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Navigating the NICU: A Pilot study on the lived experiences of mothers with hospitalized Neonates at a Tertiary Care Hospital, Delhi, India.

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ABSTRACT

Background: Admission of newborns to Neonatal Intensive Care Units (NICUs) often triggers emotional distress among mothers. Understanding their lived experiences is essential for developing family-centered care strategies that promote maternal mental health and neonatal outcomes. **Objectives:** To explore the lived experiences of mothers whose babies were admitted to the NICU at Safdarjung Hospital, New Delhi. **Methods:** A qualitative, phenomenological approach was employed. Five postnatal mothers meeting inclusion criteria participated in in-depth interviews conducted between October 21 and November 2, 2024. Data were analyzed using interpretive phenomenological analysis to extract themes and subthemes. **Results:** Six major themes emerged: (1) Maternal fear related to NICU admission, (2) Long-term concerns for the baby's health, (3) Parental bonding and attachment, (4) Emotional impact of seeing the baby with medical equipment, (5) Financial strain and resource management, and (6) Adopting coping mechanisms. These themes highlight the multifaceted emotional, psychological, and socioeconomic burden mothers endure. **Conclusion:** The findings underscore the need for psychosocial interventions, parental counseling, and enhanced family support systems within NICUs. This pilot study demonstrates the feasibility of a larger-scale investigation to improve maternal experiences and care models in neonatal settings.

Keywords: NICU, maternal experiences, phenomenology, coping mechanisms, family-centered care

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Introduction

The birth of a child is universally recognized as a joyful milestone; however, when a newborn requires admission to the Neonatal Intensive Care Unit (NICU), this event can become a source of profound emotional distress for parents, particularly mothers. NICUs provide specialized care to premature, low-birth-weight, or critically ill neonates requiring advanced medical interventions, including mechanical ventilation, continuous monitoring, and intravenous therapy[1,2]. While these units are vital for improving neonatal survival rates, they also represent a highly medicalized and emotionally charged environment that can disrupt the natural bonding process between mother and child.

Globally, it is estimated that 10–15% of all newborns require NICU admission, with a higher proportion in low- and middle-income countries (LMICs) due to higher rates of preterm birth and neonatal complications[3]. India alone accounts for nearly one-fifth of global neonatal deaths, with preterm birth complications being a leading cause[4]. The Government of India has expanded neonatal care infrastructure through the Facility-Based Newborn Care (FBNC) program; however, psychosocial support for parents remains underemphasized in current neonatal care models[5,6].

Emotional and Psychological Impact on Mothers: The NICU experience can profoundly affect a mother's mental health. Mothers often describe feelings of fear, guilt, helplessness, and loss of maternal role competence upon being separated from their infants[7-9]. Studies demonstrate elevated rates of anxiety, depressive symptoms, and post-traumatic stress disorder (PTSD) among mothers of NICU-admitted neonates[10]. Shaw et al.[11] found that nearly 39% of mothers of preterm infants met criteria for acute stress disorder within the first two weeks postpartum. The visual impact of seeing the infant connected to monitors and life-sustaining equipment intensifies these emotions, leading to heightened distress and impaired bonding[12].

Furthermore, the unpredictability of the infant's condition and constant exposure to medical terminology often leave mothers feeling disempowered. Obeidat et al.[13] highlighted that mothers experience anxiety due to lack of information and inadequate communication with healthcare professionals. Such experiences can hinder maternal confidence and interfere with early mother-infant attachment, which is essential for the infant's emotional and neurological development[14].

Disruption in Maternal Role and Bonding: Bonding is a fundamental biological and emotional process that facilitates attachment and secure infant development. NICU hospitalization disrupts this natural process as mothers have limited physical contact with their babies due to infection control protocols, medical procedures, and restricted visiting hours[15]. According to Flacking et al.[16], the separation caused by NICU admission weakens maternal self-efficacy and can alter the early trajectory of caregiving behavior.

Mothers often report feelings of guilt and self-blame, believing they are somehow responsible for their child's condition[17]. They may perceive themselves as "failed caregivers," particularly in cultures where maternal identity is strongly linked to the ability to bear and nurture a healthy child[18]. In India's socio-cultural context, these emotions are compounded by gender expectations, social stigma, and limited paternal involvement in neonatal care[19].

Socioeconomic and Cultural Dimensions: Financial and logistical burdens further exacerbate maternal stress. Even in government hospitals where treatment is subsidized, families incur out-of-pocket expenses for travel, accommodation, and nutritional needs. Brooten et al.[20] reported that economic strain is among the most cited challenges for NICU families, influencing parental psychological outcomes. For families from rural or low-income backgrounds such as those frequently seen in tertiary hospitals like Safdarjung the impact is often magnified due to limited social support networks and low health literacy[21].

Cultural beliefs also play a significant role in shaping maternal responses. In India, spiritual and religious coping mechanisms are commonly used to alleviate stress during health crises. Practices such as prayer, temple visits, or seeking blessings from religious leaders provide emotional comfort and a sense of control[22,23]. Understanding these culturally embedded coping strategies is vital for developing family-centered interventions in NICU settings.

Theoretical Underpinnings: The conceptual framework of this study is grounded in phenomenology, which seeks to explore the **"lived experience"** of individuals by uncovering the meaning they ascribe to their circumstances[24]. According to Van Manen's hermeneutic phenomenological approach, lived experiences provide insight into the essence of human phenomena—in this case, motherhood under crisis[25]. The phenomenological method allows researchers to interpret emotions, perceptions, and meanings from participants' narratives, offering a holistic understanding that quantitative data alone cannot provide.

This study also draws from the **Family-Centered Care (FCC) Model**, which emphasizes collaboration, respect, and emotional support for families within healthcare systems[26]. Applying this model in the NICU context helps identify gaps in maternal psychosocial care and supports the integration of empathy-driven practices in neonatal nursing.

Although the physical outcomes of NICU care are well-studied, limited attention has been given to the emotional experiences of Indian mothers navigating this environment. Previous Indian research primarily focuses on neonatal morbidity and mortality rather than parental psychosocial well-being[27]. The dearth of qualitative data leaves a crucial gap in understanding how maternal experiences shape adaptation, coping, and long-term maternal–infant bonding.

Therefore, this **pilot phenomenological study** was undertaken to explore and document the lived experiences of mothers whose babies were admitted to the NICU at Safdarjung Hospital, New Delhi. By capturing their emotional, psychological, and social realities, this research aims to contribute to the development of comprehensive family-centered care frameworks in Indian neonatal healthcare systems.

Objectives:

To explore and describe the lived experiences of postnatal mothers whose babies were admitted to the NICU at Safdarjung Hospital, New Delhi.

Methodology

Research Approach and Design: A **qualitative phenomenological design** based on Van Manen's interpretive framework was adopted to capture the subjective experiences of mothers.

Setting and Participants: The study was conducted in the **Postnatal Ward No. 4**, Maternity Block, Safdarjung Hospital, New Delhi. Five postnatal mothers whose babies had been admitted to the NICU for more than 48 hours participated voluntarily.

Sampling technique: Purposive sampling

Inclusion criteria: Mothers able to communicate in Hindi or English, willing to participate, and whose babies were in the NICU for ≥48 hours.

Exclusion criteria: Mothers with known psychological disorders.

Data Collection: Data were collected through **semi-structured, in-depth interviews** lasting approximately 40–45 minutes each. Interviews were audio-recorded with consent, transcribed verbatim, and translated into English. Ethical clearance and administrative approval were obtained prior to data collection.

Data Analysis: Thematic analysis followed Van Manen's[25] phenomenological steps:

1. Transcription and immersion in the data
2. Isolation of thematic statements
3. Writing and rewriting to interpret meaning
4. Validation through member checking and peer debriefing
5. Integration of themes into a holistic narrative

Results

The present pilot study was conducted to explore the lived experiences of mothers whose newborns were admitted to the Neonatal Intensive Care Unit (NICU) at Safdarjung Hospital, New Delhi. Data were obtained from five participants through in-depth, semi-structured interviews. The interviews were analyzed using an interpretive phenomenological approach following Van Manen's framework[25]. Data are presented under two major components: (a) demographic profile of participants and (b) thematic findings derived from qualitative analysis.

Age and Socio-demographic Details: Among the participants, the majority (40%) were between 22–24 years of age, while the remaining participants were distributed equally across the age groups 19–21, 25–27, and 28–30 years. Sixty percent (n=3) resided in rural areas, and 40% (n=2) were from urban settings. Educational attainment varied: 40% of the mothers had completed intermediate education, while 20% each were graduates, high school-educated, and primary school-educated. None were illiterate.

Regarding occupation, three mothers (60%) were homemakers, while one each (20%) was employed in private work or engaged in daily labor. The majority belonged to the Hindu religion (80%), and one participant (20%) identified as Muslim.

Family and Economic Profile: The economic classification, based on the Modified Kuppuswamy Scale, revealed that 80% of families were within the lower-income bracket (₹10,703–31,977), with only one family (20%) in the ₹31,978–53,360 range. Family structure analysis showed that 40% of the participants lived in joint families, 40% in extended families, and 20% in nuclear families.

Parity distribution showed that 40% were primiparous, 40% had one living child, and 20% had two children. This variation reflects different maternal experiences and coping capacities depending on prior childbirth exposure.

Delivery Characteristics and Infant Profile: The majority (80%) delivered via normal vaginal delivery, while one participant (20%) had a lower segment cesarean section (LSCS). In terms of infant sex, three babies (60%) were female and two (40%) were male. The duration of NICU stay ranged from 2 to 10 days: three infants (60%) had been admitted for 2–4 days, one for 5–7 days, and one for 8–10 days.

Regarding diagnosis, 40% of infants were admitted with preterm birth with severe respiratory distress, while the remaining presented with preterm with low birth weight (20%), severe respiratory distress (20%), or hyperbilirubinemia with low birth weight (20%). These findings indicate the predominance of prematurity-related complications as a cause for NICU admission, aligning with national neonatal morbidity patterns[3].

Qualitative Findings: Through interpretive phenomenological analysis, six major themes and 14 subthemes emerged from the interview data. Each theme encapsulates the mothers' emotional, cognitive, and behavioral responses to their child's NICU admission.

Thematic Framework of Mothers' Experiences During NICU Admission

(Maternal fear → Long-term health concerns → Parental bonding disruption → Emotional impact → Financial strain → Coping mechanisms).

Major Themes and Subthemes

Theme 1: Maternal Fear Related to NICU Admission: This theme encompassed the intense **fear and anxiety** experienced by all participants upon learning that their newborn required NICU care. Mothers expressed shock and disbelief, associating NICU admission with life-threatening illness. The sterile environment, medical equipment, and restricted contact further amplified their anxiety.

"The doctor said my baby's condition is serious; my heart sank. I felt an unbearable fear" (Participant 2).

"Going to NICU means something very wrong has happened, I was terrified that my baby would not survive" (Participant 1).

Such narratives resonate with the findings of Cleveland[7] and Obeidat et al.[13], who emphasized fear as a universal emotional response among NICU mothers.

Theme 2: Long-Term Concerns for the Baby's Health: All participants demonstrated persistent anxiety about their baby's long-term prognosis. Two subthemes were identified:

1. **Fear of future complications:** Mothers worried about possible developmental delays, respiratory issues, or neurological impairments.

"I keep thinking will my baby grow normally or have problems in the future?" (Participant 4).

2. **Continuous medical follow-ups:** Mothers expressed apprehension regarding the necessity for repeated hospital visits, uncertainty about treatment duration, and the financial strain of ongoing care.

"Will my child need to go to the hospital every month? I am scared of that" (Participant 5).

These findings echo previous research by Ionio et al.[10] and Shaw et al.[11], who reported sustained parental anxiety extending beyond NICU discharge.

Theme 3: Parental Bonding and Attachment: NICU admission disrupted the natural bonding process. Mothers articulated emotional pain from **separation**, **self-blame**, and **role confusion**.

- **Feeling of guilt and self-blame:** Several mothers perceived themselves as the cause of the infant's illness.

"I feel I must have done something wrong during pregnancy that's why my baby is suffering" (Participant 3).

- **Disrupted maternal bonding:** Restricted contact prevented mothers from breastfeeding or holding their babies.

  "I could only see my baby through glass; I could not touch or comfort her" (Participant 4).

- **Anxiety about child care at home:** Two participants expressed distress over being unable to care for their older children.

  "My older child keeps asking when I will come home; I don't know what to do" (Participant 1).

This mirrors Feldman et al[14] & Flacking et al.[15], who documented that maternal-infant separation in NICUs adversely affects attachment and maternal role attainment.

Theme 4: Emotional Impact of Seeing the Baby with Medical Equipment: Mothers described overwhelming emotional reactions on first seeing their newborns attached to medical devices such as oxygen masks, IV lines, and monitors.

- **Helplessness and vulnerability:** "When I saw my baby on machines, I froze. I felt powerless" (Participant 2).
- **Anxiety about medical procedures:** "I kept crying, thinking my baby was in pain from the tubes and needles" (Participant 3).

These expressions are consistent with previous qualitative studies highlighting **visual trauma** and emotional shock as critical stressors in NICU environments[8,12].

Theme 5: Financial Strain and Resource Management: Economic hardship was a dominant stressor, particularly among low-income participants. Despite receiving treatment in a public facility, indirect costs such as travel, meals, and lost wages were substantial.

- **Financial burden:** "My husband has stopped working to visit the hospital; we have no income now" (Participant 3).
- **Lack of support system:** "No one from our family has helped us financially or emotionally" (Participant 5).

This aligns with Brooten et al.[20] and Lee et al.[21], who observed that economic insecurity exacerbates maternal stress and limits parental presence at the hospital.

Theme 6: Adopting Coping Mechanisms: Despite adversity, mothers demonstrated resilience through **spirituality, faith, and family support**.

- **Spiritual and religious coping:** "I pray every day, reciting Hanuman Chalisa for my baby's recovery" (Participant 2).
- **Seeking spiritual support:** "We went to the temple and took blessings for our baby's health" (Participant 4).
- **Support by spouse:** "My husband tells me to stay strong; he believes everything will be fine" (Participant 5).

These coping behaviors echo findings by Kumar et al.[22] and Padua et al.[23], emphasizing spirituality and spousal involvement as protective factors against maternal distress in NICU contexts.

The results from this pilot study underscore the **multidimensional challenges** faced by mothers during NICU admissions spanning emotional, financial, social, and spiritual domains. While **fear and uncertainty** were dominant emotions, **resilience and faith** emerged as powerful adaptive strategies. The findings also confirm the **feasibility and appropriateness** of the data collection methods, validating their use for the upcoming main study with a larger sample size.

Problems Encountered During the Pilot Study: The researcher reported difficulty in collecting data from mothers who had undergone cesarean sections (LSCS) due to postoperative pain and fatigue. Scheduling interviews at flexible times and ensuring emotional readiness were necessary adaptations for the main study protocol.

Summary Table of Themes and Subthemes

Theme	Subthemes	Core Description
Maternal Fear	Fear and anxiety	Overwhelming emotions and uncertainty about infant survival
Long-Term Concerns	Future complications; medical follow-ups	Persistent health worries extending beyond NICU stay
Parental Bonding	Guilt; disrupted bonding; anxiety for other children	Emotional separation and dual caregiving strain
Emotional Impact	Helplessness; anxiety about procedures	Visual distress caused by medical interventions
Financial Strain	Burden; lack of support	Indirect costs and isolation from support networks
Coping Mechanisms	Spirituality; religious faith; spousal support	Adaptive resilience through faith and family cohesion

Discussion

This pilot phenomenological study explored the lived experiences of mothers whose newborns were admitted to the Neonatal Intensive Care Unit (NICU) at Safdarjung Hospital, New Delhi. The analysis revealed six major themes: maternal fear related to NICU admission, long-term concerns for the baby's health, disrupted parental bonding and attachment, emotional impact of exposure to medical equipment, financial strain, and adoption of coping mechanisms. These findings provide a holistic understanding of how NICU hospitalization affects mothers psychologically, emotionally, socially, and spiritually. The results are consistent with earlier international and Indian studies that highlight the profound stress and emotional turmoil experienced by mothers of critically ill infants[7,10,12,13].

Emotional and Psychological Impact of NICU Admission: The dominant emotion emerging from this study was **fear and anxiety** associated with the infant's condition and survival. Mothers perceived NICU admission as synonymous with critical illness or impending loss, resulting in heightened psychological distress. Similar findings were reported by Cleveland[7] and Obeidat et al.[13], who observed that uncertainty and lack of control over their infant's condition lead mothers to experience intense fear, guilt, and helplessness.

In the current study, mothers also described panic and despair upon witnessing their babies attached to machines. Wigert et al.[12] and Holditch-Davis & Miles[17] emphasized that the highly technical NICU environment—filled with alarms, monitors, and restricted touch—can overwhelm mothers, triggering acute stress reactions. These emotional responses can progress to depressive symptoms or post-traumatic stress disorder (PTSD) if unaddressed[11].

The phenomenological analysis also highlighted that limited communication with healthcare staff exacerbated maternal anxiety. This resonates with findings from Obeidat et al.[13] and Montirosso et al.[16], who found that when healthcare professionals fail to provide adequate updates, parents experience feelings of alienation and powerlessness. Therefore, regular communication, empathetic reassurance, and participatory care practices are crucial components of NICU care.

Disruption of Maternal Bonding and Role Attainment: Another critical theme identified was **disrupted maternal bonding**. Mothers expressed sadness and guilt at being unable to hold, breastfeed, or care for their babies. Physical separation due to medical restrictions interrupted the early bonding process, a finding consistent with Flacking et al.[15], who emphasized that maternal-infant closeness is vital for the development of emotional security and maternal self-efficacy.

The concept of **maternal role attainment**, first described by Mercer[28], suggests that bonding and caregiving behaviors help mothers internalize their maternal identity. In this study, restricted access to their infants made mothers feel inadequate and powerless echoing the theoretical underpinnings of Mercer's framework. The feeling of **self-blame**, as described by participants,

aligns with the findings of Shrestha et al.[18], who reported that mothers of preterm infants in Nepal often perceive themselves as responsible for their infant's fragility due to cultural and societal expectations surrounding motherhood.

The dual role conflict described by some participants caring for other children at home while emotionally attached to the hospitalized infant reflects a broader challenge of balancing multiple maternal roles. This phenomenon has also been observed in Indian cultural settings, where extended family systems and gendered caregiving norms influence maternal stress responses[19].

Long-Term Health Concerns and Uncertainty: Mothers' persistent anxiety about the long-term health of their infants was another significant finding. Many expressed fear of developmental delays or chronic health issues. Similar concerns were documented by Ionio et al.[10], who found that uncertainty regarding the child's future health outcomes contributes to ongoing maternal anxiety even after discharge.

Continuous medical follow-ups and frequent hospital visits were perceived as burdensome, both financially and emotionally. This finding corresponds with research by Shaw et al.[11], who demonstrated that parents of preterm infants experience prolonged stress related to follow-up appointments and potential readmissions. In the Indian context, these challenges are intensified by the lack of structured post-discharge counseling and community-based neonatal support systems[27].

Financial Strain and Lack of Support Systems: The **financial strain** described by mothers underscores the intersection between socioeconomic disadvantage and emotional distress. Even though Safdarjung Hospital is a public tertiary facility, indirect costs such as transport, loss of income, and sustenance expenditures were major stressors. Similar findings have been documented globally—Brooten et al.[20] and Lee et al.[21] reported that economic hardship significantly heightens parental stress and may reduce the frequency of hospital visits, thereby affecting bonding opportunities.

In this study, several participants reported inadequate social or familial support, reflecting a breakdown of traditional family coping networks in urban and peri-urban settings. This aligns with findings by Kaur et al.[19], who emphasized that cultural shifts and nuclearization of families in India have reduced available caregiving support for postpartum mothers. Consequently, there is a critical need for structured hospital-based psychosocial support systems to mitigate these challenges.

Coping Mechanisms: Spirituality and Spousal Support: Despite considerable emotional and financial challenges, mothers in this study demonstrated notable **resilience**. Faith and spirituality emerged as primary coping strategies. Participants frequently mentioned praying, visiting temples, or reciting religious verses to maintain hope. Similar coping behaviors have been observed in other Indian studies[22,23], where religious beliefs provide emotional strength and help mothers interpret adversity through a lens of faith and acceptance.

The presence of **spousal support** also played a vital role in emotional stability. Mothers who perceived their husbands as supportive reported greater confidence and lower distress. These findings are consistent with Padua et al.[23] (24) and Kumar et al.[22], who found that partner involvement fosters positive coping and psychological adaptation in NICU mothers. Encouraging paternal participation and counseling within NICU settings could therefore enhance maternal well-being and family cohesion.

Theoretical Integration: The findings of this pilot study can be interpreted through the **Family-Centered Care (FCC)** framework, which emphasizes collaborative decision-making, respect for parental roles, and psychosocial support[26]. The current study highlights areas where FCC principles are underutilized, such as limited maternal involvement in caregiving and insufficient emotional counseling. Integrating FCC within NICUs could help transform these units from medically driven spaces into family-supportive environments.

Moreover, the **phenomenological lens** applied in this study, inspired by Van Manen[25], allowed the researcher to access the subjective meaning of mothers' experiences. The iterative process of transcription, reflection, and thematic analysis revealed not just the challenges but also the inner resilience of participants, thereby validating phenomenology as a robust approach for understanding emotional and existential dimensions of maternal experiences.

Implications for Nursing and Clinical Practice

The findings carry significant implications for **nursing practice and neonatal care**:

- **Psychological Support:** Routine screening for maternal anxiety and depression should be integrated into NICU protocols. Trained counselors or psychiatric nurses can offer structured emotional support.
- **Parent Involvement:** Encouraging skin-to-skin contact (Kangaroo Mother Care) and participatory caregiving enhances bonding and reduces maternal helplessness[29].
- **Communication Strategies:** Regular family briefings and empathetic dialogue between staff and parents can reduce uncertainty and build trust.
- **Socioeconomic Support:** Establishing hospital-based welfare schemes or partnerships with NGOs can help families meet logistical expenses.
- **Cultural Sensitivity:** Recognizing and respecting mothers' spiritual coping practices can enhance holistic care delivery.

Strengths and Limitations: This pilot study provides an in-depth qualitative exploration of mothers' NICU experiences within an Indian tertiary hospital setting. The small sample size (n=5) limits generalizability, yet it demonstrates the **feasibility** and **credibility** of the chosen phenomenological approach. Future large-scale studies with greater participant diversity and inclusion of fathers' perspectives could yield more comprehensive insights into family dynamics during neonatal hospitalization.

In summary, the discussion underscores that NICU admission is not merely a medical event but a **psychosocial crisis** for mothers. Fear, uncertainty, financial hardship, and disrupted bonding coexist with resilience, faith, and hope. Integrating family-centered, empathetic, and culturally attuned care models in NICUs can profoundly improve both maternal well-being and neonatal outcomes. The pilot findings justify the continuation of this research into a full-scale study aimed at developing evidence-based psychosocial interventions for families in neonatal care.

Conclusion

The pilot study demonstrated that mothers of NICU-admitted infants experience multifaceted emotional, psychological, and financial challenges. Despite this, they show remarkable resilience through faith and family support. The results validate the feasibility of conducting a larger-scale phenomenological study and highlight the importance of integrating psychosocial care into NICU protocols.

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