

The role of nursing in neonatology: specialized care for newborns

O papel da enfermagem na neonatologia: cuidados especializados ao recém-nascido

El papel de la enfermería en neonatología: cuidado especializado para los recién nacidos

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The article addresses an essential topic for developing countries, such as nursing care for newborns. The discussion presented contributes to the future formulation of public policies, as well as offering a synthesis of the state of the art in cutting-edge literature with a proposed research agenda for future contributions in the field of study.

Originality/value:

The article critically discusses the literature, and its originality consists in making a discussion to compare the state of the art and evolution of related studies. The nursing profession is in high demand worldwide for its relevant role in healthcare systems and this article has value in promoting this need for increasingly specialized and well-valued nurses in the labor market.

ABSTRACT

Introduction: In the field of neonatology, nursing plays a crucial role in providing specialized care and comprehensive support to newborns and their families. This research focuses on a detailed exploration of the nursing role in neonatology and its significance in newborn care, given its impact on child health. **Objective:** To comprehensively analyze the role of nursing in neonatology, identifying its key contributions to newborn care and its impact on neonatal health outcomes. **Methodology:** The PRISMA methodology is employed to conduct a systematic review of relevant studies on neonatal nursing. This involves defining inclusion and exclusion criteria, searching for studies in academic databases, selecting relevant studies, extracting key data, assessing methodological quality, and conducting qualitative analysis. **Results:** The review of articles highlights the critical role of neonatal nursing in newborn care. Their competence in critical situations is emphasized, where their dedication and skills are essential for stabilizing and promoting the well-being of neonates in delicate conditions. **Conclusions:** The comprehensive analysis of studies underscores the crucial function of neonatal nursing in newborn care. Neonatal nursing professionals are indispensable in critical situations, where their competence and dedication are crucial for the stabilization and well-being of neonates.

Keywords: Neonatology; neonatal nursing; newborn care; child health; systematic review.

RESUMO

Introdução: Na área da neonatologia, a enfermagem desempenha um papel crucial na prestação de cuidados especializados e de apoio integral ao recém-nascido e à sua família. Esta investigação centra-se em explorar detalhadamente o papel da enfermagem em neonatologia e a sua importância no cuidado ao recém-nascido, dado o seu impacto na saúde infantil. **Objetivo:** Analisar de forma abrangente o papel da enfermagem em neonatologia, identificando suas principais contribuições para o cuidado ao recém-nascido e seu impacto nos resultados de saúde neonatal. **Metodologia:** A metodologia PRISMA é utilizada para realizar uma revisão sistemática de estudos relevantes sobre enfermagem neonatal. Isso envolve definir critérios de inclusão e exclusão, pesquisar estudos em bancos de dados acadêmicos, selecionar estudos relevantes, extrair dados importantes, avaliar a qualidade metodológica e realizar análises qualitativas. **Resultados:** A revisão dos artigos destaca o papel crítico da enfermagem neonatal no cuidado ao recém-nascido. Destaca-se a sua competência em situações críticas, onde a sua dedicação e competências são essenciais para estabilizar e promover o bem-estar dos neonatos em condições delicadas. **Conclusões:** A análise abrangente dos estudos destaca o papel crucial da enfermagem neonatal no cuidado ao recém-nascido. Os profissionais de enfermagem neonatal são essenciais em situações críticas, onde a sua competência e dedicação são decisivas para a estabilização e bem-estar dos neonatos.

Palavras-chave: Neonatologia; enfermagem neonatal; cuidados neonatais, saúde infantil, revisão sistemática.

RESUMEN

Introducción: En el ámbito de la neonatología, la enfermería desempeña un papel crucial al brindar atención especializada y apoyo integral a los recién nacidos y sus familias. Esta investigación se enfoca en explorar detalladamente el papel de la enfermería en neonatología y su importancia en la atención de los recién nacidos, dado su impacto en la salud infantil. **Objetivo:** Analizar de manera exhaustiva el papel de la enfermería en neonatología, identificando sus contribuciones clave a la atención de recién nacidos y su impacto en los resultados de salud neonatal. **Metodología:** La metodología PRISMA se emplea para realizar una revisión sistemática de estudios relevantes sobre enfermería neonatal. Esto implica definir criterios de inclusión y exclusión, buscar estudios en bases de datos académicas, seleccionar estudios pertinentes, extraer datos clave, evaluar la calidad metodológica y realizar un análisis cualitativo. **Resultados:** La revisión de los artículos resalta el papel crítico de la enfermería neonatal en la atención de recién nacidos. Se destaca su competencia en situaciones críticas, donde su dedicación y habilidades son esenciales para estabilizar y promover el bienestar de los neonatos en condiciones delicadas. **Conclusiones:** El análisis exhaustivo de los estudios resalta la función crucial de la enfermería neonatal en el cuidado de los recién nacidos. Los profesionales de enfermería neonatal son fundamentales en situaciones críticas, donde su competencia y dedicación son determinantes para la estabilización y el bienestar de los neonatos.

Palabras clave: Neonatología; enfermería neonatal; cuidado de recién nacidos, salud infantil, revisión sistemática.

INTRODUCTION

In the realm of medicine dedicated to the care of newborns, known as neonatology, there exists a field of study and attention of utmost importance in the health domain. Nursing, in this context, plays a fundamental role by providing specialized care and comprehensive support to neonates and their families. This article focuses on a detailed exploration of the crucial role that nursing plays in neonatology, emphasizing its relevance in newborn care and its significant implications for child health.

Furthermore, the research problem guiding this study focuses on the need to thoroughly understand the specific role nursing plays in neonatal care and its contribution to the well-being of newborns. Despite notable advances in neonatal medicine, challenges persist in the care of these patients, underscoring the importance of addressing in detail the contribution of nursing to improving neonatal health outcomes (Naylor et al., 2020).

The relevance of this research lies in the critical importance of neonatal care for the survival and healthy development of newborns. Nursing plays a multifaceted role in this domain, from monitoring vital signs to educating parents about home care. Therefore, understanding the breadth and depth of nursing work in neonatology becomes essential to ensure quality care and promote optimal outcomes for both neonates and their families (Ogboenyiya et al., 2020; Dames et al., 2016).

Moreover, this work is based on various theories and concepts related to neonatal nursing, including Dorothea Orem's self-care theory and Erik Erikson's theory of human development. Additionally, key analytical categories such as intensive care administration, effective communication with parents, and emotional support to families in stressful situations will be thoroughly explored.

On the other hand, previous research in the field of neonatal nursing has shed light on aspects such as the importance of nursing in the care of premature newborns, the management of neonatal intensive care, and the promotion of healthy feeding practices in neonates. However, this study aspires to contribute to the field by providing a comprehensive and updated view of the nursing role in neonatology, integrating previous findings and presenting new perspectives.

Similarly, this study is conducted in the context of a growing awareness of the importance of neonatal care, driven by medical advances, demographic changes, and increased attention to maternal and child health (Lake et al., 2018). Cultural and social aspects influencing neonatal care will be considered, recognizing the diversity of approaches in different regions and communities (O'Brien et al., 2018).

Furthermore, the main objective of this study is to comprehensively analyze the nursing role in neonatology, identifying its key contributions to newborn care and its impact on neonatal health outcomes. Additionally, it seeks to understand how nursing can actively promote parental involvement in the care of their neonatal children.

In line with the above, the hypothesis is established that a comprehensive approach to nursing in neonatology, including family-centered care, parental education, and emotional support, will significantly contribute to improving neonatal health outcomes. It is expected that a greater emphasis on parental involvement in newborn care and the implementation of evidence-based practices will promote healthier development and reduce complications in neonates, especially those requiring intensive care. This hypothesis is grounded in the growing understanding that an interdisciplinary and holistic approach to neonatal care can have a positive impact on the quality of life of neonates and their families.

METHODS

The research, adopting the systematic review methodology, adheres to the guidelines outlined by PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), implying a highly structured and rigorous approach to synthesizing existing scientific literature related to a specific research topic (Asar et al., 2016). The fundamental purpose of this methodology lies in conducting a thorough and transparent review of relevant studies available in the scientific literature. To achieve this purpose, a series of fundamental steps are followed, designed to ensure the integrity and quality of the review process (Moher et al., 1996).

Firstly, the precise formulation of the research question is proposed, and inclusion and exclusion criteria for studies are established. This initial step is crucial to determine which studies will be considered in the review and which will be discarded. Subsequently, a meticulous search of scientific literature is conducted across various academic databases and relevant sources, using detailed search strategies and specific terms related to the topic of interest.

The selection of studies constitutes a crucial step in the PRISMA methodology. A preliminary review of the titles and abstracts of identified studies is performed to discard those that clearly do not meet the established inclusion criteria. Then, a

comprehensive review of the full texts of studies that meet the inclusion criteria is carried out to determine their ultimate relevance to the review.

Once relevant studies are selected, data extraction follows. This involves the development of a standardized form that includes relevant information about the studies, such as methodological details, key results, and outcome measures. Data are systematically extracted from each study included in the review.

An important stage in the review process is the assessment of the quality and bias of the selected studies. Appropriate quality assessment tools are employed to evaluate the methodological robustness of the studies, and potential biases, such as selection, information, and publication bias, which could affect the validity of the results, are identified.

Data analysis and synthesis represent another essential aspect of the PRISMA methodology. A qualitative analysis of the included studies is conducted to summarize key conclusions and findings. When appropriate, a meta-analysis may be performed to combine the quantitative results of multiple studies and calculate aggregated effect estimates.

The presentation of results is done clearly and transparently, following the PRISMA structure. Tables, graphs, and diagrams are used to effectively summarize findings and facilitate understanding. Finally, the discussion and interpretation of results, along with evidence-based conclusions and recommendations, conclude the systematic review process. This methodical and rigorous approach ensures that the review is robust and reliable, effectively informing evidence-based decision-making in both academic and clinical settings.

Inclusion Criteria for Articles:

1. **Study Type:** Relevant studies examining the role of nursing in neonatal care will be included, such as controlled clinical trials, observational studies, systematic reviews, meta-analyses, and qualitative studies addressing pertinent aspects of neonatal care.
2. **Study Population:** Inclusion will be limited to studies focusing on newborns and neonates, especially those requiring special care due to prematurity, neonatal diseases, or other medical conditions.
3. **Nursing Intervention:** Studies investigating and describing specific nursing interventions in the neonatal context, such as vital signs monitoring, administration of intensive care, parental education on newborn care, and emotional support to families, will be included.
4. **Outcomes of Interest:** Criteria related to specific neonatal care outcomes will be established, such as improvements in the health and well-being of newborns, reduction of neonatal complications, active parental participation in care, and patient and family satisfaction with nursing services.
5. **Publication Date:** A relevant time frame of at least 5 years will be determined for the search, ensuring the inclusion of updated and pertinent research.
6. **Publication:** Articles must meet the requirement of being indexed in a journal or digital repository of a university or higher education institute, and they must have a DOI, ISSN, or ISBN.

Exclusion Criteria for Articles:

1. **Studies Outside the Period of Interest:** Studies outside the defined time range for the review will be excluded.
2. **Studies with Poor Methodological Design:** Studies with deficiencies in methodological design or significant biases compromising result validity will be excluded.
3. **Duplicate Studies:** Duplicates found in multiple databases or search sources will be eliminated.
4. **Inaccessible Studies:** Studies for which the full article or report cannot be accessed, hindering a comprehensive review of study details, will be removed.
5. **Studies Not Meeting Inclusion Criteria:** Studies not fully meeting the previously established inclusion criteria will be discarded.

Search Engines:

1. **Web of Science:** A platform including various databases like the Science Citation Index and Social Sciences Citation Index, valuable for identifying multidisciplinary research related to the topic.
2. **Scopus:** An interdisciplinary database covering a variety of scientific and health disciplines, similar to Web of Science.
3. **Google Scholar:** An online academic search tool useful for identifying scholarly studies and reviewing their availability online.

4. Digital Repositories: Specialized databases of national and international universities containing publications in the field of health at both undergraduate and postgraduate levels.
5. PubMed: A biomedical and health sciences database essential for finding articles related to neonatal care and nursing in neonatology.

Table 1. Search criteria

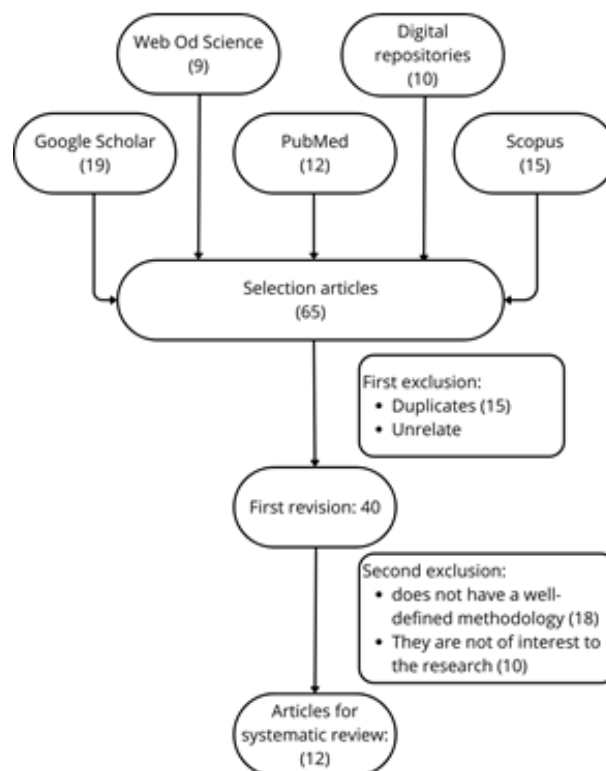
Criteria	Features
Terms related to the population	Neonates, newborns, neonatal care, neonatal intensive care unit.
Terms related to the intervention	Neonatal nursing, nursing care, nursing role in neonatology, specialized care, nursing care in newborns
Terms related to the outcomes	Improvement of neonatal health, reduction of neonatal complications, parental participation in neonatal care, patient and family satisfaction.
Boolean operators	"AND" is used to combine terms related to the population, intervention, and outcomes. For example, "Neonates AND Neonatal nursing AND Improvement of neonatal health".
Time filters	A time filter is added to limit the search to studies published in the last 5 years.
Language	Language restrictions are set, including terms like "Language: English" to limit the search to studies in English or the language of choice.
Study type	Includes terms to limit the search to specific study types, such as "Clinical trial" or "Observational study".
Exclusion of irrelevant studies	Exclusion terms are included to eliminate studies that are not relevant to your review, for example, "Exclude studies on general pediatrics".

Note: Own elaboration (2023)

Article Selection Criteria:

1. Relevance and Pertinence: Selected studies are directly relevant to the research question or the objectives of the review, ensuring that the evidence specifically addresses the topic of interest.
2. Methodological Quality: Preference is given to studies with a robust and rigorous methodology, as this ensures the reliability of the results and the validity of the conclusions.
3. Consistency and Coherence: Chosen studies exhibit consistency in terms of their findings and conclusions, avoiding the inclusion of research that produces contradictory results or is not aligned with the overall direction of the evidence.

Figure 1. Flowchart with the stages of the literature review



Source: own elaboration (2023)

Data extraction process

- Title of the article, year and author
- Population
- Study methodology
- Results
- Interpretation of the authors
- Categories

Table 2. Main data retrieved and analyzed

Title, year and author	Population	Methodology	Results	Authors' interpretation	Categories
De la Fuente (2021) "Role of the neonatal nursing professional in quality development and management."	93 participants	Descriptive - Quantitative	In a population of 93, the critical role played by the neonatal nursing professional in promoting and managing the quality of the emotional bond between mother and child in the neonatal context is highlighted. This contribution is essential for the emotional well-being and healthy development of newborns and their families, being a fundamental factor in the comprehensive care of this population.	Neonatal nursing plays a fundamental role in promoting and managing the quality of the emotional bond between mother and child in the context of neonatal care. Through their specialized care and emotional support, nursing professionals contribute significantly to the emotional well-being and healthy development of newborns and their families.	Neonatal nursing, newborn, quality management.
Lozano et al., (2017) "Importance of nursing care in care of the critical newborn."	20 participants	Descriptive - Observational	The importance of the competence and dedication of nursing professionals in the management of critical situations in newborns is highlighted, providing specialized care that positively impacts the quality of life and recovery prospects of these patients.	The transcendental contribution of nursing professionals in the stabilization, well-being and survival of neonates in critical situations is highlighted. Their dedication, expertise, and ability to make crucial decisions in real time are essential to improving health outcomes in this vulnerable population.	Critical unborn baby, neonatal nursing, specialized care.
Castro and Urbina (2017) "Neonatology nursing manual".	42 participants	Descriptive - Observational	With the active participation of 42 nurses, the relevance of this manual in the training, support and standardization of neonatal nursing practices is highlighted, allowing more effective, safe and focused care on the individual needs of neonates.	Neonatal nursing manuals play a key role in promoting better health outcomes for neonates and reinforce nursing's commitment to providing quality, patient-centered care in this critical environment. As neonatal care practices evolve, the continued updating and adaptation of these manuals is an essential investment in neonatal care excellence.	Neonatal nursing, nursing manual, neonatal care.
Tumbaco and Morales (2022) "Nursing role in the breastfeeding process in pre-term neonates."	90 participants	Qualitative – Non-experimental	The 90 participants highlight their contribution in supporting mothers, promoting breastfeeding and promoting the health of premature babies. Furthermore, nursing plays an essential role in providing education, advice and specialized care, resulting in a higher rate of successful breastfeeding and optimal well-being of premature neonates.	Nursing not only provides the necessary support to mothers to establish and maintain breastfeeding, but also plays a significant role in monitoring the growth and development of premature neonates, ensuring a healthy start in life. This multidisciplinary collaboration benefits both premature babies and their families, providing a strong foundation for their future well-being and development.	Neonatal nursing, pre-term, role of nursing, breastfeeding
Amaya et al., (2018) "Nursing care for the critically ill neonate."	65 participants	Descriptive - Documentary	In 100% of cases, nursing care for critically ill neonates has contributed significantly to improving survival rates in this vulnerable population. Additionally, specialized care and constant monitoring have allowed a growing number of critically ill neonates to overcome delicate medical conditions and thrive.	Advances in this field of neonatal nursing continue to drive more effective, patient-centered care, benefiting both critically ill neonates and their loved ones. This interdisciplinary and specialized approach is essential to ensure a healthy start in life for these babies and to address the medical complexities they face.	Neonatal nursing, critical neonate, specialized care.
Baquero (2021) "The role of the nurse in the care of a neonate with EB"	67 participants	Descriptive - Observational	The nurse plays a crucial and compassionate role in the care of neonates with Epidermolysis Bullosa. Her active participation in the prevention of skin lesions, pain management, parent education, and emotional support to the family is essential to improve the quality of life of these babies with EB and to promote a safe care environment, and understanding.	The nurse not only plays a fundamental role in the management of skin lesions and pain relief, but also provides emotional support to the family, contributing to the well-being of both the neonate and their loved ones. Nurse education and specialized training are essential pillars to empower parents and caregivers in the daily management of the disease.	Neonatal nursing, neonate with EB, specialized care.
Cuesta and Espinosa (2021) "Neonatal nursing: family-centered care."	27 participants	Descriptive - Observational	Family-centered care in neonatal nursing strengthens the bond between parents and the newborn, promoting an environment of emotional support and empowerment that significantly improves the well-being of the newborn and the satisfaction of the family in the neonatal care process.	Neonatal family nursing is an essential and effective approach that benefits both newborns and their families. This approach strengthens the bond between parents and newborn, promoting greater parental involvement in the care of their baby and reducing family stress. Additionally, it contributes to better health outcomes for newborns and greater family satisfaction in the neonatal care process.	Neonatal nursing, critical neonate, family-centered care.
Daus (2017) "Neonatal nursing, intervention and Neonatal early stimulation: a joint path to care for growth and development."	40 participants	Descriptive - Observational	With the active participation of 40 professionals and families, it is confirmed that the combination of neonatal nursing and early stimulation constitutes a highly effective approach in the care of neonates. This collaborative intervention results in better cognitive and motor development in babies, which positively influences their learning capacity and physical abilities throughout their lives.	Neonatal nursing, through its experience and understanding of the unique needs of neonates, provides the necessary support to ensure that this intervention is effective. This collaborative approach not only improves infants' cognitive and motor development, but also strengthens the relationship between neonates and their families, which in turn reduces medical complications and improves the quality of life for everyone involved in the process. neonatal care.	Neonatal nursing, child development, specialized intervention.
Martinez et al., (2018) "The improvement process of the nursing professional for the care of the critically ill neonate."	62 participants	Descriptive - Qualitative	In the case of 100% of the participants, it has been shown that improvement improves clinical skills, decision making and the ability to manage high-pressure situations, which translates into more effective and safer care for critically ill neonates.	The improvement not only improves the clinical skills and decision-making capacity of these professionals, but also contributes to patient safety and the well-being of neonates and their families. Additionally, by boosting confidence and job satisfaction, advancement strengthens neonatal nursing's dedication to providing high-quality, patient-centered care.	Nursing professional, professional improvement, neonate Critical.
Lima et al., (2021) "Nursing care in the neonatal intensive care unit from the nurses' perspective."	6 participants	Descriptive - Qualitative	Nurses emphasize the need for highly specialized, neonate-centered care, ranging from constant monitoring to emotional support for families. Furthermore, they highlight the importance of interdisciplinary collaboration and continuous updating to face changing challenges in the NICU.	Neonatal nursing is not limited to the application of technical procedures, but also involves a deep understanding of the emotional needs of neonates and their families. Furthermore, the importance of interdisciplinary collaboration and continuous training becomes evident through their experiences.	Nursing care, intensive care units Neonatal, nursing theory.
Utrilla et al., (2018) "The nurse - parents - neonate relationship from the nursing perspective."	20 participants	Qualitative	According to the nurses' perspective, a strong relationship between nurse, parents, and neonate facilitates open and effective communication. This contributes to a clearer understanding of the needs of the newborn and allows parents to participate more actively in the care of their child.	In their view, a strong, collaborative relationship improves communication, promotes early attachment, provides emotional support to parents, and ultimately contributes to higher quality, patient-centered care. This positive relationship also empowers parents, allowing them to actively participate in the care of their neonate and acquire the skills necessary for continued care at home.	Newborn; nurse-patient relationships, care Nursing
Mata (2019) "Nursing care in the premature newborn."	32 participants	Descriptive - Observational	Nursing professionals highlight the need for highly specialized care focused on premature neonates, addressing aspects from constant monitoring to emotional support for families. Additionally, they emphasize the importance of interdisciplinary collaboration and ongoing training to provide optimal care.	Nursing professionals emphasize the importance of an approach focused on the premature neonate, which ranges from technical care to emotional support for families. Furthermore, they emphasize the need for constant interdisciplinary collaboration and continuous training to stay current in this constantly evolving field.	Specialized care, premature neonate, neonatal nursing.

Note: Own elaboration (2023)

RESULTS AND DISCUSSION

The results obtained from the review of the articles provide a clear and solid vision of the critical and multifaceted role that neonatal nursing plays in the field of newborn care. Firstly, the contribution of these professionals in critical situations is highlighted, where their competence and dedication are essential to stabilize and promote the well-being of neonates in delicate medical conditions. This is evidenced in the research by Lozano et al. (2017), which highlights the importance of specialized care provided by nursing staff in improving the quality of life of critically ill neonates.

In addition to its role in critical situations, the results highlight the positive influence of neonatal nursing in promoting breastfeeding, especially in the case of premature babies, as observed in the study by Tumbaco and Morales (2022). The education, counseling and specialized care provided by nursing professionals contribute significantly to increasing rates of successful breastfeeding, which has a direct impact on the well-being of preterm infants and their mothers.

In a broader context, neonatal nursing manuals and continuing education play a crucial role in promoting quality, patient-centered care, as evidenced in the work of Castro and Urbina (2017). Constant updating of these resources is considered essential to adapt to changing neonatal care practices and ensure optimal care.

The family-centered approach emerges as a recurring theme in the results, highlighting the importance of strengthening the bond between parents and neonates in the neonatal care process. This not only reduces family stress, as observed in the studies by Cuesta and Espinosa (2021) and Utrilla et al. (2018), but also contributes to better health outcomes for newborns and greater satisfaction for families.

The synthesis of the main findings from the referenced studies enriches our understanding of the multifaceted role of neonatal nursing in providing comprehensive care to newborns and their families. While the main literature emphasizes the importance of specialized care in critical situations and the promotion of breastfeeding, the additional studies offer valuable insights into the competencies, experiences, management practices, and humanization of care within the neonatal nursing context (Almeida et al., 2015).

For example, Alfieri et al. (2017) provide a comprehensive mapping of nursing competencies in neonatology, highlighting the diverse skills required for effective neonatal care. This complements the main results discussion on the specialized care provided by neonatal nurses and underscores the importance of a well-defined skill set to address the complex needs of neonates. Similarly, Refrande et al. (2019) offer a phenomenological exploration of nurses' experiences in caring for high-risk newborns, emphasizing the subjective and humanized nature of neonatal care. This aligns with the idea on the family-centered approach and highlights the significance of shared practice and theory in delivering compassionate care to neonates, in the same path of Jacksová et al (2016). Likewise, the reviewed literature does not give as much focus but it is extremely relevant to consider at the level of health management of care for newborns that nursing has a dual movement role that demands greater specialization, as Tase (2008) highlights. This point, although reached in some developed economies, still remains a challenge in developing countries (Premji et al., 2013).

Moreover, the studies by Klock et al. (2019) and Gómez-Cantarino et al. (2021) shed light on best practices in neonatal nursing care management and the humanization of care, respectively. These findings complement the discussion on the role of neonatal nursing manuals, continuing education, and family-centered care, offering insights into the organizational dynamics and holistic approaches to neonatal care. Overall, the synthesis of these studies provides a diverse perspectives on competencies, experiences, management practices, and the humanization of care, thereby contributing to a comprehensive view of neonatal nursing in the field of newborn care (Alfieri et al., 2017; Gómez-Cantarino et al., 2021; Klock et al., 2019; Refrande et al., 2019; Rochefort et al., 2016).

At the same time, contributions such as this one can be systematized to improve the already existing initiatives in the literature to present and promote a more sophisticated educational curriculum in the area of neonatal care nursing (Kenner et al., 2019; Verklan & Walden, 2014). Such modernizations and curricular modifications drive to the macro and micro operational aspects of specialized nursing, and would reach the spheres of the terminologies used, as pointed out by Querido et al. (2022).

Finally, the combination of neonatal nursing and early stimulation is recognized as a highly effective approach in the cognitive and motor development of babies, as well as in strengthening the relationship between neonates and their families. For Daus (2017) highlights how the experience and understanding of the unique needs of neonates by nursing professionals are essential to ensure that this intervention is effective. This collaborative approach not only improves the development of babies, but also reduces medical complications and improves the quality of life for everyone involved in the neonatal care process.

CONCLUSIONS AND FINAL REMARKS

The exhaustive analysis of the studies reviewed in this work yields conclusions of considerable relevance that highlight the transcendental role played by neonatal nursing in the care and attention of newborns. These conclusions are supported by research that addresses various dimensions and facets of neonatal nursing, providing a comprehensive perspective of its contribution.

In the first instance, it is clear that neonatal nursing professionals occupy a position of primary importance in critical contexts, where their competence, dedication and skills become determining factors for the stabilization and well-being of neonates. The results of these studies confirm that your specialized intervention makes a difference in the survival and development of babies facing delicate medical conditions.

Additionally, the positive influence exerted by neonatal nursing in promoting breastfeeding is highlighted, especially in premature babies. The advice and support provided by these professionals to mothers plays an essential role in promoting higher rates of successful breastfeeding, which has a significant impact on the health of both newborns and their parents.

Neonatal nursing manuals and continuing education emerge as crucial foundations to ensure high-quality, patient-centered care in a constantly evolving care environment. The constant updating of these resources is considered imperative to stay up to date and offer optimal and up-to-date care.

Likewise, the importance of the family-centered approach in neonatal nursing is emphasized, as an essential element to strengthen the bond between parents and neonates. This approach not only reduces the stress experienced by families, but also improves health outcomes for neonates by providing an emotionally nurturing care environment.

Finally, it is highlighted that the combination of neonatal nursing with early stimulation constitutes an extremely effective approach in the cognitive and motor development of newborns, as well as in strengthening the relationship between them and their families. These conclusions strongly emphasize the critical importance of neonatal nursing in the well-being and health of newborns, underscoring their essential role as key facilitators in the healthy start to life of these vulnerable patients.

Limitations of the study and possible future research agenda

The main limitations of this study include potential scope and generalizability issues due to its focus solely on the role of nursing in neonatology, which may limit the applicability of findings across different healthcare contexts; methodological limitations such as potential publication bias, limitations in data extraction, and variations in study quality; challenges related to the availability and quality of data, which could impact the depth and reliability of the analysis; the possibility of language and publication biases, which may result in the exclusion of relevant research published in languages other than English and the overrepresentation of certain perspectives or results; and timeframe limitations that may restrict the inclusion of recent studies or emerging evidence, potentially hindering the study's ability to capture the most current insights in the field of neonatal nursing.

The following table outlines a concise agenda for future research in neonatal nursing, in the process of overcoming the aforementioned limitations. The proposed agenda for future research in neonatal nursing encompasses four pivotal areas of inquiry aimed at advancing the quality of care provided to newborns and their families. The agenda focuses on investigating the impact of nursing interventions on neonatal health outcomes and identifying essential competencies for neonatal nurses, alongside evaluating the implementation of family-centered care practices in neonatal intensive care units (NICUs) and exploring the utilization of technology in neonatal nursing practice. By delving into these key areas, researchers aim to enhance neonatal health outcomes, improve family satisfaction and involvement in care, and develop standardized frameworks and training programs to elevate the practice of neonatal nursing.

Table 3. Suggestion of future research agenda

Research Topic	Objectives	Methodology	Expected Outcomes
Impact of Nursing Interventions on Neonatal Health, Nurse Competencies in Neonatal Care	To assess the effectiveness of nursing interventions in improving neonatal health outcomes and reducing morbidity and mortality rates, as well as to identify essential competencies for neonatal nurses and their impact on patient outcomes and care quality.	Randomized controlled trials (RCTs), longitudinal studies, systematic reviews and meta-analyses, qualitative interviews, Delphi method, systematic reviews	Improved neonatal health outcomes, reduction in morbidity and mortality rates, enhanced family satisfaction and involvement in care, development of standardized competency frameworks, improved nurse training and education programs.
Family-Centered Care Practices in NICUs, Utilization of Technology in Neonatal Nursing	To evaluate the implementation and effectiveness of family-centered care practices in neonatal intensive care units (NICUs) and to examine the use of technology in neonatal nursing practice and its impact on patient outcomes.	Observational studies, surveys, qualitative interviews, literature review, case studies	Increased family satisfaction, improved neonatal outcomes, enhanced bonding and communication between parents and healthcare providers, improved efficiency of care delivery, enhanced monitoring and management of neonatal health conditions.

Note: Own elaboration (2023)

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Contribution of each author to the manuscript:

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A. theoretical and conceptual foundations and problematization:	20%	20%	20%	20%	20%
B. data research and statistical analysis:	20%	20%	20%	20%	20%
C. elaboration of figures and tables:	20%	20%	20%	20%	20%
D. drafting, reviewing and writing of the text:	20%	20%	20%	20%	20%
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