

**PERCEPTION OF THE NURSING TEAM ABOUT PAIN EVALUATION IN  
PREMATURE NEWBORNS****PERCEPÇÃO DA EQUIPE DE ENFERMAGEM ACERCA DA AVALIAÇÃO DA  
DOR EM RECÉM-NASCIDOS PREMATUROS****PERCEPCIÓN DEL EQUIPO DE ENFERMERÍA EN LA EVALUACIÓN DEL  
DOLOR EN RECIÉN NACIDOS PREMATUROS**

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**ABSTRACT**

**Objective:** To understand the actions of nurses in the assessment and management of pain in premature newborns admitted to a neonatal intensive care unit. **Method:** Descriptive study with a qualitative approach, developed with seven nurses working in a maternity hospital. The data were obtained through semi-structured interviews and the information was analyzed using the thematic content analysis method. The project was approved by the Research Ethics Committee. **Results:** From the analysis, two thematic categories emerged: “How the nurse assesses pain in the premature newborns” and “Actions of the nurse in the face of pain in the premature newborns”. The nurses stated that they were aware of painful situations, however, it is noted that their identification occurred in a fragmented and superficial way. The techniques employed study showed the need to establish a system of assistance. **Conclusion:** In the nursing team, there is still a great distance between theoretical knowledge, the use of scales and practical conduct regarding the assessment and management of pain in premature newborns.

**Descriptors:** Pain; Infant premature; Nurses; Neonatal intensive care unit.

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## RESUMO

**Objetivo:** Compreender as ações do enfermeiro na avaliação e no manejo da dor nos recém-nascidos prematuros internados em uma unidade de terapia intensiva neonatal. **Método:** Estudo descritivo de abordagem qualitativa, desenvolvido com sete enfermeiras atuantes em uma maternidade. Os dados foram obtidos por meio de entrevista semiestruturada e as informações analisadas pelo método de análise de conteúdo temática. O projeto foi aprovado pelo Comitê de Ética em Pesquisa. **Resultados:** A partir da análise emergiram-se duas categorias temáticas: “Como o enfermeiro avalia a dor no recém-nascido prematuro” e “Ações do enfermeiro diante da dor no recém-nascido prematuro”. As enfermeiras afirmaram terem percepção de situações dolorosas, porém, nota-se que sua identificação ocorria de forma fragmentada e superficial. As técnicas empregadas no estudo evidenciaram a necessidade de estabelecer uma sistemática na assistência. **Conclusão:** Na equipe de enfermagem ainda existe uma grande distância entre o conhecimento teórico, o uso de escalas e a conduta prática quanto à avaliação e manejo da dor de recém-nascidos prematuros. **Descritores:** Dor; Recém-nascido prematuro; Enfermeiros; Unidade de terapia intensiva neonatal.

## RESUMEN

**Objetivo:** Conocer las acciones del enfermero en la evaluación y manejo del dolor en recién nacidos prematuros ingresados en una unidad de cuidados intensivos neonatales. **Método:** Estudio descriptivo con abordaje cualitativo, desarrollado con siete enfermeras que laboran en una maternidad. Los datos se obtuvieron a través de entrevistas semiestructuradas y la información se analizó mediante el método de análisis de contenido temático. El proyecto fue aprobado por el Comité de Ética en Investigación. **Resultados:** Del análisis surgieron dos categorías temáticas: “Cómo valora el enfermero el dolor en el recién nacidos prematuros” y “Acciones del enfermero ante el dolor en el recién nacido prematuro”. Las enfermeras manifestaron conocer situaciones dolorosas, sin embargo, se observa que su identificación ocurrió de manera fragmentada y superficial. Las técnicas empleadas estudio mostraron la necesidad de establecer un sistema de asistencia. **Conclusión:** En el equipo de enfermería, aún existe una gran distancia entre los conocimientos teóricos, el uso de escalas y la conducta práctica en la evaluación y manejo del dolor en recién nacidos prematuros. **Descriptor:** Dolor; Recién nacido prematuro; Enfermeros; Unidades de cuidado intensive neonatal.

## INTRODUCTION

Prematurity is a factor that increases death rates in the neonatal period, resulting in conditions that are difficult to measure for newborns (NBs). Those who evolve with a good prognosis, manage to overcome this initial moment of life.<sup>1</sup> The term prematurity is defined as birth before 37 weeks of gestation and its consequences are numerous, such as: low birth weight, respiratory, eye problems, delays in motor

development, immaturity of organs and systems.<sup>1</sup>

It was believed for a long time that NBs, especially preterm infants, did not have the ability to feel pain, due to their low neurological development and their lack of communication.<sup>2</sup> It was identified in a study that hospitalized NBs can go through 50 to 150 painful procedures daily.<sup>3</sup>

Pain can be established as a subjective and individual sensation, related to a real or potential tissue injury. When addressing the neonatal period, this assessment can be classified into two parameters: behavioral and physiological. The first includes facial expressions, body movements and crying; for the second, the changes in cardiac and respiratory rhythm, systemic blood pressure and oxygen saturation stand out.<sup>4</sup>

For the assessment of pain to be effective, instruments capable of guaranteeing the understanding of the manifestations triggered by the NB are necessary. Scales are used that are characterized by obtaining parameters, expressed in physiological and behavioral changes, which are based on certain expressions presented after a painful stimulus.<sup>5,6</sup>

To assess and promote adequate pain management through pharmacological and non-pharmacological treatments, the nursing team must have sufficient knowledge so that the care provided to the newborn is of a high quality. Thus, the present study is part of the proposal to seek measures to assess and minimize the pain of newborns by nurses in neonatal intensive care units (NICU), aiming at changes in the standard of care, from the perspective of evidence-based practice, and sensitizing nursing professionals regarding

the assessment and management of neonatal pain. It is intended, therefore, to provide subsidies for future studies and actions in health services in favor of improving neonatal care in relation to adequate pain management.

Considering the importance of an adequate assessment of pain as well as its management in newborns and the possible suffering that can be attenuated or prevented, this study raised the following problem: “How is the pain assessment and its management performed by nurses in premature newborns?” and aimed to understand nurses' actions in the assessment and management of pain in premature newborns admitted to an NICU.

## **METHODS**

Exploratory, descriptive study with a qualitative approach, carried out in a public maternity hospital in a city in the interior of Bahia, Brazil.

NICU care nurses who accepted to participate voluntarily were selected for this study. The exclusion criteria were nurses who were on leave due to leave, vacation or were not present during the data collection period. The study sample consisted of 07 nurses. A previous survey was not carried out to identify the potential number of participants. This was determined according to the saturation

principles, that is, testimonials without new information.

Data collection took place in May 2017, through a semi-structured interview that contained questions about the participants personal data and technical and practical knowledge about the newborn's pain management: "At what moments in your work in the neonatal unit do you perceive the presence of pain in premature newborns?"; "What signs do you use to identify that a premature newborn is in pain?"; "What do you do when you realize that a premature newborn is in pain?" and "What did your NICU institute to assess pain in premature newborns?"

Participants read the Informed Consent Form (ICF) and signed it. The interview started with the aid of an audio device for recording in a private space and the data was transferred to a microcomputer, where they were transcribed and analyzed. Each interview lasted an average of 30 minutes, within the hospital.

For the analysis of the information collected, the Content Analysis method was used,<sup>7</sup> consisting of three stages: pre-analysis (deep reading to achieve greater intimacy with the selected material); the exploration of the material (identification and selection of the main lines and keywords); and the interpretation (relation

of the material analyzed in a synthesized way with the objectives and the problem raised).<sup>7</sup>

The study was approved by the Ethics and Research Committee with Human Beings under opinion n. 2.060.580 and complied with Resolution 466/2012 of the National Health Research Council, which deals with research involving human beings.

The fundamental principles of research ethics and confidentiality in relation to identity and information provided during the interview were respected. Pseudonyms were used with code "E" ("interviewee") followed by a sequential number (for example: E1, E2, E3) during and at the end of the interview, which was carried out with the presence of an interviewer and the participant in a reserved place .

## **RESULTS AND DISCUSSION**

Sociocultural profile of NICU nurses

All people interviewed were female (100%). Among them, 71,4% were specialists in Neonatology and 28,6% had no specialization. As for training time, 28,6% obtained their degree in a recent period, from 0 to 5 years, and 71,4% completed between 5 and 10 years. Regarding the length of experience in the sector, the data obtained showed that

71,4% of nurses worked between 0 and 5 years, and that 28,6% had a variation in the length of experience from 5 to 10 years. Among the interviewees, 42.8% had more than one specialization, one in Public Health and two in Urgency and Emergency.

Characteristics such as supplementary academic training and longer experience in the field of neonatology have been directly linked to the degree of knowledge of the health professional.<sup>8</sup> However, even with specialization in the area, the action of effective care in pain relief can be reduced in the face of the lack of practice and qualification focused on this aspect.<sup>8,9</sup>

From the analysis, two categories emerged (C), namely: 1 - How the nurse assesses pain in premature newborns; 2 – Actions of the nurse in the face of pain in the premature newborns.

C1: How the nurse assesses pain in the premature newborn

As for the pain assessment process, crying and facial expression were the most common signs in the NICU nurses' statements, associated with other parameters such as physiological. The assessment of the latter was scarcely addressed during the research, as the

interviewees used behavioral assessment as the most prioritized for the identification of pain.

The testimonies illustrate the ability of nursing professionals to identify pain, however, this assessment can be performed late, when the presumptive signs of pain are already quite advanced and the premature NB is extremely stressed:

*By facial expression, crying, changes in vital signs, such as heart rate, respiratory rate, saturation (E1).*

*We realize that he is really in pain, he is very angry (E2).*

The newborn usually demonstrates a specific cry when it provokes some stimulus that causes pain. Although there is no guarantee that the sound made by the baby will always be painful, as there are several factors that may be causing the discomfort, making it difficult most of the time for the team to identify the reason for the cry only through the sound.<sup>4,10</sup>

Regarding the behavioral issue, nurses showed an association with intubation, where premature newborns are unable to express themselves through sounds and it is the body movements that indicate the installed painful process.

*As most intensive care patients are intubated, then we notice his behavioral issue, if he is shrinking (E4).*

Associated with this sound practice, signs should be observed in the child's body language in order to have a more

accurate reading of what is causing the discomfort.<sup>4</sup>

*When they feel pain, they usually close their hands a lot as if they were shaking their hands to show that they are in pain (E7).*

One of the most frequent means to assess what causes changes in premature newborns is the observation of facial expressions, followed by body movements, with crying being the main alert so that there is a professional approach from nurses who must be attentive to all the signals emitted by the child in your care.<sup>10,11</sup>

For the assessment of pain in the neonatal period, behavioral and physiological parameters can be used where some signs such as heart and respiratory rate and oxygen saturation change when the pain occurs.<sup>4</sup>

It was noticeable in the interview, the care for premature newborns in relation to external stimuli and the awareness of most of the interviewees in relation to their fragility. Meanwhile, other professionals keep their gaze focused only on the discomfort generated by the devices used in premature newborns:

*“Many times we notice skin lesions, a fever, irritating crying, light, in the light, when it irritates the baby's eye, in fact, the premature newborn is very sensitive to any stimulus (E6).*

*When we are manipulating the patient who is using a certain type of probe, equipment (E3).*

The act of manipulating is classified as care performed in the newborn that can lead to stress and can be performed at any time. Excessive movement in newborns affects their relaxation, causing numerous changes and premature stress on the quality of their development.<sup>12</sup>

Several factors can harm the health of premature newborns, so care and nursing techniques must ensure a way to minimize the risk and discomfort of the baby while he remains in the NICU, such as the incidence of excessive light that can lead to stress, interfering with its development.<sup>10,13</sup>

It is known that in the ICU neonates are exposed to several procedures, among them, some invasive ones that cause pain and destabilize their hemodynamics, with emphasis on the need for punctures, passages of orogastric and bladder tubes, collection of exams and intubation. Often such procedures occur in a traumatic way, despite all care for their performance, bringing tension, agitation and discomfort.<sup>14</sup>

In view of all the occasions when it is possible to recognize the painful process, a nurse mentioned that it is only during the performance of procedures that she is likely to perceive this pain, which will generate an assessment and poor conduct in the care of this premature newborn.

*During procedures only (E5).*

It is noted that there is a concern about the needs for continuous assessment during the period of work in the NICU, when it is mentioned that there is no isolated moment for the perception of pain, because by making a constant observation, there will be no moments when the premature NB is feeling pain and the team does not realize to intervene adequately or perform the necessary prevention.<sup>8,9</sup>

*“Those who work in the intensive care unit are actually under constant surveillance, so they don't have an isolated moment to notice the patient's pain. (E4).*

Nursing care becomes a priority in neonatal care, seeking assistance focused on humanization through a meticulous look, in order to always be alert to the needs of premature newborns. It is necessary to contribute to its proper development and the implementation of actions aimed at assistance.<sup>8</sup>

More experienced nurses are able to identify whether crying occurs due to hunger, pain or eliminations. It is known that crying in pain has a peculiar and characteristic form, with this, professionals who do not have so much time in the assistance may have doubts about the particularities that these signs may present and not know what it is intended for.<sup>9,10</sup>

*So, as a professional, we have to know the right moment, have a broad view of when the baby is fine, calm, comfortable and when the baby is in pain. And it is very easy, for those who have*

*experience, to understand, crying is different from crying from sleep, from crying from hunger, from crying like a pee, crying is different (E6).*

*We notice the presence more in relation to irritability, crying, we don't have one hundred percent like that, right? (E2).*

The ability demonstrated when performing pain identification is influenced by technical competence and the length of experience in the area, as the fact that the newborn cannot express himself verbally, causes his complaints to be expressed through signals emitted by the child.<sup>11,13</sup>

The perception of pain is made by changing the physiological and behavioral profile of the newborn through stimuli performed. The identification of situations that cause pain will cause the professional to seek strategies for the relief of that pain.<sup>15</sup>

Due to the absence of a protocol in the unit where the research was carried out, pain measurement becomes superficial and parameters are used to analyze pain, signs that, when observed in a fragmented and random way, do not bring so much reliability.

Some professionals pointed out that, even with the existence of some pain assessment methods, this conduct is still little used and that the implementation of a specific scale is awaited so that assistance is systematized.

*We use very little methods to assess pain, which we have on the scale, on the face, among others. We are using very little (E3).*

*We have a pain scale project, it is already underway (E5).*

In order to identify the various ways of assessing pain in the neonate, assessment scales were created so that one could more objectively, with specific parameters, understand the moments that cause pain in the newborn and, through this, intervene effectively. The application of these scales minimizes errors in situations that cause pain and that are often imperceptible. The association of physiological and behavioral factors represents a reliable analysis of this assessment.<sup>15,16</sup>

*In fact, we in the ICU, we already have this scale, which is a scale to assess the degree of pain of the premature (E6).*

*We have the NIPS scale, right, where the daily assessment is done (E7).*

*We use the NIPS scale, which is generally used by most professionals (E1).*

Multidimensional scales, such as the Neonatal Infant Pain Scale (NIPS), were created with the main objective of interpreting the behavioral and physiological signs presented by the NB, facilitating and guiding the team in actions for the prevention and management of pain.<sup>6</sup>

It is noticeable that some nurses are unaware of the parameters used in the

scale, when defining it only as an instrument to assess the degree of pain.

C2: Actions of the nurse in the face of pain in the premature newborns

Several pain relief techniques were highlighted, encompassing both pharmacological and non-pharmacological measures, and preference for a particular method.

During less invasive procedures such as venipuncture, blood collection and aspiration of the airways, non-pharmacological management of pain relief can be used, such as: nutritive suction, use of glucose, promotion of a comfortable environment and method Kangaroo. These devices favor the reduction of crying time, improvement of oxygenation and energy expenditure, promoting rest and analgesia.<sup>17,18</sup>

In cases of more complex procedures or that can generate a long-lasting and intense stimulus, a pharmacological intervention is recommended, which happens through the use of anti-inflammatory drugs, opioids and anesthetics with local effect. In addition, these methods can also be used in combination to enhance relief.<sup>17,18</sup>

The need to use a preventive approach was evidenced whenever pain could be triggered. In the case of



procedures such as venipuncture, among others, prevention is better than waiting for the painful stimulus to occur in order to intervene or relieve it.

*We notice this perception of pain in the premature baby at the time of a venipuncture (E6).*

Non-pharmacological methods were the most cited by the interviewees and showed to be used during the routine of the neonatal unit, such as those observed in the following report:

*We have other measures as well... non-pharmacological ones, which are changes in decubitus, therapeutic touch, to encourage the improvement of this baby (E1).*

There was concern about the comfort provided to premature newborns, highlighting the team's understanding of the need for differentiated care for this patient.

Several professionals cited glucose as a way to reduce painful stimuli, in addition to arguing that this is the most effective way to obtain such a result. This demonstrates knowledge about the effects of using this substance to decrease and / or prevent the painful effect.

*First we offer glucose that helps to reduce pain (E5).*

*We basically use twenty-five percent glucose to prevent him from feeling pain (E2).*

The use of glucose is based on the stimulation of endogenous opioids, physiological neurotransmitters that regulate the sensation of pain, causing the

newborn to calm down before performing a procedure.<sup>9</sup>

*Put it as if it were inside a cigar, with the sheet itself we wrap it, so that it can be calm, cozy (E7).*

The resource of involving the newborn in a more comfortable environment has the purpose of transmitting to him the feeling of greater security during the performance of the procedures.<sup>19</sup>

Despite not being the most cited method of choice, pharmacological resources were found to be present in the unit's daily life, and at times they were the main ones for reducing pain.

*We communicate to the doctor and see if an intravenous dipyrone is made if he has access (E2).*

*We evaluate a whole aspect, because if it is a pain, an injury, we communicate to the doctor, he gives an analgesic (E6).*

The variation in the use of pharmacological and non-pharmacological resources demonstrates that nurses are aware of the various interventions that can be put into practice to provide the NB with a better quality of life during hospitalization. On the other hand, there is no standardization of activities performed for pain control.

The interviewees' statements reveal that some professionals still experience difficulties in treating pain:

*It is based solely on medical prescription, if you have nothing prescribed, inform the doctor, he comes to evaluate and prescribes medication (E4).*

*We are implementing here a specific pain group in the ICU so that nurses can focus on exactly that, we create scales, create strategies to improve this in the newborn, but we haven't implemented it yet (E1).*

It is evident that the lack of a protocol makes each professional develop their own routine, choosing the method that seems most effective. Thus, many important techniques that should be implemented in the practice of daily care, can no longer be used due to the overvaluation of the prescription or medical conduct. In addition, there seems to be an imprecision in the role of each professional specialty in this scope of care:

*Our team is really restricted to medical prescription, this communication with the doctor to perceive the patient's pain, signal and then we will take care. But when the protocol is ready, then the nursing team will have a certain autonomy to behave a little differently until the doctor arrives. I'll have a guide there to do it, but at the moment it's just the medical prescription (E4).*

It is known that the adequate treatment of neonatal pain is associated with lesser effects and decreased mortality. Therefore, it is important to use techniques for the prevention and control of pain in the NICU.<sup>12,15,16,18</sup>

Nurses identify the procedures that cause pain in premature NBs and some are concerned with using strategies to

minimize its harmful effects. As another way of minimizing and treating this painful process, the importance of family contact and the multidisciplinary team was mentioned for this care to become effective, which accentuates the professionals' awareness of the expression of premature newborns, in order to improve the assistance of these patients, who are subjected to numerous painful procedures throughout hospitalizations.

*We already have this way of nurturing, giving him the affection he needs. We know when the baby, just a little affection that is from the father, from the mother, from the whole team, right? [...] the child who is actually in the ICU is lacking in family, she is lacking in affection, in need of everything, of all aspects. So we have to worry about everything actually (E6).*

Effective pain control requires the work of a multidisciplinary team, as each individual offers the resources they have in solving problems. It is essential to distinguish what each professional specialty needs to know in this type of performance and improve the quality of care provided.<sup>9,18</sup>

## CONCLUSIONS

This study proved to be important in order to value the speeches of people who are directly involved in this process of caring for premature newborns. It is concluded that, in the nursing team, there is still a great distance between theoretical

knowledge, the use of scales and practical conduct regarding the assessment and management of pain in premature newborns. It was noticed that nurses with specialization in the area and a longer time in academic training demonstrated a higher level of knowledge and security on the subject. However, there is no standardization in the assessment and management of pain in neonates in the studied location.

The study has the limitation of being a locoregional research carried out in a reference maternity hospital that did not have essential resources and services to assess pain in premature NBs, something that perhaps cannot be generalized to the other realities. That is why it is opportune for other studies to be developed in the different regions of the country.

However, this research points to the potential of being an unprecedented study in the area of neonatal health in the region on the subject, providing information on the perceptions of the situations experienced by nurses in the care of premature newborns.

As implications for practice, the establishment of pain protocols stands out, such as the use of scales for the assessment and adequate management of preterm pain, as well as educational strategies with the nursing team to raise pain awareness. This would bring benefits for measurement,

more specificity in the functions of each professional, autonomy and independence in the practices performed by nurses.

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