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IDENTIFYING THE POSTPARTUM BIOPSYCHOSOCIAL NEEDS OF MOTHERS OF PRETERM BABIES: A QUALITATIVE STUDY

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ABSTRACT

A major global maternal health concern, which is preterm birth (PTB) causes women to experience severe physical, psychological, and social stress. The difficulties faced by mothers of preterm infants often go unacknowledged and undervalued in resource-constrained and culturally diverse environments like Pakistan, resulting in significant unmet biopsychosocial demands. The purpose of this study was to explore postpartum biopsychosocial needs of mothers of preterm babies these unfulfilled requirements in Pakistani cultural context. Ten mothers whose infants had just been discharged from a Neonatal Intensive Care Unit (NICU) in last six months participated in semi-structured interviews as part of a qualitative research design. Thematic analysis was used to examine the data in order to find patterns of meaning related to the experience of PTB and postpartum care. Six main themes emerged from the analysis that were Neglect of Maternal Recovery, Unmet Need for Psychological First Aid, Inadequate Healthcare System Interactions, Insufficient Informational Support, Fractured Maternal-Infant Bonding, and Unsupportive Social System were the, reflecting both individual distress and systemic failures. Crucially, research showed that during the postpartum phase, all attention was focused on the baby and the significance of the mother's health and psychological recovery was usually disregarded. Mothers had to deal with the tremendous social stigma attached to PTB and the influence of unsupportive family members and partners, which lead to great distress. Additionally, mothers reported major physical obstacles, including as difficult and unassisted breastfeeding difficulties in a hospital setting. The results show significant care gaps that are culturally specific. Mothers of premature newborns in Pakistan face severe obstacles to their physical and emotional recovery, social isolation, and systematic neglect.

Keywords: *Postpartum Needs of Mothers, Preterm Babies, Neglect of Maternal Recovery, Unassisted breastfeeding*

INTRODUCTION

Everyone around the globe usually expects the event of child birth to be a joyous and transformative time in the life of a mother's. However, in case of a premature or preterm birth (PTB), which is well defined by the World Health Organization (WHO) (2023) as the birth of a newborn before the completion of the 37th week of gestation, which is observed to frequently interfere with the perception happiness and positive emotions attached with child birth as it occurs as an emergency situation in life of parents. PTB is usually divided into three groups according to the time of birth which are intermediate to late preterm (32 to 37 weeks), very preterm (28 to 32 weeks), and extremely preterm (before 28 weeks). A important global and public health concern about the preterm birth is that it can be primary

cause of infant mortality and is also closely linked to long-term developmental impairments and some chronic health conditions.

Lower and middle-income countries (LMICs) are often reported to be mostly affected by the severity of this crisis. A research based on systematic analysis of the preterm birth worldwide estimated that in the year 2020, approximately 13.4 million alive neonates were born prematurely, accounting for almost around 10% of all live births around the globe (Ohuma et al., 2023). This figure is crucial to show how the Southern Asia and sub-Saharan Africa has contributed 65% toward this overall preterm birth statistics worldwide. Because of this disproportionate burden, a focused study addressing the maternal postpartum needs was needed in areas where few resources, combined with intricate social structures and cultural norms, work together to intensify suffering.

Prematurity and associated complications for mother and child:

Prematurity is often associated with numerous extreme medical complications which put both the mother and the preterm child in danger. The experience of having preterm birth makes it non-negotiable to provide holistic and elevated level of postpartum care for mothers, extending beyond only standard recovery procedures to encompass the complex biological, psychological and important social needs. Biologically, it has been reported that a mother's recovery is often overshadowed by the infant's critical and unpredictable condition (Bortolin et al., 2019). This neglect is significant as preterm delivery itself heightens the mother's long-term health related risks, including chronic hypertension (Crump et al., 2022) and a few cardiovascular diseases (Auger et al., 2020). Furthermore, their is a need of specialized lactation support , including the use of hospital-grade breast pumps or nipple shields, given to meet with the infant's challenges with effective feeding (Meier et al., 2007). The stress also icraseases the risk of physiological challenges, with reports of severe maternal insomnia being a common issue, independent of the postpartum environment, indicating that it is induced by stress (Blomqvist et al., 2018; Marthinsen et al., 2018).

Psychologically, the mothers face a intense disruption about their well-being, making them prone to a significantly **higher risk of developing disorders like depression and anxiety** (Bener, 2013). The highly technical environment of the Neonatal Intensive Care Unit (NICU) and the physical separation slows down the natural process of **mother-infant attachment** process, which is important for psychological stability of the mother and the formation of healthy maternal identity (Medina et al., 2018; Feldman et al., 2011). This can often lead to feelings of **guilt, low self-efficacy, and feelings of inadequacy as mother**. For coping , mothers often report to adopt strategies like praying to God or acceptance of the situation (Sih et al., 2019), but the need for strong emotional support remains essential for the full recovery of suffering mothers of the preterm babies (Bener, 2013).

Finally, the social environment for mothers of preterms is filled with various challenges. The demanding nature of care for preterm infants and prolonged and unexpected hospital stay often lead to issues like **social isolation and loneliness** in mothers due NICU restricted visiting hours.This time shortage issue with infant further disrupt the normative support efforts for mothers (Vitale et al., 2021; Vance et al., 2021). Adding to this struggle is often the lack of enough **information and education** about their infant's life and wellbeing related specialized health needs was common problem faced by mothers (AL-Mukhtar & Abdulghani, 2020). Addressing the **interconnection** between these biological, psychological, and social unmet needs is highly important for ensuring the **comprehensive recovery** and **long-term well-being** of mothers who have navigated through the traumatic experience of preterm birth.

1.2 The Bio psychosocial Impact of Preterm Birth on Maternal Health

The unexpected and untimely arrival of the baby causes the mother to experience a very complicated crisis situation that often goes much beyond the Neonatal Intensive Care Unit's (NICU) immediate medical setting and moves to post discharge care of infant at home. **The biopsychosocial (BPS) model**, which holds that the complex interaction of biological, psychological, and social factors determines health and illness, provides the most exact

conceptualization of this important phenomenon of **maternal health**.

Biological/Physical Impact:
The mother's physical healing is often ignored, especially after the emergency birth scenario. The high rate of opting for cesarean sections (C-sections) is often observed and reported to be linked to difficult premature deliveries ,this surgery increase this postpartum recovery process for mothers. A physiological condition of depletion of energy and fragility of post operative body causes postpartum discomfort, mobility restrictions, and the enormous physical strain to establish lactation and latching for the fragile newborn (Johnson et al., 2022).

Psychological Impact:
There are significant psychological challenges for mothers of premature babies. According to Hall et al. (2021), giving birth to preterm baby is often a very a painful experience marked by feelings of helplessness, fear about the baby's mortality, remorse, and extreme levels uncertainty about future wellbeing of infant. Mothers who experience these stressors are much more prone to develop postpartum depression, anxiety, and post-traumatic stress disorder (PTSD), which can not only negatively affect mother-infant relation and decrease maternal functioning if remains unaddressed (Brown et al., 2020).

Social Impact:
The most important hidden cause of maternal discomfort is frequently the social situation. The sudden separation of mother from the baby during the NICU experience interferes with the infant's natural process of bonding. In addition, the mother faces difficulty in managing her larger social network, which can either offer some support or impose the feelings of shame and criticism, as well as mothers struggle to deal with communications problems with the healthcare system, such as difficult language and jargons used by doctors and nurses about infant medical condition (Cooper et al., 2020).

Rationale of the study:
The existing literature appears to clearly define the elevated levels of challenges and unmet biological, psychological, and social needs of mothers following a preterm birth (Bener, 2013; Bortolin et al., 2019), but the research in high-prevalence country like Pakistan reports two critical knowledge gaps: first, a failure to understand how deeply rooted socio-cultural stigma and family blame can increase maternal psychological distress and feelings of guilt and secondly, an absence of data detailing the systemic and institutional barriers within the resource-constrained healthcare system that actively prevent mothers from accessing basic biological and psychological support, information, and structured follow-up during the critical post-NICU discharge period or the postpartum period of first 6 months after birth . Therefore, this research is crucial for generating novel, context-specific evidence to inform the development of culturally relevant and effective support interventions regarding unmet postpartum needs of mothers of preterm babies.

Research Questions:
- What are the bio-psychosocial needs of mothers of Preterm babies in the postpartum period?
- What post discharge complications mothers of preterm babies face after discharge from Neonatal Intensive Care Unit?
- Which postpartum needs are commonly unmet for mothers of preterm babies in Pakistani cultural context?

Objective of the study:
- To highlight significant needs of mothers of preterm babies in postapartum period.
- To make mothers post partum journey with preterm infants more visible and available for filling gaps in literature.
- To understand the holistic perspective of unmet postpartum Bio-psychosocial needs to improve the post discharge quality of life for mothers of preterm babies.

2. Methodology
Research Design:
In order to provide a comprehensive , and deep insights into the unmet needs of mothers with preterm delivery and **NICU hospitalization**, a qualitative research design was used. This method enabled to focus on mothers subjective

experiences and the sense they make of them while allowing a flexible approach about data collection and analysis. **Thematic analysis** was used in the current study because it offers a systematic yet adaptable way to find patterns of meaning across the qualitative data sets under study, adhering to the established framework developed by Braun and Clarke (2006).

Sampling Strategy

A **purposive sampling** strategy was used to recruit 10 mothers of preterm infants as participants for the from various neonatologists clinics, immunization units in urban area and some via personal contacts.

Inclusion Criteria

Only those mothers were selected who had given birth to babies before 37 weeks of pregnancy were eligible to participate. Their baby was admitted to the NICU after birth was discharged within the last six months. The mothers aged between 20 and 40 years. They gave free, informed consent and were also proficient in Urdu.

Data Collection

The postpartum unmet needs of mothers were investigated by using semi-structured interview schedule.A carefully designed tool for investigating all potential biological, psychological and social needs. The duration of the interviews was between 45 to 60 minutes. Every interview was audio recorded, then carefully transcribed in Urdu, and then translated into English while maintaining linguistic and cultural tone intact.

Data Analysis

Thematic analysis used in current study followed the following steps by Braun and Clarke's six-phase framework for doing thematic analysis.

1. **Familiarization with the data:** The transcripts were repeatedly read in both Urdu and English while noting down the prominent initial ideas, emotions, and critical events about postpartum life of mothers.
2. **Generating initial codes:** Systematic coding was later done for aligning interesting features into meaningful units and then the conceptual labels were given across the entire dataset.
3. **Searching for themes:** In this step effort was done to collate the initial codes into some potential themes, reviewing carefully the clear relationships between codes, and gathering all data relevant to each potential theme.
4. **Reviewing themes:** Checking of the themes was done for maintaing both the coherence of data within a theme and also keeping the distinction between themes in relation to the coded extracts and the entire dataset.
5. **Defining and naming themes: In the** last step ongoing analysis was then done to refine the specifics, scope of each theme and generate clear, concise definitions and names that accurately which reflect the data.
6. **Producing the report:** Final process included selecting some convincing extract examples, performing final analysis of selected extracts, and relating the analysis back to the research question and relevant literature.

Ethical Considerations

The study received approval from the Institutional Review Board. Ethical principles adhered to included:

- **Informed consent:** Participants of the current study received detailed information about the study's purpose, methods, and potential risks, and were asked to provide written consent.
- **Confidentiality:** All identification related information was removed from the final transcripts; participants were assigned unique pseudonyms (Mother 1 through Mother 10) to maintain anonymity in the research.
- **Voluntary participation:** Participants were asked that they could withdraw their participation at any time without penalty or impact on their infant's care.
- **Minimizing harm:** Due to the highly sensitive and traumatic nature of the topic, debriefing sessions were also offered, and psychological support resources were also provided to all participants.

3. Participants and Demographics

A total of 10 mothers participated in the study. The demographic characteristics, including age, NICU stay period, education level, postpartum duration, socioeconomic status, mode of

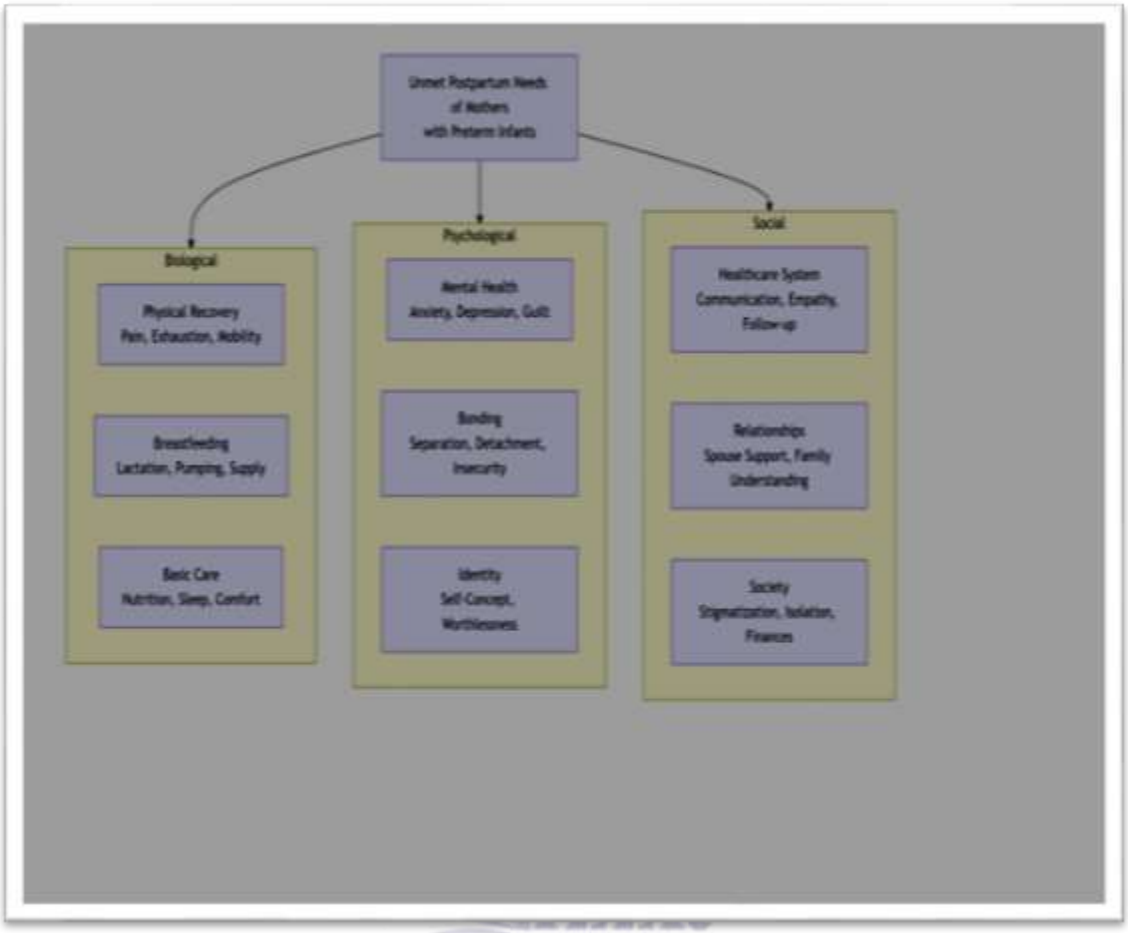
delivery, and job status, are summarized in the table below:

Mother ID	Age	NICU Stay Period	Education Level	Postpartum Duration	Socioeconomic Status	Mode of Delivery	Job Status
Mother 1	28	2 weeks	Bachelor's Degree	4 months	Middle Class	Cesarean	Employed
Mother 2	34	4 weeks	High School	5 months	Low Income	Cesarean	Unemployed
Mother 3	25	2 weeks	Associate's Degree	5 months	Upper Middle Class	Cesarean	Employed
Mother 4	30	3 weeks	Master's Degree	6 months	Middle Class	Cesarean	Unemployed
Mother 5	27	1 weeks	Some College	4 months	Low Income	Cesarean	Unemployed
Mother 6	36	3 weeks	High School	5 months	Middle Class	Cesarean	Unemployed
Mother 7	29	2 weeks	Bachelor's Degree	6 months	Upper Middle Class	Cesarean	Employed
Mother 8	32	1 weeks	Some College	4 months	Low Income	Cesarean	Unemployed
Mother 9	26	2 weeks	High School	3 months	Middle Class	Cesarean	Unemployed
Mother 10	31	3 weeks	Master's Degree	5 months	Upper Middle Class	Cesarean	Employed

4. Results

Six main themes emerged from a thematic analysis of semi-structured interviews with ten mothers of preterm infants after being discharged from Pakistani neonatal intensive care units (NICUs), each of which captured unmet biopsychosocial demands in a healthcare system with limited resources and diverse cultural norms. The mothers' severe physical, psychological, and social suffering is highlighted by these themes: neglect of maternal recovery, unfulfilled need for psychological first aid, inadequate interactions with the healthcare system, inadequate informational support for caregiving, fractured maternal-infant bonding, and an unsupportive social system.

Pictorial Representation of Thematic Analysis Findings:



Postpartum Biopsychosocial Needs of Mothers of Preterm Infants (N=10)

Major Themes	Sub-Themes	Vebatim
Neglect of Maternal Recovery	**Postpartum Physical Trauma & Pain**	Severe pain from C-section; heavy bleeding requiring transfusions; recurrent surgical pain; stitches couldn't heal properly due to vigilance; restricted mobility post-surgery; pain interfering with bonding and caregiving; delayed physical recovery.
	Absence of Basic Physical Care	"Pure exhaustion" from recovery without rest; lack of rest due to hospital demands; inadequate nutrition and hydration; uncomfortable seating for hours; improper maternal diet; deteriorated physical health; lack of bed rest.
	The Burden of Lactation on the Body	Physical exhaustion from constant pumping; relentless pumping schedule disrupting sleep; pain and discomfort associated with pumping; excessive body discomfort due to pumping; physical strain from frequent pumping attempts.

Major Themes	Sub-Themes	Vebatim
Unmet need for Psychological First Aid	Trauma, Anxiety, and Hypervigilance	Preterm birth as a traumatic event; unforgettable pain of birth; fear of infant survival; fear of losing the baby; hypervigilance about infant's vitals; intrusive thoughts about worst-case scenarios; sleeplessness and fatigue from worry; mental torture due to uncertain survival.
	Depression, Detachment, and Identity Crisis	Postpartum depression triggered by separation/uncertainty; excessive postpartum crying; void of missing babies; mental pain of detachment; "I had given birth, but I was not a mother"; feelings of worthlessness; painful absence of baby; emotional pain of detachment.
	Guilt, Self-Blame, and Invalidated Emotions	Guilt over preterm delivery; guilt about breastfeeding incompetence; self-blame for halted milk production; "You feel guilty, even if you know you shouldn't"; emotions being ignored or dismissed as "dramatic"; invalidation of maternal traumatic feelings; internalizing negative societal perceptions.
Inadequate Healthcare System Interactions	Absence of Compassionate & Clear Communication	Lack of empathy from professionals; cold attitude; treated as a client, not a patient; fear-based communication ("business of fear"); too much medical jargon; need for professionals to "be straight with me"; ignored inquiries; questions were an inconvenience; shouted at, not spoken to.
	Ignored and Undervalued as a Patient	Mother becomes "part of the background"; healthcare focus solely on the infant; feeling irrelevant; unattended maternal pain; being made to stand in queues despite poor condition; lack of acknowledgment as a human being; "Mothers maintenance was irrelevant".
	Lack of Systemic Maternal Assessment & Follow-up	No routine maternal check-ups; no screening for postpartum depression/anxiety; absence of psychological guidance; no follow-up care post-discharge; ignored maternal support demands; mother's care not a formal part of hospital protocol; no system for identifying home stressors.
Insufficient Informational Support for Caregiving	Inadequate Lactation and Feeding Guidance	No lactation training available; pumping without training was hectic; absence of lactation consultants; lack of guidance on breast pump use; no guidance on formula/milk alternatives; unrealistic milk production targets; no practical guidance on latching; lack of tailored support for preterm feeding.
	Lack of Confidence in Infant Caregiving	Fear of harming the fragile baby; anxiety about handling and feeding; no pre-discharge training on caregiving; lack

Major Themes	Sub-Themes	Vebatim
		of specialized caregiving competence; reluctance in breastfeeding; insufficient hands-on practice in hospital; fear of touching or holding the fragile baby.
	Unmet Practical & Environmental Needs	Cognitive overload - "brain too fried" to ask for help; no comfortable, private spaces for pumping/recovery; uncoordinated help offers; infrastructural barriers for caregiving; need for proactive assistance (people who "just did things"); lack of a safe space for practicing baby care.
Fractured Maternal-Infant Bonding	**Enforced Separation and Distance**	Painful detachment; distance from hospital as a major stressor; separation leading to depression; limited visiting hours = troublesome; "my arms were empty"; the separation of baby in NICU; physical distance from baby.
	Psychological Turmoil of Absence	Void of missing babies; painful absence of baby presence; "the joyful cries of other babies were painful"; unfulfilled desires of bonding; body and mind out of sync post-delivery; bone-deep exhaustion from lack of caregiving fulfilment; feeling disconnected.
Unsupportive Social System	**Lack of Familial Understanding and Support**	Unsupportive spouse; indifferent attitude of spouse; lack of practical support from family; excessive household expectations from in-laws; belittling comments by family members; absence of shared caregiving responsibilities; intentional ignorance of maternal issues.
	Social Stigma, Judgment, and Isolation	Societal blame for preterm birth/C-section; negative comments about baby's size/appearance; perception of baby as a burden/alien; feeling misunderstood by others; profound social isolation; self-imposed isolation for mental peace; harsh comments on baby.

Theme 1: Neglect of Maternal Recovery

This topic explains how all resources and attention are focused on the preterm baby during the postpartum period, with a systemic and familial failure to prioritize the mother's physical and biological rehabilitation. The management of lactation support, a vital biological need, and post-surgical recuperation was where this negligence was most noticeable.

- **Sub-theme 1.1: Post-Surgical Pain and Mobility Issues:** Mothers consistently reported about managing severe C-section wound pain with minimal levels of analgesics provided or adequate mobility support, often having to travel long distances to the NICU corridor despite being a few hours or a few days post delivery.

"I was hardly able to walk due to my stitches. However, in every few hours I had to drag myself to the NICU corridor because the doctor often said, "The baby needs you." Nobody tried to ask about my level of pain."

(Mother 5)

The narration clearly highlights the physical reality of acute, undertreated post-surgical pain as distinct biological need and this remark also potrays how the mother's recovery is often subordinated to the infant's immediate care. A

recent surgically delivered mother's trauma is ignored by the systemic assumptions that she must physically battle to visit, which is a obvious violation of holistic principles of patient-centered care.

Sub-theme 1.2: Ignored Postpartum Physical Needs: Basic physiological needs of mothers like rest, adequate amount of post birth nutrition, and timely availability of medication were mostly overlooked by both hospital staff and family, who were completely preoccupied with the infant's survival.

"In the first two days after delivery, I had almost no appetite. My husband would bring me favourite food, but I couldn't eat it. The family and nurses only focused on whether I was the expressing milk, not on whether I had eaten anything nourishing or not." (Mother 2)

The fatigue and the malnutrition narrated by the mother constitute a significant biological burden. The actions involving ignoring the needs mother often turn a normal human being in distressed one as excessive nursing demand is exemplified by the observation that the care system only recognized her in connection to her function of producing milk and not her being an equally important person or as a fragile patient who needed full attention too.

Sub-theme 1.3: Unsupported Challenges of Lactation: Mothers in the Pakistani cultural context are usually observed doing struggle and immense pressure to provide breast milk, which is very vital for the health and recovery of preterm infants, but mothers report of receiving almost no skilled or empathetic assistance for the painful process of milk expression via pumping machines, low milk production issues , or abilty to maintain the supply of milk in a high-stress environment.

"My breast pump kept hurting me, and sometimes after all no milk or only a few ounce would come out. It made me feel often like a failure. The NICU staff only t said, 'Keep trying for your baby ' but they didn't guide me how to hold the pump or deal with the pain." (Mother 9)

A serious biopsychosocial conflict seems visible in this lactation crisis. Mothers express the feelings of extreme inadequacy and recurrent guilt which were caused by the physiologic suffering and difficulties of expressing milk as well as the intense psychological pressure to play their vital role as mother and nutrition provider for successful recovery of the baby. A moment of possible connection was turned into a source of pain and anxiety by the staff's casual dismissal ("Keep trying"), which is a failure of specialized care after the early birth of child and in situation where mother was either not ready physically or psychologically for lactation or latching.

Theme 2: Unmet Need for Psychological First Aid

The preterm birth experience became extremely stressful and may have resulted in long-term mental health issues because all mothers reported an initial state of severe psychological trauma, sudden shock, and constant ongoing anxiety that was neither acknowledged and not handled well by the medical professionals.

- **Sub-theme 2.1: Acute Shock and Traumatic Birth Recall:** The unexpected birth, often life-threatening for infant , nature of the premature birth left mothers feeling undervalued, confused, and unable to process the birth event, which persisted in form of intrusive thoughts and flashbacks, making a base for origin of classic psychological trauma response.

"I kept seeing the doctors rush in and out of operation theatre, the fear on their faces. No one told me what was happening, just told me that the baby needs to come out now. It was a nightmare that keeps haunting me."
(Mother 4)

Post-traumatic stress symptoms were felt by some mothers on by highlighting a sensation of powerlessness and terror brought on by the sudden delivery's without any preparation and ambiguous communication of medical officials . The systematic omission of giving importance to mother mental health issues arising in emergency obstetrical treatment was observed by the unfulfilled requirement for a psychological debriefing right after the traumatic occurrence of birth of baby.

- **Sub-theme 2.2: Constant Anxiety over Infant Survival and Future:** The sight of the little infant hooked up to machinery in the NICU added to continuous , debilitating worry

about the baby's immediate survival and long-term health complications, leading to the hypervigilance in mothers.

"Every time the machines used to beep, my heart almost stopped. I couldn't sleep. The biggest question that was in my mind was, 'Will she even make it home? Will she be like a normal baby?' I had no one to share this terror with." (Mother 8)

This quotation exemplifies presence of extreme psychological anxiety and hypervigilance, in which the mother is always scanning her surroundings for dangers to her child. Her expression was about the emotional isolation ("I had no one to share this terror with") points to the crucial absence of basic screening or psychological first aid, which allowed her distress to increase and get worsen while remaining untreated.

Theme 3: Inadequate Healthcare System

Mothers often felt scared, considered themselves being marginalized, and disempowered by the NICU healthcare system, most mothers reported communication to be poor, impersonal, and lacking the basic empathy, intensifying their already existing sense of powerlessness and adding to their psychological burden.

- **Sub-theme 3.1: Difficult and Jargon based Communication from Doctors:** Doctors often spoke to mothers in complex medical terminology and kept providing updates quickly and in a dismissive manner, leaving mothers more confused, intimidated, which kept them ignorant about their infant's real condition and prognosis.

"The doctor told me that the baby had 'respiratory distress syndrome' and 'sepsis protocol.' I just listened it, but I went back to the hospital room and cried because I didn't know if that meant he was not going to survive." (Mother 1)

In terms of the social and relational care of mothers, this exchange is obviously a failure. A power imbalance was created by the use of difficult medical language, which distresses the mothers and caused them unnecessary psychological suffering. The inability to seek clarification about child health related points in a complex hospital culture does not promote genuine collaboration with the preterm infants family members and specially mothers.

- **Sub-theme 3.2: Lack of Empathy about Maternal Care:** Mothers in most cases reported to feel treated merely as the biological milk-producers or necessary caregivers, rather than fragile individuals who recently delivered a baby and dealing with a profound emotional and biological crisis after the sudden incident of preterm birth.

"The nurses were busy al the time, I know, but they never even passed smile or even had good eye contact with me in the eye when I asked a question. It felt like I was just a hurdle there in hospital, not a mother." (Mother 6)

This sense of being a hurdle in hospital draws a lot of attention to the maternal care model's serious social deficiency—the loss of respect and dignity. Although the physical strain of the mothers is acknowledged but the mother's psychological anguish is ignored by this widespread lack of empathy and inhumane attitude , which validates her lowest position in the NICU and hospital care hierarchy.

Theme 4: Insufficient Informational Support for Caregiving

Despite spending weeks in and outside the NICU, mothers reported to feel terribly unprepared and afraid to handle their delicate preterm babies. They were also not trained with specific, useful instruction for post-discharge care of baby and themselves, which turned their concerns into a constant psychological stressor.

- **Sub-theme 4.1: Confusion over NICU Protocols and Infant health Status:** Mothers struggled to understand the reasons behind the various tubes, horrifying monitors, and medications, often filling the knowledge gap with terrible worry and fear of unintentionally harming their child.

"I was always worried about touching her wrong way or disturbing the wires. They gave us general instructions, but I needed specific steps for understanding my baby's condition." (Mother 7)

A crucial part of parental self-efficacy, capability, cannot be attained by the mother in the absence of ongoing, limited instruction. The mother's capacity to move from position of visitor to primary caregiver for baby was hampered by this

lack of precise, useful knowledge, which keeps her in a condition of ongoing psychological confusion.

- **Sub-theme 4.2: Fear of Discharge Due to Lack of Home Care Training:** Due to insufficient hands-on instruction for feeding, temperature regulation, and potential emergency signals, the idea of bringing the preterm newborn home without NICU technology was horrifying.

"They said she's ready to go home, but how can I know if she's breathing okay when there's no machine watching her? I begged them for more practice, but they rushed us." (Mother 3)

This phobia is a real-world example of extreme psychological worry. The mother feels extremely vulnerable and unable to handle future biological crises at home due to the hurried discharge process, which shows a systematic failure in the transition of care.

Theme 5: Fractured Maternal-Infant Bonding

Despite being essential for survival of the baby, the medical and restrictive NICU atmosphere appears to generate substantial emotional and physical barriers for mothers, that disrupted the normal biological and psychological process of mother-infant connection, resulting in a deep sense of loss reported by mothers of preterm infants in current study.

- **Sub-theme 5.1: Barriers to Physical Contact:** Restrictions posed on visiting hours and the limited physical contact with infants placed in incubators and surrounded by medical equipment severely limited skin-to-skin contact also known as Kangaroo Mother Care, which is considered a vital components for early bonding with infants of low birth weight.

"I was only allowed to touch him for a few minutes each day. The machines and glass incubator felt like a wall between us. It was weeks later I could hold him properly, and by then my initial mother's feeling felt almost lost." (Mother 10)

The "machine," which the mother narrates as a relational barrier for initial bonding , physically restricts the basic need for interaction among baby and the mother. The initial mother's feeling were almost lost is a clearly pointing towards the damage happened to psychological attachment , in which the mother expresses the absence of the long waited instant postpartum bond.

- **Sub-theme 5.2: Emotional Disconnect due to Medical procedures:** Mothers narrate emotions about seeing their infant primarily as a NICU patient attached to medical devices rather than their own long awaited bundle of joy that was supposed to be a healthy baby .This perspective caused profound psychological disturbance and difficulty in developing the bond with their child as they thought of before delivery.

"He looked so fragile and difficult to handle, covered in various tubes. It didn't really felt like the baby I carried for seven months. It was like I was just watching a sick stranger ." (Mother 4)

This perception of the mothers considering baby as a sick stranger indicates a serious psychological unaddressed issue and challenges faced by mothers .This hampered their ability in establishing the mother's early identity. The mother is forced to stay in a spectators role in the intense medical setting, which often become the cause of cognitive dissonance between the reality of the fragile baby in incubator and the anticipated image of a mothers healthy infant.

Theme 6: Unsupportive Social System

This theme encompasses the intense social pressures faced by mothers, blame by in laws, excessive criticism, and **lack of spousal support** , which added to the medical trauma and feelings of isolation, representing a major failure related to their **social** support network.

- **Sub-theme 6.1: Social Stigma and Blame for Premature Birth :** Mothers in current study reported often being the target of cultural blame, with family members particularly the typical in-laws linking the preterm birth to illogical maternal negligence, moral failing by mother, or the impact of 'evil eye.'

"My mother-in-law brutally blamed me that what kind of sin I must had done that God punished me with a weak baby. She made me feel fully responsible for his early arrival. The stigmatizing attitude was very painful." (Mother 9)

This is among the worst cultural discovery that is a horrible societal attack on the mother's worth as a parent and her psychological well-being. By depicting the sickness as result of a

"sin" or moral failure, the absence of support network contributes to extreme stress and loneliness in the context of preterm birth for mothers. This is a specific cultural dynamic that is uniquely South Asian in context.

- **Sub-theme 6.2: Lack of Emotional and Practical Support from Partners and In-Laws:** Many mothers in the current study experienced emotional absence or unnecessary criticism from their husbands and husband's family members, leaving them feel absolutely isolated during the period of their greatest need.

"My husband visited the baby daily, but he would rearely even bother to ask how I was doing. He just said, 'Focus on milk production, stop crying.' I really needed him to hold my hand, but I felt completely alone in this struggling time." (Mother 2)

This quotation from the main source points out towards a serious social support failure. The partner only considers mothers biological role that is just producing milk when she withdraws and dismisses her psychological distress by saying "stop crying". The mother reports to feel "utterly alone" as a result of this emotional abandonment, which turns the NICU problem into a personal relationship tragedy.

5. Discussion

The postpartum care provided to Pakistani mothers of preterm newborns has serious, systemic, and culturally specific flaws, according to the findings of this qualitative study. The results demonstrate that the mothers' unmet needs include emotional control (psychological), physical health (biological), and familial/institutional support (social), according to the biopsychosocial model. This leads to a cumulative trauma that significantly impairs both maternal well-being and, consequently, infant outcomes.

The most immediate and notable deficiency identified is the Neglect of Maternal Recovery in the Pakistani cultural context, the mother's body is essentially considered invisible once the infant is born and admitted to the NICU. This is particularly critical as 90% of our sample underwent a Cesarean section, a major abdominal surgery. The finding of mothers dragging themselves to the NICU hours or days after surgery with unmanaged pain profoundly contrasts with evidence-based standards of care that prioritize post-surgical analgesia, rest, and mobility support to prevent complications as narrated by a research done by Johnson et al., (2022). In this cultural context, the biological integrity of the mother is sacrificed on the altar of the infant's survival, often facilitated by a cultural expectation that a mother must suffer silently for her child. The ignorance of such an important maternal need can lead the mothers of preterm infants experience significantly higher levels of self reported depression, anxiety, and post-traumatic stress , especially during and after the NICU hospitalization which appears to be in line with severe psychological struggles faced by few of the participants as narrated in a in study by Trumello, Candelori, Cofini, Cimino, Cerniglia, Paciello & Babore (2018). These symptoms are more generally observed in mothers of very preterm infants and these severe issues can persist for even months after discharge from hospital affecting maternal functioning and ability to take care of the infant (Ndjomo, Njiengwe, Moudze, Guifo & Blairy, 2025).Furthermore, this theme underscores the crisis of Unsupported Challenges of Lactation . While the necessity of breast milk is globally acknowledged, the local system focuses only on the demand for milk, ignoring the process of its creation. The mothers' reports of pain, low yield, and feelings of failure demonstrate that the system creates an environment where the most critical biological contribution the mother can make becomes a source of deep psychological distress.These findings rearding lactation challenges in current study are in line with research findings reported by Dong, Ru, Huang, Sang, Li,Wang & Feng (2022) in their cohort study on lactation status and breastfeeding challenges in mothers giving birth to preterm infants .This is a crucial finding for low and middle income countries, where specialized lactation consultants are rare, and the task often falls to general nurses who lack the time or training for empathetic, individualized support (Siddiqui & Ahmed, 2019). The systemic failure turns a potential bonding experience into a test of maternal competence that frequently ends in exhaustion and guilt that seems as narrated by most mothers in current study appears to be in line with a scoping review of challenges in

breastfeeding faced by mothers of preterm infants by Jiang, Ding, Wu, Wan, Xu, Yao, Huo, & Huang (2025) .

The Unsupportive Social System emerged as the single most devastating factor compounding the mothers' existing trauma. This theme is unique to the cultural framework of a patriarchal, South Asian society and represents a major area of unmet social need.

The finding of mothers being subjected to intense stigma and blame , linking the preterm birth to moral failings or 'sin,' goes far beyond the typical social anxiety documented in Western NICU literature (Brown et al., 2020). In Pakistan's cultural context, the mother is often viewed as the primary architect of the child's health; failure to deliver a full-term, healthy baby challenges her identity and reflects negatively on the honor of her marital family which seems to be in line with the findings of Jarašiūnaitė-Fedosejeva et al., (2024) focusing on guilt,shame and post traumatic growth in mothers of preterm infants in Kenya and Sub Sahara African areas that share similar socioeconomic environments and cultural demands from women. This external projection of failure transforms the mother's psychological distress (anxiety, guilt) into a devastating social attack. The unique finding of the current study highlights the role of family members, especially in-laws, that become the primary agents of trauma, ensuring that the mother cannot find sanctuary or validation within her own home. The experience of the NICU, while medically necessary, is thus framed by the family as a punishment, reinforcing the mother's sense of inadequacy.

Crucially, the Lack of Emotional and Practical Support from Partners compounded this social trauma. While international literature notes paternal stress (Garcia et al., 2023), our findings indicate that partners often emotionally withdraw or actively align with the judgmental in-laws which is totally a unique finding and limiting to the male dominated Pakistani cultural context . The husband's failure to provide basic emotional validation and telling the mother to "stop crying" and "focus on giving milk" is a catastrophic breakdown of the primary social support unit. This not only isolates the mother but reinforces the cultural narrative that her value is purely functional (as a milk-provider), negating her personhood and amplifying her sense of loneliness ("utterly alone in this fight") these challenges are also observed to be reported by Spinelli, Frigerio, Montali, Fasolo, Spada, & Mangili, 2016. Addressing this failure requires culturally specific interventions targeting male partners, challenging traditional gender roles, and redefining the father's role as an emotional caregiver and protector.

The high prevalence of Unmet Need for Psychological First Aid aligns with global findings on NICU parents experiencing PTSD and severe anxiety (Hall et al., 2021). Parents of preterm infants, especially the mothers report to face intense psychological distress regarding issues during and after NICU stays, yet the available psychological first aid and ongoing mental health support are often insufficient or almost absent. Most mothers of preterm infants report that psychological care is not routinely offered during NICU stays or after discharge. Only a small number of mothers receive any psychological consultation, despite prevalence of high rates of anxiety, depression, and symptoms post-traumatic stress by mothers (Fowler, Green, Elliott, Petty & Whiting, 2019). Regular psychosocial assessments are recommended but are seen to be rarely implemented systematically after the preterm birth . Most of the reported assessments occur in previous researches are often limited to the NICU stay period and do not extend after the critical transition to home, leaving mothers at risk for undetected and untreated mental health issues (Horsch, Garthus-Niegel, Ayers, Chandra, Hartmann, Vaisbuch, & Lalor, 2024 and Białas, Kamecka, Rasmus, Timler, Kozłowski, & Lipert, 2025). However, in this setting, this unmet need is linked to the Inadequate Healthcare System Interactions .

A systemic cause of psychological stress is medical practitioners' dismissive, jargon-filled communication , which frequently lacks appropriate interpretation or sympathetic context. In this situation, the doctor-patient relationship is often paternalistic and hierarchical. This disparity in authority guarantees that the mother will continue to be helpless, perplexed, and afraid, unable to make wise choices or successfully represent her child.

This disempowerment is further exacerbated by the Insufficient Informational Support for

Caregiving . Many parents specially mothers report unpreparedness about caregiving after discharge, as there is lack of clear, practical information about feeding problems, mother and child hygiene, ability to recognize danger signs, and keeping a check of developmental milestones for the prerterm infant these findings seems to be in line with the findings reported by Hayat, Mughal, Shaukat, Kamal, Saeed & Butt (2025). Information provided by medical professionals is often noted to be inconsistent, highly technical and that are not tailored to individual needs, leading to increased confusion and anxiety previously also reported by Boadu, Efua, Akorfa, Deborah & Darkwa (2024). Parents report to have frustration with medical jargons and due to insufficient explanations about their infant's health status and holistic care routinesalso reported in current study seems to be in line with study of Griffith, Singh, Naber, Hummel, Bartholomew, Amin, White-Traut & Garfield (2022).The anxiety surrounding discharge ("how can I know if she's breathing okay when there's no machine watching her?") is a rational response to the system's failure to adequately train her in the high-stakes procedures of preterm infant home care.

The lack of practical, hands-on training for feeding, temperature management, and recognizing signs of distress leaves the mother with a severe deficit in self-efficacy reported in current findings stands unique and to be fundamentally eroding mothers psychological confidence and abilty to take care of infant at home which makes her transition to home terrifying.

Finally, the theme of Fractured Maternal-Infant Bonding demonstrates the biopsychosocial cost of a medicalized, restrictive NICU environment. The physical barriers caused by equipments of NICU and restrictive visiting policies of hospital interfere with the biological process of bonding, specifically the release of hormone oxytocin which is prompted by skin-to-skin contact. Preterm birth and neonatal intensive care unit (NICU) hospitalization frequently appears to disrupt the natural process of mother and infant bonding. This disruption, or also narrated in current study as "fractured bonding," is driven by both emotional barriers and physical barriers, with significant implications for maternal mental health and infant development. This significant finding of current study appears to be somehow in line with the findings by Medina et al., (2017) regarding lived experiences of mothers of preterm babies highlighting difficulties in early bonding of mother with preterm infants due to medical separation. The NICU setting often limits maternal contact due to medical interventions, incubators, and restricted handling, leading to feelings of alienation and difficulty forming an emotional connection. Mothers reported intesnse desire for handling and carrresing the baby more often which seems impossible due to NICU restrictive policies (Acharya, Bhandari, Bhattarai, & Gaire, 2022). The fragile health and passivity of preterm infants can make interactive behaviors and bonding more challenging for mothers. Poor bonding exacerbates maternal distress, creating a cycle that further impairs the mother-infant relationship these findings are in line with a previous study by Fuertes, Martelo, Almeida, Gonçalves & Barbosa (2024) which further strengthens the demand and need for more physical interactions needed between mother and child before discharge from hospital .The mother views her child as a stranger who is been sick for long in current study, which has a significant emotional impact. Although it prevents the development of a stable relationship, this cognitive and psychological gap serves as a kind of emotional self-defense. The results strongly imply that NICU protocols should be immediately changed to optimize opportunities for Kangaroo Mother Care (KMC) and tactile connection, not only for the infant's developmental benefit but also for the mother's psychological healing and the essential process of maternal identity formation, even though the protocols are focused on saving the infant's life.

5.5 Implications for Practice and Policy: A Culturally Tailored Approach

The findings of the current study necessitate a fundamental, culturally grounded paradigm shift in postpartum care protocols for mothers experiencing preterm birth in Pakistan. Interventions must move beyond simple clinical assesments to address the holistic BioPsychoSocial approach of understanding needs of the mother in the postpartum period:

1. **Mandatory Maternal Health Integration: Some** Policy must be introduced about the integration of the mother as a co-patient in postapartum scenario. This includes:
   - **Post-Surgical Pain Management Services:** Implementing some standardized, efficient pain management protocols for C-section mothers, ensuring their mobility support and mandated bed rest periods independent of the infant's health status.
   - **Developing Specialized Lactation Teams:** Funding and employing of dedicated, trained lactation consultants must be done in hospitals who will provide empathetic, trauma centered, one-on-one assistance to manage pain and technique, shifting the focus from the quantity of milk output to maternal health progress..
2. **Psychological First Aid and Trauma Screening:**
   - **Universal Screening:** Implementation of a routine and culturally sensitive immediate screening for symptoms for PTSD, Postpartum depression, anxiety, and depression and **postpartum unmet maternal needs** using validated local tools.
   - **Immediate Debriefing:** Making it compulsory that NICU staff provide a brief, empathetic debriefing session for the infants mother within 24 hours of birth, focusing on validating her trauma and answering basic questions in clear, simple language, thereby providing immediate **psychological first aid**.

3. **Cultural and Social Intervention Programs:**
   - **Partner and Family Education:** Development of mandatory, culturally relevant education programs for fathers and significant female in-laws (e.g., mother-in-law) that could actively combat the cultural **stigma** by understanding PTB as a medical condition.
   - These sessions must specialy redefine the father's role from only financial provider to **emotional caregiver**, highlighting his importance for main source of **social** support for the mother's quick recovery.
   - **NICU Support Groups:** Facilitation of peer-support groups must be their who can be lead by previously successful NICU mothers to provide vital **social** validation and combat isolation challenges.

4. **Enhanced Informational and Bonding Protocols:**
   - **Structured Caregiving Education:** Implemention of mandatory, hands-on training module before discharge, covering recovery, feeding, and knowledge of danger signs, and ensure the mother must demonstrates competence in handling baby before discharge is approved.
   - **Kangaroo Mother Care (KMC) Prioritization:** Revision of NICU visitation and protocol policies must be done to maximize KMC time, viewing skin-to-skin contact not only as a visitation privilege but as an essential **biological** and **psychological** need for both mother and infant.

5.6 Limitations

One of the study's limitation is its small sample size (N=10), which limits generalizability even though it is typical in rich qualitative inquiry.

Additionally, the recruitment was concentrated only to urban hospital settings, which might not also reflect mothers' experiences in more resource-constrained or culturally strict rural places such as small villages.

Although carefully controlled, the use of self-reported data by participants and the translation procedure from Urdu to English may introduce subtle linguistic or interpretation bias. Despite these limitations, the complex nature of the qualitative data explored in current study offers a solid and comprehensive understanding of the unmet postpartum biopsychosocial needs in a holistic **three dimensional** manner highlighting important biological, psychological and social needs altogether that are unique to this vulnerable demographic and serves as a strong basis for upcoming quantitative and intervention research.

6. Conclusion

In the Pakistani cultural context, a premature baby's birth and subsequent treatment shows that the mothers suffer a severe combination of systemic coldness, physical neglect, and unbearable societal pressure. The shocking lack of support from primary partners (husbands) and family, excessive societal stigma and

maternal guilt, the unnoticed physical difficulties of breastfeeding the baby, and the disregarded significance of mothers bodily and psychological recovery all tragically explains the maternal postpartum unmet needs. The mother is the infant's most important resource, yet this is not given any significant value by the present care model, which firmly focuses primarily only on the requirements for infant survival. There is an urgent need for policy development and practice to move toward a comprehensive, culturally sensitive interventions in order to significantly increase both newborn and long-term maternal mental health outcomes.This will not only prioritize maternal recovery, actively take away social stigma at the family level, and empower the mothers through genuine psychological and practical support.

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