THE PREMATURE NEWBORN IN NEONATAL INTENSIVE CARE UNIT: THE NURSE’S CARE

ABSTRACT

Objective: to analyze the care provided by the nurse to the newborn in a Neonatal Intensive Care Unit.
Method: a descriptive study with a qualitative approach, interviewing 11 welfare nurses in a Neonatal Intensive Care Unit. For the data analysis, thematic analysis technique was used, giving rise to the main idea and the secondary ones, the units and subunits of thought, their relationship and the way in which this occurs.
Results: nurses, as members of the healthcare team working in the Neonatal Intensive Care Unit, require technical and scientific knowledge about their specific and exclusive duties as well as being able to provide quality care for the newborn and family.
Conclusion: the need for new strategies in the implementation of education and health policies, given the need for permanent education in service.

RESUMO

Objetivo: analisar a assistência oferecida pelo enfermeiro ao recém-nascido em uma Unidade de Terapia Intensiva Neonatal. Método: estudo descritivo, com abordagem qualitativa, entrevistando 11 enfermeiros assistencialistas de uma Unidade de Terapia Intensiva Neonatal. Para a análise dos dados, foi utilizada a técnica de análise temática, fazendo surgir à ideia principal e as secundárias, as unidades e subunidades de pensamento, sua relação e a forma pela qual esta se dá. Resultados: evidenciou-se que o enfermeiro como integrante da equipe de saúde que atua na Unidade de Terapia Intensiva Neonatal, necessita de conhecimentos técnicos e científicos sobre suas atribuições específicas e privativas, bem como ser capacitados para oferecer assistência de qualidade ao recém-nascido e família. Conclusão: necessidade de novas estratégias na implementação das políticas de educação e saúde, visto a necessidade de educação permanente em serviço.

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INTRODUCTION

Neonatology is the part of pediatrics that dedicates to attention to the healthy or sick newborn (NB) and, according to Duarte (2010), there was a considerable advancement of health care in that area due to the introduction of more effective therapeutic resources, which enabled improvements in the diagnosis and treatment of diseases, thus enhancing survival of newborns in the neonatal period and decreasing the morbidity and mortality rates in that age group.

The neonatal period is defined as the stage of life of the human being that goes from birth to the 28th day of life, considered an adaptation of the intrauterine life to the extrauterine life, in which there is a continuous process of anatomical and physiological changes. The classification of newborns according to gestational age can be a term, whose age corresponds to the period between 37 and 41 weeks; preterm, which are all live births before 37 weeks, and post term, which corresponds to NB with more than 42 weeks of gestational age.1

It is noteworthy that prematurity can be classified, according to its clinical outcome, in elective or spontaneous. In elective premature birth, pregnancy is interrupted due to maternal and/or fetal complications in which the risk factor is generally known, corresponding to 25% of preterm births.2

The World Health Organization (WHO) publicized a study that showed that 15 million babies are born before the time a year worldwide, and more than one million of them die few days after birth. Prematurity is the second leading cause of death for children under five years old; the first one is pneumonia. Brazil and the United States are among the ten countries with the highest number of premature births. It occupies the tenth place, with 279,000 premature births each year. The Brazilian rate is 9.2% of premature babies, equal to the rate of Germany and lower than the one of the United States, which reaches 12%.3

Some newborns require specialized care because of medical conditions such as prematurity, malformations, perinatal asphyxia, congenital infections, among others. Therefore, they require an appropriate environment with technological and human resources to ensure the treatment and recovery, since premature newborns may need to stay in hospital to suit the extrauterine environment independently.4

With advances in technology applied to neonatal care, there was an increased survival of premature babies. The emergence of modern neonatal intensive care units (NICU) equipped with very advanced technology is a milestone in assisting risk newborns, contributing to its survival and focusing the assistance mainly on biological aspects. That unit is an appropriate therapeutic environment for the treatment of the newborn in critical condition and, in addition to the latest technology and diversified equipment, it has highly trained professionals and specific protocols for the care to the NB.5

The staff of the NICU consists of neonatologists, physiotherapists, speech therapists, nurse manager, hospital nurses, nursing assistant and technician. The professional nurse stands out for dealing with difficult emotional situations, with the fragility of an extreme NB, with death, anxiety and insecurity feelings by family members. Those factors are often accompanied by events that require, at the same time, technical skills, specific and updated knowledge, agility, sensitivity and that can, thus, generate both physical as mental stress to those workers.6

Studies addressing that theme show that the fragility of the NB, the increasing implementation of high-risk procedures and low tolerance to medication errors are some concerns of nursing professionals working at the NICU. Thus, the nurse is responsible for the daily and intensive care to the NB, clarifying doubts and guiding parents about its care. 5

The nurse is responsible for promoting the adaptation of the newborn to the external environment, such as maintaining proper heat balance, humidity, light, sound and cutaneous stimulation; observing its clinical condition; monitoring the signs and development of the treatment; trying to meet its needs; establishing and maintaining an educational plan; coordinating nursing care to the newborn and the mother and supervising nursing care and other activities.7

The interest in conducting this study arose from the theoretical knowledge and experiences in practice, because, during the course and during the internship carried out in maternity wards in contact with babies, it was possible to observe and monitor nurses in care of the newborn, highlighting premature babies at a NICU. One observed that, during that time, there could be scope in nursing care to them, in view of the close contact between that professional and the NB, being able to work along with the needs and fragility of preterm NB admitted to the NICU. Such fact enabled the following question: what is the
assistance offered by the nurse to premature babies at a NICU? From this guiding question, the study aims to analyze the care provided by the nurse to the newborn at a Neonatal Intensive Care Unit.

METHOD

Article consisting of the Monograph "Nursing assistance to premature newborn at a Neonatal Intensive Care Unit», presented to the Coordination of the B.Sc. Course in Nursing of Estácio/CEUT, Teresina PI.

Descriptive study, with qualitative approach. Its scenario was the Neonatal Intensive Care Unit (NICU) of a public hospital in the city of Teresina-PI. This institution is a reference for the care of women with high-risk pregnancies. Eleven nursing professionals participated in the study, of both genders, who were carrying out their activities in the NICU and providing care for premature newborns. There was a random raffle to define the sequence of interviews, so that they ended once there was the saturation of the speeches.

The participants were told about all the steps of the study by reading the Informed Consent Form (ICF), and they could withdraw the investigation at any time, in accordance with Resolution No. 466/12 of the National Health Council. In order to keep their anonymity, their names were replaced by “deponent”, followed by the number representing the order of the interview.

After approval by the Ethics Committee of the State University of Piauí (UESPI), by CAAE 42331314.1.4.0000.5209, data collection began, using a semi-structured interview guide. For recording the speeches, one used a recorder, as accepted by the subjects. The interviews ended once there was data saturation. Data collection occurred in May 2015, at a reserved area of the unit.

For the treatment of the collected data, the thematic analysis technique was used, which allows greater understanding of the text, originating the main idea and the secondary ones, the units and subunits of thought, their relationship and the way in which this occurs.

RESULTS AND DISCUSSION

Data analysis is a set of research techniques whose goal is the search for meaning, in order to verify hypotheses and/or find out what is behind each manifested content, through systematic procedures and description of the objectives of the messages content, indicators that allow further and critical interpretation of the data whether they are common or subjective sense.

This study aimed to describe and analyze the care provided by nurses to premature newborns at a NICU. Regarding the age, they were between 27-45 years old. The training time in the nursing are of the surveyed participants ranged from four to ten years and, as for the working time in the sector, it ranged from six months to ten years. Regarding the participation in training, only two of the 11 respondents reported having participated in specific training in the NICU area.

The data analysis was constructed from interviews with nurses working at NICUs, and, through their speeches, that is, through the data collected for this study, as well as after incessantly reading and rereading the subjects' speeches, there was the extraction of the meaning units that enabled building three thematic categories, discussed below:

- Care performed by the nurse at a Neonatal Intensive Care Unit

The NICU is considered a high-complexity unit, which has advanced technology and diversified equipment, consisting of an appropriate therapeutic environment with trained professionals and specific protocols for care to newborns in critical condition. The fragility of those newborns, the growing practice of high-risk procedures and low tolerance to medication errors are some concerns of nursing professionals who work at that unit.

In order to perform a quality nursing care for newborns hospitalized at a NICU, knowledge and implementation of procedures and specialized care are necessary, since those patients are quite manipulated, for both routine procedures as specific procedures according to their needs. Thus, providing the newborn a quality care involves knowledge and technical skills, in addition to knowing how to care, learn to interact and communicate with that being.

According to researchers on this theme, in order to promote care in a critical care environment requires professional, technical competence and commitment to the patient, and even recognizing the basic needs of the newborn, for planning their assistance with quality. Therefore, the neonatal care at a NICU requires a lot of responsibility, providing them, whenever necessary, a quick and effective intervention of the nursing staff so they can get around, in the best possible way, situations of gravity experienced by them same.
In this context, this category points out technical and private procedures that nurses perform at a NICU, namely: passage of a nasogastric, orogastric and bladder tube; realization of the Peripheral Insertion of Central Catheter (PICC); blood collection for blood gas analysis and culture; orotracheal and endotracheal tube aspiration, as well as more complex curatives and scale assessment.\(^\text{12,13}\)

Next, the statements that show the activities performed by the nurse:

*We perform the procedures that are specific for nurses, such as the passage of nasogastric tube, urinary catheter, PICC, endotracheal aspiration, we conduct more complex curatives, we collect blood gases, blood culture [… ] we also evaluate the question of NIPS that is the pain scale.* (Deponent 01)

*Here the nurse has many activities, very much, exchange of orogastric tube, passage of urinary catheters, superior airway tube aspiration […] the collection of blood for blood culture, to blood gases, only the nurse collects them.* (Deponent 03)

*The question of tube passage, only the nurse performs it, both nasogastric as bladder tube. Dressing, only we do. […] Not all nurses pass it, but me and some nurses who have been trained and are qualified; we pass the PICC, which is the Peripheral Insertion of Central Catheter, which we pass in babies.* (Deponent 04)

According to the statements above, the nurse provides direct care to newborns, especially when it requires specialized care. Law No. 7,498/86, which regulates the professional practice of nursing, has, as specific for nurses, the direct nursing care to patients at risk of life, greater technical complexity nursing care and that requires scientific knowledge base and ability to make immediate decisions.\(^\text{14}\) There are clear evidence of those care at a NICU.

Considering the nursing team, and observed the laws of the profession, the arterial puncture for both blood gas as monitoring invasive blood pressure is a procedure that is specific for nurses. It also considers that the nurse should have the knowledge, skills and abilities to ensure technical and scientific rigor to the procedure, paying attention to the continuous training necessary for its realization.\(^\text{15}\)

The use of new technologies has contributed to the increased survival of newborns, and one of those advances is the intravenous therapy, because the need for administration of various drugs and parenteral nutrition require the maintenance of a safe and durable venous access. This area has been requiring attention in neonatology nursing care.\(^\text{16}\)

In this sense, the PICC has been used as an alternative of stable and effective venous access for critically ill newborns. Its insertion is considered a high-complexity procedure that requires nurses’ qualification. Only trained professionals should perform its maintenance, and only nurses with specific qualification should perform curatives. The PICC allows reducing the frequency of venipuncture and invasive procedures, thereby reducing the exposure of newborns to pain and stress.\(^\text{17}\)

The difficulty in adopting pain control measures is the lack of understanding of the non-verbal communication of the newborn. Studies in neonatology ensure that the best measures for the treatment of pain in children admitted in the NICU are the prevention and elimination of painful treatments or therapies. Nevertheless, when not possible, strategies should be used in order to reduce the pain to the maximum.\(^\text{18}\)

In care to newborns, it is noteworthy that, since pain is a subjective experience and there is no standard instrument measuring it, there are some specific scales for the neonatal period to assess pain, in order to adopt pharmacological and non-pharmacological measures to prevent and treat it.\(^\text{19}\)

In the studied unit, one observed that the nurses perform the assessment of pain through the NIPS, evaluating crying and shaking, alertness, facial expression and movement of arms and legs, which are the indicators measured during the application of the scale.

Nurses also have in their care the role of educator, whether in health education with the family, or in permanent education among professionals, as shown in the statements below:

*We make colostrum therapy, in partnership with the nutrition sector [… ] we orientate mothers the milking. We do it, as well as guide the technicians, for, sometimes, there are a lot of NB in the colostrum therapy and there is no way to do in all of them at the same time. In addition, we make permanent education with lectures on colostrum therapy, on hypothermia, on hand washing, on the issue of pain, on the kangaroo methodology and several others.* (Deponent 04)

*We provide information to parents, sometimes the mother arrives and we are in the middle of a process, which makes her anxious, so we have to explain what is being done. We orientate how she should take care of that little baby [… ]* (Deponent 09)
We guide parents on how their children are, how they should come visit the NB to prevent infections [...] we give assistance to the family. (Deponent 11)

According to the statements above, nurses perform activities focused on the guidance to parents and care to the NB on the risk of infection and the procedures being performed. They also conduct training and guidance to staff on colostrum therapy, preventing infections, hypothermia and kangaroo methodology.

A study in the city of Campina Grande/PB/Brazil mentions that the nurse needs to relate to the families of newborns admitted to the NICU, in order to encourage and support the participation of parents in the care of their child. Through this perspective, a care process arises, obtaining good results in nursing actions that depend on good relationships, preserving the uniqueness and individuality of the child and their parents. 20

As member of a NICU team, the nurse can favor the formation of emotional bonds, facilitating the initial contacts of parents with newborns, giving information on the destination of their children, the care they receive and the right to visit then whenever they wish; encouraging them to touch and talk to the neonate, clarifying doubts and easing concerns, and also beginning the Kangaroo Mother method as soon as possible, among others. 21

In this perspective, the strategy development, the awareness of health professionals working in the NICU to participate in activities, and procedures performed in newborns and mothers, enable interaction and knowledge of the real situation. Thus, conducting permanent education focused on health professionals working in the care to NB and their families contributes to the formation and training of those professionals, providing quality care. 7,21

Thus, it was possible to observe that nurses, as members of the team working in the NICU, need scientific expertise, besides knowing their specific and exclusive duties, as well as being able to provide quality care to those clients and their families. It is also noteworthy the need for that professional to have knowledge about proper care for newborns, considering they depend on a differentiated care, avoiding exposure to excessive handlings in order to minimize the manifestations of pain and stress. In this act of caring, it is essential that professionals consider and respect the mother-child bond as something beneficial in maintaining and restoring the health of newborns.

\* Bureaucratic and administrative activities of the nurse in the Neonatal Intensive Care Unit

Nurses have increasingly stood out in the context of hospital care, highlighting here their work at the Intensive Care Unit (ICU), where they develop activities in the area of care and management, which require technical and scientific knowledge and competence, since the decisions made and the procedures adopted relate directly to the life and death of people. 22

Thus, in that sector, nurses are responsible for, among other activities, evaluating the patient, planning assistance, supervising care, in addition to bureaucratic and administrative tasks. According to the Professional Practice Law, nurses perform all nursing activities, and only they can plan, organize, coordinate, implement and evaluate the service of the nursing assistance. 14

In this category, nurses demonstrated, in their statements, they are responsible for the management of the unit, regarding the provision of material resources, organization and supervision of care, staff management and standardization of nursing care, as shown by the following reports:

[...] order medicines and materials, replace the print. We are generally doing the whole bureaucratic part, we called maintenance, to get the oxygen. (Deponent 02)

We have activities related to the whole group [...] usually, when I get here, I do the distribution of the technicians per incubators, check if someone is absent [...] I see the events to consider what to do. The material question and what is missing to make the request and also to spare. (Deponent 06)

[...] Scale preparation, material, tubes, equipment provision. Organization of the emergency cart and we request other services, such as the laboratory of clinical analysis and if there is need for blood products. (Deponent 07)

Our activities begin from the closure of the medical chart of the NB transferred to the print request, medication requests and materials that are missing. Keep contact with other sectors, answer the calls, pass information to the families, because there is the time when the newsletter is given. (Deponent 08)

We usually have several activities that vary according to the duty. When we receive the duty, we have to do the administrative part that is to request materials that are missing and medicines, check the emergency cart, check the exams to be performed such as x-ray. (Deponent 10)

It was possible to observe in the statements above that the nurse performs bureaucratic
and administrative activities, such as the administration of drugs and overseeing the nursing staff, replacing prints, calling maintenance to acquire oxygen, distributing the professionals in the sector, setting scale, organizing and replenishing materials, as well as requesting other services, such as the laboratory of clinical analysis and blood products.

In a study conducted in the city of Feira de Santana (BA), 2012, the authors reported that the nurse is responsible for the supervision of the procedures performed by nursing technicians and assistants, identifying the needs of the sector and evaluating care priorities according to the situation of each patient. They also consider extremely important the presence of nurses in the NICU, performing, in addition to direct care to the newborn, the management and resolution of bureaucratic and administrative activities, given that, according to their formation, they are a qualified and skilled professional to perform those duties.

Considering the involvement of nurses in the management of material resources, which are the flow of programming, purchase, receipt, storage, distribution and control activities, in order to ensure a sufficient quantity of material for quality care. The nurse has an important role in the management of units and health services, which includes the management of human and material resources, foreseeing and providing resources necessary for assisting the patients’ needs.

One understands that, while working at the NICU, the nurse should be able to take initiatives and develop actions for the management of the unit regarding both the nursing workforce as physical and material resources. Therefore, the participation of nurses in the management of health and nursing services is extremely important for the development of strategies to quality neonatal care.

**Systematization of the care provided by the nurse to the NB in the Neonatal Intensive Care Unit**

Nursing is a profession with the main objective of caring for human beings in all their needs, assisting them individually, in the family and the community contexts. The Systematization of Nursing Assistance (SNA) is a method of care to obtain satisfactory results in the implementation of assistance, seeking to reduce complications during treatment, in order to facilitate the adaptation and recovery of the patient.

In recent decades, nursing has evolved along with the health and information technology, highlighting the importance of SNA in that development, and its contribution to the organization of sectors according to the steps of its process. It is very important to ensure the organization of work process and support the team through the planning, organization, implementation of care, in addition to helping the quality when bringing positive results.

Performing SNA is one of the features that nurses use to plan, organize and facilitate neonatal care in a NICU. In this category, the statements of the deponents show that the SNA is present in this unit, used and considered an important function in the process of organization and management of the service. Below, the statements that address clearly those actions:

[...] We do the systematization of assistance. When the newborn arrives, we make the history, diagnosis and the nursing prescription. (Deponent 02)

[...] I do the physical examination and evaluation of the baby, and then I make the history, diagnosis and nursing prescription. (Deponent 03)

We evaluate NB and systematize nursing care. So, it is an evolution at every turn, evaluating and evolving each of the babies. We make the nursing prescriptions for 24 hours. When the newborn arrives, when make the admission and the nursing history. The nursing history is sometimes done by the information on the medical chart, because we don’t always have contact with the mother at the first moment. (Deponent 05)

Here we make the systematization of nursing care, in which we make the evolution of the NB, the nursing history and notes from day to day (Deponent 09)

The use of SNA in the NICU is extremely important, since it directs the interventions according to the patient’s needs, and facilitates the evaluation of nursing care. In this sense, it provides the quality and organization of care, which promotes longer survival and smaller child’s length of stay in that unit.

The Federal Council of Nursing (COFEN), through Resolution 358/2009, considers the SNA as legal practice of nurses, qualifying them from the scientific knowledge, and advocating the organization of the professional nursing work according to the method, the staff and instruments, making possible the operation of the nursing process. This resolution solves, in its Article 1, that the nursing process must be carried out deliberately and systematically in all
environments, public or private, where there is professional nursing care.8

The implementation of the SNA fits individual care, directs the decision-making process of nurses in team management circumstances, as well as provides opportunities to improve the quality of care. That method is an exclusive instrument for the nurse’s work, which authorizes the progress of situations that transform the occurrence of the process of life and health-disease of people.24,25

Therefore, the SNA is a very important tool, as it allows quality of the provided care, for working with specific and applicable instruments to each situation, considering the specificities of each newborn in order to provide comprehensive and quality care. Thus, the commitment of the entire nursing team, highlighting the nurse, to systematize the neonatal care in a NICU can ensure an agile, practical, functional and humanized professional practice.

**FINAL REMARKS**

The study allowed an investigation into the care provided by nurses to newborns in a NICU, which resulted in statements describing such assistance, bureaucratic activities, administrative activities and the organization of the work process through the systematization of the care performed by that professional to the newborn at that unit.

The nurse, as a member of the healthcare team who works at the NICU, requires technical and scientific knowledge about specific and exclusive duties, as well as being able to provide quality care to the clients and their families. Thus, one observed that the nurse’s functions focus on technical and private procedures and, also having an important role as an educator, whether in health education along with relatives of the NB, or as a permanent educator with professionals.

Nurses demonstrate they assume the responsibility for the management of the unit, regarding the provision of material resources, organization and supervision of care, staff management and standardizing their assistance. Moreover, it is noteworthy the commitment of the whole nursing team, especially nurses, to systematize the neonatal care in a NICU, because, through that activity, there will be guarantee of an agile, practical, functional and humanized professional practice.

Through this study, one expects to contribute to improve nursing actions towards the care to NB at a NICU, and stimulate the development of other studies related to that issue. This research will also make the data available for further research so that they conquer the production of knowledge.

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The premature newborn in neonatal intensive care...
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Submission: 2016/01/21
Accepted: 2016/09/02
Publishing: 2016/10/01

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