

Newborn's pain under the mother's perception

Dor no recém-nascido na percepção da mãe

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ABSTRACT

BACKGROUND AND OBJECTIVES: Pain can generate important complications for the newborn. The mother, inserted in this context, becomes an important ally during the hospitalization since she stays with the. Thus, the study aimed to identify the mother's perception of pain in her hospitalized child in the Neonatal Intensive Care Unit and to compare the mothers' reports with a range of behavioral and physiological signs.

METHODS: This is a qualitative study in a tertiary hospital in the State of Ceará. Fifteen mothers who were with their children hospitalized at the Neonatal Intensive Care Unit participated in the study, where they were placed in front of their children in two different moments: at rest and handling, in order to identify signs of pain. The data were analyzed by approximation of the speeches as proposed by Minayo.

RESULTS: The results showed that the mothers did not perceive signs of pain in the newborn at rest. However, when handled, the mothers were able to identify the signs of pain through the characteristics presented in the newborn: facial expression, strong crying and the movement of arms and legs.

CONCLUSION: Mothers are able to identify signs of pain in the child during painful procedures, mainly through crying and face changes. Thus, it points out the relevance of using pain evaluation scales to measure the behavioral and physiological signs of the newborn in a Neonatal Intensive Care Unit.

Keywords: Mother-child relations, Neonatal nursing, Newborn, Pain, Pain measurement.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor pode gerar importantes complicações para o recém-nascido. A mãe, inserida nesse contexto, torna-se uma aliada importante durante a hospitalização, por permanecer ao lado do filho. Dessa forma, o estudo teve como objetivo identificar a percepção da mãe em relação a dor no seu filho hospitalizado na Unidade de Terapia Intensiva Neonatal e comparar o relato das mães com uma escala de sinais comportamentais e fisiológicas.

MÉTODOS: Trata-se de um estudo qualitativo, em um hospital terciário do Estado do Ceará. Participaram do estudo 15 mães que estavam com seus filhos hospitalizados na Unidade de Terapia Intensiva Neonatal, onde foram colocadas frente aos seus filhos em dois momentos distintos: em repouso e ao manuseio, com o intuito de identificar sinais de dor. Os dados foram analisados por aproximação das falas, proposto por Minayo.

RESULTADOS: Os resultados apontaram que as mães não perceberam a presença dos sinais de dor no recém-nascido em repouso. No entanto, quando manuseados, as mães foram capazes de identificar os sinais de dor através das características apresentadas nos recém-nascidos: expressão facial, choro forte e a movimentação de braços e pernas.

CONCLUSÃO: As mães são capazes de identificar os sinais de dor apresentados pelo filho durante os procedimentos dolorosos, principalmente através do choro e das alterações de face. Assim fica apontada a relevância do uso de escalas de avaliação da dor para mensurar sinais comportamentais e fisiológicos dos recém-nascidos em Unidade de Terapia Intensiva Neonatal.

Descritores: Dor, Mensuração da dor, Enfermagem neonatal, Recém-nascido, Relações mãe filho.

INTRODUCTION

The pain felt by a newborn has been undervalued for many years since it was believed that they could not feel it. This irrelevance was due to some assumptions, such as the neurological immaturity of the newborn; the absence of memory in this age group, and the great toxicity of the analgesics and anaesthetics¹.

It is known that the fetus' cortical and subcortical centers, important in the perception of pain, are well developed around the 30th week of the gestational age. Thus, the newborn is perfectly capable of feeling pain, which can even be more intense than in an adult². Due to the formation and maturity, the complex of pain transmission has its inhibitory mechanisms more immature than the excitatory, leading to exacerbated responses and likelihood for sequels³.

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The newborns express their physical and emotional needs, since their birth, through tears, body movements, facial expression, where crying is the most expressive behavioral parameter to start the pain intervention control⁴.

In this scenario, in addition to the healthcare professional, we can rely on the mother who remains next to the child during their stay in the Neonatal Intensive Care Unit (NICU). The non-verbal complaint by the newborn is one of the biggest obstacles to diagnosis, and consequently to properly treat pain in the NICU⁵.

The development of NICUs together with the modernity of the therapeutical technologies is providing a reduction in the mortality of the newborns. However, we have noticed a higher number of invasive procedures necessary to guarantee the survival of these children.

The struggle for survival brings consequences such as increased exposure to pain. Newborns, in the phase of greater instability, are subject to various painful procedures necessary to their hemodynamic stabilization, such as intubation, arterial puncture, venipuncture, lumbar puncture, aspiration, mechanical ventilation, chest drainage⁶.

If left untreated, the pain can lead to major complications to the newborn such as a delayed brain development, behavioral and psychiatric disorders. In a NICU, about 50 to 150 procedures considered painful are performed in the newborn during the hospitalization and the more premature, this number tends to increase, that's why it is important to identify and to intervene⁷.

Since it is a personal and subjective experience, pain cannot be measured like pulse, temperature, blood pressure, among others⁸. To facilitate the intervention, pain scales are used in the NICUs to assess the behavioral and physiological signs, one of these scales is the Neonatal Infant Pain Scale(NIPS)⁹.

Pain is considered as the fifth vital sign, as important as the others, which must always be recorded and assessed in the clinical setting, along with other vital signs: temperature, pulse, respiration and blood pressure. The effectiveness of the treatment and its follow-up depends on a reliable and valid pain assessment and measurement. After detection, the intervention is required to interrupt or reduce this stimulus, with pharmacological or non-pharmacological approaches¹⁰.

The mother, inserted in this context, becomes an ally during hospitalization since when participating in the care she is able to perceive the signs of this subjective experience¹⁰. Thus, the mothers' participation in the care and their reports about their child deserves greater attention from the health team¹¹.

This questioning becomes relevant for the nursing professionals because it makes early intervention possible facing a pain experience and consequently provide quality of life and good development for the newborn. Therefore, the motivation of the researchers to conduct this study was the awareness-raising, and the search for the quality of life of newborns exposed to painful stimulation since the pain in the newborn has a direct influence in its stability and clinical evolution.

Due to the reality of the NICU, of the several procedures considered painful, of the difficulty of the nursing team in diag-

nosing pain, the mothers' contribution would be suitable and beneficial in this process, pointing out to the professionals the possible signs of pain. Then comes the question: what is the mother's perception concerning her child's signs of pain in the neonatal unit?

This study aimed to identify the mother's perception of her child's pain in the NICU and compare the mother's report with a behavioral and physiological pain scale (NIPS).

METHODS

This is a descriptive study with a qualitative approach, conducted in a tertiary public hospital which is a reference to the care of high-risk newborns. The sample was composed of 15 mothers of newborns who were hospitalized in the NICU.

Mothers of premature newborns with gestational age (GA) up to 37 weeks were included. Mothers of newborns who remained in the unit only at the time of the hospital visit were excluded. In that institution, the mothers living in the city of Fortaleza were instructed to stay at least for one shift in the unit.

The data was collected between August and October 2013. Initially, the mothers were invited to participate in the study, and those who met the inclusion criteria established were interviewed in a communal area to obtain the research data. The interview lasted 20 minutes on average. At a second moment, the researcher followed the mother who was with her child inside the unit. The mother was asked to describe how she perceived the signs of pain expressed by the child. Two distinct moments were evaluated: 1st moment: newborn at rest; 2nd moment: newborn being managed. The mothers had 10 minutes to observe their child's signs of pain. Based on the mothers' report, the researchers applied the NIPS using the behavioral indicator to compare with the signals reported by the mothers. The instruments used to assess pain can be multidimensional, assessing behavioral and physiological changes, but can also be unidimensional only assessing one of the answers.

The NIPS is a scale used to assess pain signs in the newborn. It has six pain indicators, one physiological and five behavioral, including facial expression, crying, movement of arms and legs, sleep/alertness state and respiratory pattern¹².

The interviews were recorded and then transcribed upon the mothers' authorization. The data obtained were organized into theme categories and grouped by the approximation of the speeches, which consists in finding out the core meaning that makes up communication, which presence or frequency mean something for the targeted object¹³. The mothers were identified by the letter M and the newborns by the letters RN. Both preceded by an Arabic numeral according to the order in which the interviews were conducted.

The study followed the precepts of Resolution 466/12 of the National Council of Health/Ministry of Health that deals with research involving humans¹⁴ with opinion number 259.657. All the participants signed the Free and informed Consent Form (FICT), and the teenager girls, the Free and Informed Acknowledge Form (FI AF).

RESULTS

Of the 15 participant mothers of the study, the age range varied between 16 and 36 years, two were single, and the others were married. In relation to education, two had a complete higher education; two, incomplete higher education, six, complete high school; two, incomplete high school, one complete elementary school; one, incomplete elementary school, and one was illiterate. Six mothers were primiparous. With regard to the gestational age, this varied between 26 and 37 weeks. As for occupation, only six had any labor occupation. The length of stay of the newborn varied from seven days to 2 months and 12 days.

Table 1 shows the signs of pain identified by the mothers of the premature newborn at two moments: observation at rest and during management. These data were recorded and compared with the NIPS scores.

The results obtained were arranged in two categories based on the participants' responses: signs of pain in the mother's perception and; the mother's perception in relation to the care to minimize pain.

Category 1 - Signs of pain in the mother's perception

The speeches describe the mother's perception concerning the pain felt by their child:

[...] generally when he feels pain, he frowns the forehead, and he gasps (M3; M6).

[...] it is the cry when the cry is very high, he stretches entirely, becomes red, and I see that there's really something bothering him (M1; M7; M15).

[...] I notice when he is stretching like this, stretching, I see that he is in pain, one small pain thus (M13, M14).

[...] when I realize she's in pain, it is usually through crying or some physical reactions, like a grimace or too much movement (M2; M8; M9).

[...] well, I think that when he is upset with the tube in his mouth, he tries to move the nurse's hand away, he tries to mimic a cry, ah that's how I see it, and it is exactly what I feel, it's something really instinctive (M5).

Category 2 - Mother's perception with respect to the care to minimize the pain

The following lines describe the mothers' perception about the care provided by the professional to minimize the newborn's pain.

[...] I realize that usually when children have any different reaction, like in pain, they really stay there on duty, watching a lot, and if that's the case, they do turn to and do something to improve and ease the child's pain (M2; M10).

[...] is like this, they do a massage, show affection, they caress and calm her down (M1; M4; M8).

[...] they change his position because of the pain he feels, or because he wakes up, he wakes up due to the procedures they have to perform, right? Then he wakes up, it bothers him (M3; M8).

[...] I realize that they try to do whatever they can not to disturb, sometimes they turn off the lights, cover her with a cloth because of the lights on bothers you, even for us it is uncomfortable let alone for her who is so small and used to the dark inside the uterus. They try not to upset or to move too much(M5).

[...] sometimes she comes when it is time to give him the medication, then that pain goes away because of the medication. He is better now, he is no longer in pain (M9; M13; M14).

DISCUSSION

The neonatal pain is recognized through behavioral and physiological alterations⁹. In this study, none of the mothers noticed signs of pain when the newborns were at rest. However, when

Table 1. Comparison of the signs of pain reported by the mother at rest and management with the NIPS signs of the pain. Fortaleza, CE, 2013

Participants	Observation at rest	Observation during management	NIPS Scores
M1	No sign of pain	No sign of pain	No sign of pain
M2	No sign of pain	No sign of pain	No sign of pain
M3	No sign of pain	Grimace - face contracted	Contracted facial expression Respiration different from baseline
M4	No sign of pain	No sign of pain	No sign of pain
M5	No sign of pain	Tried to remove the professional's hand	Extension of the arms
M6	No sign of pain	No sign of pain	No sign of pain
M7	No sign of pain	Strong cry	Vigorous cry
M8	No sign of pain	Strong cry	Vigorous cry
M9	No sign of pain	Grimace - face contracted	Contracted facial expression
M10	No sign of pain	No sign of pain	No sign of pain
M11	No sign of pain	No sign of pain	No sign of pain
M12	No sign of pain	No sign of pain	No sign of pain
M13	No sign of pain	No sign of pain	No sign of pain
M14	No sign of pain	No sign of pain	No sign of pain
M15	No sign of pain	No sign of pain	No sign of pain

M = mother; NIPS = Neonatal Infant Pain Scale. Source: Elaborated by the authors.

observed during management, the mothers observed signs of pain, such as facial expression, vigorous cry, and movement of the limbs. Such signs meet the scores established in the NIPS.

In a study conducted in the NICU of Feira de Santana; on the identification, evaluation, and intervention of newborn pain, the professionals interviewed reported crying as the most observed characteristic in relation to the newborn pain, followed by body movements and face expression¹⁵.

In this study, the cry was the most reported pain sign. For the mothers, the characteristics of the cry and the baby's behavior are sources of information about their state of health. From the changes in behavior, the mothers are able to identify where the pain is¹⁶. The facial expression was the second most reported sign of pain by the mothers. Facial changes are the main elements in the study of pain in premature newborns, as it is in this age group that the facial expressions express the pain with greater precision. About 95 to 98% of the premature newborns present at least three pain indicators, such as protruding forehead, nasolabial deep groove and chin tremor as indicative of pain¹⁷.

The nursing staff is responsible for checking the pain, and with some methods, they can identify the pain manifestations and their characteristics, which are indispensable means in the care of premature newborns. Therefore, it is important to note that the signs of pain that the mothers perceive in their children can collaborate with the nursing care¹⁸.

In this study, the identification of the signs of pain was based on the mothers' reports and later compared with the NIPS parameters. The results showed that the mothers were able to identify what can cause pain to their children.

The NIPS has been used not only as a parameter to assess the analgesic effectiveness of pharmacological and non-pharmacological interventions but also to evidence that certain procedures in newborns are painful¹⁷.

Although the use of the scales to measure pain has shown to be relevant, a survey conducted in the city of Maceió with 15 nurses of the Intermediate Neonatal Care Unit (UCI NEO) and the NICU showed that only one interviewed used the scale to assess pain.

Therefore, the lack of use of multidimensional instruments, like the NIPS, can directly intervene in the quality of the nursing care and lead to an inadequate treatment of pain¹⁹.

In a study carried with nurses¹⁵ about the knowledge and use of the specific pain scales for the neonate, the majority affirmed not knowing them, and those that knew, do not use them. This situation evidences that perhaps pain assessment in the healthcare service is not being performed in a systematic way and probably it is based on subjective criteria, without scientific basis¹⁵.

Following this line of thought, and analyzing the speech reported in this study, it is possible that the mother recognizes the needs

signaled by her child, considering the intersubjective relation between mother and child that goes beyond the technical care sometimes observed in the nurse/newborn relationship²⁰. Thus, it is important that the nurse appreciates the reports on the newborn pain expressed by the mother who has her child in the NICU because they can tell from small suggestive behavioral changes the discomfort of the newborn that is not compatible with the NIPS.

CONCLUSION

According to the results, the mothers recognize that their children are in pain, facilitating the identification and the appropriate treatment of neonatal pain.

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