UNDERSTANDING OF PAIN IN PRETERM NEWBORN BY THE MULTIPROFESSIONAL TEAM

COMPREENSÃO DA DOR DO RECÉM-NASCIDO PRÉ-TERMO PELA EQUIPE MULTIPROFISSIONAL

COMPRENSIÓN QUE TIENE EL EQUIPO MULTIPROFESIONAL DEL DOLOR DEL RECIÉN NACIDO PREMATURO

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ABSTRACT
Objective: to verify the understanding of the preterm newborn's knowledge of pain by the health team in the neonatal unit**. Method:** exploratory-descriptive research with a qualitative approach, approved by the Research Ethics Committee of the institution, carried out between May and November 2019, with 15 members of the health team of the neonatal intensive care unit of a hospital in the federal education network. Data were collected through semi-structured interviews, submitted to Content Analysis**. Results:** four categories emerged: understanding preterm pain; understanding of pain-producing situations; understanding of acquired knowledge about pain management, assessment and treatment methods; and understanding of multidisciplinary work and preterm pain. **Conclusion:** the health team understands and recognizes preterm pain, the management and evaluation methods used, in a non-systematized way, point out its potential benefits, highlighting the importance of team training and elaboration of protocols for safe clinical practice. **Implications for practice:** this study may contribute to planning in the systematic organization of strategies regarding the theoretical and practical knowledge of the health team as a necessary strategy for the implementation of pain control measures, with a view to providing excellent care
Descriptors: Pain; Premature Newborn; Intensive Care; Neonatal, Patient Care Team.

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RESUMO
Objetivo: verificar a compreensão sobre o conhecimento da dor do recém-nascido pré-termo pela equipe de saúde na unidade neonatal. **Método:** pesquisa exploratório-descritiva de abordagem qualitativa, aprovada pelo Comitê de Ética em Pesquisa da instituição, realizada entre maio a novembro de 2019, com 15 membros da equipe de saúde da unidade de tratamento intensivo neonatal de um hospital da rede federal de ensino. Os dados foram coletados por meio de entrevista semiestruturada e submetidos à Análise de Conteúdo. **Resultados:** emergiram quatro categorias: compreensão da dor no pré-termo; compreensão das situações produtoras de dor; compreensão do conhecimento adquirido sobre os métodos de manejo, avaliação e tratamento da dor; e compreensão do trabalho multiprofissional e a dor no pré-termo. **Conclusão:** a equipe de saúde compreende e reconhece a dor do pré-termo, os métodos de manejo e avaliação utilizados, de forma não sistematizada, apontam seus potenciais benefícios, destacando a importância de capacitação da equipe e elaboração de protocolos para a prática clínica segura. **Implicações para a prática**: este estudo poderá contribuir no planejamento na organização sistematizada de estratégias quanto ao conhecimento teórico e prático da equipe de saúde como estratégia necessária para implementação de medidas controle da dor, com vista a proporcionar cuidado de excelência.
Descriptores: Dor; Recém-Nascido Pré-termo; Terapia Intensiva Neonatal, Equipe de saúde

RESUMEN
Objetivo: comprobar la comprensión que tiene el equipo de salud de la unidad neonatal del dolor del recién nacido prematuro. **Método:** investigación exploratoria-descriptiva con enfoque cualitativo, aprobada por el Comité de Ética en Investigación de la institución, realizada entre mayo y noviembre de 2019, con 15 integrantes del equipo de salud de la unidad de cuidados intensivos neonatales de un hospital de la red federal de educación. Los datos fueron recolectados por medio de entrevistas semiestructuradas y sometidos a Análisis de Contenido. **Resultados:** surgieron cuatro categorías: comprensión del dolor del prematuro; comprensión de las situaciones que producen dolor; comprensión de los conocimientos adquiridos sobre el manejo del dolor, métodos de evaluación y tratamiento del dolor; y comprensión del trabajo multidisciplinario y del dolor del prematuro. **Conclusión:** el equipo de salud comprende y reconoce el dolor del prematuro, los métodos de manejo y evaluación utilizados, de forma no sistematizada, señalan sus potenciales beneficios, destacan la importancia de la capacitación del equipo y de la elaboración de protocolos para la práctica clínica segura. **Implicancias para la práctica**: este estudio puede contribuir a planificar la organización sistemática de estrategias sobre el conocimiento teórico y práctico del equipo de salud como estrategia necesaria para la implementación de medidas de control del dolor, con el objetivo de brindar una atención de excelencia.
Descriptores: Dolor; Recién Nacido Prematuro; Cuidado Intensivo Neonatal, Grupo de Atención al Paciente

INTRODUCTION

Care for preterm newborns (PTNBs) is marked by long periods of hospitalization in neonatal intensive care units. In this context, they are subjected to various stimuli of light, noise and unnecessary manipulation, which can cause pain and compromise their neuropsychomotor development.[1,2]

Studies report that events related to neonatal pain have the potential to alter brain microstructure and functions, further indicating that manipulation can cause

phenomena such as allodynia and hyperalgesia.[3-5] The PTNB demonstrates a response to exacerbated and generalized pain, and continuous painful stimuli, which can cause, in a short period of time, physiological instability, changes in heart and respiratory rate, intracranial pressure, oxygen saturation, and long-term neurobehavioral response variation, emotional disturbances, and learning disabilities.[2]

Pain assessment should be performed by a multidisciplinary team trained in pain identification, preferably using scales, for the proper management and indication of non-pharmacological and pharmacological methods. However, difficulties are observed that limit the application of scientific evidence regarding PTNB pain in clinical practice by health professionals.[6-9] The level of knowledge, skill and attitude associated with professional experience and work overload are factors that can interfere with the way of interpreting the phenomenon of pain in PTNBs.[10] The role of health professionals in the face of PTNB pain depends on specific education programs, which determine the use of available and effective tools to provide improvements in the care provided.[11-13]

In this direction, this study is justified by the need to instigate professionals working in neonatal intensive care units (NICU) about the importance of using methods to pain management in PTNB to promote qualified and humanized care. For this, reflections on the role of the multiprofessional in these units are necessary, emphasizing the importance of applying multidimensional and effective methods to relieve PTNB pain through questions: what is the compression of the health team working in the NICU on the pain of the child? PTNBs and their control measures during painful procedures? In this way, we sought to verify the understanding of the preterm newborn's knowledge of pain by the health team in a neonatal intensive care unit.

METHODOLOGY

This is a descriptive research, with a qualitative approach, developed in a NICU with 20 beds in a teaching hospital in the state of Minas Gerais. The multidisciplinary team is made up of pediatricians and neonatologists specialized in intensive care, physical therapists, speech therapists, psychologists, social workers, nurses and nursing technicians, distributed throughout the day and night shifts. For the study, the following inclusion criteria were established: professionals who worked at the bedside in the PTNB care (doctors, nurses, nursing technicians and physiotherapists), invited to participate in the research, who were approached in their work shifts, the from the presentation of the study objective. As an

exclusion criterion, it was defined as not approaching licensed professionals, in a management position, on vacation and assigned to other services. The number of participants in the study consisted of theoretical data saturation, a technique used to establish the final size of a sample from the moment when no new element was found in the speeches.[14]

For data collection, a two-part instrument was developed. The first consists of sociodemographic data (gender, age, professional category, time since graduation, time of professional experience, schooling, time working in the institution, working hours and employment relationship). In the second stage, an interview was carried out with the following questions: In which situations do you believe that PTNBs feel pain? What methods do you use to assess pain in PTNBs? What are the signs and symptoms that lead you to interpret that the PTNB is in pain? What are the interventions that the health team uses to minimize and treat PTNB pain? How did you learn to manage PTNB pain? Would you like to say anything else?

The data collection instrument was adapted through a pre-test with five residents from the areas of nursing, physiotherapy and medicine, in order to produce accurate data for the development of this research. It is noteworthy that the data referring to the pre-test did not make up the final population of the study. This step was performed after approval by the Research Ethics Committee of the institution where the study was carried out. All residents who participated in this stage signed a Free and Informed Consent Form (ICF). After this procedure, data collection was started through a semi-structured interview, with the participants' consent and signature of the informed consent. Data collection was from May to November 2019.

The interviews were carried out in the NICU, in a reserved and comfortable environment, during the professionals' working hours, according to the availability of each participant, so that the care process would not suffer interference. One interview was carried out per day, recorded in audio, and later transcribed in full within 24 hours. After collection, they were transcribed and individually identified by alphanumeric code, being stored for later analysis, thus ensuring anonymity. The interviews lasted an average of 20 minutes and the data collection ended after verifying data saturation.[14]

For data analysis, the content analysis technique, described by Bardin[15], was used, as it is a set of analysis techniques aimed at obtaining data that allows understanding the description of content through systematic and objective procedures. This type of analysis is organized into three stages: pre-analysis – transcription of the interviews, transforming the speeches into text,

skimming, exhaustive reading of the material, in order to answer the object of the study; categorization and exploration of the material – apprehension of the understanding nuclei of the text formulated from the transcription of the interviews, looking for significant expressions, for the formulation of categories and subcategories; interpretation – inferences and interpretations relating the meaning nuclei with current literature on the issue studied.[15] The sociodemographic data were analyzed using simple frequencies.

In the results presentation, terms in square brackets were added to facilitate the participant's understanding of the speeches content, without changing the meaning and its contents. To guarantee the confidentiality of the participants, they were coded with the letter "E", with the mention of "Interviewee", letter N, M, T and P, indicating the professional category (N nurse; M Medicine, T nursing technician and P physiotherapist) followed by a sequential number to the interview carried out, accompanied by the professional category. (EN1, EN2... EN5... ET6... ET10; EM11...ET13 and EP14, EP15). To conduct the study, Consolidated criteria for reporting qualitative research was used as a methodological guide for qualitative research.[16]

The ethical precepts established by resolution 466/2012 of the National Health Council were complied with and this study is registered under CAAE: 87352218.9.0000.5154 and opinion No.2,599,034, issued by the Standing Committee on Ethics in Research Involving Human Beings of the Federal University of Triângulo Mineiro.

RESULTS

Fifteen professionals contributed to the study, including five nurses, five nursing technicians, three physicians and two physiotherapists. Regarding the age group, 36% ranged from 21 to 30 years old, 43% from 31 to 40 years old, 14% from 41 to 50 years old and 7% from 51 to 60 years old. The training time and professional experience of the team ranged from one to 25 years. It was observed that 34% reported having a specialization course in the area in which they work and 8% a master's degree in the area.

From the recorded interviews, the grouping of themes emerged, as shown in Chart 1, with the presentation of the categories, subcategories and recording units extracted from the interviews, demonstrating the adequacy of the content analysis performed in the study.

Table 1-Distribution of categories and subcategories and units of record of the health team, defined by content analysis (thematic modality). Uberaba 2020

Categories	Subcategories	record unit
Understanding preterm pain	Factors indicative of pain in preterm infants	*[...] we observe changes in vital signs, respiratory rate, heart rate, saturation and crying facial expression, moaning [...]. (EM11)* *[...] to assess pain is usually by monitoring [...]. The heartbeats change, even evaluating the whole, we realize that there is crying and the facial expression many times, they show it this way [...]. (EN3)* *[...] I think it characterizes intense crying and Irritability [...]. (ET9)* *[...] I observe motor agitation and contraction of upper and lower limbs, for me these are symptoms of pain [...]. (EF15)* *[...] the heartbeats change with crying [...] for me crying is indicative of pain [...]. (EN4)*
	Preterm pain assessment strategies	*[...] I use the COMFORT scale to assess pain in preterm infants [...], but empirically I do mine, but there are several and they are applied [...]. (ENn1)* *[...] to assess the pain of preterm NB I use the knowledge I have on adapted scales along with the clinical conditions that I observe, with the face, frequency, pressure and hemodynamic status [...]. (EM12)*
	Preterm pain relief strategies	*[...] I use nutritive suction [...] because it is effective [...]. For me it relieves the pain [...]. (ENn2)* *[...] I also use cushions that simulate like the uterus [...]. I observe they are much calmer [...]. (ET6)* *[...] I use 25% sucrose when I identify pain [...] I consider it a positive strategy to prevent pain, and to promote its relief [...]. (EM13))* *[...] I try to use a three-level strategy [...] to prescribe drugs at regular intervals and in the most appropriate way of administering this medication [...]. (EM11))* *[...] I always try to individualize the treatment for each PTNB [...] I see and review the prescription in order to guarantee its correct effect [...]. (EM12)* *[...] I prescribe medication to perform invasive procedures [...], I do this prescription very carefully [...]. (EM11)* *[...] I like to put the baby to suck at the breast, [...]. In preterm infants, it is more difficult, due to the lack of effective suction [...]. (ENn1)* *Sometimes I see the need to comfortably wrap this baby [...] he will feel safe [...].(ET10)*
Understanding of pain-producing situations in preterm	During care delivery	*[...] I believe that preterm newborns feel pain when they are handled with stupidity [...] with little care when holding them [...]. (EF15)* *[...] the position in which the baby is placed is sometimes uncomfortable, causing respiratory discomfort [...l. (EM12)* *[...] during venous and arterial puncture to collect blood [...] with some noise [...] when performing procedures [...]. (ET7)*
	Work environment factors	*[...], the noise produced by care actions such as equipment operation, clarity in the NICU environment [...], other noises, for me, can produce pain in preterm infants [...].(EEnf2)*

Understanding of knowledge acquired about methods of pain assessment and treatment	Learning Formal	*[...] I learned to manage pain through literature, courses on the subject [...]. I learned through lived experience (EF15)* *[...] I learned to manage pain through improvement courses [...]. (EM11)*
	Learning through continuing education	*[...] here at the hospital we have training, qualifications in the nursing education service [...]. (ET8)* *[...] we do training among the team [...] like exchanging knowledge with physiotherapy and nursing, on more practical day-to-day issues [...].(ENf4)*
	Learning through the elaboration of protocols	*[...] through the elaboration of the institution's care protocols, protocols, training [...].(EEnf5)* *[...] the development of multidisciplinary protocols helps us to learn more about preterm pain [...]. (ENn1)* *[...] the collective construction of a protocol on this theme allows professionals to acquire, produce and deepen knowledge, update and evaluate their practices in the face of preterm pain [...]. (EM12)*
	Learning applicability	*The applicability of learning about preterm pain here at the NICU took place through in-service training after the preparation of the protocol [...] it was the implementation so that everyone did it in a standardized way [...]. (EF14)*
Understanding about the multiprofessional work and preterm pain		*[...] for me, preterm pain must be observed in a broad way [...] I understand that every professional who works in the NICU must have a pain understanding of this preterm [...]. (ENf5)* *[...] thinking about preterm care in the NICU, we must be aware of how not to cause pain during individual interventions [...] we must perform care in an integrated way [...]. (EM13)*

DISCUSSION

In recent decades, there has been a strengthening of practices aimed at the control, assessment and treatment of pain in neonatology, specifically for PTNBs. However, studies have pointed out gaps between practice and existing knowledge.[6]

In this context, this study showed that professionals have knowledge about methods of pain assessment and treatment, highlighting the factors indicative of pain in PTNBs when exposed to painful phenomena, both as a result of institutional norms and routines, and the complex work process, which involves environments with light, artificial temperature, noise and countless manipulations, putting their body under stress since birth.[6]

Care for PTNB pain goes beyond prescriptions and administration of analgesics, as we are aware of the multidimensional factors that involve the painful process. In this way, re-signifying pain care is a way of ensuring well-being and comfort, making hospitalization less traumatic for the NB/family dyad.[17] Studies highlight that to recognize neonatal pain it is necessary for professionals to have skill and sensitivity, especially since this is a population that communicates in a non-verbal way, although progress is still needed, as pointed out in this work.[2,4-6]

Pharmacological strategies are indicated for severe pain, usually caused by invasive, prolonged, more complex procedures, and include the use of opioids and local anesthetics, among others. This is because the pain suffered by PTNBs causes organic repercussions that can compromise their development, and pharmacological therapy has several adverse effects resulting from the immaturity of their organic systems.[8.9]

A study carried out with health professionals on the use of pharmacological interventions for pain relief, recognize the use in practice for potentially painful procedures (venous, arterial and calcaneal punctures)[2;] however gaps are observed between the practice, especially regarding the excessive use and available knowledge on this subject.[5-7,12]. Study highlights that the pharmacological interventions for neonatal pain relief are recognized and necessary in settings that assist PTNBs; nevertheless, they have specific indications and undesirable side effects.[2]

The management of neonatal pain involves its recognition and what strategies should be used to relieve it. For this process to occur properly, professionals need to understand the importance of their role in care and recognize how prepared they are to perform this management.[8] There is a wide variety of scales for this recognition, one-dimensional scales assess only one indicator of pain: physiological or behavioral and the multidimensional ones provide a more intensified and detailed assessment of pain, mixing both physiological and behavioral aspects. When choosing scales, the age of the PTNB, the use of mechanical ventilation and sedation must be taken into account.[7,10,13]

In this study, there was mention of the CONFORT scale as a pain assessment strategy in preterm infants, which assesses stress and discomfort in children aged between zero and 24 months admitted to a NICU, undergoing mechanical ventilation. However, the applicability of scales in practice is limited by barriers such as lack of knowledge and training.[10] The pain scales used to assess PTNB pain are available technologies incorporated through scientific advances, resulting in greater survival and qualification of care provided to this population.[3,8] Thus, numerous therapeutic procedures performed on a daily basis in PTNB hospitalized inneonatal intensive care units are evaluated and classified as painful, very painful or stressful actions.[8]

As for pain relief in PTNB, participants indicated using pharmacological measures, such as medication prescription, to perform invasive procedures. Nevertheless, they considered non-pharmacological measures as the most used, highlighting the use of cushions for positioning, non-nutritive sucking,

comfortable wrapping, use of 25% sucrose and the possibility of putting the baby to suck on the mother's breast. Studies show the use of non-pharmacological pain control strategies as a low-cost therapeutic resource, easy to assimilate and implement by the multidisciplinary team and with low or no risk of complications.[4,7,17-19]

Factors related to the NICU environment have direct repercussions on the quality of neonatal care, making it difficult to adopt adequate measures in relieving the pain of coping with excessive noise situations from various sources, such as life support equipment, voices produced by the health team and family members; handling of incubators; circulation of equipment in general; careless handling, external stimuli to which preterm infants are frequently exposed, including external lighting and noise capable of causing instability with respect to neurophysiological control.[4-7] It is worth noting that non-pharmacological measures favor neuropsychomotor organization and act in the pain modulation stage, inhibiting the release of neurotransmitters responsible for the exacerbation of the initial painful stimulus.[17-18]

Participants in this study reported that they acquired knowledge about pain assessment and treatment methods through literature review, courses during professional practice, training and qualification offered by continuing nursing education programs, guidance from other professionals and working groups to elaboration of assistance protocols. Studies on the learning of the multiprofessional team assisting the PTNB showed similar results.[7-12] Thus, training on this topic is to ensure that knowledge about pain management and assessment is discussed by the multiprofessional team working in care practice, for that, continuing education strategies are necessary for these professionals.

The literature highlights that protocols are fundamental for the implementation and the standardization of adequate management of neonatal pain.[10] Thus, this study implies in the practice by contributing to the planning and organization of the systematization of strategies regarding the theoretical and practical knowledge of the health team, aiming at the implementation of scales that help in clinical practice on this issue, thus providing excellence, quality and humanized care to the PTNB.[7,10,13]

The multiprofessional work in the face of PTNB pain, mentioned by the participants, points out that the same must occur broadly, prioritizing comprehensive care in order to make care humanized, in which decision-making on the conduct for pain management requires team qualification, professional experience, combined with specific knowledge.[6,7,9,18]

CONCLUSION

The study, when analyzing the understanding of pain assessment and treatment methods by health team professionals, showed that although the multidisciplinary team recognizes PTNB pain, the means used for identification are performed in a fragmented and non-systematized way, based on in empiricism. The importance of training the team in the use of adapted scales for the assessment of the PTNB is highlighted.

Therefore, this study implies in practice by contributing to the planning and organization of the systematization of strategies regarding the theoretical and practical knowledge of the health team, aiming at the implementation of scales that help in clinical practice on this theme, thus providing excellent, quality and humanized care to PTNB.

The limitations of the study, as they are based on a qualitative analysis of heterogeneous cases, must be carefully examined, as they are not generalizable and must be reexamined in further research on the topic. It is suggested that new studies investigate the subject in greater depth.

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