A Review on Psychosocial Effects of NICU Admission on Parents

Hassan Al-shehri, MD*

ABSTRACT

Introduction: Many neonates spend long periods of time in the neonatal intensive care unit (NICU) and have health problems when they are discharged. The impact of the condition, the availability of resources, and parental characteristics all influence family psychological reactions.

Objective: This review looked at how the intensity of infant health is measured and linked to emotional (e.g., psychological health) and communal (e.g., parent-baby relationship) effects for parents.

Methods: A review of the literature was conducted to determine the psychological impact of NICU hospitalization on parents. To systematize baby health, researchers used validated evaluations, indices of neonatal health (e.g., diagnosis, length of stay), and unique metrics. Results: Parents of newborns with more medical concerns reported a greater impact on the family, as well as increased worry and intrusive parenting techniques. A validated appraisal of the baby's condition based on a parent's report is essential to enable more approachable and widely distributed research among medical institutions.

Conclusion: Assessing the severity of NICU newborn health and family effects can help identify families who are at risk of experiencing negative psychological consequences.

Keywords: Psychology; NICU; Parents; Review

INTRODUCTION

Premature delivery, particularly before the 28th week of pregnancy, is a major medical problem [1]. Like other critically unwell neonates, these babies are taken to the neonatal intensive care unit (NICU) as soon as they are born. They must be admitted to the hospital for approximately 36 weeks' post-menstrual age (i.e., gestational age and chronological age), and in certain cases, much longer if clinical issues arise [2]. The more premature a newborn is, the higher the risk of occurrence and mortality [2]. Long-term repercussions are difficult to predict and vary greatly, which contributes to parents' anxiety early in their baby's life [1]. At the age of six and a half years, a Swedish population-based prospective analysis found that 36.1 % of offspring born before 27 weeks' gestational age had no central nervous system infirmity, 30.4 % had a mild disability, and 33.6 % had moderate and severe disabilities, such as cerebral palsy, cognitive impairment, or visual or hearing deficits [3].

THE CONSEQUENCE ON THE INDIVIDUAL PARENT

Feeley et al. revealed that stress levels in parents of very-low-birth-weight newborns are higher than expected, despite the fact that the mother and father have different reactions to the NICU [4]. Many studies have focused on the mother's feelings, and it is well understood that her unanticipated parental position and her child's health problems cause her anxiety, remorse, sense of helplessness, emptiness, dread, uncertainty, discouragement, estrangement, sorrow, and other negative thoughts [5-7]. To alleviate these feelings, the mother needs confidence, engagement in care, proximity to her newborn, and physical affection.

Although few research has been conducted on a father's perspectives in the NICU, the father is clearly more likely than the mother to confront numerous challenges. Shortly after giving delivery, the father professes to be more concerned about his wife's well-being than the newborn child [8]. The father seeks out information about his infant's sickness in order to completely appreciate and care for him/her [9]. As a parent, supervisor, supporter, and sole source of income, the father may feel pressured to take on new responsibilities. Fathers confront additional hurdles in being involved in their patients' upbringing due to their employment and other responsibilities. They frequently are unable to dedicate the same amount of time to the NICU as the mother [10]. The father may feel helpless in the presence of his newborn and his surroundings. The father's support structures may deteriorate over time, exacerbating the problem [9,11]. The father might compensate for a lack of responsibility by concentrating on his responsibilities or continually discovering new hobbies outside of the NICU [9]. This is supported by findings from research on chronic illnesses and adolescent cancers [12-15]. Eventually, the father feels similar emotional feelings to the mother, but he is more concerned with his responsibilities than receiving the assistance he requires.

FAMILY-CENTERED CARE and PARENTAL CONNECTION

In recent years, many NICUs have adopted a family-centered care approach [16]. The primary goal of this concept of care is to establish a cooperative relationship between the family and the healthcare provider in which the family participates in the care of the newborn and in decisions that affect him or her, where there is effective communication between the family and the health-care provider, and where the family's abilities, concerns, and circumstances are respected [16]. Encourage parents to accompany their infants in the hospital as one practical part of promoting family-centered care. While their preterm infant is in the NICU in Sweden, parents are paid for lost pay, allowing both parents to take time off work to care for their infant [17]. Families in the NICU should also be active in their infants' care, not only to learn how to care for them once they leave the NICU, but also to form a close link between parents and their neonates. This stage can be unsettled by a variety of factors, including the newborn's condition and the NICU's care environment [7]. The newborn is taken from his/her mother and

* Department of Pediatrics, College of Medicine
Imam Mohammad Ibn Saud Islamic University, Riyadh, Saudi Arabia.
E-mail: haalshehri@imamu.edu.sa

incubated in the NICU under critical monitoring [18]. Parents rely on NICU staff for information and directions regarding their infants' care, making them feel as though the infant isn't actually theirs [19]. The idea that extremely preterm infants behave and act differently than ordinary newborns can make it harder to form parent-child bonds [18]. Parental posttraumatic anxiety, as well as early contact deficits among severely preterm infants and their families, may have long-term deleterious consequences for the mother-sibling relationship [19].

RECOMMENDATIONS for HEALTHCARE STAFF TRAINING

All NICU teams should be trained in understanding the psychological requirements of NICU parents and how to help them. "All NICU staff" refers to all professionals who work with NICU families on any level. Staff education should be provided through training and then on a regular basis throughout the practice. Meaningful communication and collaboration should be encouraged in interdisciplinary team education [20].

NORMAL RESPONSES to INFANT HOSPITALIZATION

The NICU staff should be aware of the psychological impact of the NICU admission on parents, as well as the "typical" or "expected" reactions to this uncommon and frequently unplanned life-changing scenario. Parents' behavioral, psychological, and situational stressors are mostly linked to their infants' poor health outcomes. Parents may have been dealing with a variety of unanticipated and distressing feelings about their pregnancy and delivery before NICU admission. The economic slump, transportation and lodging challenges, and the pressures of balancing family, home, and work life are all possible sources of psychosocial and interpersonal stress [21]. Panic, anxiety, remorse, anger, and powerlessness are just a few of the emotional responses that parents may not expect, but that develop frequently as a result of these circumstances. Parents' feelings make it harder to concentrate and make decisions, adding to an already uncomfortable situation. As a result, one of the NICU's key tasks should be to help parents manage their frequent emotional responses [22].

EFFECTS of NICU PARENTS' PERNATAL ATTITUDE and ANXIOUSNESS

The compounded pressure placed by parents of newborns admitted to NICU puts them at a higher risk for perinatal anxiety and depression than families with healthy, full-term newborns.

The following subjects should be included in an inclusive framework about perinatal attitude and nervousness problems faced by parents of newborns admitted to NICU:

(a) information on depression, anxiety, and posttraumatic pressure ailment in NICU mothers and fathers, counting epidemiology and uncertainty aspects; detrimental consequences of these circumstances on parent-infant devotion; and newborns' physical, intellectual, and sentimental growth [23-26]; (b) assessment strategies for perinatal depression symptoms problems; and (c) an evaluation of effective behaviors for parents in the NICU [27-29].

STRESS FACTORS for PARENTS

Parents of premature infants in the NICU, according to previous studies, may experience acute, severe anxiety, posttraumatic stress disorder, and depression [30]. The physical environment of the NICU, technology, and intrusive therapies (e.g. injections, catheters, intravenous lines, and blood tests) used in the unit may cause parents anxiety and emotional discomfort. NICU rules, the presence and actions of the infants, isolation of the newborns from the family due to their severe circumstances, changes in the expected parental role, and failure to defend the newborn all contribute to the parents' feelings of sadness, loss, fear, frustration, remorse, and powerlessness [31]. Even after the baby is discharged from the hospital, the stress and psychological trauma can cause long-term problems like depression, anxiety, and poor parenting [32,33]. As a result, parents who are dealing with a premature newborn and his or her admission to the NICU will almost certainly need psychosocial support.

INCONSISTENCY in NEWBORN HEALTH

Newborns admitted to the NICU are a unique group of infants who confront a variety of medical issues, diagnoses, and developmental effects. Over the last ten to twenty years, advances in perinatal and neonatal care have resulted in increased survival rates among babies delivered at earlier stages of pregnancy and newborns with serious clinical difficulties, so efforts to understand the spectrum of newborn physical ailments are timely [34]. For newborns born at a younger stage of pregnancy, frequent hospitalizations, severe medical difficulties, and neurological disorders are all higher risks [35]. Babies with more health problems and delayed growth require more time, consideration, and assets from their parents, causing parental stress and family tension [36]. Many elements in family psychosomatic alteration are influenced by the severity of an infant's illness [36]. As a result, medical concerns with the baby during and after NICU hospitalization are essential factors to consider when assessing family adaptation. A greater understanding of how baby medical concerns effect newborn growth, parental mental health, parent-infant interactions, and couple and family functioning is essential to recognize families and children who require additional care or help during and after NICU hospitalization.

THE PSYCHOLOGICAL EFFECT OF NICU ADMISSION on PATIENTS

According to Anna Bry's research, extremely preterm neonates are critically undeveloped and require months of care in a neonatal care facility (2019) [37]. Parents are stressed and disturbed by their infant's health condition and the prolonged hospitalization. The goal of Anna Bry's research was to see how the NICU as an institution and its workers met or failed to meet the psychological needs of parents of extremely premature newborns. After their kid was discharged from the NICU, sixteen open-ended interviews with 27 parents were conducted for this study. The study's findings were analyzed using an inductive content method, which revealed four main themes: support for emotional wellbeing (with subthemes): believing the health care worker; empathic action by employees; other parents as a distinct source of sustenance; uncertain roles of various professions; privacy; and assistance in balancing time spent with the newborn and other commitments. Parents with critically premature newborns in the NICU require a variety of emotional support, including staff aid, expert mental assistance, and camaraderie with the parents of other patients. The willingness of parents to express their emotional status with professionals differed significantly. Nurses, social workers, and psychiatrists' responsibilities in providing emotional support to parents and identifying particularly vulnerable parents appeared to be unclear. Parents needed to trust the NICU and its staff completely. Trust was undermined by poor communication with and among staff, which was compounded by staff turnover. Staff pressure to stay at the hospital longer than they could bear, as well as the NICU's lack of privacy, caused problems for parents. The NICU and its staff encounter several challenges as a result of the difficult and unique psychological needs of parents of extremely premature newborns. Increased staffing and enhanced nursing expertise in dealing with the psychological aspects of newborn care will benefit both nurses and families [37].

To reduce stress, Abdeyazdan Z (2014) undertook a family assistance intervention for preterm newborn parents [38]. Preterm infants make up a large percentage of the newborn population in critical care (NICUs). Parents, as the key members of the care team, are not adequately supported because the focus is mostly on newborn care. The goal of this research was to explore how a family support intervention influenced stress symptoms in parents of preterm babies in the NICU. For quasi-experimental research, a suitable sampling strategy was used to pick 50 parents of premature neonates. The participants were split into two groups: intervention and control (each with 25 pairs). The Parental Stressor Scale NICU (PSS NICU) was completed by both the fathers and mothers of the two groups (before and after intervention). Before the intervention, the mean overall PSS-NICU scores and the average scores of its three subscales were not statistically different between the two groups. Following the intervention, however, significant differences between the two groups were identified. The intervention group's scores dropped dramatically following the intervention, whereas the control group's results remained same. Parents of preterm infants appear to have had less stress as a result of early educational and emotional support. As a result, such therapies may be beneficial in helping parents to care for their infants while also fulfilling their parental duties [38].

Haydeh Heidari (2017) investigated how parents of newborns hospitalized to the NICU deal with stress. Infant hospitalization in the NICU is a difficult experience for parents [39]. Parents fear they have lost control as a result of the changing environment. As a result, stress management is extremely important during this time. The family is critical as the cornerstone of standard care in the NICU because it is the newborn's primary source of strength and safety. As a result, the goal of this study was to examine stress management among NICU parents. The data was collected and analyzed using a qualitative content analysis technique for open coding, categorization, and theme abstraction. Twenty-one parents with hospitalized newborns, physicians, and nurses were sought and chosen for in-depth assessments in the city of Isfahan. The text analysis reveals that parents used various stress management techniques. The main topics were spirituality, seeking information, finding hope, maintaining calm, bonding with newborns, and engaging with medical personnel. This study's findings highlight the importance of the medical team's attention to concerned parents who are attempting to adjust or adapt to their infant's hospitalization. Improving physician-nurse communication in Iran appears to involve a modified treatment plan to address the emotional needs of newborn parents [39]. This study aimed to find empirical studies that looked at NICU newborn health intensity and newborn, parental, or family psychosocial outcomes.

Families of newborns admitted to the NICU, regardless of gestation, reported more psychological distress than parents of full-term newborns. Depression, anxiety, sleep difficulties, bereavement, and loneliness were among the psychological and emotional issues that parents of neonates in the NICU faced. Constant sobbing, stress, embarrassment, anxiety, depressive symptoms, and a sense of incapacity to care for their kid plagued parents of NICU babies. Parents of newborns admitted to the NICU also expressed stress and anxiety, depressive symptoms, and sleep difficulties as a result of their baby's separation. As a result, parents of newborns in the NICU were shocked, despondent, and out of their minds. In addition, parents reported feelings of lack of control, dread, and interpersonal disruption. The current study looked at how research measures baby health severity as well as relevant data on the association between infant health severity and psychosocial outcomes. Previous research revealed three recurring themes: 1) hospitalization stress, 2) changes in parental obligations, and 3) the emotional and physiological effects of infant hospitalization. Due to the exposure to various stressors such as the infant's health, changes in parental duties, and the NICU atmosphere and personnel, having a newborn in the NICU can be frustrating for parents. It also has an effect on the parental role in terms of negative psychological concerns and the disruption of the development of a healthy parent-child relationship. Our review will be useful to future researchers conducting qualitative research reviews. Topic analysis was used to analyze the papers, emphasizing the importance of content analysis in future reviews.

CONCLUSION

Parents of newborns admitted to the NICU are susceptible to suffering from detrimental psychosocial impacts. Further quality improvement studies are highly recommended in this regard aiming for better understanding and optimization of psychosocial experience for those kind of parents.

AUTHOR CONTRIBUTIONS

H.A.: Conceptualization; data curation; formal analysis; investigation; methodology; project administration; resources; supervision; validation; writing—original draft; writing—review and editing. All authors have read and agreed to the published version of the manuscript.

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REFERENCES

1. Grunberg V, Geller P, Bonacquisti A, et al. NICU infant health severity and family outcomes: a systematic review of assessments and findings in psychosocial research. J Perinatol 2019;39(2):156-72.
2. Glass H, Costarino A, Stayer S, et al. Outcomes for extremely premature infants. Anesth Analg 2015;120(6):1337-51.
3. Serenius F, Ewald U, Farooqi A, et al. Neurodevelopmental Outcomes Among Extremely Preterm Infants 6.5 Years After Active Perinatal Care in Sweden. JAMA Pediatr 2016;170(10):954-63.
4. Feeley N, Gottlieb L, Zelkowitz P. Mothers and fathers of very-low-birth-weight infants: similarities and differences in the first year after birth. J Obstet Gynecol Neon Nurs 2007;36(6):558-67.
5. Callery P. Mothers of infants in neonatal nurseries had challenges in establishing feelings of being a good mother. Evid Based Nurs 2005;5(1):91-2.
6. Cleveland L. Parenting in the newborn intensive care unit. J Obstet Gynecol Neonatal Nurs 2008;37(6):666-91.
7. Obeidat H, Bond E, Callister L. The parental experience of having an infant in the newborn intensive care unit. J Perinat Educ 2009;18(3):23-9.
8. Lundqvist P, Jakobsson L. Swedish men’s experiences of becoming the father to their preterm infants. Neonatal Netw 2003;22(6):25-31.
9. Arockiasamy V, Holsti L, Albersheim S. Fathers' experiences in the neonatal intensive care unit: a search for control. Pediatrics 2008;121(2):e215-22.
10. Johnson B, Abraham M, Conway J, et al. Partnering with Patients and Families to Design a Patient- and Family-Centered Health Care System: Recommendations and Promising Practices. Bethesda, MD: Institute for family-centred Care; 2008. Available from: ipfcc.org/resources/PartneringwithPatientsandFamilies.pdf

11. Miles M, Carlson J, Funk S. Sources of support reported by mothers and fathers of infants hospitalised in a neonatal intensive care unit. Neonatal Netw 1996;22(6):25-31.
12. Clarke N, McCarthy M, Downie P, et al. Gender differences in the psychosocial experience of parents of children with cancer: a review of the literature. Psychoonco 2009;18(2):907-15.
13. McGrath P. Findings on the impact of treatment for childhood acute lymphoblastic leukemia on family relationships. Child Fam Soc Work 2001;6(1):229-37.
14. Pelchat D, Lefebvre H, Perreault M. Differences and similarities between mothers' and fathers' experiences of parenting a child with a disability. J Chil Hea Care 2003;7(4):231-47.
15. Silva F, Jacob E, Nascimento L. Impact of childhood cancer on parents' relationships: an integrative review. J Nurs Scholarsh 2010;42(3):250-61.
16. Harrison T. Family-centered pediatric nursing care: state of the science. J Pediatr Nurs 2010;25(5):335-43.
17. Försäkringskassan. Tillfällig föräldrapenning. 2016. Available from: https://forsakringskassan.se/english
18. Maguire CM, Bruil J, Wit J M, et al. Reading preterm infants' behavioral cues: an intervention study with parents of premature infants born <32 weeks. Early Hum Dev 2007;83(7):419-24.
19. Wigert H, Johansson R, Berg M, et al. Mothers' experiences of having their newborn child in a neonatal intensive care unit. Scand J Caring Sci 2006;20(1):35-41.
20. Hallin A, Bengtsson H, Frostell A, et al. The effect of extremely preterm birth on attachment organisation in late adolescence. Child Car Hea Dev 2012;38(2):196-203.
21. Singer LT, Fulton S, Kirchner H L, et al. Parenting very low birth weight children at school age: maternal stress and coping. J Pediatr 2007;151(5):463-9.
22. Cho J, Holditch-Davis D, Miles S. Effects of maternal depressive symptoms and infant gender on the interactions between mothers and their medically at-risk infants. J Obstet Gynec Neona Nurs 2008;37(1):58-70.
23. Feeley N, Zelkowitz P, Cormier C, et al. Posttraumatic stress among mothers of very low birth weight infants at 6 months after discharge from the neonatal intensive care unit. Appl Nurs Res 2011;24(2):114-7.
24. Huhtala M, Korja R, Lehtonen L, et al. Parental psychological well-being and behavioral outcome of very low birth weight infants at 3 years. Pediatrics 2012;129(4):e937-44.
25. Mackley A, Locke R, Speak M, et al. Forgotten parent: NICU paternal emotional response. Adv Neonatal Car 2010;10(4):200-3.
26. Segre L, McCabe J, Chuffo-Siewert R, et al. Depression and anxiety symptoms in mothers of newborns hospitalised on the Neonatal Intensive Care Unit. Nurs Res 2014;63(5):320-32.
27. Melnyk BM, Feinstein N F, Alpert-Gillis L, et al. Reducing premature infants' length of stay and improving parents' mental health outcomes with the Creating Opportunities for Parent Empowerment (COPE) neonatal intensive care unit program: a randomized, controlled trial. Pediatrics 2006;118(5):e1414-27.
28. Segre L, Stasik S, O'Hara M, et al. Listening visits: an evaluation of the effectiveness and acceptability of a home-based depression treatment. Psychother Res 2010;20(6):712-21.
29. Shaw RJ, St John N, Lilo E A, et al. Prevention of traumatic stress in mothers of preterm infants: a randomised controlled trial. Pediatrics 2013;132(4):1-9.
30. Singer L, Salvator A, Guo S, et al. Maternal psychological distress and parenting stress after the birth of a very-low-birth-weight infant. JAMA 1999;281(9):799-805.
31. Parker L. Mothers' experience of receiving counseling/ psychotherapy on a neonatal intensive care unit (NICU). J Neonatal Nurs 2011;179(1):182-9.
32. Davis L, Edwards H, Mohay H, et al. The impact of very premature birth on the psychological health of mothers. Early Hum Dev 2003;73(1-2):61-70.
33. Heerman J, Wilson M, Wilhelm P. Mothers in the NICU: outsider to partner. Pediatr Nurs 2005;31(3):176-81.
34. Stephens B, Vohr B. Neurodevelopmental outcome of the premature infant. Pediatr Clin 2009;56(1):631-46.
35. Stephens B, Bann C, Poole W, et al. Neurodevelopmental impairment: predictors of its impact on the families of extremely low birth weight infants at 18 months. Infant Ment Health J 2008;29(1):570-87.
36. Treyvaud K, Inder T, Lee K, et al. Can the home environment promote resilience for children born very preterm in the context of social and medical risk? J Exp Child Psychol 2012;112(1):326-37.
37. Bry A, Wigert H. Psychosocial support for parents of extremely preterm infants in neonatal intensive care: a qualitative interview study. BMC psycho 2019;7(1):1-12.
38. Abdeyazdan Z, Shahkolahi Z, Mehrabi T, et al. A family support intervention to reduce stress among parents of preterm infants in neonatal intensive care unit. Iran J Nurs Midwifery Res 2014;19(4):349-53.
39. Heidari H, Hasanpour M, Fooladi M. Stress Management among Parents of Neonates Hospitalised in NICU: A Qualitative Study. J Caring Sci 2017;6(1):29-38.