



Advancements in Family-Centered Care Approaches in Neonatal Nursing: Review of Contemporary Practices Impacts on Care Quality in Neonatal Intensive Care Units

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Abstract

Background: The evolution of neonatal nursing care in intensive care units (NICUs) emphasizes the critical role of family involvement in the caregiving process. The Newborn Individualized Developmental Care and Assessment Program (NIDCAP) promotes a tailored approach to care, addressing the developmental needs of neonates while recognizing the family as integral caregivers.

Methods: This systematic review analyzed literature published between 2013 and 2023 across five databases: PubMed, Cochrane, CINAHL, Scopus, and Google Scholar. The search focused on empirical studies that examined the perspectives of healthcare professionals regarding family engagement in NICUs. Data synthesis involved rigorous methodological frameworks to mitigate bias and enhance the reliability of findings.

Results: The analysis encompassed 13 studies, revealing that the nursing workforce in NICUs is predominantly female, with a significant representation of younger professionals advocating for family-centered care (FCC). Key findings indicated that parental involvement not only enhances the quality of care but also fosters a collaborative environment between nurses and families. Training programs emphasizing FCC principles were associated with improved caregiver confidence and satisfaction among healthcare professionals.

Conclusion: The transition to a family-centered care model in NICUs represents a paradigm shift in neonatal nursing practice. It emphasizes the necessity of integrating families into the caregiving process,

promoting better outcomes for both infants and their families. Future interventions should focus on enhancing training and support for healthcare providers to effectively implement FCC principles, thereby improving the overall quality of neonatal care.

Keywords: Neonatal nursing, family-centered care, NIDCAP, healthcare professionals, NICU.

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1. Introduction

The function of nursing in the management of neonates in neonatal intensive care units has progressed over time. This atmosphere adversely affects the development of infants. Consequently, it is crucial to mitigate stressors to promote proper cerebral development in the neonate. The Infant Individualized Developmental Treatment and Assessment Program (NIDCAP) seeks to tailor treatment by thoroughly watching and evaluating the developmental status and stress-coping abilities of the infant before, during, and after each operation. We are now achieving a more humanized approach to help by integrating the family as a crucial component in the care of the baby, therefore designating them as primary caregivers from birth [1-3]. Historically, the management of inpatient care necessitated the segregation of the infant from the family.

The limited attendance of parents throughout the anticipated visitation period was seen by healthcare specialists as a potential danger factor for the health of the ill infant [4-6]. A concern that excluded parents from the fundamental and specialized care offered in NICUs for their infants was the perception of the family as a stressor rather than as an integral component of care provision. The kid and their family are seen as an inseparable unit, receiving treatment since the ill child is part of a family with distinct rules and standards [7].

For the multidisciplinary team, particularly nursing professionals, including the family as an essential component of care inside NICUs necessitates a paradigm shift to position the family as primary caregivers. Consequently, the function of nursing has transitioned from primarily serving as the principal caretakers of neonates in NICUs to now acting as collaborating personnel and facilitators of parental empowerment [2,8]. This entails the cultivation of new information, skills, and competencies for healthcare practitioners, which formerly had less significance.

The family-centered care (FCC) approach used in several NICUs emphasizes the significance of the neonate-family dyad as an inseparable unit requiring care [6,9,10]. Implementing this new model of care requires equipping the multidisciplinary team serving these units with current information, tools, and training resources to provide excellent care grounded in safety and to foster a trusting connection between healthcare workers and families.

Included in these new abilities are methods for facilitating effective communication, so ensuring proper health education. This equips parents with essential tools to fulfill their responsibilities as primary caregivers [1,4,7,8]. This condition needs specialized pediatric nursing care to provide excellent healthcare. Consequently, it is essential to provide ways for managing the stress associated with working in a NICU unit. Multidisciplinary workplaces are essential, allowing health staff and families to share their perspectives and feel valued within the environment. NICU nurses highly appreciate training in the FCC model as it serves as a framework for identifying behavioral aspects, hence facilitating the assessment and planning of treatment based on observed behaviors [3,11].

The shift to Family-Centered Care (FCC) in high-stress settings like Neonatal Intensive Care Units (NICUs) enhances and promotes parental engagement in their child's care. It enhances communication between the family and healthcare professionals, mitigates stress and disputes, and promotes the family's empowerment as a caregiver. This inquiry facilitates a harmonic equilibrium between technic and humanization [12-16].

This review aims to illuminate the nursing viewpoint inside NICUs about the healthcare delivered to the neonate-family dyad, which presents challenges both professionally and infrastructurally in these

specialized units. It examines the foundational and specialized training levels that both novice and experienced nurses possess for skill development. The nursing ability to operate effectively is recognized in a highly structured atmosphere, but where compassionate care is much esteemed, rendering it essential.

2. Methods

A systematic study doing a comprehensive search across five databases (PubMed, Cochrane, CINAHL, Scopus, and Google Scholar) for publications published between 2013 and 2023. The study findings were synthesized using procedures that mitigate bias and random error. The tactics included the systematic categorization of all possibly relevant publications and the delineation of the methodological framework. The analysis and extraction of information from the papers, along with the presentation and interpretation of the findings, were also covered.

3. Health Professionals' View on Parental Engagement

Upon analyzing the gender variable, the chosen articles yielded substantial data, resulting in a total sample of $n = 2362$ professionals. Among them, $n = 2197$ (93.01%) were female, while $n = 165$ (6.99%) were male. The aforementioned individuals were associated with the NICU since they were both neonatology specialists and hospital directors [17,18]. Consequently, it may be said that the nursing profession is mostly female due to its historic and cultural association with caregiving. Within these units, the female presence is much greater than the male presence [18].

Conversely, the age variable yields pertinent information, as studies conducted in countries such as Ireland, Spain, Sweden, Iran, Finland, and the USA indicate that the average age of health professionals is approximately 30–40 years [14-18,20-22]. This circumstance significantly motivates parents to be near their infant. The chosen studies indicate that Spain, Finland, and Ireland possess a younger nursing demographic, with an average age of 30 years ($n = 259$) [14-17,21]. Conversely, Iran and the USA exhibit a mean age of 40 years ($n = 43$), whilst Sweden has the oldest nursing cohort, aged 40–50 years ($n = 372$) out of a total of $n = 674$ nurses [18,20,22]. Research indicates that the youngest professionals, although prioritizing the family as a unit of care and demonstrating respect for familial wishes, exhibit a predominant emphasis on technology, relegating familial attention to a secondary position. Conversely, middle-aged employees foster interpersonal interactions, a factor that enhances familial capabilities in the caregiving process. The highest organizational level focused on management is evident in research with bigger samples, as services are coordinated, and conducive settings are established within the unit. Decision-making is collaboratively coordinated among the multidisciplinary team, including the family.

The youngest (38.42%) and middle-aged (6.37%) healthcare workers included in the trials indicate that cultural differences or language barriers are mitigated by nurse-family engagement in the NICU. This occurs when parents monitor the newborn's development via their involvement in caregiving. Support groups for parents are also advocated, addressing comparable conditions related to pathologies and vital care for the upbringing of their children post-hospital discharge [15,18,21].

The data from quantitative research [18,19] is significant since it reveals that parental involvement in the NICU is essential for the acquisition of infant caregiving abilities. For participation to take place, NICU nurses must remain current in care centered on the neonate-family dyad [19]. Research done in Finland indicates that well-trained nurses ($n = 22$ NICU nurses N-III) promote the development of a family-centered culture of care [21]. From the perspective of these experts, parental involvement in the NICU enhances care quality, fosters better confidence in their professional roles, and leads to increased job satisfaction.

The qualitative research conducted by Toivonen [21], including 51 professionals (32 nurses and 19 medical managers), demonstrates that parental involvement in the NICU enables them to provide essential care that enhances the comfort of the infant. This characteristic enables them to sense the comfort of their infant, hence reducing the stress levels associated with hospitalization [23-25]. Parental engagement alters the nursing position by fostering a collaborative culture between parents and nursing personnel in the NICU. The nursing position transitions from active caretaker to support facilitator for the newborn's parents, as shown by the research conducted in Finland [21].

The insights from qualitative research done in Iran in 2020 merit consideration [26]. This study underscores the need for the education and training of nursing personnel (n = 25) to implement Family-Centered Care (FCC). They advocate for training to provide care with the mother present, using the kangaroo technique. At present, healthcare professionals (n = 40 nurses and neonatologists) are required to provide teaching, training, and education to parents from diverse cultural backgrounds, beliefs, and socio-cultural strata, while performing their caregiving responsibilities.

It is noteworthy to emphasize another qualitative research done in Iran in 2019 [18], (n = 120 nurses) which cautions that family engagement is not a novel notion in infant care, despite its optimum implementation in many nations [18,19]. Nonetheless, the research conducted in Iran [18] indicates that modifications to the health policies of the institution would be essential if a hospital lacks sufficient resources to foster a family-centered care culture. This may result in augmented financing for enhanced personnel, NICU refurbishment, continuous staff training, and parental accommodations.

4. Training, Requirements, and Experience in NICU Nursing

Nine out of the 13 chosen studies (69.23%) indicate nursing experience or specialty in the NICU, with a total sample of 1,346 nurses. Studies have shown that nurses need training to educate parents on the optimal methods for caring for their babies. Care quality increases when provided by nurses with more expertise and superior training. The analyzed study suggests that n = 342 nurses possess job experience ranging from 0 to 5 years. Of the nurses, n = 812 had 5–15 years of experience, while n = 192 have served in the NICU for over 15 years [15-17,20].

Consequently, the nursing cohort with an average tenure of 5–15 years (14.26%) demonstrates that experience correlates with enhanced training, leading to superior quality in patient care and neonatal interventions, while acknowledging that novice nurses and those with limited experience in the NICU also receive training in Family-Centered Care (FCC) [15,16]. This scenario underscores the need to update knowledge via an FCC strategy, which should be obligatory within specialized services, including the full multidisciplinary team, including psychologists [17,20].

A 2017 study conducted in Sweden with a sample size of 443 professionals elucidated that, within the medical field, this involvement became more significant when the Family-Centered Care (FCC) culture was implemented in the Neonatal Intensive Care Unit (NICU) [18]. Consequently, this research indicates that doctors (n = 71) should also participate in FCC training sessions with nurses (n = 372). Conversely, an investigation demonstrates that the most seasoned nursing staff deliver care to the newborn from the moment of NICU admission, emphasizing the neonate-family relationship, whereas less experienced personnel prioritize their immediate focus on the newborn, despite possessing requisite training in Family-Centered Care (FCC) [19].

5. Humanization of Care in the NICU: Enhancement of the Nurse-Family Relationship

Among the 13 papers chosen for this systematic review, there are notable studies centered on the humanization of care in the NICU. In the United States, research conducted by Coasts [20] and Gilstrap [22] indicates that a minimum of 24 nurses is necessary to foster a favorable rapport with parents, hence enhancing the personnel-family interaction inside NICUs. This relational style fosters a pleasant environment between the nursing staff and the parents. Consequently, one study [22] elucidates that maintaining a consistent staff allocated to the care of the baby for a minimum duration of six months is crucial for fostering this bond with the parents. In the research, out of 14 nurses, 10 (71.42%) worked day shifts, 2 (14.28%) worked night shifts, and 2 (14.28%) worked both shifts. Unnecessary rotations might impede the establishment of confidence between the nursing personnel and the family. This is crucial for initiating and sustaining a constructive nurse-family connection. The change of shifts (morning, afternoon, and night) might undermine a previously established rapport between the nursing staff and the family.

Qualitative research involving 22 nurses indicates that humanized care is improved when parents are allowed to spend more time in the NICUs [21]. This matter promotes more engagement in fundamental care and a closer, more efficient rapport with the nursing personnel. This connection between nursing and family

enables the articulation of the distress and apprehension experienced by each member of the familial unit [18,21]. Research conducted in Sweden [18] using a sample of $n = 443$ health professionals, of which $n = 372$ (83.97%) were nurses, indicates that more experience among health professionals in these units correlates with enhanced familial relationships. Conversely, the research conducted in Finland [21] reveals that more experienced nurses foster a deeper understanding with families, creating a congenial and trusting environment inside the NICUs. This facilitates effective contact with parents, even during their children's admission to intensive care [21]. This circumstance fosters positive reinforcement between personnel and family members [18,21].

A 2018 study done in the USA with a sample size of 10 nurses indicates that the FCC model facilitates open and inclusive communication between nursing staff and families. The family progressively diminishes their worry about the newborn's delicacy. This enables parents to get immediate updates on their child's health condition. This alleviates their despair and personalizes treatment inside the unit [20]. Nursing must actively participate in health policies that support family presence in NICUs. The FCC encourages parental involvement in the care of their newborns. A qualitative study conducted in Finland in 2019 with a sample size of $n = 32$ nurses included the family in performing fundamental activities related to newborn care since parents would undertake such responsibilities at home after hospital discharge [21].

Nonetheless, not all nursing staff ($n = 42$ nurses) exhibit motivation to do their duties in the presence of family members inside the NICU. At times, parental inquiries persist, hindering the execution of procedures among the personnel, particularly when it is essential to provide emergency treatment in a critical scenario [20]. The impact of the environment on these units must be considered. The stress experienced by nurses and family members underscores the significance of the communication strategies employed by these professionals. Additionally, factors such as the number of newborns requiring care, their gestational age, and the quantity and experience levels of nurses in the unit will also exert an influence [22,23].

Consequently, regarding the humanization of care in NICUs, several studies indicate the need to create private places for parents to be alone with their infants [22,25]. This entails modifying the units to facilitate information exchange among specialists, who are, in turn, equipped with technology that enables ongoing observation and monitoring of the baby as a safety measure. This promotes the familial seclusion essential for establishing the parental position [23].

A survey conducted in Ireland in 2013 gathered the opinions of 250 nurses from seven hospitals. They deemed financial assistance to families crucial for the implementation of humanized infant care. The costs associated with newborn care, including transport to the hospital, personal cleanliness, and maintenance throughout the child's admission, may impose a significant economic burden on families that is hard to bear [14].

The 53 nurses from four NICUs, possessing 10–11 years of care experience, who participated in the 2017 study conducted in Turkey, indicated that the initial area requiring institutional intervention for the implementation of the FCC model is personnel, who must receive training and motivation to enhance their professional practice within these units. The workload of professionals within the unit concerning infant care will not hinder progress; rather, it will catalyze transforming professional roles across the various levels within the units. An enhanced method is particularly esteemed among nurses (averaging 32 years of age) who possess their own families and offspring [19].

6. Discussion

This systematic study aimed to analyze the viewpoints of healthcare professionals in NICUs on their role in facilitating family empowerment. Thirteen research were chosen that fulfilled the inclusion criteria, performed between 2013 and 2023. They used a variety of approaches, both quantitative and qualitative. The findings pertained to the viewpoints of professionals on care management, the need for more specialized training in units such as NICUs, and the importance of fostering more compassionate interactions between professionals and families.

Regarding the gender variable, the results indicated that the representation of females in the nursing profession significantly exceeds that of men. Some research indicates that the female nurse archetype embodies themes such as engagement and bargaining to augment family empowerment [4,6]. Nursing encompasses the family's needs by integrating them into the care plan and identifying their need [25].

The age variable indicated that the predominant group has the most extensive expertise in difficult facilities, such as the NICU. This cohort of nurses is aged between 40 and 50 years. The findings indicate that these years of caregiving are essential for educating parents as main caregivers [26,27]. Interestingly, the most recent cohort of nurses has the highest level of university education, which promotes family involvement; nevertheless, because of their lack of substantial job experience, they tend to concentrate more on providing technical care to newborns [15-17,20].

In recent decades, a training process has been prioritized for university graduates, emphasizing proficiency in the scientific method and a multidisciplinary approach, facilitating enhanced comprehension, interpretation, and resolution of issues pertinent to their healthcare practice [23]. Another research [26] argued that continuous training and systematic updates for experts in specialized divisions enhance work effectiveness. This promotes professional enhancement via a framework of organizational structures that facilitate the research and transmission of social, scientific, and technical advancements that improve healthcare [23].

In recent decades, there has been a concerted effort to enhance nursing, acknowledged by the World Health Organization (WHO), which imparts a strategic dimension to its initiatives. This situation facilitated the development of postgraduate nursing programs in several nations [30]. In Spain, pediatric nursing specialization is available via the internal resident nurse (EIR) system. In these trials, nurses had specialized training for family participation in newborn care [20,26].

The process by which nursing determines specialization is closely aligned with Benner's theoretical model, whereby a healthcare worker progresses through stages until achieving expertise in a certain domain [28-30]. This theory delineates the progression of nursing via many phases culminating in expert proficiency: beginner, advanced beginner, competent nurse, efficient nurse, and expert nurse [31]. The expert nurse effectively addresses crucial circumstances, endeavors to enhance care, and advocates for modifications in everyday routines, resulting in patient and family satisfaction [30-32]. The nurse plays a crucial role in family formation, serving as an essential pillar for the care of the infant [15-17]. Consequently, parents assume a central role in the caregiving process, facilitating much more engaging experiences [26,30,32]. This concept posits that the nursing staff in NICUs should possess an integrated perspective that amalgamates scientific, technical, human, and emotional dimensions, continuously evolving toward excellence in care [31,30].

Presently, there are several requests from parents in Spain for an extension of hours in the NICU. In 2013, an agreement was established between the Ministry of Health and the Autonomous Communities (CCAA) to facilitate the operation of NICUs 24 hours a day, however, this condition is not entirely fulfilled in Spanish hospitals [33]. Despite the existing dispute among professionals, the analyzed research indicates that healthcare practitioners consider it appropriate to assist families, while also expressing a reluctance to include them in treatment [18-20]. Nevertheless, several research confirmed that professionals see parental presence as advantageous and appropriate for both the neonate-family dyad and the nursing staff, alleviating their stress levels [21-23]. Nonetheless, the shift towards open-door NICUs facilitates a transition in the humanization of treatment [34]. To provide proper care for the infant and family throughout hospitalization, a strong nurse-patient connection and a sufficient number of nurses across all shifts (morning, afternoon, and night) are essential. This further improves the continuity of service by the same practitioner, hence preventing needless shift rotations. These services provide the delivery of thorough and ongoing care to the severely unwell neonate [24,35,36]. Consequently, nursing in the NICU must foster a new paradigm that integrates holistic and comprehensive care to address the requirements of both the infant and the family during one of the most essential periods after delivery [28,33,37,38].

7. Conclusions

Progress in hospital care has established a new paradigm whereby parental participation and continuous presence throughout medical and nursing procedures are seen as advantageous for both the family and the infant. This condition necessitates the creation of different rooms, each furnished with a bed, to provide the family with rest. A communal space for families is also advocated, fostering relationships among various families. Furthermore, this area is often furnished for dining purposes. Consequently, for these families, the duration of the hospital stay may be sustained over time owing to the financial savings these procedures provide.

Nonetheless, a comprehensive framework for implementing this new working model, which formalizes parental involvement around the clock, remains absent. Additional training is essential for both healthcare staff and the family. Health policies, including those for health managers, must include enhancements related to spatial arrangements and skilled individuals inside these units. Furthermore, the establishment of an intermediate command available 24 hours a day is essential to synchronize the healthcare staff with a cohesive approach that streamlines the treatment of a newborn in severe condition.

Consequently, it is confirmed that the patient and their family are acknowledged as the primary focus of care. Nurses, physicians, and other healthcare personnel must actively engage in humanized care. Furthermore, the patient and their family should be included in the decision-making process and may also deliberate on the daily care plan and anticipated outcomes. This problem improves family involvement in the continuity of care when administered by the same experts throughout their respective shifts in the NICUs. These specialists are aware of the wishes of both the infant and the family for increased participation in care. Consequently, family-centered care for the baby is rendered safer, more efficient, effective, and timely.

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التطورات في نهج الرعاية المرتكزة على الأسرة في التمريض حديثي الولادة: مراجعة للممارسات المعاصرة وتأثيرها على جودة الرعاية في وحدات العناية المركزة لحديثي الولادة

الملخص

الخلفية: يشدد تطور رعاية التمريض في وحدات العناية المركزة لحديثي الولادة (NICUs) على الدور الحاسم لمشاركة الأسرة في عملية الرعاية. يروج برنامج التقييم والرعاية التنموية الفردية للمولود الجديد (NIDCAP) لنهج رعاية مخصص يلبي الاحتياجات التنموية لحديثي الولادة مع الاعتراف بدور الأسرة كجزء لا يتجزأ من فريق الرعاية.

الطرق: تم تحليل الأدبيات المنشورة بين عامي 2013 و 2023 من خمس قواعد بيانات PubMed، Scopus، CINAHL، Cochrane، و Google Scholar. ركز البحث على الدراسات التجريبية التي فحصت وجهات نظر المتخصصين في الرعاية الصحية حول مشاركة الأسرة في وحدات العناية المركزة لحديثي الولادة. شملت عملية تحليل البيانات استخدام أطر منهجية صارمة لتقليل التحيز وتعزيز موثوقية النتائج.

النتائج: شمل التحليل 13 دراسة، وكشفت النتائج أن القوى العاملة التمريضية في وحدات العناية المركزة لحديثي الولادة تتألف في الغالب من الإناث، مع تمثيل كبير للمهنيين الشباب الذين يدعمون رعاية الأسرة المركزة (FCC). أظهرت النتائج أن مشاركة الأهل تعزز جودة الرعاية وتخلق بيئة تعاونية بين الممرضات والأسر. ارتبطت برامج التدريب التي تركز على مبادئ رعاية الأسرة المركزة بتحسين الثقة والرضا بين مقدمي الرعاية الصحية.

الاستنتاج: يمثل التحول إلى نموذج الرعاية المرتكزة على الأسرة في وحدات العناية المركزة لحديثي الولادة تغييرًا نوعيًا في ممارسات التمريض حديثي الولادة. يشدد هذا النموذج على ضرورة دمج الأسر في عملية الرعاية، مما يعزز النتائج لكل من الرضع وأسرهم. ينبغي أن تركز التدخلات المستقبلية على تعزيز التدريب والدعم لمقدمي الرعاية الصحية لتنفيذ مبادئ رعاية الأسرة المركزة بفعالية، مما يحسن جودة الرعاية العامة في وحدات العناية المركزة لحديثي الولادة.

الكلمات المفتاحية: تمريض حديثي الولادة، رعاية الأسرة المركزة، NIDCAP، المتخصصون في الرعاية الصحية، وحدات العناية المركزة لحديثي الولادة.