

Barriers in pain management in neonatal intensive care unit

Barreiras no manejo da dor em unidade de terapia intensiva neonatal

Barreras en el tratamiento del dolor en la unidad de cuidados intensivos neonatales

RESUMO

Objetivo: Identificar as principais barreiras no manejo da dor neonatal relatadas por estudos científicos, a fim de criar subsídios para aprimoramento da prevenção e controle da dor em RNs. Método: Trata-se de uma Revisão Integrativa realizada entre Março e Maio de 2021. Resultado: Constatou-se como barreiras no manejo da dor neonatal a carência de conhecimento profissional, julgamento subjetivo e abordagem empírica, abismo entre teoria e prática, não uso de protocolos e escalas, ausência de consensos das intervenções, falta de trabalho em equipe, sobrecarga da enfermagem, receios para aplicação de intervenções farmacológicas, déficits de educação permanente e continuada, dentre outras. Conclusão: Nos resta admitir que a superação das barreiras ainda existentes no manejo da dor neonatal é complexa, mas exige emergencial conscientização e atenção dos profissionais e instituições de saúde, tendo em vista as repercussões negativas da dor na vida de recém-nascidos pré-termos em condições clínicas indicativas de variadas abordagens assistenciais.

DESCRIPTORES: Manejo da Dor; Unidade de Terapia Intensiva Neonatal; Recém-Nascido Prematuro; Humanização da Assistência.

ABSTRACT

Objective: To identify the main barriers in the management of neonatal pain reported by scientific studies, in order to create subsidies to improve the prevention and control of pain in newborns. Method: This is an integrative review carried out between March and May 2021. Result: It was found as barriers in the management of neonatal pain the lack of professional knowledge, subjective judgment and empirical approach, abyss between theory and practice, non-use of protocols and scales, lack of consensus on interventions, lack of teamwork, nursing overload, fears for the application of pharmacological interventions, deficits in permanent and continuing education, among others. Conclusion: It remains for us to admit that overcoming barriers that still exist in the management of neonatal pain is complex, but requires urgent awareness and attention from health professionals and institutions, given the negative repercussions of pain in the lives of preterm newborns in clinical conditions indicative of different care approaches.

DESCRIPTORS: Pain Management; Intensive Care Units, Neonatal; Infant, Premature; Humanization of Assistance.

RESUMEN

Objetivo: Identificar las principales barreras en el manejo del dolor neonatal reportadas por estudios científicos, con el fin de crear subsidios para mejorar la prevención y control del dolor en recién nacidos. Método: Se trata de una revisión integradora realizada entre marzo y mayo de 2021. Resultado: Se encontró como barreras en el manejo del dolor neonatal la falta de conocimiento profesional, juicio subjetivo y abordaje empírico, abismo entre teoría y práctica, no uso de protocolos y escalas, falta de consenso en las intervenciones, falta de trabajo en equipo, sobrecarga de enfermería, miedos por la aplicación de intervenciones farmacológicas, déficits en la educación permanente y continua, entre otros. Conclusión: nos queda admitir que superar las barreras que aún existen en el manejo del dolor neonatal es complejo, pero requiere una conciencia y atención urgente por parte de los profesionales e instituciones de salud, dadas las repercusiones negativas del dolor en la vida de los recién nacidos prematuros en condiciones clínicas. indicativo de diferentes enfoques de atención.

DESCRIPTORES: Manejo del Dolor; Unidades de Cuidado Intensivo Neonatal.

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INTRODUCTION

Newborns (NBs), mainly premature, hospitalized in Neonatal Intensive Care Units (NICU) are submitted to numerous procedures considered painful, such as venous and arterial punctures, tracheal intubation, aspiration of the upper and lower airways, use of nasal prongs, calcaneal puncture, lumbar puncture, chest drainage and other invasive interventions. 1

The NICU environment itself is endowed with characteristics that trigger stress and discomfort for patients, as it is a sector composed of devices such as incubators, respirators, aspirators, monitors, among others, which emit noises capable of generating negative organic and behavioral responses. 2,3

Persistent pain induces physiological and hormonal changes, affecting neurobiological molecular mechanisms, triggering a reprogramming of central nervous system development. When noxious stimuli are repetitive, there may be an exacerbated response, which remains even after its interruption. Such an occurrence is responsible for phenomena of hypersensitivity, hyperalgesia, somatization and stress in subsequent stages of child development. 4,5

Given this context, professionals working in the care of newborns need to be able to decode the language of pain in this age group, in order to perform their function in order to minimize suffering and prevent organic and emotional repercussions that compromise physical and mental well-being in the short, medium and long term. 6

Pain assessment in neonates involves the analysis and interpretation of physiological and behavioral factors. The application of

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pain assessment scales allows professionals to make an objective judgment. 7 Among the widespread and recommended pain scales for pain assessment in newborns by the Ministry of Health, are the NIPS (Neonatal Infant Pain Scale), the EDIN (Echelle de douleur et d'inconfort du nouveau-né), BIIP (Behavioral Indicators of Infant Pain) and the COMFORT Scale. 8

Once the presence of pain is confirmed, its management includes environmental and behavioral measures, non-pharmacological and pharmacological methods. Environmental and behavioral measures help to reduce stress and pain, among them are the reduction of unnecessary handling, grouping of care, use of less painful alternative procedures for collection of exams and reduction of noise and light. 9 Non-pharmacological methods include non-nutritive sucking, administration of sweetened solutions, breastfeeding or administration of breast milk, kangaroo position, restraint and wrapping, therapeutic touch, etc. Pharmacological interventions when necessary include the use of non-opioid analgesics, opioid analgesics and local anesthetics. 10

It is undeniable the great technological and scientific advances achieved in the area of neonatology in recent years, responsible for better chances of survival of premature or sick newborns. As a result, the concern to provide preventive care for aggravating factors and with minimal deleterious effects on the future life of NBs is growing. However, the approach to neonatal pain is still an obstacle.

This research aims to identify the main barriers in the management of neonatal pain reported by scientific studies, in order to create subsidies for improving the prevention and control of pain in NBs.

METHOD

This is an Integrative Review, which is used when looking for the synthesis and analysis of scientific knowledge already produced on a topic under investigation. The steps suggested by the literature were used to carry out an integrative review, divided into the following steps: establishment of the hypothesis and objectives; establishment of inclusion and exclusion criteria for articles (sample selection); definition of the information to be extracted from the selected articles; analysis of results; discussion and presentation of the results and the last step consisted of the presentation of the review.

The research was carried out on the Virtual Health Library platform, considering all studies that presented in their Title, Abstract or Subject some of the descrip-

tors: “Pain Management (Manejo da dor)”, “Neonatal Intensive Care Unit (Unidade de Terapia Intensiva Neonatal)”, “Premature Newborn (Recém-Nascido Prematuro)” and “Humanization of Assistance (Humanização da Assistência)”, associated with the Boolean operator AND. The study was carried out between March and May 2021.

Studies were selected according to the following inclusion criteria: scientific articles of all categories, available in their entirety, with a Portuguese language version, published in the last 10 years (2011 and 2021) and that, in its content, one or more issues were reported, considered by the authors as hindering the management of neonatal pain. Studies that did not meet the aforementioned inclusion criteria were excluded.

As an endorsement of all review items, the PRISMA protocol of 27 assessment

items was used. The study was promoted by the researchers themselves, with no funding from an external research sponsorship agency.

RESULTS

The study universe consisted of 32 findings, of which 21 articles made up the final sample because they met the inclusion criteria. Of the studies not included in the analysis, 03 were not available in full, 1 was not in the scientific article category, 01 was not available in Portuguese, and 06 articles did not contain information relevant to the topic studied.

As for the place of availability of articles, the most expressive percentage was available in the LILACS and BDENF databases (61.9%), followed by MEDLINE (23.8%) and LILACS (14.2%).

Table 1 – Distribution of articles included in the integrative review according to authors, titles, years of publication and methods.

Authors	Title	Publication (Year)	Methods
Macie, H. I. A., et al.	Pharmacological and non-pharmacological measures of pain control and treatment in newborns	2019	Longitudinal study
Moretto, L.C. A., et al.	Pain in the newborn: perspective of the multiprofessional team of the Intensive Care Unit	2019	Descriptive and exploratory study with a qualitative approach
Rocha, E. C. S., et al.	Acute painful procedures in preterm newborns in a neonatal unit	2019	Cross-sectional observational study
Nobrega, A. S. M., et al.	Nursing technologies in pain management in newborns in the Neonatal Intensive Care Unit	2018	Quantitative, descriptive and exploratory research
Costa, T., et al.	Knowledge and practices of nurses about pain management in newborns	2017	Descriptive and cross-sectional study
Sposito, N. P. B., et al.	Assessment and management of pain in newborns admitted to a Neonatal Care Unit: a cross-sectional study	2017	Retrospective and cross-sectional study
Querido, D.L., et al.	Professionals' perceptions of neonatal pain: a descriptive study	2017	Descriptive study with a qualitative approach
Christoffel, M. M., et al.	Knowledge of health professionals in the assessment and treatment of neonatal pain	2016	Descriptive, exploratory study with quantitative analysis

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Costa, K. F., et al.	Clinical management of pain in the newborn: perception of nurses in the neonatal intensive care unit	2016	Descriptive, exploratory study with a qualitative approach
Damas, L. J. P., et al.	Nurses' knowledge about the clinical management of neonatal pain: a descriptive study	2016	Study with a descriptive, qualitative and exploratory approach
Kegler, J. J., et al.	Pain management in the use of peripherally inserted central catheter in neonates	2016	Descriptive, exploratory study with a qualitative approach
Oliveira, I. M., et al.	Knowledge and attitude of nursing professionals on neonatal pain assessment and treatment	2016	Exploratory descriptive study
Soares, A. C. O., et al.	Pain in a Neonatal Intensive Care Unit: Knowledge, Attitude and Practice of the Nursing Team	2016	Evaluative study, Knowledge, Attitude and Practice (KAP), cross-sectional and quantitative approach
Motta, G. C. P.; Cunha, M. L. C.	Prevention and non-pharmacological management of pain in the newborn	2015	Exploratory bibliographic research
Prestes, A. C. Y., et al.	Painful procedures and analgesia in the Neonatal ICU: what has changed in opinion and professional practice in ten years?	2015	Multicenter observational study
Silva, G. M., et al.	Knowledge of nurses working in an intensive care unit regarding pain in preterm newborns	2015	Study with a qualitative, exploratory and descriptive approach
Amaral, J. B., et al.	Nursing team facing the pain of preterm newborns	2014	Quantitative, descriptive exploratory study
Martins, R., et al.	Respiratory physiotherapy techniques: effect on cardiorespiratory parameters and pain in stable neonates in NICU	2013	Randomized, blinded clinical trial
Rocha, M. C. P., et al.	Pain assessment by nurses in a Neonatal Intensive Care Unit	2013	Descriptive and exploratory research of a qualitative nature
Santos, L. M.; Ribeiro, I. S.; Santana, R. C. B.	Identification and treatment of pain in premature newborns in the Intensive Care Unit	2012	Descriptive study of a qualitative nature
Sudario, A. A.; Dias, I. M. A. V.; Sanglard, L. R.	The nurse in the management of neonatal pain	2011	Literature review

Source: Original content of the work.

Table 1 below, organized in descending order of year of publication and alphabetical order of authors, shows the distribution

of articles included in the research with authors, titles, years of publication and methods used.

DISCUSSION

Although professionals working in NICUs have knowledge about neonatal pain, there is a frequent divergence between this knowledge and their attitudes towards its assessment and treatment. The persistent existence of health professionals, even if in a minority, who believe that newborns are not capable of perceiving, responding to and memorizing painful events is worrying. The difficulty of distinguishing more and less painful interventions, already evidenced in the neonatal literature, is an impediment to making appropriate decisions regarding each one of them. 11,12

Neonatal pain management is based on behavioral and physiological changes, but most of the time it is not associated with any scale or scientific basis, but with daily practice. 14 The presence of difficulties in diagnosing pain in NBs is evident and the non-use of strategies makes the understanding of the subject unclear. 14,15

For the assessment of pain in the neonatal intensive environment by the professionals who work in it to materialize, the routine application of instruments, such as specific scales for this purpose, is essential. It was observed, however, that despite the recognition of the existence of these tools by nursing professionals, many do not know how to apply them and do not use them in care. The non-objective identification of neonatal pain interferes with early detection, since different people do not perceive different phenomena in the same way, so what a professional considers a painful event for the NB may not be a reason for attention by another professional. The lack of communication and exchange of knowledge among team members is an aggravating factor in this scenario, making it difficult to implement evidence in practice. 16

On the other hand, the informal appreciation of the exchange of experiences to the detriment of the professional search for formal sources of scientific evidence increases the gap between theory and practice. The lack of specific training and qualifications for pain management by higher education professionals limit their clinical decisions. 12

It is noteworthy that the identification and assessment of pain in neonates based on particular criteria, often without scientific basis, tends to be justified by gaps in un-

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dergraduate and graduate training. In this regard, the institutions' permanent training services play an important role. 17

Many protocols and recommendations from governmental and non-governmental

organizations and from societies or class entities exist, but they need to be better socialized in the medical field, since the indication of pain relief measures is still a care problem for hospitalized neonates, this occurrence is most often related to the lack of institutional protocols for evaluation and treatment, lack of knowledge of the teams or persistent care myths, preventing progress and subsidizing the non-adoption of conducts. 18,19 However, the presence of protocols aimed at the management of neonatal pain alone are not enough if there is no commitment and responsibility from those involved in the process. 19 Transforming learning into action is key. 12

It is important to point out that efforts for the continuous qualification of health professionals is an important strategy, however, the lack of sufficient subsidies is directly related to the inadequate frequency of training aimed at pain management in newborns. It is revealed that the non-recording of pain management behaviors by health professionals overshadow their practice, preventing the creation of information sources that allow the continuity of care, as well as the basis for carrying out professional training programs. 11,12,21

The emotional factor involved in pain care has a great influence on the process. The lack of verbalization of pain by the newborn ends up causing suffering and discomfort to nursing professionals, making it difficult to perceive, evaluate, measure and act in the face of pain in these patients. 13

Among the main signs of NBs associated with pain by health professionals are crying and facial expressions, but these can be limiting factors, especially in cases of neonates using orotracheal intubation or sedation. Thus, pain identification requires accurate perception, with awareness to interpret non-verbal language, as well as in-depth knowledge of physiological parameters indicative of suffering. 22

The frequent assessment of pain and the application of non-pharmacological measures in a non-systematized and continuous way is notorious, highlighting the need to expand this discussion in institutions providing neonatal intensive care. 18,23

The non-use of neonatal pain assessment scales in many health institutions allows for empirical and subjective judgment, leading to dangerous behaviors that can result in iatrogenic events, violating patient safety principles. It is necessary to be aware of pain as a vital sign, envisioning its measurement in sectoral policy. 13

Going beyond the use of scales, overcoming the lack of humanization in the workplace must be initiated through improvements in working conditions, scales that allow professionals more time of attention to NBs and their families and interaction between the team. Pain management also involves maternal and family emotional participation in the process of caring and being cared for. 24

One of the most effective ways to reduce newborn pain is by reducing the number of unnecessary procedures and interventions. However, when necessary, different methods of pain prevention and control can be applied. They may have their effects potentiated when used in combination, with skin-to-skin contact and milk or glucose, non-nutritive sucking plus glucose, etc. Despite the growing awareness on the part of health professionals, it was observed that the methods are often not applied routinely. 25

Analgésia in simple and common procedures in neonatal intensive care units is still undervalued. The lack of knowledge of the painful process in newborns by health professionals leads to a lack of initiative for its management. More than recognizing this process, it is necessary to understand the appropriate way to apply pharmacological or non-pharmacological methods for its relief, for example, sometimes instead of promoting coziness with easy containment, the professional restricts the NB's movements in order to facilitate the performance of the procedure without actually bringing benefits to the NB. 22,26 Although non-pharmacological measures are on the rise in the environment of neonatal sectors, there are still professionals who master their correct uses. 12

Regarding the use of drugs, although common at the hospital level, it is obser-

ved that the lack of knowledge about the specific action of each one in the body is an obstacle in the prevention and appropriate control of pain. 22

The identification and adoption of mea-

The lack of in-depth study by nursing professionals working in NICUs on medications for neonatal pain relief directly interferes with their participation in clinical decision-making

ures in the face of pain is greater in nursing professionals with higher education when compared to professionals with high school education. It is also noted that the longer

the time of work in a neonatal intensive care unit, the more apt the professional is in identifying pain. Thus, the high turnover of nursing staff has a notable impact on pain management in NICUs. 14,15 On the other hand, there is evidence that nursing professionals with less training time, when approached, present better answers about the management of neonatal pain, this occurrence is explained by the fact that the knowledge and practice of these professionals tend to be more up-to-date due to more recent training. Thus, the importance of continuous updating on the subject is evident. 21

The professional nurse has a key role in the prevention, screening and treatment of neonatal pain. However, the accumulation of numerous bureaucratic activities that go beyond the scope of their care is favorable to the lack of awareness, predisposing resistance in the application of pain assessment instruments as they are seen as another task to be performed. The frequent shortage of human resources also influences the quality of care provided by the nursing team. Furthermore, the lack of autonomy of nurses to prescribe pharmacological interventions when necessary increases the problem if the work is not collaborative on the part of the medical team. Doctors, in turn, also face fears, such as the side effects of analgesics in preterm newborns, since the "ghost" of withdrawal syndrome and respiratory depression have not completely disappeared with scientific and technological advances. Even the use of simple pharmacological measures, such as the use of 25% Glucose orally, raises concern, since it can trigger a significant increase in capillary blood glucose, with no consensus in the literature regarding the maximum dose for different profiles of neonates. 27,28

The lack of in-depth study by nursing professionals working in NICUs on medications for neonatal pain relief directly interferes with their participation in clinical decision-making. 11

Among the professionals who make up the multidisciplinary team of NICUs, the physical therapist plays an important role. Although many studies and agreements in

neonatology address pain, there is a scarcity of references that relate the occurrence of neonatal pain during different sessions of physical therapy techniques, with a negative impact on pain management. 29

Determining the real need for pain intervention, mainly by pharmacological methods, is a major challenge. The use of sedatives such as Midazolam is common in NICUs as it reduces NBS' agitation and psychomotor reflexes, facilitating the activities of health professionals. However, its isolated application is not capable of generating effective analgesia. Therefore, it is questioned who is the focus of care, resuming the NB as the subject of care. A careful look is necessary, as the non-demonstration of physical signs by sedated NBs does not mean the absence of pain. 30

Faced with the negative repercussions of

pain on child health and development, signs suggestive of its occurrence should not be neglected and effective early interventions should be taken. 14,16

CONCLUSION

Barriers to neonatal pain management were found to be the lack of professional knowledge, subjective judgment and empirical approach, gap between theory and practice, non-use of protocols and scales, lack of consensus on interventions, lack of teamwork, nursing overload, fears for the application of pharmacological interventions, deficits in permanent and continuing education, among others.

It is essential to raise the awareness of health professionals about the current and fu-

ture impact of their actions or non-actions in the life of the neonate and their family, as well as, the enhancement of neonatal pain control in health professional training institutions and in neonatal care providers.

It is up to health service managers to ensure favorable working conditions, promoting cooperative work in a multidisciplinary team, applying permanent training, providing adequate human and material resources, and implementing and implementing protocols that guide and support the practice.

Finally, only through new scientific research will it be possible to advance and overcome the lack of evidence for pain management in neonates in specific clinical conditions or undergoing different therapies. ■

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