

**EVALUATION OF NEWBORN PAIN BY NURSING TEAM: *SCOPING REVIEW*****AVALIAÇÃO DA DOR DO RECÉM-NASCIDO PELA EQUIPE DE ENFERMAGEM: *SCOPING REVIEW*****EVALUACIÓN DEL DOLOR DEL RECIÉN NACIDO POR EL EQUIPO DE ENFERMADO: *SCOPING REVIEW***

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**ABSTRACT**

**Objective:** to identify the actions of the nursing team in the evaluation and management of pain in the newborn. **Method:** This is a Scoping review, carried out in August 2016, by searching the Latin American and Caribbean databases on Health Sciences and Nursing Database. Eight articles were selected that met the inclusion criteria. **Results:** Cross-sectional, qualitative and quantitative studies were identified. The results showed two categories: "The perception of nursing professionals regarding the knowledge of neonatal pain, the means of evaluation and the use of pain scales", which confirmed that nursing professionals recognize that newborns are able to feel pain, the ways to evaluate by behavioral and physiological aspects and the existence of scales to measure pain. As a second category, "Non-pharmacological measures used in the management of neonatal pain" that contemplate the prescription of drugs and handling / positioning behavior. **Conclusion:** It is concluded that there is still a great distance between the theoretical knowledge, the use of scales and the practitioner's practical conduct in relation to the evaluation and management of neonatal pain.

**Descriptors:** Pain, pain perception, newborn, nursing

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## RESUMO

**Objetivo:** identificar as ações da equipe enfermagem na avaliação e manejo da dor no recém-nascido. **Método:** Trata-se de uma *Scoping review*, realizada em agosto de 2016, mediante busca nas bases de dados Latino-Americana e do Caribe em Ciências da Saúde e Base de Dados da Enfermagem. Foram selecionados oito artigos que atenderam aos critérios de inclusão. **Resultados:** Identificaram-se estudos transversais, exploratórios qualitativos e quantitativos. Os resultados evidenciaram duas categorias, sendo elas: “A percepção dos profissionais de enfermagem frente ao conhecimento da dor neonatal, os meios de avaliação e a utilização de escalas de dor” a qual foi possível comprovar que os profissionais de enfermagem reconhecem que os recém-nascidos são capazes de sentir dor, as formas de avaliar por meio de aspectos comportamentais e fisiológicos e a existência de escalas para medir dor. Como segunda categoria “Medidas não farmacológicas utilizadas no manejo da dor neonatal” que contemplam a prescrição de fármacos e conduta de manuseio/posicionamento. **Conclusão:** Conclui-se que ainda há uma grande distância entre o conhecimento teórico, o uso de escalas e a conduta prática dos profissionais em relação à avaliação e manejo da dor neonatal. **Descritores:** Dor, percepção da dor, recém-nascido, enfermagem

## RESUMEN

**Objetivo:** identificar las acciones del equipo enfermería en la evaluación y manejo del dolor en el recién nacido. **Método:** Se trata de una *Scoping review*, realizada en agosto de 2016, mediante búsqueda en las bases de datos Latinoamericana y del Caribe en Ciencias de la Salud y Base de Datos de la Enfermería. Se seleccionaron ocho artículos que cumplieron los criterios de inclusión. **Resultados:** Se identificaron estudios transversales, exploratorios cualitativos y cuantitativos. Los resultados evidenciaron dos categorías, siendo ellas: "La percepción de los profesionales de enfermería frente al conocimiento del dolor neonatal, los medios de evaluación y la utilización de escalas de dolor" a la que fue posible comprobar que los profesionales de enfermería reconocen que los recién nacidos, los nacidos son capaces de sentir dolor, las formas de evaluar por medio de aspectos conductuales y fisiológicos y la existencia de escalas para medir dolor. Como segunda categoría "Medidas no farmacológicas utilizadas en el manejo del dolor neonatal" que contemplan la prescripción de fármacos y conducta de manejo / posicionamiento. **Conclusión:** Se concluye que aún hay una gran distancia entre el conocimiento teórico, el uso de escalas y la conducta práctica de los profesionales en relación a la evaluación y manejo del dolor neonatal. **Descritores:** Dolor, percepción del dolor, recién nacido, enfermería

## INTRODUCTION

In recent decades, with scientific and technological development, neonatal intensive care units (NICUs) have seen a reduction in mortality and a higher expectation for the survival of the newborn (NB). This survival, however, has a cost, which includes pain, predictable in invasive therapies, but little valued in routine care.

The infants hospitalized at the NICU are exposed to several interventions, living with numerous aggressive, stressful and painful procedures due to the technological resources of the care. These procedures risk their stability, causing impact on their growth and development, which can cause physiological changes of several orders and even neurological sequelae. To this end, care should be prioritized, especially

focused on comprehensive and humanized care, aimed at quality of life for the neonate.<sup>1,2,3</sup>

Pain is defined by the International Society for the Study of Pain (IASP) as an unpleasant emotional sensory experience related to tissue injury as a complex, subjective, multidimensional manifestation involving physical, psychic and cultural mechanisms.<sup>4</sup> Neonatal pain was neglected in clinical practice for years based on the assumption that the newborn did not have a fully formed nervous system due to incomplete myelination of its nerve fibers and lack of memory to record painful events. From the eighties, research has brought significant changes to neonatology, especially with regard to pain, altering care; it becomes known that in neonates the mechanism of modulation of the painful experience is immature, which limits their capacity to face pain and stress.<sup>5</sup>

Neonatal pain is responsible for a variety of physiological and behavioral complications and can lead to changes such as: increased blood pressure, decreased oxygen saturation, metabolic and endocrine changes (including catabolism, hypermetabolism and suppression of insulin activity with consequent hyperglycemia). The neonate may be susceptible to infections and also changes in coagulation and hemostasis.<sup>4</sup>

Persistent pain in the neonate presents passivity, few body movements, face without expression, decreased heart rate, respiratory variability, and a decrease in oxygen consumption. Thus, it is necessary to use resources that minimize the effects of hospitalization, where hospitalization time should not become a traumatic experience or an interruption in its development.<sup>4</sup>

The nurses and the nursing team, because they are professionals responsible for the longer period of follow-up of the NB during their hospitalization, play a relevant role in the careful observation and identification of the occurrence of signs that reflect the presence of pain. Recognition and acceptance of the presence of pain by the caregiver is essential for adequate evaluation.<sup>2-4</sup>

Scoping review studies that allow a broad mapping of the knowledge on this subject have not been identified in the literature. In this perspective, understanding the relevance of the perception of pain in the newborn, due to its non-verbalization, becomes a determining factor so that the period of hospitalization is less painful and traumatizing, where there must be interaction and communication between the members of the health team, who begin to attend and perceive the evolution of pain in each patient and to verify the response to the therapy used.<sup>3</sup>

Although there is evidence that pain is a real and common event in this population, and it is responsible for several complications not only in the short term, but also in the long term, few professionals evaluate pain systematically and employ adequate preventive and therapeutic measures during the hospitalization of these patients.<sup>4</sup>

In addition, NB and infants do not verbally manifest the occurrence of pain, this manifestation becomes repeated and it is necessary that the professionals involved in the care use other methods to evaluate it, based on the behavioral, physiological and hormonal changes, that in the future may favor neurological, emotional and cognitive impairments, even psychiatric problems.<sup>2-4,5</sup> Thus, this article aims to identify the actions of the nursing team in the evaluation and management of pain in the newborn.

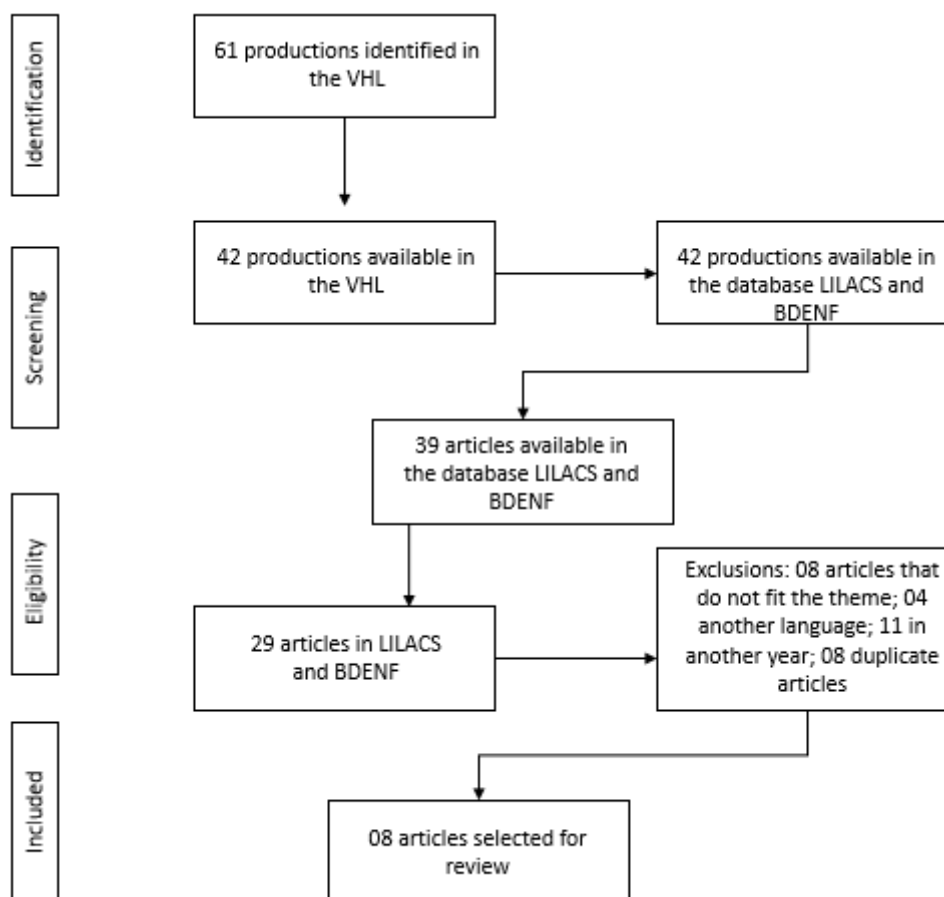
## METHOD

This is a Scoping review, which followed the identification protocol of the research question and the relevant studies; selection of these studies and extraction of data; grouping, summary and reporting of results; consultation with specialists

(optional) to synthesize productions.<sup>6,7</sup> The guiding question was: What has been produced in the scientific literature regarding the actions of the nursing team in the assessment and management of pain in the newborn?

The Virtual Health Library (VHL) was searched in the Latin American and Caribbean Literature in Health Sciences (LILACS) and Nursing Database (BDENF) databases. The following search strategy was used to collect data in the VHL: "DOR" AND "PERCEPTION OF PAIN", AND, "NEWBORN" [Title, abstract, subject]. As inclusion criteria, we selected studies in the temporal cut from 2010 to 2016, which answered the question of the research, published with summaries available and accessed in full by the online medium, in the Portuguese language. Theoretical articles, integrative, narrative and systematic reviews, experience reports, editorials, theses, dissertations, monographs, abstracts, and documents that did not fit the subject matter were excluded. After the articles were located, the summaries of the material found were read and then the data were analyzed. The collection took place in August 2016 and the process is presented in Figure 1.

**Figure 1** - Flowchart of data collection and selection of the studies that compose the sample. Santa Maria, 2017.



Source: Data research (2017)

Data analysis was performed using simple and relative frequency calculations. The activities of the nurses described in the articles were classified by similarity and grouped into categories, using NVivo, version 10.

## RESULTS

The search strategy allowed the retrieval of 61 records. Reading with analysis of titles and abstracts resulted in the

selection of 39 publications for reading in full. From the reading of the full text, a total of eight publications answered the questions guiding the revision of scope and characterize the sample of this theoretical search. Figure 1 represents the selection process of the articles, based on the PRISMA recommendation. Table 1 presents the articles, as authors, year of publication, main objective results, conclusions and keywords.

**Table 1** - Description of articles included in the review. Santa Maria, RS, Brazil, 2017.

Authors and year	Objective	Main results	Conclusions	Registration units
<b>Veronez M, Corrêa DAM, 2010.<sup>8</sup></b>	To describe the perception of nursing professionals working in NICU about pain in the newborn.	The results involve recognition of pain by the participants, use of pharmacological and non-pharmacological measures, venipuncture as the most painful procedure and the need for recognition and evaluation for interventions in the phenomenon.	It is emergency the implantation of a protocol of evaluation of the pain in the unit and training of the team involved, contributing to the humanization of the assistance.	<ul style="list-style-type: none"> <li>• Pain;</li> <li>• Drugs;</li> <li>• Non-pharmacological measures;</li> <li>• Invasive procedures;</li> <li>• Absence of protocols.</li> </ul>
<b>Bemfica AF, Fialho FA, Dias IMAV, Amorim TM, 2013.<sup>9</sup></b>	To discuss the perception of the nursing team regarding the pain of the neonate, identifying the attitudes of these professionals towards the newborn with pain in the NICU.	The professionals, despite identifying the pain of the newborn, link the treatment as an action dependent on the medical prescription.	The deepening of this theme in programs of permanent education so that there is a greater awareness on the part of the professionals.	<ul style="list-style-type: none"> <li>• Pain;</li> <li>• Team building;</li> <li>• Scale evaluation.</li> </ul>
<b>Caetano EA, Lemos NRF, Cordeiro SM, Pereira FMV, Moreira DS, Buchhorn SMM, 2013.<sup>10</sup></b>	To describe the forms of pain evaluation of the newborn used by the nursing team and to analyze the nursing practice regarding the pain management of the neonate.	Respondents believe that the newborn is able to feel pain. However, there is no use of standardized pain assessment scales in institutions.	There is a need to train professionals, contributing to the evaluation and management of pain, and promoting integral care for the newborn.	<ul style="list-style-type: none"> <li>• Need for pain scales</li> <li>• Protocols for assessing pain;</li> <li>• Continuing Education.</li> </ul>
<b>Amaral JB, Resende TA, Contim D, Barichello E, 2014.<sup>11</sup></b>	To identify the forms of evaluation and management of the pain of the premature newborn.	All the professionals agreed on the ability of the RN to feel pain. The cry, 42 (100%); face, 40 (95.2%); and heart rate, 39 (92.8%) were the most mentioned evaluation parameters.	They use non-pharmacological measures. There is no use of scales. The team believes in the need for training on the subject.	<ul style="list-style-type: none"> <li>• Cry;</li> <li>• Facial mimics;</li> <li>• Measuring scales;</li> <li>• Continuing Education;</li> <li>• Non-pharmacological measures.</li> </ul>

<b>Monfrim XM, Saraiva LA, Moraes CL, Viegas AC, 2015.</b> <sup>12</sup>	To know the nurses' perception regarding the use of an instrument to assess pain in preterm infants.	The following categories were addressed: Scale for pain assessment in preterm infants: nurses' perception and pain scale and the premature: its implementation. It is noticed that the nurses are not aware of the new technologies used to measure the pain.	Team building is a strategy for understanding pain, as everyone can perceive it.	<ul style="list-style-type: none"> <li>• Pain Scales;</li> <li>• Not knowing how to measure pain;</li> <li>• Team building;</li> <li>• Perception of pain.</li> </ul>
<b>Silva GM, Figueiredo MGS, Kameo SY, Oliveira FM, Santos AD, 2015.</b> <sup>13</sup>	To verify the knowledge that neonatal intensive care unit nurses have about pain in the newborn.	Six categories emerged: nurses' perception of mother, newborn, family interaction; concept and recognition of pain; nurses' knowledge about pain scales; attitudes of nurses in pain relief; nurses' perceptions about humanization in the neonatal intensive care unit.	The professionals perform measures of pain relief and promote interaction with the family, but present difficulties in the implantation of protocols that allow the more adequate management of pain.	<ul style="list-style-type: none"> <li>• Pain;</li> <li>• Family;</li> <li>• Scale;</li> <li>• Conduct for pain management;</li> <li>• Protocols.</li> </ul>
<b>Costa KF, Alves VH, Dames LJP et al., 2016.</b> <sup>14</sup>	To analyze the nurses' perception about the pain clinic in the neonate in the neonatal intensive care unit.	They evaluate neonatal pain for physiological and behavioral signals. No method of evaluation is mentioned.	Need to institute the use of protocols and scales for the evaluation of neonatal pain indicators in practice.	<ul style="list-style-type: none"> <li>• Physiological signs;</li> <li>• Behavior of the newborn;</li> <li>• Pain Scales;</li> <li>• Protocols.</li> </ul>
<b>Silva PC, Marinho EFC, Santos LOS, 2016.</b> <sup>15</sup>	To analyze the perception of health professionals about pain in premature, the form of evaluation, use of scales and protocol for treatment.	The health professionals involved in the research believe that the newborn feels pain, but they find it difficult to evaluate..	There is a need for a permanent education of this multiprofessional team in relation to pain in the neonatal period, highlighting the scales available and the use of protocols for this evaluation.	<ul style="list-style-type: none"> <li>• Difficulty measuring;</li> <li>• Permanent education;</li> <li>• Multiprofessional teams;</li> <li>• Scales;</li> <li>• Protocols.</li> </ul>

Source: Data research (2017)

In the selected studies, the research was conducted through interviews directed to nursing professionals, covering the knowledge and perception about pain in the NB, the use or not of instruments to assess pain and also strategies used for its management. The nursing team (nurses, technicians and nursing assistants) and 12.5% of the nurses, nurses, physiotherapists, physicians and nurses were interviewed with only 50% of the studies. psychologists). Regarding the design of the selected articles, five (62.5%) qualitative exploratory, two (25%) transversal quantitative and one (12.5%) quantitative exploratory were identified.

Regarding the year of publication of the articles, two studies (25%) were published in 2016, two (25%) in 2015, one (12.5%) in 2014, two (25%) in 2013 and one (12.5%) in 2010.

For the discussion purposes, three categories emerged: "The perception of nursing professionals regarding the knowledge of neonatal pain, the means of evaluation and the use of pain scales" and "Non-pharmacological measures used in the management of neonatal pain".

## DISCUSSION

In the first category we identify the perception of nursing professionals

regarding the knowledge of neonatal pain, the means of evaluation and the use of pain scales. It was possible to verify through the literature that nursing professionals recognize that newborns are capable of experiencing pain. This result was transmitted by them through their experiences of the work routine, their beliefs and values.<sup>8-15</sup>

Although all respondents believe that the newborn feels pain, the responses of two studies differ in that the newborn is more sensitive to pain than adults or older children. Interviewees believe that the immaturity of the NN's nervous system makes it more sensitive to pain<sup>8</sup> than in the study<sup>9</sup> whose answers indicated that there was no difference in pain sensitivity between the age groups. Although the literature affirms that the intensity with which the neonate perceives the pain, is greater than of the other age groups because of the immaturity of its mechanisms of inhibitory control of the pain because it only becomes functional after the first weeks after the birth, and this makes it more sensitive.<sup>16</sup>

Thus, the NB, mainly the preterm, can not effectively modulate painful stimuli, which limits their ability to cope with pain and stress. This immaturity in modulation, instead of inhibiting, increases the pain sensation and triggers generalized



and exaggerated responses, especially in preterm NB.<sup>2,3,8</sup>

Pain in the neonatal period is identified by respondents<sup>8 11, 13-15</sup> through the observation of behavioral and physiological aspects. In this way, parameters are used, among which the most cited were: crying, facial mimetics and body movement. In 75% of the studies, crying is the most commonly reported behavioral parameter as a way of identifying whether the newborn has pain. Some of the interviewees report identifying the difference between crying and crying for other discomfort. The choro emission is tense and strident, with a sharper tone and increased duration. Usually the crying has a certain melodic pattern and a frequency of 80 decibels.<sup>3</sup>

In the presence of painful stimuli the crying suffers delicate alterations such as prolongation of the expiratory phase, loss of melodic pattern, increase in duration and the most acute tone.<sup>3</sup> The cry of pain is strident and has ascending-descending melody, long duration and a frequency of 530 Hertz.<sup>17</sup>

Thus, crying is defined as a primary method, noting that during painful procedures, 50% of babies do not cry. Moreover, it may indicate hunger and / or discomfort of this newborn.<sup>8,9,13,14</sup> Therefore, as an isolated method, crying is questionable and not specific enough to be

used as an evaluation of pain in clinical practice.<sup>18</sup>

Facial mimics were addressed in the studies<sup>9-11,13,14</sup> as being one of the parameters most used in the study of pain in the newborn. It stands out protruding forehead, narrowed palpebral cleft, deep nasolabial groove, parted lips, stretched mouth, chin tremor and tense tongue. A very useful method, specific in the routine for pain evaluation, however, the face changes do not provide information about the quality and intensity of pain. In addition, changes to acute painful stimuli are known to occur, but are not known in the face of prolonged and repetitive stimuli.<sup>3</sup>

As for body movement<sup>11,13,15</sup> cited as a perception of pain through muscular contractions, continuous movements of arms and legs, irritability. The ease in identifying the movement of the NB in the day-to-day of the NICU, along with the relationship between the pain stimulus and alteration in this behavior, besides the existence of specific movements associated with the pain sensation, explain and prove the importance of the observation of the motor response in the evaluation of pain in these patients.<sup>17</sup>

Physiological changes are also observed and attributed to the painful process, but they are quoted to a lesser extent than behavioral changes. The most commonly reported physiological changes

were increased heart rate and respiratory rate and decreased oxygen saturation.<sup>8 - 11, 13-15</sup>

The parameters that may suggest pain are increased heart rate and respiratory rate, decreased oxygen saturation, changes in blood pressure and intracranial pressure, dilation of the pupils, tremors as well as decreased gastric motility, cyanosis and palmar sweating, as well as changes metabolic and endocrine, with increased hormones such as cortisol, noradrenaline and adrenaline.<sup>19,20</sup>

Therefore, there may still be episodes of apnea, use of glucose reserves, changes in cerebral blood flow and ventricular hemorrhage, venous congestion and hypoxia.<sup>17,19,20</sup> These changes affect the homeostatic balance of the newborn, which due to its clinical conditions is unstable and precarious. These physiological changes, despite the ease of verification and good applicability, are not very specific for pain, because they can occur due to the very pathology of the newborn, or even to uncomfortable but not painful situations.<sup>17</sup>

Physiological changes can be used in the assessment, qualification and quantification of the pain stimulus, but only when inserted in the context in which the neonate is present, and also accompanied by behavioral or multidimensional methods, pain assessment scales.<sup>21</sup>

The creation of pain assessment instruments was a major advance for the evaluation of newborns. Several methods have been published and are valid for clinical use in recent years, bringing benefits in treatment in this age group. The pain scales, make the evaluation of the newborn more objective, in order to guarantee the safer intervention.<sup>22</sup>

When questioned about the existence of scales that evaluate pain in the newborn, none of the analyzed articles showed significant use and evaluation of the pain scales.<sup>8-15</sup> Demonstrating a fragility, since the instruments that evaluate pain in the newborn are available and described in the literature since the late 1980s. There is no institutional policy, nor even use of a care protocol for the evaluation of pain in newborns admitted to a NICU.<sup>23</sup>

The NIPS pain assessment scale presented the highest reported knowledge of scales, was the most cited, with 70.96% of professionals. However, in practice, the responses were not specific to the use of some type of scale.<sup>11</sup> Still, of the 42 professionals who participated in a study<sup>10</sup>, one used the NIPS scale to assess pain. When they mention NIPS, it is demonstrated that professionals recognize pain by behavioral and physiological parameters together, since in the evaluation the isolated parameters are not adequate.<sup>10,22</sup>

The nurses reported knowing some pain rating scales such as the NIPS (Neonatal Infant Pain Scale), NFCS (Neonatal Facial Condin System) and PIPP (Premature Infant Pain Profile), but there is no pain scale implanted in the routine of the unit.<sup>13</sup> NIPS, NFCS and PIPP scales were the most found in the literature related to the evaluation of a specific painful procedure and the NIPS, NFCS and "faces" scales incorporated into the routine of the NICU, there is a predominance of NIPS in the two mentioned forms of use.<sup>24</sup>

Actions directed to the application of a scale by nurses were identified during the period of two weeks to hospitalized preterm infants. It is noteworthy that the professionals of the study are unaware of the instruments for evaluating pain, and the challenge for nursing is not the perception but the training of the team, since no instrument was used in the study unit.<sup>12</sup>

In the second category, non-pharmacological approaches to pain management in NB are discussed. The majority of respondents use their own strategies, but without a preventive measure.<sup>8-10,13,15</sup> The authors<sup>8</sup> believe that the low rate of intervention is due to the fact that this topic is little explored during professional training. The preventive measure, always before planned, can avoid possible clinical, physiological and / or

psychological sequelae in the short and long term.<sup>25</sup>

Although non-pharmacological measures have been cited by higher education professionals, they are still dependent on medical prescription, with difficulty intervening with other methods besides sedation and analgesia.<sup>9</sup>

In the studies<sup>10,11</sup> they were highlighted as professionals' behavior regarding neonatal pain signs, handling / positioning interventions, non-nutritive sucking. The manipulation / positioning behavior with certain restraint can be considered postural support, the neonate feels cozy and its organization is preserved, since the facilitated containment limits NB as it did in the uterine environment.<sup>1</sup> This intervention acts in the CNS, since it sends a cascade of stimuli that compete with the pain sensation modulating the perception of the nociception.

Among the non-pharmacological interventions to prevent or treat pain, the most cited were the use of glucose or non-nutritive suction, promotion of comfortable environment, minimal handling and the Kangaroo method. All reported methods have already been tested and proven to reduce pain in pain.<sup>13</sup>

The use of glucose or non-nutritive suction was also cited as a non-pharmacological measure before and during painful procedures.<sup>13,15</sup> Its efficacy in

relieving neonatal pain has already been proven, especially with regard to glucose and sucrose. It decreases crying time, increased oxygenation, decreased frequency and energy expenditure, promoting rest and analgesia.<sup>22,23</sup>

## CONCLUSION

The results of this study allowed the identification of nursing team actions in the evaluation and management of pain in the newborn. They demonstrated that although nursing professionals recognize the pain of the newborn, there is still a great deal of distance between the theoretical knowledge, the use of scales and the practitioners' practical conduct in relation to the evaluation and management of neonatal pain. Therefore, the evidence demonstrates that the evaluation of pain through scales is not a reality, nor is there a systematization for this assistance of the NB in the management of pain.

As a limitation of the study, it is considered the delimitation of the search period in six years that may have disregarded articles that would contribute to aggregate results the research question. Thus, training with continuing education of the nursing team is required, with specific knowledge and in depth knowledge and perception of pain, highlighting the use of available technologies and the

implementation of protocols for the evaluation of pain as a mandatory practice that favors a assistance to the newborn.

## REFERENCES

- 1 Brasil. Ministério da Saúde. Atenção à saúde do recém-nascido: guia para os profissionais de saúde. Brasília (DF): Ministério da Saúde; 2012. (Cuidados com o recém-nascido pré- termo; 4).
- 2 Mola LA, Sa FE, Frota MA, Estudo comparativo do desenvolvimento sensorio motor de recém-nascidos prematuros da unidade de terapia intensiva neonatal e do método canguru RBPS. 2005; 18 (4):191-8. Disponível em: <http://www.redalyc.org/html/408/40818406/>
- 3 Guinsburg R, Leslie ATS, Covolan L. Consequência da dor repetida ou persistente no período neonatal. Com Ciência. Revista Eletrônica de Jornalismo Científico 2007 Disponível em: <http://www.comciencia.br/comciencia/?section=8&edicao=24&id=269>
- 4 Bueno M, Kimura AF, Pimenta CAM. Avaliação da dor em recém-nascidos submetidos à cirurgia cardíaca. Acta Paul. enferm. 2007; 20(4):428-33. Disponível em: <http://www2.unifesp.br/acta/pdf/v20/n4/v20n4a7.pdf>
- 5 Lago CW, Ferreira GG, Lima JB, Ribeiro SFF, Santos VPV. Avaliação e manejo da dor neonatal no contexto da unidade de terapia intensiva neonatal [Monografia] Graduação no curso de Bacharelado em Enfermagem. Brasília (DF): Departamento de Enfermagem e Instituto de Ciências da Saúde da Universidade Paulista – UNIP; 2007.
- 6 Arksey HO, O'Malley L. Scoping studies: Towards a Methodological Framework. Int J Soc Res Methodol. 2005; 8 (1):19-32. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2954944/pdf/1748-5908-5-69.pdf>

- 7 Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci.* 2010;5:69. Disponível em: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2954944/>
- 8 Veronez M, Corrêa DAM. A dor e o recém-nascido de risco: percepção dos profissionais de enfermagem. *Cogitare Enferm.* 2010; 15(2):263-70. Disponível em: <https://www.revistas.ufpr.br/cogitare/articledownload/17859/11652>
- 9 Alves, FB, Fialho FA Dias IMAV, Amorim TM, Salvador M Dor neonatal: a percepção da equipe de enfermagem na unidade de terapia intensiva neonatal. *Revista CUIDARTE*, 2013 4(1):510-515. Disponível em <https://www.revistacuidarte.org/index.php/cuidarte/article/view/11/107>
- 10 Caetano EA, Lemos NRF, Cordeiro SM, Pereira FMV, Moreira DS, Marques SM. The new-born with pain: the role of the nursing team. *Esc Anna Nery (print)*2013; 17 (3):439 – 445. Disponível em: <http://www.scielo.br/pdf/ean/v17n3/1414-8145-ean-17-03-0439.pdf>
- 11 Amaral JB, Resende TA, Contim D, Barichello E. Equipe de enfermagem diante da dor do recém-nascido pré-termo. *Esc Anna Nery* 2014;18(2):241-246. Disponível em: <http://www.scielo.br/pdf/ean/v18n2/1414-8145-ean-18-02-0241.pdf>
- 12 Monfrim XM, Saraiva LA, Moraes CL, Viegas AC. Escala de avaliação da dor: percepção dos enfermeiros em uma unidade de terapia intensiva neonatal. *Rev Enferm UFSM* 2015;5(1):12-22. Disponível em: <https://periodicos.ufsm.br/reufsm/article/view/15049/pdf>
- 13 Silva GM, Figueiredo MGS, Kameo SY, Oliveira FM, Santos AD. Conhecimento das enfermeiras atuantes em unidade de terapia intensiva frente a dor no recém-nascido pré-termo. *Revista Iberoamericana de Educación e Investigación en Enfermería* 2015; 5(1):47-55. Disponível em: <http://www.enfermeria21.com/revistas/aladefe/articulo/150/>
- 14 Costa KF, Alves VH, Dames LJP et al. Manejo clínico da dor no recém-nascido: percepção de enfermeiros da unidade de terapia intensiva neonatal. *J. rev. fundam. care. online* 2016. jan./mar. 8(1):3758-3769. Disponível em: [http://www.seer.unirio.br/index.php/cuidadofundamental/article/viewFile/3950/pdf\\_1786](http://www.seer.unirio.br/index.php/cuidadofundamental/article/viewFile/3950/pdf_1786)
- 15 Silva PC, Marinho EFC, Santos LOS. A percepção dos profissionais de saúde sobre a dor em prematuros. *Revista Diálogos & Ciências*, 2016, 36. Disponível em: [http://periodicos.ftc.br/index.php/dialogos/article/view/18/pdf\\_03](http://periodicos.ftc.br/index.php/dialogos/article/view/18/pdf_03)
- 16 Guinsburg R. Avaliação da dor no recém-nascido. *Jornal de Pediatria*, 1999; 75(3):149-160. Disponível em: <http://www.jped.com.br/conteudo/99-75-03-149/port.pdf>
- 17 Guinsburg R, Cuenca MC. A linguagem da dor no recém-nascido. Documento científico do Departamento de Neonatologia, Sociedade Brasileira de Pediatria [online]. 2010 [acesso 2012 Mai 21]; Disponível em: [http://www.sbp.com.br/pdfs/doc\\_linguagem-da-dor-out2010.pdf](http://www.sbp.com.br/pdfs/doc_linguagem-da-dor-out2010.pdf)
- 18 Oliveira RM, Silva AVS, Chaves EMC, Sales NC. Avaliação comportamental e fisiológica da dor em recém-nascidos pelos profissionais de enfermagem. *REME – Rev Min Enferm* 2010; 14(1):19-24. Disponível em: <http://www.dx.doi.org/S1415-27622010000100003>
- 19 Barbosa SMM et al. A Dor no recém-Nascido: prevenção e terapêutica. *Revista Dor*, 2000, 2(2):26-35. Disponível em: <http://www.scielo.br/pdf/rdor/v14n1/v14n1a06.pdf>
- 20 Gaíva MAM, Dias NS. Dor no recém-nascido: percepção de profissionais de saúde de um hospital universitário. *Rev Paul Enfermagem*, 2002; 21(3):234-9. Disponível em:

<http://eduem.uem.br/ojs/index.php/CiencCuidSaude/article/viewFile/6626/3905>

21 Guimarães ALO, Vieira MRR.

Conhecimento e atitudes da enfermagem de uma unidade neonatal em relação à dor no recém-nascido. Arq. bras. ciênc. saúde. 2008;15(1):9-12. Disponível em:

[http://repositorio-racs.famerp.br/racs\\_ol/vol-15-1/IIIDDDD220.pdf](http://repositorio-racs.famerp.br/racs_ol/vol-15-1/IIIDDDD220.pdf)

22 Silva PT. Escalas de avaliação da dor utilizadas no recém-nascido. Rev Acta MedPort 2010; 23 (3):437-54. Disponível em: [www.scielo.br/scielo.php?pid=S0103-05822014000400395&script=sci...pt](http://www.scielo.br/scielo.php?pid=S0103-05822014000400395&script=sci...pt)

23 Santos LM, Pereira MP, Santos LFN, Santana RCB. Avaliação da dor no recém-nascido prematuro em unidade de Terapia Intensiva. Rev. Bras. Enferm. 2012, 65(1):27-33. Disponível em:

<http://www.scielo.br/pdf/reben/v65n1/04.pdf>

24 Presbytero R, Costa MLV, Santos RCS. Os enfermeiros da unidade neonatal frente ao recém-nascido com dor. Revista da rede de enfermagem do Nordeste.2010; 11(1):125-32. Disponível em:

[http://www.revistarene.ufc.br/vol11n1\\_html\\_site/a13v11n1.htm](http://www.revistarene.ufc.br/vol11n1_html_site/a13v11n1.htm)

25 Medeiros MD, Madeira LM. Prevenção e tratamento da dor do recém-nascido em terapia intensiva neonatal. Rev Min Enf 2006; 10(2):118-24. Disponível em:

<http://www.reme.org.br/artigo/detalhes/395>

26 Aquino FM, Christoffel MM. Dor neonatal: medidas não-farmacológicas utilizadas pela equipe de enfermagem. Rev. Rene, 11, Número Especial, p. 169-177, 2010. Disponível em:

[http://www.revistarene.ufc.br/edicaoesspecial/a19v11esp\\_n4.pdf](http://www.revistarene.ufc.br/edicaoesspecial/a19v11esp_n4.pdf)

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