Abstract

Objective: Verify the main care measures for the newborn in neonatal intensive care units in Brazil through an integrative scientific study.

Method: This is an integrative review, in which, it is possible to identify, analyze and synthesize research results with the inclusion of experimental and non-experimental studies. A total of 133 articles were collected. After reading titles, exclusion criteria and reading resumes, 10 were left, in which the sample was composed.

Results: The selected publications were placed in 3 thematic categories: The importance of knowledge in nursing care, to the internal NB in NICU; Nursing evaluation and care used for pain relief in NB; Main factors and adverse events that may lead to the hospitalization of the newborn and the increase of morbidity and mortality in an NICU.

Conclusion: The analysis of the aforementioned study exposes the importance and main nursing care that can be administered in newborns in a NICU, so that the reduction of neonatal mortality can be provided.

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Keywords

Neonatal Intensive Care Unit; Nursing Care; Newborn.
Introduction
The neonatal period begins on the day of birth and ends after 28 full days after birth. It is in this period that the newborn (NB) presents a great incomplexity in triggering complications because he is adapting to the extrauterine environment, this is because he goes from a safe environment, where all his needs were being met, for an Environment totally different from what he was accustomed [1].

The neonatal intensive care unit (NICU) is characterized as a therapeutic environment in which patients with critical clinical status are internalized. Thus, neonatal units must have a care structure with adequate technical conditions to provide specialized care, thus providing better care for the newborn [2].

Despite all the difficulties in the health area, the technology and its advances make it possible, especially in neonatal ICUs, to offer more effective treatments, thus improving the quality of life of newborns, thus contributing to the reduction of neonatal mortality. Thus, a team of specialized health professionals, nurses capable of providing effective and safe care for the newborn and the family, is needed [3].

The staff of a NICU, especially the nurses, deals with a wide range of difficult emotional situations. It accompanies daily the fragility and suffering of newborns, in addition to death and the feeling of anxiety and insecurity on the part of family members, in this way, it is extremely necessary technical skills, specific and updated knowledge, agility and especially sensitivity to deal with situations continuity, neonatal severity, and accelerated service dynamics [4].

Thus, the following question was raised regarding the information presented in the neonatal period and NICU care: Which nursing interventions performed in NICUs, distributed throughout Brazil, to reduce the mortality of newborn infants?

In view of the aforementioned questions, the study can generate a greater knowledge in the nursing process, in relation to clinical and preventive nursing interventions in Neonatal Intensive Care Unit. The present study aimed to verify the main care measures for the newborn in neonatal intensive care units in Brazil through an integrative scientific study.

Method
The present study was performed using the integrative review method. It is a method that allows to identify, analyze and synthesize research results with the inclusion of experimental and non-experimental studies, in order to develop a more comprehensive explanation of a specific phenomenon [5].

In order to construct the integrative review, it is necessary to have six distinct stages: [6]
1. Identification of the theme and selection of the hypothesis or research question for the elaboration of the integrative review;
2. Establishment of criteria for inclusion and exclusion of studies/sampling or search in the literature;
3. Definition of the information to be extracted from the selected studies/categorization of the studies;
4. Evaluation of studies included in the integrative review;
5. Interpretation of results;
6. Presentation of the knowledge review/synthesis.

For the sample selection, the delimited inclusion criteria were: only articles that were related to nursing care in NICU, published in the period 2011 to 2016 due to the need and importance of knowing the profile of articles indexed in the last five years on the subject in Brazil, in full text and in the Portuguese language. The exclusion criteria of the sample were: project documents and theses, duplicate articles and articles whose abstracts were unavailable.

The research was carried out through electronic access to data from the Virtual Health Library (VHL), from August to September 2016, using the

This article is available at: www.intarchmed.com and www.medbrary.com
following databases, the Latin American and Caribbean System of Health Sciences (LILACS), The Online Medical Literature Search and Analysis System (MEDLINE) and the Nursing Database System (BDENF). The descriptors placed for the survey were neonatal ICU and Nursing Care, organized by the boolean operator "AND", in which it facilitated the search of the manuscripts, being indexed in Descriptors in Health Sciences (DeCS) and Medical Subject Headings (MeSH).

For the data collection of the articles, a specific instrument was used with items that include the objectives of the studies, such as: article title, authors, language, year of publication, objectives, name of the journal, methodology, results achieved and conclusions. (Figure 1)

Before the electronic research, 133 articles were found, where 54 of them were excluded because they were repeated in the databases, and after the reading of the 69 abstracts were excluded because they did not attend the thematic approach. In this way, the corpus of the integrative review was composed of 10 articles that were organized and saved in electronic folders and denominated according to the database that were located.

In the presentation of the results, the articles that answered the guiding question were placed, characterizing them by year of publication and type of methodology applied. Therefore, the integrative review was presented in a descriptive way, in which it was based on different topics, in order to create a broad understanding about the applicability of the elaborated revision.

**Results**

**Characterization of Studies**

A total of 133 articles were identified. However, according to the inclusion criteria, 10 studies were selected to compose the present review according to table 01, showing characteristics regarding the year of publication, title, authors, periodical, origin, research method and data base. (Table 1)

Figure 2 shows the distribution of the articles in the sample in relation to the years of publication. Against this, in 2012 there was a higher prevalence, totaling 40% of published articles. It should be noted that in the year 2015 no articles were found that met the criteria of the present study.
### Table 1. Characteristics of studies included in the integrative review sample.

<table>
<thead>
<tr>
<th>Nº</th>
<th>Year</th>
<th>Title</th>
<th>Author</th>
<th>Objective</th>
<th>Periodic</th>
<th>Origin</th>
<th>Method</th>
<th>Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-1</td>
<td>2016</td>
<td>Clinical management of pain in the newborn: perception of nurses in the neonatal intensive care unit</td>
<td>Costa KF et al [7].</td>
<td>To analyze the nurses’ perception about the pain clinic in the neonate in the neonatal intensive care unit.</td>
<td>Revista de Pesquisa Cuidado é Fundamental Online</td>
<td>Rio de Janeiro/RJ</td>
<td>Descriptive, exploratory, qualitative approach.</td>
<td>BDENF</td>
</tr>
<tr>
<td>E-2</td>
<td>2014</td>
<td>Predictive factors for admission of the newborn to the intensive therapy</td>
<td>Lages CDR, Sousa JCO, Cunha KJB, Silva NC, Santos TMMG [8].</td>
<td>To determine the association between the factors predicting the admission of newborns in the Intensive Care Unit (ICU) and maternal characteristics of a public maternity hospital in Teresina-PI.</td>
<td>Revista da Rede de Enfermagem do Nordeste - RENE</td>
<td>Teresina/PI</td>
<td>Analytical, documentary, retrospective with quantitative approach.</td>
<td>BDENF</td>
</tr>
<tr>
<td>E-3</td>
<td>2013</td>
<td>The manipulation of preterm infants in a Neonatal Intensive Care Unit</td>
<td>Pereira FL, Góes FSN, Fonseca LMM, Scochi CGS, Castral TC, Leite AM [9].</td>
<td>Describe the type, frequency, and duration of manipulation to which preterm infants undergo 24-hour neonatal intensive care unit.</td>
<td>Revista da Escola de Enfermagem da USP</td>
<td>São Paulo/SP</td>
<td>Observational, descriptive and exploratory</td>
<td>MEDLINE</td>
</tr>
<tr>
<td>E-4</td>
<td>2013</td>
<td>Prevention and infection control in a neonatal intensive care unit</td>
<td>Lorenzini E, Costa TC, Silva EF [10].</td>
<td>To identify the knowledge of the nursing team of a Neonatal Intensive Care Unit (NICU) on infection control, identifying the factors that facilitate or hinder the control and prevention of Health Care Related Infections (HCRI).</td>
<td>Revista Gaúcha de Enfermagem</td>
<td>Porto Alegre/RS</td>
<td>Descriptive with a qualitative approach and technique of thematic content analysis</td>
<td>LILACS</td>
</tr>
<tr>
<td>E-6</td>
<td>2012</td>
<td>Identification and treatment of pain in the newborn. In the Intensive Care Unit</td>
<td>Santos LM, Ribeiro IS, Santana RCB [11].</td>
<td>To analyze the parameters used by the nursing team of a public hospital in Bahia for the evaluation of pain in PTNB; And to describe the interventions used by the nursing team to relieve pain in PTNU.</td>
<td>Revista Brasileira de Enfermagem - REBEn</td>
<td>Brasilia/DF</td>
<td>Descriptive of qualitative nature</td>
<td>MEDLINE</td>
</tr>
<tr>
<td>E-7</td>
<td>2012</td>
<td>Adverse Events in Neonatal Intensive Care Unit</td>
<td>Ventura CMUV, Alves JGBA, Meneses JÁ [12].</td>
<td>To determine the frequency of AEs, applying the American &quot;trigger instrument&quot; methodology, in a NICU of a developing country.</td>
<td>Revista Brasileira de Enfermagem - REBEn</td>
<td>Brasilia/DF</td>
<td>Observational, prospective</td>
<td>LILACS</td>
</tr>
</tbody>
</table>
In **Figure 3**, the periodicals used for the publications were identified, in which the numbers were diversified, totaling, thus, two periodicals with 10% each and four with 20% of publications each.

Regarding the modality of the studies, 100% were original articles, the prevalent method was the descriptive with six (60%) articles of the sample, compared to the approach of the studies, four (40%) are approach quantitative and qualitative, each, and two (20%) sociohistorical qualitative approach.

When analyzing the databases, it was found that three (30%) were found in LILACS, three (30%) in BDENF.
MEDLINE and four (40%) in BDENF, as shown in Figure 4.

**Discussion**

**Main factors and adverse events that may cause innovation of the nb and the increase of morbimortality in a NICU**

There are several factors that can lead to the risk of death in the neonatal period, such as prematurity, low birth weight, hospital infections and severe asphyxia at birth. In this way, these need a greater specialized assistance and are factors that can be of great relevance for admission in a NICU. In addition, some factors related to mothers may also contribute directly or indirectly, such as high parity, low maternal education, low family income, advanced maternal age, and problems related to poor prenatal care, labor and delivery [8,16].

According to Administrative Rule No. 355 of March 10, 2014, patients who are predictors of ICU admission are those who present with impairment of one or more major physiological systems, with loss of their self-regulation, where they require an artificial replacement of functions and ongoing care, however, potentially reversible [2].

Adverse events are characterized as the presence of undesirable complications caused by the care provided to the patient. In this way, a possible increase in these events may increased morbidity and mortality, prolonged hospitalization time and increased treatment costs. Among the most frequent adverse events are: nosocomial infections, events associated with medication use and intravascular catheters, and events related to the respiratory care of the newborn [12].

The Ministry of Health with the Administrative Rule 1,459 of 2011, adopts a model of Health Care called Stork Network as one of the objectives of improvement to the assistance to the newborn, aiming to reduce possible adverse events that lead to care in NICU, counting on the performance of multi-professional teams, including obstetric and neonatal nursing, the use of protocols and the monitoring of service evaluation indicators. This model is also performed in other developed countries, such as Canada, Netherlands and Japan [17].

**The importance of knowledge in nursing assistance to the internal nb in NICU**

Neonatology in recent times has undergone major changes, making it possible to be considered a field of great development in the health area, be it from the technological point of view, welfare or research activities, thus providing important improvements in the care of the newborn [13].

Care with an internal NB in a NICU requires the staff, mainly nurses, care experience, technical-scientific knowledge and practical skills, in addition to humanized care, in order to promote the relief of discomfort and pain caused by the clinical situation and the processes Therapeutic interventions, thus minimizing the difficulty and stress experienced by the newborn [4]. The humanized care performed by the nurse should consider not only the newborn, but also the family that is emotionally affected by having their child hospitalized in the NICU, needing support, comfort and incentive to be part of this care to the NB.

In a study that composes the sample, it is reported that scientific knowledge is of paramount importance for the correct execution of nursing procedures in the NICU. Consequently, training programs are essential to ensure continuous improvement and adaptation to new technologies and research, focusing on the promotion of clinical rounds and workshops. In this way, nurses can expand their knowledge and skills, in order to offer higher quality care to the newborn.
importance to the nursing professional who works in a NICU, because it allows a dignified preparation that sustains in an integral way the care practices developed to the newborn of in addition, risk and agility and the ability to perform procedures are also important factors that contribute to better care. However, it should be mentioned that nurses working in the NICU should have a sensitivity to understand reactions, feelings negatives, habits and values, making it necessary to support and guide the family as a whole.

With the aim of a better quality of care for the newborn, it is necessary to implement developmental care as a care philosophy, in which it is necessary to review the relationships with the newborn, the family and the subjects involved in care. Among some developmental care strategies, care grouping has as its main objective to offer rest to the newborn through minimal manipulation, this because excessive manipulation can cause behavioral changes and stress to newborns, thus being the least contact, depending on the context and clinical situation of this small patient who remains in an inhospitable environment of neonatal intensive care, can lead to positive results for them, such as decreased energy expenditure and stress.

Knowledge about prevention and control of health care-related infections (HCRI) is extremely important, as this may represent a major problem for the quality of life of the newborn. In an NICU, the HCRI are those acquired in the intrapartum period, where it is of maternal origin and manifests itself in 48 hours of life, during hospitalization, or 48 hours after discharge, with the exception of transplant infections. Given this, NB care should be cautious and meticulous, as well as many have the immune system under construction and maturation, there is also an important gateway, which would be the skin of the newborn, making them more vulnerable and susceptible to infections if strategies that enhance effective and preventive care are not implemented. Therefore, the nursing team must work together, so that the main or possible failures can be identified, thus promoting the improvement in the quality of life of the newborn.

Evaluation and nursing care used for the relief of pain and comfort of the NB

The pain can cause physical anomalies and may also alter the psychological balance, causing unpleasant sensations ranging from mild to excruciating discomfort. In this way, it is standardized as the fifth vital sign. Its interpretation includes sensitive and emotional experiences, thus contributing to its intensity being variable for each patient and in different situations.

The newborns are subjected to painful stimuli, resulting from various invasive procedures, thus generating negative effects in relation to the behavioral and physiological organization of the newborn, thus promoting chronic stress, causing them to use their energy reserves that would be directed towards its growth, reestablishment and development.

The nursing team of the neonatal units should be attentive to the expressive languages that the newborns transmit through behavioral and physiological changes, so that in this way an integral and safe care is promoted. Therefore, in order to prevent not only pain control but also stress in the newborn, nursing professionals should make use of specific non-pharmacological and pharmacological environmental interventions to prevent, reduce or eliminate stress and pain in newborns.

Frequent and prolonged pain can impair nerve development, as well as threaten the physiological stability of the newborn. In addition, it can lead to more serious intercurrences, such as permanent changes due to the development of the immature brain plasticity, thus causing an altered development of the pain system. In this context, neurological problems and deficits in cognition and learning can also be caused, causing future difficulty in interacting with family and society.
The evaluation of pain can be done in a physiological way, using some practices such as heart and respiratory rate verification, systolic blood pressure, oxygen saturation, palmar sweating, vagal tone, crying, facial mimicry, sleep pattern, changes in catecholamine concentrations, growth hormone, glucagon, cortisoldosterone and other corticosteroids. In addition, there are tools of great importance for the evaluation and management of pain in the neonate, such as the use of scale with neonatal facial coding system, behavioral pain scale of the newborn, preterm pain profile, scale of Hannallah (allows a reliable assessment through body language, even without verbalization), Confort scale (assesses degree of sedation) and scale of postoperative evaluation [7].

Studies highlight the main care to provide better comfort and well-being of the newborn, are: restraint, reduction of noise and excess light in the NICU, change of decubitus, touch and suction. In light of the aforementioned care, more precisely due to the intensity of light, nursing professionals should promote strategies to reduce environmental luminosity, such as covering the incubator with blankets, thus avoiding excessive stimuli and promoting the natural sleep cycle of the newborn [11, 19].

Regarding pain management by the nursing team, some of the main therapeutic or preventive measures are considered: gauze pacifier with glucose, nursing, packet (nurturing), non-nutritive sucking, gauze pacifier with breast milk and analgesic [15].

Conclusion

Analyzing the studies put forth for this research, it is concluded that in order to make the difference regarding nursing care to the health of newborns, it is essential to link the knowledge acquired from the researches with that evidenced by clinical practice. In view of this, their contribution in improving the results of the care provided to the newborn is undeniable, this is why it is necessary a greater and better clarification of the nursing professionals, so that they can provide adequate assistance to the newborn.

It is worth mentioning that there is a lack of publications that use this method in the development of research, and there are few current studies that address this issue of nursing care for newborns in the NICU.

In this way, the present study brought in its results and development a support to the professionals of nursing and interested in the subject, thus providing an understanding about the importance and the main methods of nursing care to the neonate that needs a greater assistance and responsibility on the part of the entire multiprofessional team of a NICU.

References


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