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RESEARCH

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ASSESSMENT AND MANAGEMENT OF PAIN IN THE NEONATAL UNIT

Práticas de avaliação e manejo da dor na unidade neonatal

Prácticas de evaluación y manejo del dolor en la unidad neonatal

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ABSTRACT

Objectives: To identify the frequency of difficulty of the professionals in the observation of the NIPS scale parameters in the NB. To describe the types and frequency of non-pharmacological measures of pain relief and prevention that are used by nursing professionals. **Methods**: Quantitative, cross-sectional study with statistical analysis using the IBM SPSS software version 21.0. The study population consisted of 55 professionals from the nursing team. To collect the data, a questionnaire was delivered to the professionals of the nursing team in order to identify the types and frequency of the application of measures of pain relief. **Results:** Nursing professionals perform pain assessment mainly empirically, as well as non-pharmacological measures of relief. **Conclusion:** There is a need for permanent education actions to update institutional protocols, contributing to the humanization of care and efficiency of care.

KEYWORDS: Pain scale; Neonatal intensive care units; Premature; Infant, newborn; Nursing care.

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RESUMO

Objetivo: Identificar a frequência de dificuldade dos profissionais na observação dos parâmetros da escala de Neonatal Infant Pain Scale no Recém-nascido. Descrever os tipos e frequência das medidas não farmacológicas de alívio e prevenção da dor que são utilizadas pelos profissionais de enfermagem. **Métodos:** Estudo quantitativo, transversal, com análise estatística através do programa IBM SPSS versão 21.0. A população do estudo foi composta por 55 profissionais da equipe de enfermagem. Para coleta dos dados foi realizada entrega de questionário aos profissionais da equipe de enfermagem, a fim de identificar os tipos e frequência da aplicação de medidas de alívio da dor. **Resultados:** Os profissionais de enfermagem realizam avaliação da dor majoritariamente de forma empírica, assim como a realização de medidas não farmacológicas de alivio. **Conclusão:** Há a necessidade de realização de ações de educação permanente para atualização de protocolos institucionais, contribuindo para a humanização da assistência e eficiência do cuidado.

DESCRITORES: Escala de dor; Unidades de terapia intensiva neonatal; Prematuro; Recém-nascido; Cuidados de enfermagem.

RESUMEN

Objetivos: Identificar la frecuencia de dificultad de los profesionales en la observación de los parámetros de la escala de NIPS en el RN. Describir los tipos y frecuencia de las medidas no farmacológicas de alivio y prevención del dolor que son utilizadas por los profesionales de enfermería. **Métodos**: Estudio cuantitativo, transversal, con análisis estadístico a través del programa IBM SPSS versión 21.0. La población del estudio fue compuesta por 55 profesionales del equipo de enfermería. Para la recolección de los datos se realizó entrega de cuestionario a los profesionales del equipo de enfermería, a fin de identificar los tipos y frecuencia de la aplicación de medidas de alivio del dolor. **Resultados:** Los profesionales de enfermería realizan evaluación del dolor mayoritariamente de forma empírica, así como la realización de medidas no farmacológicas de alivio. **Conclusión**: Se necesitan acciones de educación permanente para actualizar los protocolos institucionales, contribuyendo a la humanización de la atención y la eficiencia de la atención.

PALABRAS CLAVE: Escala de dolor; Unidades de terapia intensiva neonatal; Prematuro; Recién nacido; Atención de enfermería.

INTRODUCTION

In the last 30 years there has been a great advance in knowledge about the assessment and relief of pain in newborns (NB). Until now, adequate practices were not used for pain assessment and treatment in the Neonatal Unit (NU) because it was believed that neonates were considered unable to respond to painful stimuli due to organic immaturity.[1]

However, with the deepening in the physiology of neonatal pain, it can be seen that, in addition to the neonates presenting all anatomical, functional components and neurochemicals essential for nociception, they still perceived pain more intensely than children and adults. This is because despite the fact that their anatomical, neurophysiological and hormonal pathways are formed at birth, the pathways capable of inhibiting and reducing pain are not yet formed. Therefore, the ability to modulate the pain experience is reduced, and the perception of pain is even more exacerbated in preterm infants, as a result of the greater immaturity of the inhibitory descending medullary pathways.[2]

It is also necessary to pay attention to some peculiarities of the neonatal unit (NU) scenario. Newborns allocated to this sector have a greater predisposition to pain and, in addition, there are a large number of daily manipulations that, painful or not, may contribute to the increased stress of these babies. Studies point out that preterm infants undergo about 130 to 234 manipulations within 24 hours, and many of these manipulations are potentially painful.[3]

Therefore, the correct management of neonatal pain requires an accurate identification of its presence and intensity, as well as the potential risk of pain of a given procedure, so that interventions can be applied to prevent and minimize the intensity and duration of the painful effect, and consequently help the newborn to recover and reorganize properly.

From this perspective, in order to facilitate pain identification by the professional, several scales for pain assessment and measurement were created. Among the most suggested scales for reliably measuring newborn pain, the *Neonatal Infant Pain Scale* (NIPS) stands out and is composed of six pain indicators: five behavioral and one physiological, including facial expression, crying, breathing, arm and leg movement, and alertness. The scale has a score from zero to one for the indicators evaluated and the total score can range from 0 to 7. Presence of pain is considered when the sum is equal or higher than four points.[4]

After identifying the possibility of pain or even the presence and intensity of pain, various non-pharmacological management measures, such as environmental, behavioral and pharmacological measures can be effective for pain prevention and relief, as they have proven efficacy and have risk and costs reduced for the newborns.[5]

Thus, acting daily in a Neonatal Unit (NU), it is observed that few measures for pain control are performed and the scale is not always applied outside the hours already established in the registry. In addition, it is often perceived the performance of painful or potentially painful procedures without the aid of appropriate pain management measures before and after the procedures.

The relevance of the study is based on the need to elucidate the use of the pain scale and non-pharmacological measures by the nursing team of professionals during the care of premature newborns.

National and international studies generally compare the use and non-use of scales, or use non-pharmacological measures and compare them. It is important to observe that none of the studies found uses the NIPS scale. In addition, there were studies that evaluated professionals' knowledge about neonatal pain and the use of pain prevention and relief measures.

In light of this, the present study had as its object: "Practices of pain assessment and management in the neonatal unit by the nursing staff". Therefore, the research questions formulated were: How do the nursing professionals apply pain relief measures in painful procedures? How do professionals apply the NIPS scale?

Thus, we present the following objectives: Identify the frequency of difficulty of professionals in observing the parameters of the NIPS scale in the newborn and describe the types and frequency of non-pharmacological pain relief and prevention measures that are used by nursing professionals.

The research hypothesized that nursing professionals do not often apply the scales and measures for prevention and relief of neonatal pain.

METHODS

This is a cross-sectional, descriptive study, carried out at the NU of a University Hospital located in the north of the city of Rio de Janeiro, a reference for pregnant women and high-risk newborns. The collection was carried out from May to October 2017.

The study population consisted of 55 nursing team professionals. Professionals who were on vacation or on any leave during the collection period and those who refused to participate in the survey were excluded. After the application of the exclusion criteria, the sample was composed of 40 professionals.

Data collection was performed through the application of a questionnaire with three steps: professional identification data, description of the situations presented by professionals during the application of the scale and behaviors used by them after the application of the NIPS scale for pain assessment. For the preparation, and as literature bases, the Standard Operating Procedures Protocol (SOP), the Newborn Health Care Manual[4] and the *Prevention and Management of Pain in the Neonate: An Update and Guidelines for procedural pain in the newborn* were used.[6,7]

The study complied with the ethical precepts according to resolution 466/12 and was approved on May 29, 2017, by the institution's Research Ethics Committee, under the opinion 2,087,633. Professionals who met the inclusion criteria and agreed to participate in the research were informed about the objectives, anonymity and voluntary participation.

Before the questionnaire was applied, participants received guidance on the Informed Consent Form (ICF), consenting to the use of the information provided in the research by signing it. The informed consent included two copies: one was delivered to the participant and one was kept with the researcher.

Statistical analysis was performed using the IBM SPSS version 21.0 program. This program allows data analysis using basic and advanced statistical techniques.

RESULTS

Forty professionals of the nursing staff of the hospital used as the study scenario participated in the study, among which 35 (87.5%) were female and five (12.5%) male, age ranged from 20 to 30 and also over 61, with the median range of 41 to 50 (35%). Regarding the professional category, 18 (45%) were nurses, 16 (40%) were nursing technicians and 6 (15%) were nursing residents. The ones graduated over 21 years ago or more were the most prevalent, representing 18 (45%) of the professionals, followed by those with training time between 11 and 20 years representing 14 (35%), only one (2.5%) professional had graduated between 6 and 10 years ago, five (12.5) participants had between 1 to 5 years of graduation and 2 (5%) had less than a year of graduation.

It is noted that only four (10%) of the participants did not have any postgraduate degree; among those who had, 14 (35%) had specialization, 15 (37.5%) had residency, six (15%) were masters and one (2.5%) had a doctorate. Of the 40 participants, 30 (75%) have worked for more than 11 years in this area, the other 10 (25%) are equally divided between 1 to 5 and 6 to 10 years of service. Regarding the experience in the neonatal area, we have nine (22.5%) from 1 to 5 years, 11 (27.5%) from 6 to 10 years, also 11 from 11 to 20 years and nine (22.5%) with over 21 years of experience in neonatology. About the time worked in the research unit, 31 (77.5%) of employees have up to 10 years of work, dividing almost equally between 1 to 5 years and 6 to 10 years, only four (10%) have over 21 years in this unit and five (12.5%) have between 11 and 20 years of service.

Then, participants were asked about the application of the scale, 21 (52.5%) applied it at predetermined times and 19 (47.5%) did not apply it. These values are justified by the change in the location of the pain scale to the nursing evolution sheet, which makes the use of this scale an exclusive function of the nurse when this is a function of the entire nursing team, perhaps of every multiprofessional team.

Thus, participants reported that they apply the pain scale mostly during the vital signs verification routine and when they observe pain signs, with 21 (52.5%), followed by seven (17.5%) professionals who apply the pain scale during routine vital sign checking. Only six (15%) reported not using the scale at any time, three (7.5%) apply the scale only when they observe pain, one (2.5%) reported using it when performing a painful procedure, one (2.5 %) uses the scale only in some days and one (2.5%) reported applying at other times and in the description put "at all times of care".

Regarding the difficulty in applying the NIPS pain scale, half of the respondents, 20 (50%), did not have difficulty in applying the pain scale. The other half of respondents stated that the main difficulties in applying the scale were the excess of hospitalized newborns reported by four professionals (10%), four (10%) reported difficulties with the scale, two (5%) lack of place for registration, followed by two (5%) who mentioned lack of appropriate training and two (2.5%) who reported shortness of time. The shortage of patients elected to apply the scale appears with one (2.5%), as well as the shortage of professionals, due to the contingency of professionals in the sector, with one (2.5%). Only four (10%) participants did not answer this question.

Data related to the difficulty in observing parameters of the pain scale already used. Thus, 23 (57.5%) professionals reported having difficulties at times, 12 (30%) never encountered difficulties in applying the scale, four (10%) did not answer this question and only one (2.5) always had difficulty in the observation of parameters.

The parameter with the greatest difficulty of observation was the flexion and extension of the arms, referred by two (5%) of the interviewees as something always present and 12 (30%) as a sometimes present difficulty. Then we have the flexion and extension of the legs and the alertness mentioned by 13 (32.5%) of the participants as an often difficulty.

Regarding the records, it was asked whether the scores found in the application of the NIPS scale were recorded, and 13 (32.5%) professionals reported recording frequently, 11 (27.5%) reported always recording the score found, seven (17.5%) respondents reported never recording the scores, five (12.5%) rarely recorded and 4 (10%) recorded only when they found positive scores.

Participants were also asked about the difficulties in the evaluation of intubated newborns and 26 (65%) did not have difficulties in the evaluation of this clientele, however, 14 (35%) presented difficulties and these were: crying and breathing alone, with respectively two (5%) and one (2.5%) of respondents, and 11 (27.5%) indicated having difficulty in evaluating more than one parameter in intubated patients.

In the last part of the questionnaire respondents answered whether or not to use non-pharmacological pain relief measures and 39 (97.5%) indicated that they perform non-pharmacological measures for pain prevention and relief, and only one (2.5%) does not perform any non-pharmacological measures.

Table 1 shows the characterization of the measures used by professionals and are classified by the intensity to which they are used. It is highlighted that 25% sucrose is / was never used by any of the participants, as it is not available in the sector. However, results of studies prove that the sweetened solutions, glucose and sucrose, have equally potent and effective analgesic effect.[8]

The most commonly used measure was non-nutritive gloved finger suction, which 23 (57.5%) participants reported using at all times. It is pertinent to highlight that there are a variety of measures that are widely used by professionals in the sector.

Table 1 - Characterization of non-pharmacological pain relief measures used in the research scenario. Rio de Janeiro, RJ, Brazil, 2017.

	Always n (%)	Sometimes n (%)	Never n (%)
25% Glucose Only	14 (35%)	23 (57.5%)	3 (7.5%)
25% Sucrose Only	0 (0%)	0 (0%)	40 (100%)
Non-Nourishing Gloved Finger Suction	23 (57.5%)	17 (42.5%)	0 (0%)
25% Glucose-Soaked Non-Nourishing Gauze Suction	2 (5%)	6 (15%)	32 (40%)
Tactile Stimulation Decrease	8 (20%)	23 (57.5%)	9 (22.5%)
Skin to Skin Contact	7 (17.5%)	24 (60%)	9 (22.5%)
Facilitated Containment	11 (27.5%)	25 (62.5%)	4 (10%)
Holding	13 (32.5%)	25 (62.5%)	2 (5%)
Breastfeeding (when possible)	14 (35%)	19 (47.5%)	7 (17.5%)
Environmental measures (brightness, noise ...)	13 (32.5%)	21 (52.5%)	6 (15%)
Others	9 (22.5%)	0 (0%)	31 (77.5%)
Lap/ Lullaby	5 (12.5%)	0 (0%)	0 (0%)
Block care and procedures	4 (10%)	0 (0%)	0 (0%)

Note: the question that gave rise to table 1 allowed multiple answers, so the numbers found is higher than the number of participants in this study.

DISCUSSION

The evaluation of pain is subjective, and it becomes even more subjective when there is an absence of verbal report. The use of scales facilitates this assessment.

In the unit, scenario of the study, the NIPS scale was implemented as part of the daily assessments and was initially placed as part of the daily care sheet, where the water balance and vital signs are also recorded, enabling its application by the entire nursing team during the care routine. However, after the reshaping of the sheet of daily care and creation of the nursing evolution sheet, the pain scale was transferred to the evolution of paper and therefore was accessed only by the nurse on duty. At the time of implementation, training was performed with most of the nursing staff on the scale that would be introduced, however, after this training, there were new admissions to the nursing staff, so the new employees did not receive the proper training regarding the scale.

In addition, the aforementioned hospital faced a severe shortage of financial and personnel resources associated with the economic crisis of the state of Rio de Janeiro, which significantly impacted the services provided, given the need for contingency of nursing staff in the service. Thus, quite often, the scale was not properly applied during care.

It is worth noting that the reduction of professionals in the sector brought considerable damage to the present study, given that with the smaller number of employees, those who were scheduled on the day were generally busier and thus, with less time to participate in the survey.

That said, the present study makes it evident that the scale implemented in the sector is known to about 80% of the population studied, but only 52.5% use it in day-to-day service. The results show a relationship between the use of the scale and the professional category, which makes it clear that the change in the scale's location led to a failure to apply the scale and consequently impaired the adequate measurement of pain in the unit's interns.

From all the data, we can see that most nursing technicians who participated in the study do not apply the scale. And that the change of location of the scale represented a transfer of attribution of the application of the scale only by the nurses. Nevertheless, it is important to stress that pain assessment is the responsibility of the entire multidisciplinary team, not only the nursing staff, and that with the use of standardized assessment scales, there is an increase in the effectiveness of pain relief interventions, whether pharmacological or not.[9]

A study conducted in Santa Catarina identified similar results regarding the difficulty of professionals in applying the scale, most of them due to specific problems with the scale (doubts in observing parameters, lack of training, among others) besides the present study bringing lack of time as a difficulty in application.[10]

In the intubated newborn, the assessment from the NIPS scale is slightly impaired considering that one of the criteria is crying and that the tube makes this assessment impossible; however, the facial expression remains subject to analysis, so the relevance of its use is not all lost.[11]

In the unit, non-pharmacological pain prevention and relief measures are widely used, they are extremely important because they promote stability and good organization of the newborn and may be useful in conserving energy for its growth and development.[12]

Among non-pharmacological measures, the use of sweetened solutions is the most widespread, and its analgesic effects have been proven by a study conducted in a Belgian university hospital.[13] The use of glucose / sucrose directly over the baby's tongue should be performed 2 minutes before painful or potentially painful stimulation. Their mechanism of action is not yet fully defined, but it is believed that they promote the release of endogenous opioid agents that act by occupying nociceptive receptors and modulating the response to pain stimuli. In a study[14] conducted in 2006 in collaboration with 12 Vermond Oxford Network centers, gestational age-limiting doses consisting of 0.5 ml for newborns between 27 and 31 weeks, 1 ml for newborns between 32 and 36 weeks and 2 ml for infants with 37 weeks or older of gestational age. This justifies its frequency as the second highest, preceded only by non-nutritive gloved finger suction, which showed similar effectiveness when compared in a study conducted in Taiwan.[15] The use of glucose / sucrose can and still is commonly associated with non-nutritive sucking in order to enhance the effects of both measures.

One non-pharmacological measure that permeates several others is positive touch[16], which involves various types of infantile tactile interaction, including manipulation, massage, baby holding, kangaroo method, shantala. Preferably, the positive touch should be done by parents as they have the emotional investment necessary to provide loving care. Importantly, it is performed with the baby and not at the baby, so we must observe the baby's responses, his behavioral state, medical condition and observing the signs of acceptance. This posture demonstrates our respect for the baby and the possibility of being a participant in his/her own care. Positive touch can still prevent the child from beginning to associate touch with a subsequent painful stimulus.

Facilitated containment is a variation of the positive touch. It is performed through gentle containment of the baby, a kind of elastic restraint, since holding the newborn firmly can increase the baby's stress. It contains flexing arms and legs, positioned towards the midline, close to the trunk and face, and can be used with the baby in lateral or supine

position. In this position there is a modulation of pain perception due to a continuous sequence of central nervous system stimuli that will compensate for the painful stimuli.[4]

Curling resembles facilitated restraint, as it also aims at gently restraining the baby, keeping arms and legs flexed toward the midline, close to the trunk and face. It promotes gentle, continuous stimulation that provides momentum that can compete directly with stress and pain. It can be used in newborns that are adequately monitored and clinically stable.[4,5]

The use of environmental measures such as brightness or noise reduction are used by about 30% of the research participants. This type of intervention gains strength from some studies that prove its importance in relation to pain management in the neonatal setting.[1,9,12,17,18]

CONCLUSION

The study demonstrates that nursing team professionals working in the NICU are aware of the importance of pain assessment and management in the unit, and satisfactorily apply non-pharmacological pain prevention and relief measures.

However, some limitations were identified in the application of the scale already used in the unit, since only nurses have access to it. This fact ends up fragmenting and weakening the evaluation, because it is based on empirical analysis of professionals who do not use the scale.

Thus, the need for continuing education actions regarding the use of the scale is clear, as well as the change of the location of the evolution sheet to the daily care sheet, along with water balance records and vital signs, accessible again to all nursing team professionals.

Similarly, the current study points to the need for professionals to seek updates on the subject, aiming at an always appropriate approach to the correct management of pain and also updating institutional protocols, contributing to the humanization of care and efficiency of care.

REFERENCES

1. Soares ACO, Caminha MFC, Coutinho ACFP, Ventura CMU. Dor em unidade neonatal: conhecimento, atitude e prática da equipe de enfermagem. Cogitare Enfermagem. [internet] 2016 [cited 2019 jan 29]; 21 (2): 01-10. Available from: https://revistas.ufpr.br/cogitare/article/view/42897/28163. doi: http://dx.doi.org/10.5380/ce.v21i2.42897
2. Nazareth CD, Lavor MFH, Sousa TMAS. Ocorrência de dor em bebês internados em unidade de terapia intensiva neonatal de maternidade terciária. Revista de Medicina da UFC. [internet] 2015 [cited 2019 jun 25]; 55(1): 33-7. Available from: http://periodicos.ufc.br/revistademedicinadaufc/article/view/19784/30417. doi: 10.20513/2447-6595.2015v55n1p33-37
3. Cruz CT, Stumm EMF. Instrumentation and implementation of pain evaluation scale in a Neonatal Intensive Care Unit. Case report. Rev Dor. São Paulo [internet] 2015 [cited 2019 jun 25]; 16(3):232-4. Available from: http://www.scielo.br/pdf/rdor/v16n3/pt_1806-0013-rdor-16-03-0232.pdf. doi:10.5935/1806-0013.20150046
4. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Ações Programáticas Estratégicas. "Atenção humanizada ao recém- nascido de baixo peso: Método Canguru" Ministério da Saúde, Secretaria de Atenção à Saúde, Departamento de Ações Programáticas Estratégicas. – 2. ed. – Brasília: Editora do Ministério da Saúde, 2011.
5. Motta GCP, Cunha MLC. Prevenção e manejo não farmacológico da dor no recém-nascido. Rev Bras Enferm. [Internet] 2015 [cited 2019 Aug 18]; 68(1):131-5. Available from: https://www.lume.ufrgs.br/bitstream/handle/10183/117307/000966524.pdf?sequence=1. doi: http://dx.doi.org/10.1590/0034-7167.2015680118p
6. American Academy of Pediatrics, & Fetus and New Born Committee. Prevention and management of pain in the neonate: na update. Pediatrics. [internet] 2006 [cited 2019 Aug 30]; 118(5):2231-41. Available from: https://pediatrics.aappublications.org/content/pediatrics/118/5/2231.full.pdf. doi: doi:10.1542/peds.2006-2277
7. Lago P, Garetti E, Merazzi D, Pieragostini L, Ancora G, Pirelli A, Bellieni CV. Guidelines for procedural pain in the newborn. Acta Paediatrica. [internet] 2009 [cited 2019 Aug 30]; 98(6):932-9. Available from: https://www.ncbi.nlm.nih.gov/pubmed/19484828. doi: 10.1111/j.1651-2227.2009.01291.x
8. Alves CO, Duarte ED, Azevedo VMGO, Nascimento GR, Tavares TS. Emprego de soluções adocicadas no alívio da dor neonatal em recém-nascido prematuro: uma revisão integrativa. Rev Gaúcha Enferm. [Internet] 2011 [cited 2019 Aug 19]; 32(4):788-96. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1983-14472011000400021. doi: http://dx.doi.org/10.1590/S1983-14472011000400021
9. Santos LM, Ribeiro IS, Santana RCB. Identificação e tratamento da dor no recém-nascido prematuro na Unidade de Terapia Intensiva. Rev Bras Enferm. [Internet] 2012 [cited 2019 Aug 19]; 65(2):269-75. Available from: http://www.scielo.br/pdf/reben/v65n2/v65n2a11.pdf. doi: 10.1590/S0034-71672012000200011
10. Wieczorkievicz AM, Maia EDW, Lamin S, Alcantara SBC. Percepção do enfermeiro em relação à utilização de escalas de avaliação de dor em recém-nascidos. Saúde Meio Ambient. [Internet] 2013 [cited 2019 Aug 19]; 2(2):20-31. Available from: http://www.periodicos.unc.br/index.php/sma/article/view/413. doi: https://doi.org/10.24302/sma.v2i2.413
11. Scochi CGS, Carletti M, Nunes R, Furtado MCC, Leite AM. A dor na unidade neonatal sob a perspectiva dos profissionais de enfermagem de um hospital de Ribeirão Preto-SP. Rev Bras Enferm. [Internet] 2006 [cited 2019 Aug 18]; 59(2):188-94. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-71672006000200013 doi: 10.1590/S0034-71672006000200013
12. Oliveira RM, Silva AVS, Silva LMS, Silva APAD, Chaves EMC, Bezerra SC. Implementação de medidas para o alívio da dor em neonatos pela equipe de enfermagem. Esc Anna Nery. [Internet] 2011 [cited 2019 Aug 19]; 15(2):277-83. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1414-81452011000200009. doi:10.1590/S1414-81452011000200009
13. Dilen B, Elseviers M. Oral Glucose Solution as Pain Relief in Newborns: Results of a Clinical Trial. Birth. [Internet] 2010 [cited 2019 Aug 19]; 37(2):98–105. Available from: https://www.ncbi.nlm.nih.gov/pubmed/20557532. doi:10.1111/j.1523-536X.2010.00389.x
14. Lefrak L, Burch K, Caravantes R, Knoerlein K, DeNolf N, Duncan J, et al. Sucrose analgesia: identifying potentially better practices. Pediatrics. [Internet] 2006 [cited 2019 Aug 21]; 118 (supply 2): S197-202. Available from: https://www.ncbi.nlm.nih.gov/pubmed/17079623. doi: 10.1542/peds.2006-0913R

15. Liu MF, Lin KC, Chou YH, Lee TY. Using non-nutritive sucking and oral glucose solution with neonates to relieve pain: a randomised controlled trial. J Clin Nurs. [Internet] 2010 [cited 2019 Aug 21]; 19(11-12):1604-11. Available from: https://www.ncbi.nlm.nih.gov/pubmed/20384669. doi:10.1111/j.1365-2702.2009.03014.x

16. Bond C. Positive touch and massage in the neonatal unit: a british approach. Semin Neonatol. [Internet] 2002 [cited 2019 Aug 2]; 7(6):477-86. Available from: https://www.ncbi.nlm.nih.gov/pubmed/12614600.

17. Santos LM, Pereira MP, Santos LFN, Santana RCB. Avaliação da dor no recém-nascido prematuro em Unidade de Terapia Intensiva. Rev Bras Enferm. [Internet] 2012 [cited 2019 Jul 19]; 65(1): 27-33. Available from: http://www.scielo.br/pdf/reben/v65n1/04.pdf. doi: 10.1590/S0034-71672012000100004

18. Veronez M, Corrêa DAM. A dor e o recém-nascido de risco: percepção dos profissionais de enfermagem. Cogitare Enferm. [Internet] 2010 [cited 2019 Jul 19]; 15(2):263-70. Available from: https://revistas.ufpr.br/cogitare/article/view/17859/11652. doi: http://dx.doi.org/10.5380/ce.v15i2.17859

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