descriptive study conducted by Bhowmik who showed that there was a significant correlation between stressors and coping strategies of the parents ( $r = 0.556513$ ,  $p = 0.05$ ). The study concluded that there was relationship between stress and coping strategies of the parents, thus supported the findings of present study which had shown significant negative correlation between coping and stress scores [33].

The findings are further supported by the findings of study conducted by Valliammal, Ramachandra who showed that there was a significant correlation between level of stress and coping strategies at  $P < 0.05$  level which concluded that there was a relationship

between level of stress and coping strategies of the mothers [49].

**SECTION V: Association between level of stress and coping strategies with selected demographic variables.**

#### **Objective 4**

To determine the association of level of stress and coping strategies with selected demographic variables (age, educational qualification, parity, area of living, type of family and period of neonate's stay in hospital ).

The findings of the present study revealed that there was no significant association of the level of stress and coping strategies with selected demographic variables such as age, educational qualification, parity, area of living, type of family and period of neonate's stay in hospital. This shows that these demographic variables did not affect the level of stress and coping strategies used by subjects whose neonates were admitted in NICU.

The findings of present study are similar to the findings of a descriptive study conducted by Sudhana who showed that there was no significant association between the level of stress and coping strategies with selected demographic variables (age of the mother, educational status, monthly family income, religion, area of living, number of children and nature of treatment), thus supported the findings of present study which had shown no significant association of the level of stress and coping strategies used by subjects with selected demographic variables [55].

The findings are further supported by the findings of study conducted by Valliammal and Ramachandra who showed that there was no significant association between the level of stress and coping strategies with selected demographic variables. The study

concluded that selected demographic variables did not affect the level of stress and coping strategies used by mothers of neonates admitted in neonatal intensive care unit.

#### **PROBLEM STATEMENT**

A study to assess the level of stress and coping strategies among mothers whose neonates are admitted in NICU at Lalla Ded Hospital Srinagar Kashmir.

#### **OBJECTIVES OF THE STUDY**

- To identify the level of stress among mothers whose neonates are admitted in NICU.
- To identify the coping strategies used by mothers whose neonates are admitted in NICU.
- To correlate the level of stress with coping strategies used by mothers whose neonates are admitted in NICU.
- To determine the association of level of stress and coping strategies with selected demographic variables (age, educational qualification, parity, area of living, type of family and period of neonate's stay in hospital ).

#### **HYPOTHESES**

**H<sub>1</sub>**- There is a significant correlation between the level of stress and coping strategies used by mothers of neonates admitted in NICU at 0.05 level of significance.

**H<sub>2</sub>** - There is a significant association of the level of stress and coping strategies used by mothers with selected demographic variables at 0.05 level of significance.

Review of literature and related studies made the investigator to gather relevant information to support the study, to design the methodology, to develop conceptual framework and to develop the tool.

The conceptual framework of the study was based on Roy's adaptation model.

Permission was obtained from the concerned authority for conducting the study. Descriptive design was used to assess the level of stress and coping strategies among mothers whose neonates were admitted in NICU. Purposive sampling technique was used to collect data from 60 mothers who fulfilled the inclusion criteria. Data was collected by structured interview schedule. The tool was validated by 9 experts. Reliability of the tool was established by using Karl Pearson's correlation coefficient ("r" = 0.94). Pilot study was conducted on 6 mothers whose neonates were admitted in NICU. The main study was conducted on 60 mothers whose neonates were admitted in NICU at Lalla Ded Hospital, Srinagar, Kashmir from 16-11-2015 to 05-12-2015.

## MAJOR FINDINGS OF THE STUDY

### Findings related to demographic variables of subjects:

- The findings of the study showed that maximum number of subjects (21, 35%) were in age group of 26–30 years, 20(33%) subjects were above 30 years, 19 (32%) subjects were between 21–25 years of age and none of the subject in this study belonged to age group below 20 years.
- Maximum number of subjects (26, 44%) were having no formal education, 15(25%) subjects were educated up to high school, 14(23%) subjects were graduates and above, and 5(8%) subjects were educated up to primary school.
- Maximum number of subjects (37, 62%) were multiparous, 23(38%) subjects were primiparous and none of the subject was grand multiparous.
- Maximum number of subjects 37(62%) belonged to rural area and 23(38%) subjects were from urban area.
- Maximum number of subjects (45, 75%) belonged to joint family and 15(25%) subjects belonged to nuclear family.
- Maximum number of neonates (25, 41%) were admitted for 2–4 days, 19(32%) neonates were admitted for 5–7 days, 9(15%) neonates were admitted for > 7 days and 7(12%) neonates were admitted for <2 days.

### Findings related to level of stress among subjects

The findings of this study revealed that majority of the subjects (51, 85.0%) had moderate stress, 5(8.3%) subjects had severe stress and 4(6.7%) subjects had mild stress.

The area wise stress scores showed that the subjects whose neonates were admitted in NICU had stress that mostly affected the cognitive domain, i.e., thinking regarding child's condition and his expected outcome (mean percentage 89.11%) followed by parental role alteration, i.e., unable to attend the child's needs (mean percentage 77.50%), physiological domain, i.e., difficulty in breathing, restlessness (mean percentage 65%), emotional domain, i.e., feeling helpless and lonely (mean percentage 58.44%) and socio economic domain, i.e., less interaction with family members and unable to manage economic crisis (mean percentage 45.93%). This shows that the stress experienced by subjects whose neonates were admitted in NICU affected all the domains especially cognitive domain as they were separated from their neonates.

The findings of the study concluded that majority of the subjects whose neonates were admitted in NICU experienced moderate level of stress (85%).

### Findings related to coping strategies used by the subjects

The findings of this study showed that majority of the subjects 56 (93.3%) had average coping, 4(6.7%) subjects had good

coping and none of the subject in this study had low coping.

The area wise coping scores showed that the subjects whose neonates were admitted in NICU had good emotional coping strategies i.e. went out their emotions and feelings with others (mean percentage 90.28%) followed by cognitive coping strategies, i.e., thinking about the fast recovery of the neonate (mean percentage 84.58%), social coping strategies, i.e., talking to someone going through similar situation (mean percentage 73.61%), spiritual coping strategies, i.e., putting trust in God (mean percentage 68.%), physical coping strategies, i.e., keeping themselves busy in physical activity (mean percentage 60.74%) and diversional activity, i.e., thinking about good moments (mean percentage 57.56%). This shows that the subjects whose neonates were admitted in NICU mainly used emotional coping strategies to overcome their stress.

The findings of the study concluded that most of the subjects used coping strategies moderately to overcome their stress (93.3%).

#### **Findings related to relationship between stress and coping strategies**

The findings of this study showed that there was significant negative correlation between coping and stress scores ( $r = -0.308$ ,  $P = 0.017$ ). The findings of the study concluded that there was relationship between stress and coping strategies implying that coping strategies reduced the level of stress.

#### **Findings related to association of level of stress and coping strategies with selected demographic variables**

The results of present study revealed that there was no significant association of the level of stress and coping strategies with selected demographic variables such as

age, educational qualification, parity, area of living, type of family and period of neonate's stay in hospital.

#### **CONCLUSIONS**

The following conclusions were drawn on the basis of the findings of the study:

- Majority of the subjects whose neonates were admitted in NICU experienced moderate level of stress as they were having less familial support.
- Majority of the subjects used coping strategies moderately to overcome their stress as they were having previous experience of admission of neonate in NICU.
- There was negative correlation between stress and coping strategies which means when coping increases, stress decreases and vice versa.
- There was no significant association of the level of stress and coping strategies with selected demographic variables such as age, educational qualification, parity, area of living, type of family and period of neonate's stay in hospital. Probably these demographic variables do not have any effect on the stress and coping strategies.

#### **IMPLICATIONS**

##### **Implications in 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 cannot verbalize their feelings of anxiety, tension, and frustration. So, a nurse educator 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 the needs of neonates and of mothers.

- Nurses need to be taught about concepts such as comprehensive nursing care, mother participation and more emphasis need to be given on the

concept of NICU environment and its routines. To reach modern standards of care for the sick newborn babies, intensive care is most effectively concentrated in NICUs in which skilled attention to their needs can be achieved more readily and urgently. So, nurses need to be educated about NICU on regular basis.

- Service education programs need to be emphasized to upgrade the knowledge of the nurses about factors causing stress and its relationship with coping, which may help to plan effective care.
- Nurse educators need to be updated with the concepts of the stress and coping in the nursing curriculum, to make the nursing students more versatile in dealing with these precarious situations in the NICU.

#### **Implications in Nursing Practice**

Nurses are the ones who are with the patient for a longer time than any other health Personnel. When the mothers are stressed, they cannot verbalize their feelings of anxiety, tension, and frustration. So a nurse educator, 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.

- Nurses need to help mothers to adjust in the environment of NICU by giving information and proper explanations throughout the child's stay. Such information should include orientation of mothers about the condition of their child in the NICU.
- Nurses need to 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

counselling aimed at enhancing better health outcomes of mothers.

- Nurses need to help mothers to meet their neonate twice a day.

#### **Implications in Nursing Administration**

Nurses are challenged to play the role of efficient administrators as well as practitioners. Administration in both private and government sectors should take initiative actions to update the knowledge of health personnel regarding stress experienced by mothers of neonates admitted in NICU in order to help them to cope with stressful situation.

- The nurse administrator need to organize and implement ongoing education in service program for NICU nurses to gain adequate knowledge and development of positive attitude, and to provide adequate counselling and guidance to mothers in order to promote their coping strategies.
- Nursing conferences and group discussions need to be conducted by the administrators periodically regarding NICU and its routines.
- The nurse administrator needs to organize stress management programs for mothers whose neonates are admitted in NICU.
- The nurse administrator can provide adequate allocation of budget and manpower to implement effective counseling sessions to help the mothers of neonates admitted in NICU to become confident, to meet the needs of self and neonates, and to cope with the stressful situation. Budget can also be allocated for newer equipment needed to provide best neonatal care and to meet the immediate and advanced demands.

#### **Implications in Nursing Research**

The importance of research in nursing is to build the body of knowledge. The findings of the present study serve as the basis for the professionals and students to conduct further studies.

- Nursing research can be done in the area of stress and coping to identify



stressors of mothers during their neonatal stay in the NICU.

- Research can help the nurses to develop confidence as well as faith in mothers whose neonates are admitted in NICU and to develop constructive coping methods among them.
- Future research studies can make comparisons of the variables in families at various stages of development with other chronic childhood conditions. The purpose of subsequent research will be to develop family health nursing intervention strategies.

### LIMITATIONS

- The study was conducted only on 60 mothers which imposed limits in generalization of findings.
- The study was limited only to specific dimensions of stress and coping of mothers whose neonates were admitted in NICU.
- The tools used were not standardized tools.

### RECOMMENDATIONS

Based on the findings of the study, following recommendations are put forward for further research.

- A similar study can be conducted with larger sample size to confirm the result of the study.
- A comparative study regarding the parents (father and 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 stress and coping among literate and illiterate mothers.
- An evaluative study on the effectiveness of the stress management techniques among mothers whose

neonates are admitted in NICU can be done.

- Developmental studies are recommended for constructing standardized tool on stress and coping in Indian setting context.

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