

## " Healing Threads of Care: Weaving Resilience in Mothers of Preterm Infants"

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### KEYWORDS

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### ABSTRACT

The mothers with pre-term infant have more bio-psychosocial activity thus facing challenges in take care of their pre-term infant. This study assessed Bio-psychosocial needs and to explore the solicitude experience among 50 adolescents at a tertiary care hospital using a mixed-method study by quantitative convenient sampling technique and by qualitative purposive sampling technique. Data were collected through socio-demographic details, the parent stress scale, Edinburgh Postnatal Depression Scale, multidimensional scale of perceived social support Scale. Results showed that in Pre-test findings 58% experienced moderate stress, 42% severe stress, 84% had borderline depression, 16% clinical depression, 74% reported low perceived social support. Post-test findings 64% experienced mild stress, 36% moderate stress, 76% had normal depression scores, 24% borderline depression, 62% reported moderate social support, 38% high support. Paired t-test showed significant improvement in stress ( $t=15.32$ ,  $p<0.001$ ), depression ( $t=18.76$ ,  $p<0.001$ ), and perceived social support scores ( $t=20.14$ ,  $p<0.001$ ) after the intervention. The study findings demonstrate the significant impact of a tailor-made intervention on improving the bio-psychosocial needs of mothers with pre-term infants. The intervention led to substantial reductions in stress and depression levels while enhancing perceived social support. The importance of healthcare professional support and peer connections aligns with findings.

## INTRODUCTION

The birth of a pre-term infant is a life-altering event for mothers, marked by unique challenges and emotional complexities. Pre-term births account for significant neonatal morbidity and mortality globally. The consequences extend beyond infant health, profoundly affecting the mother's physical, psychological, and social well-being. This study aimed to evaluate the impact of a tailor-made intervention on the bio-psychosocial needs of mothers with pre-term infants and explore their solicitude experience.

### Background of the Study

#### Global Scenario:

pre-term infants experience significant stress, with 50% - 70% reporting anxiety. Postpartum Depression: Prevalence in mothers of pre-term infants ranges from 30% to 50% worldwide, higher than in mothers of full-term infants. Social Support: Crucial for reducing maternal distress, with strong support networks leading to lower levels of depression and anxiety.

#### National Scenario:

The statistical data on the pre-term birth rate India has an estimated pre-term birth rate of 13-15%, one of the highest in the world, according to the World Health Organization (WHO) in 2024. Postpartum Depression: According to Indian research, 20-25% new mothers in India experience postpartum depression.

#### Tamil Nadu scenario:

The statistical data on the pre-term birth rate India has an estimated pre-term birth rate of 13-15%, one of the highest in the world, according to the World Health Organization (WHO) in 2024. Postpartum Depression: According to Indian research, 20-25% new mothers in India experience postpartum depression.

#### Chennai Scenario:

Preterm Birth Rate 12% of in Chennai, translating to approximately 600 preterm births in 2024 out of 5,000 live births in the city. Full-Term Births: 88% of births are full-term ( $\geq 37$  weeks), resulting in 4,400 full-term births. The preterm birth rate in Chennai has remained stable over the past five years, fluctuating between 11-13%.

#### Need for the study

Preterm Birth Rates: Preterm births (those occurring before 37 weeks gestation) remain a significant concern globally and in regions like Chennai. Approximately 10-15% of live births in high-income countries and a higher percentage in low- and middle-income countries result in preterm deliveries. This translates into a large number of mothers experiencing the immediate and long-term consequences of preterm birth. Mothers of preterm infants face immense stress and uncertainty. Infants born prematurely are at high risk. This results in mothers needing not only medical care for their infants but also extensive emotional, social, and psychological support.

Tailor-Made Intervention on customizing Support include personalized counselling, peer support groups for mothers, breastfeeding coaching, parenting education, and stress management programs.

Evidence from global research Programs that provide personalized counselling, emotional support, and peer networks for mothers of preterm infants have shown to improve coping skills, increase maternal satisfaction, and strengthen maternal-infant bonding.

#### Statement of the Problem

**"Impact of Tailor-Made Intervention on Bio-Psychosocial Needs and Solicitude Experience of Mothers with Pre-term Infants"**

#### Primary Objective:

- Assess the pre-test level of bio-psychosocial needs of mothers with pre-term infant
- Determine the effectiveness of tailored-made intervention in meeting bio-psychosocial needs and its impact on solicitude experience of mothers with pre-term infant.
- Explore the solicitude experience of mothers with pre-term infant.

#### Secondary Objectives:

- Correlate the relation between the bio-psychosocial needs of mothers with pre-term infant.

- Associate the post-test level of bio-psychosocial needs with selected demographic variable.
- Integrate the quantitative and qualitative findings.

#### Operational Definitions

##### Stress:

It refers to the body's response to physical, mental, or emotional pressure of the mothers with pre-term infant.

##### Depression:

It refers to the mood disorder occurring during pregnancy and after the child birth that causes a persistent feeling of sadness and loss of interest.

##### Social support:

It refers to the psychological and material resources provided by a social network to help mothers cope with stress

##### Solicitude:

It refers to the states of being solicitous, care, kind, concern of mothers towards their pre-term infant.

##### Pre-term infant:

It refers to the babies born before 37 weeks of gestation, extremely pre-term less than 28 weeks, very pre-term less than 32 weeks, late pre-term less than 36 week.

##### Tertiary care center:

In this study tertiary care center refers to a specialized medical facility that provides highly specialized medical services to pre-term infant.

##### Assumptions

- The bio-psychosocial needs and changes of the mothers can identify and can be appropriate to the tailor-made intervention
- It is assumed that the participant mothers will provide honest and accurate information when self-reporting their solicitude experience, and outcomes related to tailor-made intervention.

##### Hypothesis

H1: There is a significant difference between pre-test and post-test levels among mothers with pre-term infant in experimental group.

H2: There is a statistically significant association between the post-test levels among mothers with pre-term infant with their selected demographic variables.

##### Delimitations

- ❖ The study was restricted to 60 participants. The data collection process had a 4-week time constraint. The study was limited to the chosen setting.

##### Methodology

##### Research Approach & Design

Mixed- method study.

##### Research Setting

NICU, ICH, Chennai.

##### Study Population

Mothers with pre-term infant.

##### Sample Size

50 Mothers with pre-term infant.

##### Sampling Technique

Quantitative-convenient sampling technique

Qualitative-purposive sampling technique

##### Sampling Criteria

##### Inclusion Criteria:

- Mothers with pre-term infant.
- Willing to participate in this study.
- Mothers who engaged actively in tailored-made intervention.
- Mothers with pre-term from 28-32 weeks of gestation

##### Exclusion Criteria:

- Mothers with pre-term infant having communication barriers.
- Mothers with severe ill pre-term infant.
- Pre-term infant having other co-morbidities.

##### Data Collection Instruments

**Demographic Variables:** Age, gender, educational level, marital status, residence, mode of delivery, birth weight, duration of

hospitalization, order of birth, religion, dietary habit, substance use.

- ❖ the parent stress scale, Edinburgh Postnatal Depression Scale, multidimensional scale of perceived social support Scale

#### Reliability and Validity

Content validity was assessed by nursing and paediatric experts, who suggested modifications. After revisions, the tool was approved. A Cronbach's alpha value of 0.70 confirmed reliability.

#### Ethical Considerations

The study was carried out after obtaining ethical clearance from the ethical committee and the Director of the Institute of Child Health and Hospital for Children.

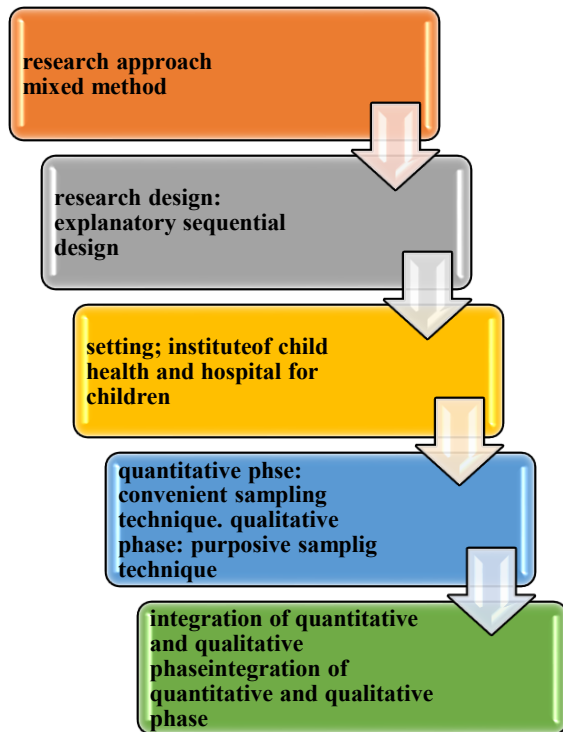


FIG. 1. SCHEMATIC PRESENTATION

#### Results

Results revealed that in Pre-test findings 58% experienced moderate stress, 42% severe stress, 84% had borderline depression, 16% clinical depression, 74% reported low perceived social support. Post-test findings 64% experienced mild stress, 36% moderate stress, 76% had normal depression scores, 24% borderline depression, 62% reported moderate social support, 38% high support. Paired t-test showed significant improvement in stress ( $t=15.32$ ,  $p<0.001$ ), depression ( $t=18.76$ ,  $p<0.001$ ), and perceived social support scores ( $t=20.14$ ,  $p<0.001$ ) after the intervention. The study findings demonstrate the significant impact of a tailor-made intervention on improving the biopsychosocial needs of mothers with pre-term infants. The intervention led to substantial reductions in stress and depression levels while enhancing perceived social support. The importance of healthcare professional support and peer connections aligns with findings

#### Qualitative Implication

- Fear of Losing the Baby
  - Guilt and Self-Blame
  - Anxiety of the Unknown
  - The Role of Nurses and Doctors
  - Peer Support from Other Mothers
  - Strain in Family Relationships
  - Faith and Inner Strength
  - Community and Cultural Pressures
- "When I saw my baby with all those tubes, I thought I would lose him any moment. It was terrifying." - Participant 3

- "The nurses were kind and explained every machine. Their care calmed me a lot." - Participant 4
- "At first, I was afraid to even look at him. Now I hold him close with love and pride." - Participant 2
- "We used up our savings. My husband stopped working to stay with us." - Participant 4
- "I discovered I'm stronger than I thought. This journey changed me." - Participant 1

#### DISCUSSION

The strong correlations between stress, depression, and social support highlight the interconnected nature of these factors in maternal well-being. This underscores the importance of comprehensive interventions addressing multiple aspects of maternal health. The qualitative findings provide rich insights into the emotional journey of mothers, revealing intense fear, guilt, and anxiety during the initial NICU experience. The study's findings align with previous research highlighting the effectiveness of tailored psychosocial interventions for mothers of pre-term infants. For instance, Melnyk et al. (2006) reported significant reductions in maternal anxiety and depression following a Creating Opportunities for Parent Empowerment (COPE) program in the NICU. Similarly, Benzies et al. (2013) found that early interventions improved maternal mental health outcomes and mother-infant interactions. The qualitative themes identified in this study resonate with those reported by Obeidat et al. (2009), who described the parental experience in the NICU as an emotional roller coaster characterized by feelings of helplessness, fear, and anxiety. The importance of healthcare professional support and peer connections aligns with findings from Provenzi and Santoro's (2015) systematic review of fathers' experiences in the NICU.

#### Implications of the Study

The study's findings hold significant implications for nursing practice, administration, education, and research.

#### Nursing Education

- Promotion of Family-Centered Care Principles.
- Development of Communication and Counselling Skills.

#### Nursing Practice

- ❖ Collaborating with other healthcare professionals.
- ❖ Nurses develop and refine their skills in health promotion and disease prevention, particularly in managing biopsychosocial needs.
- ❖ The program emphasizes the holistic approach to care.

#### Nursing Research

- ❖ Research findings guide clinical protocols and guidelines, shaping the delivery of care to improve patient outcomes.
- ❖ The study can serve as a foundation for further research that examines the effectiveness of various physical activity interventions for mothers with pre-term infant.
- ❖ Results from research can influence nursing curricula, ensuring that future nurses are equipped with the latest evidence and best practices.

#### Limitations

- ❖ Sample size was limited to 50 adolescents only.
- ❖ Difficulty obtaining permission from the NICU unit.
- ❖ The challenge in finding Indian reviews on nursing interventions for pre-term management.

#### Recommendations

- Studies should explore the long-term impact of tailored interventions on both maternal mental health and child development, following families for 6 months to several years post-discharge.
- Future research should involve multiple hospitals or neonatal units to increase the diversity of participants and enhance the generalizability of results.

## CONCLUSION

This mixed methods study demonstrates the significant positive impact of a tailor-made intervention on the bio-psychosocial needs of mothers with pre-term infants. The intervention led to reduced stress and depression levels while enhancing perceived social support. Qualitative findings revealed the complex emotional journey of mothers, highlighting the importance of professional and peer support in facilitating maternal adaptation and bonding. The study underscores the need for comprehensive, family-centered care approaches in NICUs that address not only the medical needs of pre-term infants but also the psychological and social needs of their mothers.

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