

# Maternal Needs and Priorities in Neonatal Intensive Care Environment: A Cross-sectional study in the UAE

Pushpa Thomas John<sup>1</sup>, Sameera Suleiman<sup>2</sup>, Rola Helmi<sup>3</sup>, Fatima M Akkawi<sup>1</sup>, Amna Saleh AlMarzooqi<sup>4</sup>, Aneeshya Elias<sup>1</sup>.

<sup>1</sup> Clinical Resource Nurse, Al Qassimi Women's & Children's Hospital Sharjah, UAE

<sup>2</sup> Assistant Hospital Director of Nursing Affairs, Al Qassimi Women's & Children's Hospital, Sharjah, UAE

<sup>3</sup> Unit Manager NICU, Al Qassimi Women's & Children's Hospital, Sharjah, UAE

<sup>4</sup> Nurse Manager NICU, Al Qassimi Women's & Children's Hospital, Sharjah, UAE

## Abstract

**Background:** Hospitalization of neonates in the Neonatal Intensive Care Unit (NICU) presents significant stress and adaptation challenges for mothers. Understanding their needs is crucial for optimal care, as unmet needs can adversely affect both maternal and infant health outcomes.

**Purpose:** This study aims to systematically assess the maternal needs and priorities in the NICU setting, emphasizing the significance of maternal well-being in neonatal care.

**Methods:** Employing a cross-sectional survey design, we engaged 200 mothers of hospitalized neonates in Al Qassimi Women and Children Hospital, Sharjah. The Maternal Needs Inventory, comprising 25 items across five dimensions (Assurance, Proximity, Information, Support, and Comfort), was utilized. Mothers rated their needs and listed their top five priorities.

**Results:** Assurance needs emerged as paramount, with 87.2% of mothers highlighting them as critical. Comfort needs were deemed least important (52.4%). A significant association was noted between maternal needs and certain demographic variables, underscoring the diversity of maternal experiences in the NICU.

**Conclusion:** The Maternal Needs Inventory proves to be an effective tool in recognizing and addressing mothers' needs in the NICU. Addressing these needs is vital for fostering a family-centered care approach, crucial for both maternal and neonatal well-being.

**Keywords:** Intensive care units, Sedation, Spontaneous awakening trial, Spontaneous breathing trials, Weaning.

## Correspondence to:

Pushpa Thomas John, Clinical Resource Nurse, Department of Nursing, Al Qassimi Women's & Children's Hospital - Sharjah, UAE. Email: Pushpa.Thomas-John@ehs.gov.ae

## 1. INTRODUCTION

The birth of a baby is a profoundly transformative period for a mother, characterized by significant physiological and psychological adjustments. This transition becomes more complex and challenging when the newborn requires care in a Neonatal Intensive Care Unit (NICU). The World Health Organization reports that approximately 15 million babies are born preterm annually, often necessitating NICU admission [1]. While technological advancements have improved neonatal survival rates, the psychological needs of mothers during this critical period are often under-addressed [2].

Hospitalization of a neonate disrupts and delays the crucial process of parent-infant bonding, intensifying maternal anxiety and mental distress [3]. This distress can interfere with maternal-infant bonding, potentially leading to postpartum depression, anxiety, and post-traumatic stress disorders in mothers [4]. Additionally, it can impact breast milk production, which is essential for neonatal development [5].

Previous research has highlighted the correlation between maternal mental health and infant well-being, underscoring the need to identify and address maternal needs in NICU settings [6]. However, there remains a

gap in understanding the specific needs and priorities of mothers in this context [7]. This study aims to fill this gap by systematically assessing maternal needs in the NICU, focusing on the association between these needs and various demographic variables [8,9]. Our study's findings are intended to inform the development of more family-centered care practices in NICU settings, ultimately benefiting both mothers and their neonatal children [10,11,12,13].

## 2. MATERIALS AND METHODS

### 2.1. Study Design and Participants

A cross-sectional descriptive survey was utilized for this study. Participants were recruited from the Neonatal Intensive Care Unit of Al Qassimi Women and Children Hospital, Sharjah. The inclusion criteria encompassed mothers of neonates admitted to the NICU, willing to participate, and able to understand

and complete the survey. A total of 200 mothers participated in the study, providing informed consent.

### 2.2. Data Collection Tool and Technique

The Maternal Needs Inventory, a validated tool comprising 26 items, was employed to assess maternal needs. This inventory, developed based on extensive literature review and the investigators' clinical experience, asked mothers to rate needs from 'most important' to 'not important' across five dimensions: Assurance, Proximity, Information, Support, and Comfort. Mothers were also requested to prioritize their top five needs.

### 2.3. Data Collection Procedure

Data collection was conducted following the receipt of informed consent. Each participant completed the inventory, which took approximately 40 to 45 minutes. Demographic data were collected from mothers and electronic medical records. All data collection was conducted with strict adherence to privacy and confidentiality standards.

### 2.4. Ethical Considerations

This study was conducted in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments. Ethical approval for the study was obtained from the hospital's ethics committee. All participants were assured of confidentiality and informed of their right to withdraw from the study at any point without any consequences.

## 3. RESULTS

### 3.1. Demographic Characteristics

Two Hundred mothers participated in the study. Majority of mothers (53%) were multipara with no history (87%) of previous experience of hospitalization for their neonates in critical care area like NICU and were non-locals (82.5%). Concerning demographic characteristics

of neonates, 59.5 % were having ( $\geq 2.0$  Kg) birth weight. Percentage (52%) of female neonates has shown dominance in the study. It is also observed that majority of babies were born via normal (65%) compared to cesarean route (35%). Common reasons observed for admission to NICU were respiratory distress

Category	Subcategory	Frequency	Percentage (%)
Mother's Age	18-25 yrs	21	10.5
	26-33 yrs	126	63.0
	34-41 yrs	51	25.5
	>41 yrs	2	1.0
Educational Qualification	Post-Graduation	5	2.5
	Graduation	71	35.5
	12th Grade or Equivalent	8	4.0
	High School	116	58.0
Nationality	Non-locals	165	82.5
	Locals	35	17.5
Para - Number of Birth	Multi	106	53.0
	Primi	94	47.0
Mother's NICU Experience	No	174	87.0
	Yes	26	13.0
Neonate's Gestational Age (weeks)	28-32	43	21.5
	33-36	82	41.0
	37-42	75	37.5
Birth Weight (gms)	500-1500	48	24.0
	1501-2000	33	16.5
	2001-2500	51	25.5
	>2501	68	34.0
Gender	Female	104	52.0
	Male	96	48.0
Birth Type	Normal Delivery	130	65.0
	Cesarean Section	70	35.0
NICU Admission Duration (days)	0-10	91	45.5
	11-20	60	30.0
	>20	49	24.5
Diagnosis	Prematurity	67	33.5
	Respiratory distress syndrome	80	40.0
	Infant of diabetic mother	21	10.5
	Congenital heart disease	32	16.0

*Table 1: Demographic table for mothers and neonates*

syndrome (40%) prematurity (33.5%), diabetic mother (10.5%). Table 1 details the demographics data for the mother participants and the neonates.

### 3.2. Maternal Needs Assessment

The study identified varying levels of importance attributed to different maternal needs. The most significant needs were in the Assurance category, with 87.2% of mothers rating these as critical. In contrast, comfort

needs were deemed least important by mothers, with only 52.4% considering them significant.

The remaining dimensions — Proximity (86.4%), Support (84.4%), and Information (79.6%) — were also rated as vital, but to a lesser extent than Assurance. Table 2 presents the categories of mothers' needs.

Need	N	%
Assurance	174	87.2%
Proximity	172	86.4%
Support	168	84.4%
Information	158	79.6%
Comfort	100	52.4%

Table 2: Categories of mothers needs

### 3.3. Prioritization of Needs

When asked to prioritize their needs, mothers unanimously emphasized needs related to their babies' health over their own comfort. The top priorities included understanding their child's exact condition and being assured of the best possible care. Table 3 presents the ranking of the mothers of different needs

### 3.4. Association with Demographic Variables

The study revealed notable correlations between maternal needs and selected demographic variables. For instance, the need to know the exact condition of the baby showed a significant association with the mother's age and educational level. These findings indicate a diverse range of maternal experiences and needs within the NICU environment.

## 4. DISCUSSION

The predominance of Assurance needs among mothers underscores the innate concern for their infants' health and well-being in the NICU. This finding aligns with the natural maternal instinct to ensure the safety and care of their newborns [5,8]. The lower importance placed on Comfort needs suggests that mothers prioritize their infants' needs over their own during the hospitalization period [6].

The emphasis on Assurance and Information needs reflects trends observed in similar studies, where parents of hospitalized neonates express a strong desire for comprehensive and clear communication about their child's condition and care [4,9]. The importance of Proximity needs highlights the crucial role of parental involvement in neonatal care, which has been linked to improved outcomes for both mother and child [12,13]. The results indicate the necessity for healthcare providers in NICU settings to

Needs	N	%
To know the exact condition of my baby	157	78.5
To be assured that best possible care is given for my baby	154	77
To meet the doctor every day	152	76
To get information on nursing care every day	145	72.5
To have a flexible visiting time for hospital	137	68.5
To be allowed to visit the baby whenever needed	135	67.5
To feel accepted by hospital staff	133	66.5
To know the progress of the baby	109	54.5
To know why things are done for my baby	101	50.5
To know the name of the nursing personnel taking care of my baby	96	48
To get technical information of all equipment's used for infant	52	26
To be told specific facts concerning my infant progress	80	40
To be felt respected	90	45
To be called at home about important changes in my baby's condition	87	43.5
To be involved in care of baby	85	42.5
To have someone who is concerned about my health	84	42
To know what things are planned for the baby	78	39
To have a staff who can communicate with us in a language which we understand	55	27.5
To be able to talk to other parents of infant admitted at same NICU	46	23
To have a good food outlet in the hospital	26	13
To have a very good waiting area	15	7.5
To know approximate expenditure for the NICU stay	12	6
To have washroom facility near NICU for parents	9	4.5
To have a mosque or a church or other prayer facilities near NICU	7	3.5
To have good music played all the time to be in relaxed state	4	2

Table 3: Ranking of mothers needs

prioritize clear communication and family-centered care approaches [2,10]. Addressing maternal needs, particularly in the areas of Assurance and Information, can significantly impact the psychological well-being of mothers and, by extension, the care of their neonates [1,3].

This study's findings are limited by its cross-sectional design and the specific demographic context of the NICU in Al Qassimi Women and Children Hospital. Future research should explore longitudinal trends in maternal needs and extend the study to diverse demographic and geographic populations to generalize the findings further [7,11].

### 5. CONCLUSION

The study successfully identified and quantified the various needs of mothers with neonates in the NICU, highlighting the predominance of Assurance needs over others. This underscores the critical importance of providing comprehensive information and reassurance to mothers regarding their infants' care and condition. The findings also reveal the need for healthcare providers to be aware of and responsive to the diverse needs of mothers, influenced by demographic variables such as age, educational level, and previous NICU experience.

These results advocate for a more holistic and family-centered approach in NICU care, emphasizing the need for effective communication and support that addresses both the neonate's and the mother's well-being. Implementing strategies that cater to these maternal needs can potentially improve maternal psychological health and, consequently, the overall care of the neonate.

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