

Research Article Artigo de Pesquisa Artículo de Investigación

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Parents as pillars for patient safety in a neonatal unit

Os pais como pilares para a segurança do paciente em unidade neonatal

Padres como pilares para la seguridad del paciente em una unidad neonatal

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ABSTRACT

Objective: to learn the parents' experience as a strategy for assessing the quality of nursing care. **Method:** in this qualitative, descriptive study at the Neonatal Unit of a hospital in southern Brazil, data were collected by critical incident (CI) interviews of 18 parents whose children had been hospitalized for 20 days or more, and whose discharge was scheduled and planned for. The data subsequently underwent content analysis. **Results:** data analysis revealed weaknesses in the care provided by the nursing staff as regards administration of medication, use of equipment, monitoring and positioning of babies, skin care and hand hygiene. **Conclusion:** The parents' experience revealed elements that enter into evaluation of nursing care, revealing parents to be mainstays of patient safety.

Descriptors: Neonatology; Nursing; Parents; Patient Safety.

RESUMO

Objetivo: conhecer a experiência dos pais como estratégia de avaliação da qualidade da assistência de enfermagem. **Método:** pesquisa descritiva com abordagem qualitativa, desenvolvida na Unidade Neonatal de um Hospital do sul do Brasil. A coleta de dados foi realizada através de entrevistas, utilizando a técnica do incidente crítico (TIC), com 18 pais que estavam com seus filhos internados por 20 dias ou mais e que tinham previsão e plano de alta hospitalar. Após, os dados foram submetidos à análise de conteúdo. **Resultados:** a análise revelou fragilidades no cuidado prestado pela equipe de enfermagem em relação à administração de medicamentos, ao uso de equipamentos, à monitorização e ao posicionamento dos bebês, aos cuidados com a pele e à higiene de mãos. **Conclusão:** a experiência dos pais revelou elementos que integram a avaliação da assistência em enfermagem, destacando-os como pilares para a segurança do paciente.

Descritores: Neonatologia; Enfermagem; Pais; Segurança do Paciente.

RESUMEN

Objetivo: conocer la experiencia de los padres como estrategia para evaluar la calidad de la atención de enfermería. **Método**: en este estudio cualitativo y descriptivo en la Unidad Neonatal de un hospital en el sur de Brasil, los datos fueron recolectados por entrevistas de incidentes críticos (IC) de 18 padres cuyos hijos habían estado hospitalizados durante 20 días o más, y cuyo alta fue programada y planificada para. Los datos posteriormente se sometieron a análisis de contenido. **Resultados:** el análisis de datos reveló debilidades en la atención brindada por el personal de enfermería en lo que respecta a la administración de medicamentos, uso de equipos, monitoreo y posicionamiento de bebés, cuidado de la piel e higiene de manos. **Conclusión:** la experiencia de los padres reveló elementos que entran en la evaluación de la atención de enfermería, revelando que los padres son pilares de la seguridad del paciente.

Descriptores: Neonatología; Enfermería; Padrea; Seguridad del Paciente.

INTRODUCTION

The Neonatal Unit is considered a complex area within the health services, as neonates are exposed to greater risks due to their particularities, such as their physiological instability and organic systems that are still under development, making the care offered in this unit a constant cause for concern^{1,2}.

Adverse events related to the assistance to hospitalized neonates can cause irreversible sequelae to the baby, such as clinical deterioration and even death, the most frequent being related to thermo-regulation disorders, blood glucose, incorrect medication dosage, accidental loss of intravascular catheter, skin injury, and infection¹⁻³. In this same sense, the safety of newborns involves harm-free care, which aims to maintain and restore physiological stability in the extrauterine adaptation, in addition to the need to reduce infections, morbidity, and mortality in these patients^{3,4}.

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To provide excellent and safe care for the babies, health institutions have used quality assessment strategies, such as incorporating the patient's perception in the projection of service improvements⁵. A number of research studies argue that the patients' experiences during their hospitalization reveal important information about the quality of care and patient safety, making it an important strategy for evaluating the services^{5,6}.

This perspective has already been addressed in the National Patient Safety Program (*Programa Nacional de Segurança do Paciente*, PNSP) implemented in Brazil, where the second axis of the program discusses the importance of citizen involvement in their safety, as it is believed that, when inserted at the care center, the patients and their families can contribute to improving the safety of the care they receive and act as active partners in the prevention of avoidable harms to health⁷.

In the neonatal unit, the insertion of parents in the routine of care benefits the baby in several aspects, since the involvement of the parents with the baby allows for the creation of an environment of trust and freedom to question the health team about neonate care. In this sense, it is believed that parents can be partners for safety in baby care, as well as helping to identify and prevent incidents^{8,9}.

In the context of care provided in neonatal units, the nursing staff stands out, as it is the staff closest to the patient, offering assistance to the patients and their family 24 hours a day, and is involved with all aspects surrounding the hospitalization. Thus, considering that the parents' presence in the neonatal unit is a contributor to patient safety, this study aimed at knowing the parents' experience as a strategy for assessing the quality of nursing care in a Neonatal Unit.

METHOD

The research locus was the Neonatal Unit of a hospital in the inland of the state of Rio Grande do Sul, Brazil. This unit has 25 beds, 10 of which are from the Neonatal Intensive Care Unit (*Unidade de Tratamento Intensivo Neonatal*, UTIN), 10 from the Neonatal Intermediate Care Unit (*Unidade de Cuidados Intermediários Neonatal*, UCIN), and five beds from the Kangaroo Intermediate Care Unit (*Unidade de Cuidados Intermediários Canguru*, UCINco); the last unit, however, was not part of the research. The study participants were parents who were with their children admitted to the UTIN or UCIN from May to November 2018. The inclusion criterion for the parents was related to the fact that the babies had 20 days or more of hospitalization, forecast and hospital discharge plan described in the medical record, and having previously been admitted to a UTIN bed. The indication of the parents who met the criteria was carried out by the nurses at the unit.

Data collection was performed using the critical incident technique (CIT), a systematic set of procedures, which, when applied, allow for the recording of specific behaviors¹⁰. The technique has three components that characterize a critical incident, namely: the experience of a situation by a subject, which will result in a behavior and then, in a consequence¹⁰. Data was collected from May to November 2018, through semi-structured interviews conducted with the help of a script that began by inviting the participant to think about the period of hospitalization of their child. After this first moment, the participant was asked to remember the care provided by the nursing staff, and then the following questions were asked: "What is the event (incident) related to the nursing care you want to report?"; "Where did the event take place?"; "What people were involved in the event?"; "Why did this event generate (dis)satisfaction?"; "Why did you this choose this event to report? (Did it generate satisfaction or dissatisfaction?)"; "When did this event happen?"; "What could have been different?"; "Do you wish to report another situation?".

The parents were interviewed in a private room in the unit, and the mean time for each interview ranged between 15 and 45 minutes. The interviews were conducted by the researcher herself, recorded with a mobile device, and transcribed in full. All the participants who were invited agreed to participate in the interviews.

Content analysis¹¹ was used, with a fluctuating reading of the interviews to seek experiences that contained the three elements that characterized a critical incident. All the incidents found were organized in a chart and subsequently interpreted observing experiences, feelings, expressions that appeared frequently, and similitudes in the critical incidents. At this moment, the reports were grouped by units of meaning and an analytical category emerged from their classification.

Regarding the ethical aspects, the study complied with the requirements of Resolution No. 466/2012¹², obeying the guidelines and regulatory standards for research involving human beings. It was approved by the Research Ethics Committee of the Federal University of Rio Grande do Sul, under number 2595150. The parents who agreed to participate in the research signed the Free and Informed Consent Form.



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RESULTS

The group of 18 participants was composed of 17 mothers and one father, most of them with complete high school and aged between 20 and 43 years old. The infants' length of hospital stay was a minimum of 20 days and a maximum of 102 days, and their gestational age ranged from 27 to 33 weeks.

From the reading, organization, and classification of the reports, 43 critical incidents were obtained, of which six described experiences related to the gaps in the nursing care that reflect on patient safety, composing the "Patient Safety" analytical category.

The experiences portray the nursing staff's carelessness regarding the care provided to the baby that was witnessed by the parents, such as: error during medication administration, inadequate heating after bathing, nurse reluctant to monitor peripheral oxygen saturation, inadequate positioning of the baby, which caused loss of oxygen device, negligence in changing diapers, and omission of hand hygiene.

The first event to be highlighted relates to an incident during the administration of the medication:

He had a volume of medicine infusing 0.5 ml per hour, and this machine cracked and started to infuse about 50 ml per hour, and then they had an infusion in minutes, an infusion that should happen in 8 hours, right? When I called, the person saw and continued to infuse the normal amount of the medicine, at 0.5 ml/h, but it didn't stop, and that worried me, an excessive amount of medicine, you have to be very careful. And I had to call the doctor, and the doctor asked to stop the medication [...] so, for me, it was very unprofessional, you know. No, I didn't like that, it made me sick to experience that. (E4)

Inadequate heating of the baby after bathing was another moment observed by a mother. According to the report, the baby had hyperthermia after bathing, and the critical incident was justified by the malfunction of the incubator, but there is also a limitation in the care provided by the nursing staff, which did not consider the mother's observation of the signs that the baby was presenting.

> There was only one day that I arrived at night and they had just bathed the baby, then I looked at the incubator: The baby is hot! Then nobody cared to take a look. Then I notice my baby was very red, I called the nurses: I think there's something wrong, the baby is very red, I think he's very hot! - "No, it's ok (the nurse said)". I called again, his temperature was already 37.9°C, almost 38°C, and then they changed the incubator. I just thought someone should check it more often; sometimes they just come and look, but nobody touches the baby and checks his temperature to see if everything is really okay. (E3)

In two of the moments reported, the nurses failed to notice the malfunction of devices that assist in the oxygen therapy for the treatment of babies. In the first report, it is observed that the nursing technician was reluctant to put the oximeter on the baby again, failing to monitor his peripheral oxygen saturation.

> When he was without that "little thing" (pulse oximeter) in his foot, and then a nurse (name of the nursing technician) who was with him, I told her that he was not using that thing. She was checking her phone, then she said: "I'm on my break, I can't do it now." [...] Then she sent the other girl, the one who was working, and then she went there [...]. I didn't like that very much. (E9)

In this second report, the mother found the baby sleeping in a weird position in the incubator and with the oxygen support outside the airway. There are also differences in the frequency of observation of the neonate according to the work shift:

> Two nights in a row I get there at 9 p.m., he's almost falling out of the incubator, his little feet were touching the incubator glass, he was sleeping on side, without a 'nest', without anything, and the (oxygen) "little glasses" on top of his eyes, it was saturating 93%, 94%. I think it didn't happen for long, because, otherwise, the saturation would have dropped even more [...] imagine if I hadn't come to see him, he could have gotten tired without the "little glasses", he could have gotten worse, right. I think that sometimes a long time goes by without anyone checking, I think this is more of the night shift, they spend more time sitting, they don't check much, then sometimes I get very worried about leaving him, this sometimes also makes me a little nervous. (E9)

The other two observations reported highlight the gap in the baby's skin care by the nursing staff, by neglecting or abruptly changing the baby's diaper:

> Yesterday morning it was really unpleasant, because my son was covered in pee, so I said: (name of the technician), could you change the baby? - "Mommy, there isn't too much pee, you can leave it like this." Then an hour later I called again: The baby is covered in poop and pee, then she said she didn't need to change, and she said: "This mommy is giving me a hard time." That was what I understand, that I was insisting too much on taking care. It was that part that really hurt me. (E15)



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The technician cleaned his little butt, he was already badly hurt, I left here crying; the other day I arrived and they had used a gauze and ointment to heal the sore, it gets on my "nerves". I don't want her taking care of my son anymore. (E12)

Hand washing was another aspect evidenced in one of the experiences, when the parents noticed that the nursing technician was using her cell phone and did not wash the hands before handling the baby:

She (nursing technician) always asked us to wash our hands not to pass on any bacteria. But there were moments when she was on her cell phone and then she got up, didn't wash her hands and touched him (the baby). Then my husband asked: "Don't you have to wash your hands? Don't you have to wear a glove?" - "No, I already did." But I think it was a slight negligence, but he (the father) got worried. (E6)

According to the parents' perspective, the results indicate the existence of negligence in the assistance offered to the babies by the nursing staff. This negligence caused incidents that, for the most part, caused temporary harms to the babies, and others that could have caused permanent harms if they were not alerted by the parents.

DISCUSSION

Regarding the error in the infusion of medication perceived by the parents, it is highlighted that adverse events related to the medication process are among the most common incidents in neonatal care units^{13,14}. In a study carried out in Germany, 281 drug preparations were observed in NICUs and 38 errors were found, the most common being lack of uniformity in the reconstitution/dilution of the medications and the incorrect infusion speed of the solutions¹⁵. In another study, among the five types of medication errors most commonly observed in the neonatal unit, the wrong infusion speed of the medication stands out¹⁶.

Identifying the errors and their causes are important tools for proposing improvement strategies. An alternative to improve safety in the preparation and administration of medications is that two professionals should check the stages involving this process, including the infusion rate and the volume to be infused that are programmed in the infusion pump¹⁷. In the case verified in the researched unit, this type of strategy could prevent the medication from being infused with an inadequate volume. Other strategies are described in the literature, such as the use of smart infusion pumps, the inclusion of clinical pharmacists in multidisciplinary teams, the evaluation of knowledge about calculations of drugs for neonatology, and the use of different connectors for each route of administration¹⁸.

The inadequate heating of the baby observed and communicated to the nursing staff was another important event. In this case, the problem occurred due to equipment malfunction, according to the information provided by the mother. Like any technological equipment, neonatal incubators can malfunction and may also be improperly used by the professionals. Misuse of incubators can cause harmful events to the baby, such as exposure to hyperthermia, which can result in irreversible adverse events. Thus, for this technology to result in safe and effective care, it is necessary that the equipment is handled by trained professionals and that maintenance occurs in a preventive manner¹⁹.

Oxygen therapy is essential for babies with respiratory dysfunction, but it has some complications when not performed correctly, as observed by the parents in the use of the oxygen device and its monitoring. It is understood that the nursing staff must be able to provide adequate assistance to the babies that are using an oxygen device, requiring knowledge of specific care regarding this treatment to protect the baby from possible harms²⁰.

The parents highlight events related to the care for the baby's skin, which is very fragile and prone to injuries. To prevent skin injuries in the baby's perineal region, diapers should be changed whenever there is dirt, using a soft cloth or cotton and water to clean the newborn's perianal region since the use of chemicals can cause skin irritation, especially in extremely premature infants^{21,22}. The nursing staff is responsible for the prevention and treatment of skin injuries, and diapers should be changed constantly, with delicate hygiene and suitable products²².

The professionals' lack of and/or inadequate hand hygiene perceived by the parents is an aggravating factor for safe care, since it is known that Health Care-Associated Infections (HCAIs) are common in Neonatal Units and can be defined as conditions that the patient experiences while receiving treatment. The handbook published by the National Health Surveillance Agency on IRAS prevention measures outline the measures to be adopted, among which hand hygiene is the most important one²³.

All the critical incidents described demonstrate the importance of the parents being inserted in the care process, as their involvement can bring important contributions to safety in the care of the baby, as well as assist in the detection

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and prevention of adverse events or near misses that are not perceived or notified by the assistance team^{5,8,24}. When parents are involved in care, they feel part of it, and thus can be considered pillars in patient safety^{9,25}. Therefore, the nurse at the Neonatal Unit needs to develop actions that help the professionals encourage parents for this involvement, as the family's insertion into care still poses many challenges for the nursing staff.

In addition to these actions, it is essential to carry out strategies aimed at the nursing staff, such as educational activities on the causes and effects that incidents can cause to the baby's health, as well as making them aware of the importance of quality and safe care⁴. The incidents identified were referred to the unit, preserving the names of the participants and the professionals involved, so that the situations reported could help to improve the care and safety of the patients. Therefore, it is believed that the research has avoided falling into the trap of blaming the professionals and has contributed to the perspective of learning from the incidents.

Limitations of the study

The fact that the researcher does not live in the same city where the research was conducted is highlighted, which hinders the operationalization process for data collection. In addition, as it is a cut-off of a certain period, there is no knowledge of possible actions implemented by the service.

Contributions to the field of Nursing

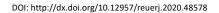
Patient safety was not the initial focus of the research, but the theme emerged from the parents' experiences during their children's hospitalization, revealing important aspects about the quality of care in the neonatal unit. This demonstrates the need to deepen into the theme in future research studies, and the critical incident technique seems to be a useful way to objectively describe situations in the care practice that are occurring in front of the parents' eyes.

FINAL CONSIDERATIONS

Through the parents' reports, it was possible to notice that the Neonatal Unit under study has gaps with respect to the safety of the care provided to the babies, since critical incidents were described during the care of newborns. In this sense, it is considered that the parents' observations are an important strategy for assessing the quality of the nursing staff's assistance and for preventing adverse events, making them pillars for patient safety. Thus, the parents' view and their insertion in the care context allow them to perform their role as an active partner in the prevention of avoidable harms, as recommended in the PNSP.

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