SCT Proceedings in Interdisciplinary Insights and Innovations. 2025; 3:492
doi: 10.56294/piii2025492

Category: Applied Research in Health and Medicine

ORIGINAL

Assessment of the usefulness of Neurodevelopmental Centered Care (NCC) in relation to the knowledge and professional experience in Neonatal Intensive Care (NICU) of nurses in a public hospital in the city of Rosario

Valoración de la utilidad del Cuidado Centrado en el Neurodesarrollo (CCN) con relación al conocimiento y experiencia profesional en Cuidados Intensivos Neonatales (UCIN) de los enfermeros de un hospital público de la ciudad de Rosario

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Cite as: Bobillo RI. Assessment of the usefulness of Neurodevelopmental Centered Care (NCC) in relation to the knowledge and professional experience in Neonatal Intensive Care (NICU) of nurses in a public hospital in the city of Rosario. SCT Proceedings in Interdisciplinary Insights and Innovations.2025 ;3:492. DOI: https://doi.org/10.56294/piii2025492

Submitted: 12-10-2024 **Reviewed:** 06-11-2024 **Accepted:** 04-01-2024 **Published:** 09-01-2025

Editor: Emanuel Maldonado

ABSTRACT

Prematurity is a well-known problem and a leading cause of newborn deaths. Premature newborns (PTNB) have criteria for admission to Neonatal Intensive Care Units (NICU) for care and survival with a series of neurodevelopmental risks. The aim of this study was to determine the assessment of the usefulness of Neurodevelopmental Centered Care (NCC) in relation to professional knowledge and experience in Neonatal Intensive Care Units (NICU) of nurses in a public hospital in the city of Rosario. A non-experimental, descriptive, qualitative-quantitative, cross-sectional study was carried out on the total population of nurses (25) working in the NICU. The data collection technique was the survey and a self-administered questionnaire was used with 12 items that accounted for the different indicators of the variables. The degree of the respondents showed some parity between undergraduate and undergraduate academic degree; and specific training in NCC -updated to the last year- represented a little more than a third of the population. The nurses' self-perception of their knowledge and experience to perform in the NICU was predominantly intermediate - 84% and 72% respectively. The mean usefulness assessment of 7 activities of the NCC in relation to the evolution and prognosis of the PTNB in the NICU had levels compatible with the range of maximum possible assessment (between value=5 and value=6): impact of stress prevention 5.80; family participation, noise control and pain prevention 5.76; care of the PTNB's posture 5.60; care of maneuvers and contact 5.52; and mother/parent kangaroo method 5.44. It is concluded that the valuation of usefulness of CCN in this population has been very high and no correlation is seen with the academic degree, the training present in CNN and the different levels of self-perceived knowledge and experience in the NICU.

Keywords: Occupational stress; nursing; Burnout; psychosocial factors; occupational health.

RESUMEN

Introducción: El estrés laboral en enfermería representa un desafío significativo debido a las características particulares de esta profesión. Los enfermeros enfrentaron condiciones laborales que incluyen contacto constante con procesos de sufrimiento, muerte y sobrecarga emocional, lo que impactó tanto en su salud física como mental. Además, factores como jornadas prolongadas, pluriempleo y condiciones laborales adversas intensificaron el estrés, afectando su calidad de vida y desempeño profesional.
Desarrollo: El fenómeno del estrés laboral fue descrito inicialmente por Hans Selye y comprende fases de alarma, resistencia y agotamiento. En enfermería, la exposición prolongada al estrés desencadenó problemas de salud física como alteraciones inmunológicas, cardiovasculares y metabólicas, junto con síntomas psíquicos relacionados con el síndrome de Burnout. Este síndrome, caracterizado por agotamiento emocional y despersonalización, se asoció a factores psicosociales como la carga de trabajo excesiva, turnos rotativos y demandas emocionales derivadas del contacto con pacientes en situaciones críticas. Estudios recientes destacaron también la influencia de la perspectiva de género, subrayando las desigualdades que afectan a las mujeres en esta profesión, como relaciones laborales desfavorables y mayor exposición a riesgos.
Conclusión: El estrés laboral en enfermería es un problema complejo que requiere estrategias integrales para su mitigación. La implementación de políticas organizacionales que promuevan la salud ocupacional, junto con el desarrollo de habilidades para el manejo del estrés y apoyo psicológico, resultó crucial. Este enfoque holístico mejoraría no solo la calidad de vida de los enfermeros, sino también la atención brindada a los pacientes y la sostenibilidad de los sistemas de salud.

Palabras clave: Enfermería; Cuidado Centrado en el Neurodesarrollo; conocimiento; experiencia; valoración de la utilidad.

INTRODUCTION

NCC interventions are strategies aimed at promoting the development of the PTNBW as normal as possible in the abnormal and harmful context of the NICU. As more was understood about attachment, bonding, and their effect on neurodevelopment, the need to open the doors of neonatology to families around the clock became apparent.

24 hours a day. Several authors have published the favorable results of CCN interventions, such as the pioneers Klaus and Kennell in 1967; Heidelise (1982) and his Synactive theory that makes evident the impact of the NICU environment on the developing brain of the RN1; or Altimier and Phillips (2013) in their Integrative Model of Care that proposes seven core measures for family-centered neurodevelopment based fundamentally on the concept of neuroprotection (Chattas, 2021).

The CCN is a strategy to achieve the adequate evolutionary development of the RNP's neurological system and to counteract the impact of their hospitalization. Its application is discontinuous in different countries and even within each national health system (Ruiz Fernández, 2016).

The dissemination of the usefulness of NCC and its subsequent impact on the life of PTNB mobilized the question of what assessment of the usefulness of Neurodevelopmental Centered Care (NCC) about the knowledge and professional experience in Neonatal Intensive Care (NICU) the nurses of a public hospital in the city of Rosario, where the researcher performs her profession.

General objective

To describe the evaluation of the usefulness of Neurodevelopmental Centered Care (NCC) about the knowledge and professional experience in Neonatal Intensive Care (NICU) of nurses in a public hospital in the city of Rosario.

METHODS

Design

A descriptive research study was carried out since the variables were not manipulated. Instead, the most important frequencies and characteristics of the phenomenon were observed and described as they appeared in order to begin to understand how it manifests itself and its components.

The design used a qualitative-quantitative methodological approach, with knowledge and professional experience being a simple qualitative independent variable measured from categories with four indicators: degree attained, training in the NICU in the last year, self-perception of knowledge on the one hand, and self-perception of experience on the other regarding performance in the NICU beyond the NICU.

The variable valuation of the usefulness of the NCC was measured with a Likert-type scale for subsequent study and analysis based on numerical values. It used 7 indicators that represented referent activities of the NCC, such as family participation in care and the mother/parent kangaroo method; control of NICU noise; control of the RNPT's body posture and types of maneuvers and contact; and minimization of pain and stress. The last question was an open-ended question to collect the assessment of NCC according to each professional's personal experience.

This field research was cross-sectional according to its temporal location since the variables under study were measured simultaneously at a given time.

Study área

The study area is located in a municipally administered General Hospital that serves as a secondary referral hospital for Rosario's southern and southwestern districts.

The Neonatology Service is divided into three sectors: an Intensive Care Unit (UCIN) with seven incubators; a Special Care Unit (UCE) with six incubators for intermediate therapies and a servo-cradle unit in an admission ward; and, finally, a recovery sector (MAyBE) which is a joint hospitalization sector

for six bunks until the patient is discharged. Nursing professionals from the Neonatology Service rotate through these sectors and comprise the group participating in the study.

Participants

The population consisted of 25 nurses working in the NICU, 13 of whom have a Bachelor of Nursing degree and 12 undergraduate nurses. The target population was reached with the inclusion criterion of performing nursing functions exclusively in the NICU. Exclusion criteria were those who performed administrative or management functions in the Service, those who were discharged for any reason during data collection, and those who did not agree to participate in the study.

Techniques, procedures, and instruments

The survey was selected as the data collection technique, and a self-administered questionnaire (see Annex B) that included 12 self-administered items was used as an instrument.

The first four items of the questionnaire were aimed at clearing the knowledge and professional experience variable. Participants were surveyed on the indicators already expressed—degree attained, training completed or in progress on NCC in the last year, self-perception of knowledge on the one hand, and self-perception of experience on the other hand regarding performance in the NICU beyond the NCC.

The remaining eight items addressed the variable assessment of the usefulness of the NCC: 7 items explored the assessment of the usefulness of NCC activities and the evolution of the PTNB - involvement of the family in the care, the mother/parent kangaroo method, control of NICU noise, control of the PTNB's body posture and type of maneuvers and contact, and minimization of pain and stress; the final item consisted of an open-ended opinion question. The assessment of the seven activities was measured with a Likert scale with 6 decreasing ordinal response levels: always, almost always, sometimes, rarely, never, and do not know-no answer. Subsequently, the categories were quantified from the category always (value=6) to the category do not know-no answer (value=1). The questionnaires that accumulated 7 to 18 rating points corresponded to the third of respondents with a low rating of the usefulness of the CCN; those with 19 to 30 points corresponded to the third with a medium rating; while those with between 31 and 42 points corresponded to the third with a high rating of the CCN activities in the recovery of the RNPT.

The instrument was tested on eight nurses who met the inclusion and exclusion criteria of the study population but were not part of it. The pilot test allowed us to verify that the statements were clear and could be answered without inconvenience.

Ethical considerations

The corresponding authorizations from the study site were formally processed (see Annex C).

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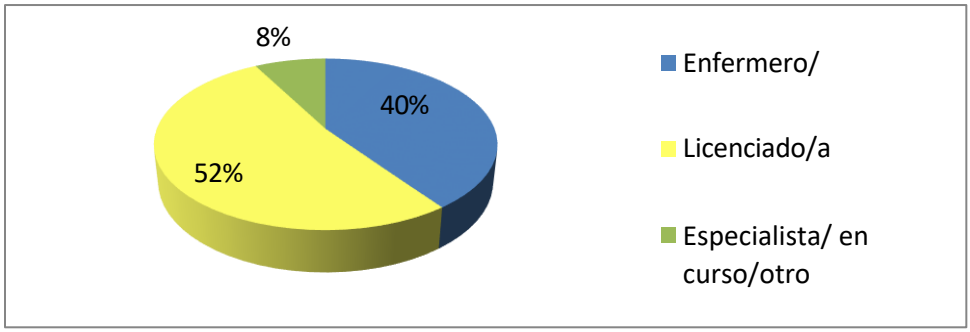
The questionnaires were delivered in paper format by the same researcher who accompanied the nurses during the questionnaire completion period. The time chosen was coordinated with those responsible for the study area, and the nurses received all the information necessary to complete an informed consent form beforehand (see Appendix A). The nurses completed the questionnaires knowing and agreeing that they were free to refuse to participate and to leave the study at any time they considered appropriate.

All data identifying the participants were coded to ensure confidentiality in data manipulation and publication of the results.

RESULTS

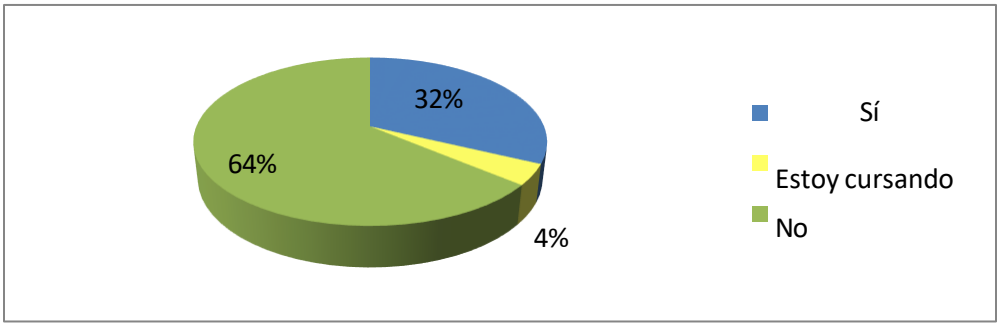
In order to establish the qualifications of the NICU nurses and the CCN training carried out -or in progress- on CCN in the last year, it could be found that the level of qualification of the professionals surveyed shows an undergraduate and graduate academic training equivalent to 60% of the population; In comparison, 40% have undergraduate academic training. In addition, 36% were trained explicitly in CCN during the last year (32% already completed and 4% in progress).

Figure 1: Title attained.



Source: Own elaboration.

Figure 2: CCN training carried out in the last year.

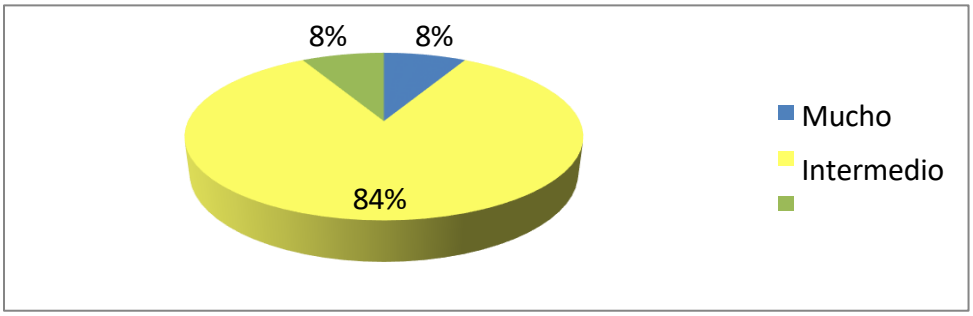


Source: own elaboration.

https://doi.org/10.56294/piii2025492

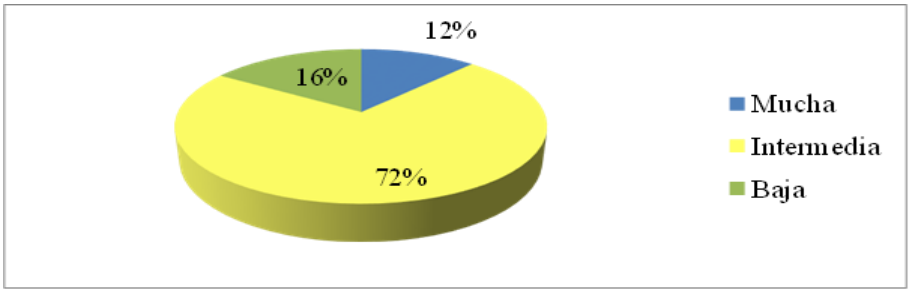
When we explored the nurses' self-perception of their knowledge and experience in the NICU, we found that the respondents estimated that they had an intermediate level of knowledge and experience - 84% and 72%, respectively. If we add those respondents who expressed a low self-perception of their knowledge and experience in the NICU, the total reaches 92% and 88%, respectively-.

Figure 3: Nurses' self-perceived knowledge of NICU.



Source: own elaboration.

Figure 4: Nurses' self-perception of NICU experience.



Source: Own elaboration.

A graphical comparison of both results shows the correlation described above.

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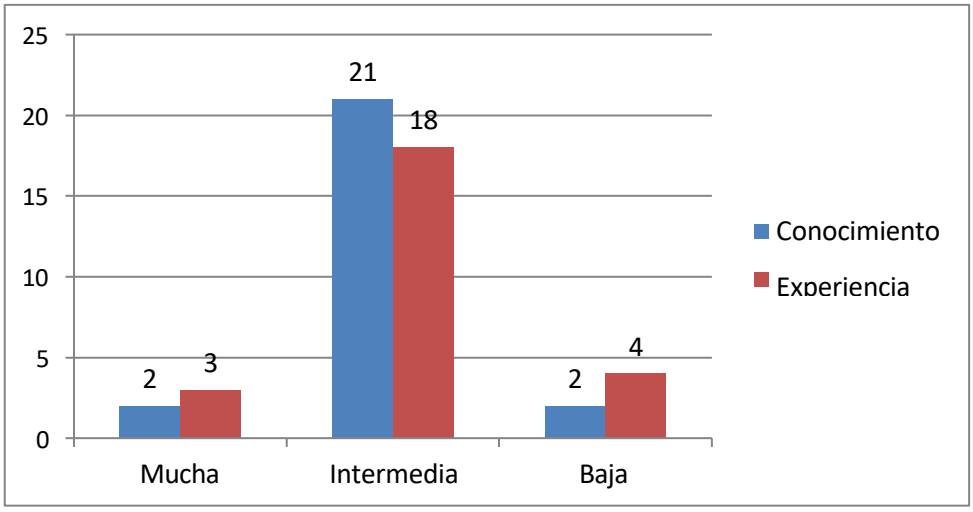
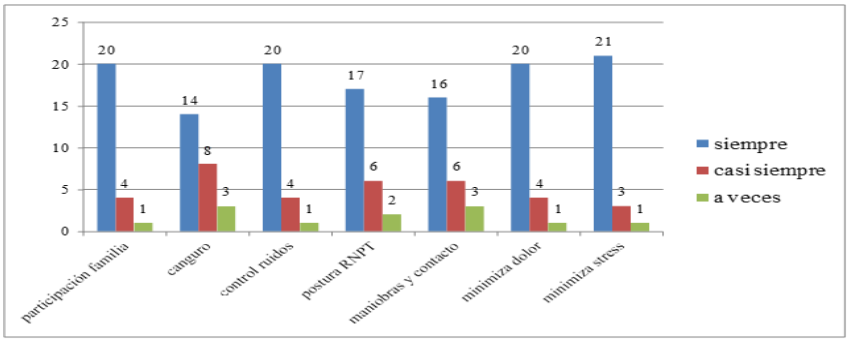
Figure 5: Frequency of comparison of self-perceived knowledge and experience of NICU nurses.



Source: own elaboration.

Regarding evaluating the usefulness of 7 activities of the NCC about the evolution and prognosis of the PTNB in the NICU, the nurses expressed very high levels. According to the Likert-type scale used (minimum value 1 point and maximum value 6 points for each activity evaluated), the mean for each activity was: impact of stress prevention 5.80; family participation, noise control, and pain prevention 5.76; care of the position of the PTNB 5.60; care of maneuvers and contact 5.52; and mother/parent kangaroo method 5.44. This implies that the mean of all the ratings is in the range of the maximum possible rating.

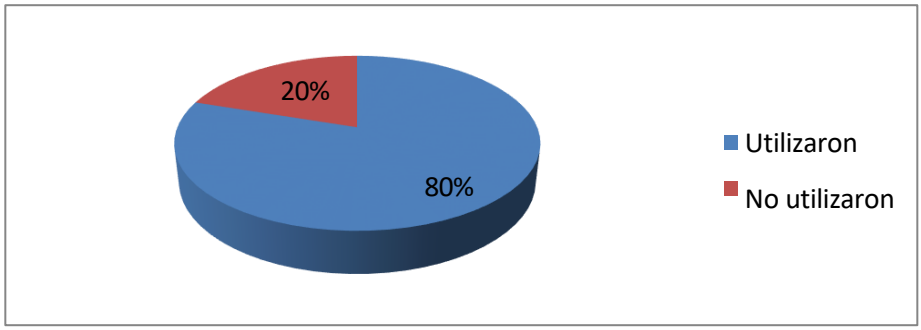
Figure 6: Frequency distribution of the frequency distribution of the evaluation of the usefulness of the CCN in the evolution of the PTNB in the NICU according to 25 nurses surveyed.



Source: Own elaboration.

Question 12 was an open-ended question to allow nurses to express themselves more freely about their assessment of the usefulness of the NCC in the NICU. Five nurses chose not to use it - analysis units (a. u.) 3, 18, 19, 23 and 25.

Figure 7: Use of the open-ended question.



Source: own elaboration.

According to NICU nurses' experiences with CCN, ten of them (half of those who completed the open-ended option) used the terms important and essential to qualify the implementation of CCN in the NICU -u. of a. 1, 2, 4, 6, 7, 8, 11, 13, 14 and 16-. Some rationales expressed elementary concepts of CCN, but others focused on quite specific topics: CCN is a pillar of the NICU -u. of a. 9-; it is a quality standard -u. of a. 21-; it is an essential culture of care -u. of a. 24-; and in the case of 3 nurses, the need for training in this regard and the deficits observed -u. of a. 18, 21 and 22- were pointed out. On three occasions -u. of a. 7, 12, and 14- the nurses expressed the need for the entire healthcare team to be involved in the NCC.

CONCLUSIONS

Respondents' qualifications showed some parity between undergraduate and graduate degrees, and specific training in NCC -updated to the last year- represented slightly more than a third of the population. The nurses' self-perception regarding the knowledge and experience they possess to perform in the NICU was predominantly intermediate -84% and 72%, respectively-.

The evaluation of the usefulness of 7 activities of the NCC about the evolution and prognosis of the PTNB in the NICU had very high levels. The mean value per activity (between value=1 and value=6) was: impact of stress prevention 5.80; family participation, noise control, and pain prevention 5.76; care of the PTNB's posture 5.60; care of maneuvers and contact 5.52; and mother/parent kangaroo method 5.44. This means that the mean valuation of the usefulness of 7 activities of the CCN about the evolution and prognosis of the PTNB was located in the range of maximum possible valuation (between value=5 and value=6). It is concluded that the evaluation of the usefulness of NCC in this population was very high and does not correlate with the academic degree, the training present in NCC, and the different levels of self-perceived knowledge and experience in the NICU.

A complementary aspect appears in the open-ended question, where 80% of the surveyed population expressed very positive evaluations about applying the seven founding principles of the NCC, reaffirming

https://doi.org/10.56294/piii2025492

the evaluations obtained in the answers with the scale option. Half of the respondents who answered the open-ended question expanded their assessment of the usefulness of applying the CCN as important or very important, and others associated the CCN in the NICU with the terms pillar, culture of care, and quality. A few more expressed the deficit of NCC training of the team and marked the deficit of team agreement and involvement.

It is interesting, in light of the purpose of this study and as the beginning of a line of research, to interdisciplinarily construct a protocol using, initially, the

The nursing team highly values seven activities. This collective construction of the healthcare team acting in the NICU would make it possible to overcome the difficulties of implementing the NCC in a context of intra-service heterogeneity (Alegre Fernández, 2011), and which presents common elements that hinder the implementation of NCCs -regardless of the effector and country- (Aguilera Vegas, 2018). Recognizing the need for training nursing professionals and responding to educational interventions that provide lasting knowledge (Ortiz-Mendoza et al., 2021) is an overcoming alternative to complement the proposal.

The production of this work was laborious and very productive because it allowed the application of learning. The most positive aspect was understanding how the project's different phases were articulated and how each stage should be adjusted. The progress included moments of frustration and confusion; initially, mistakes were made when using terms used as synonyms, which confused the proofreaders and the author herself, but they made it possible to understand the importance of controlling biases and clarifying one's ideas.

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FINANCING
The authors did not receive funding for the development of this research.

CONFLICT OF INTEREST
The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION
Conceptualization: Rosa Inés Bobillo
Data curation: Rosa Inés Bobillo
Formal analysis: Rosa Inés Bobillo
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