

Skin injury care in newborns: nursing team actions**

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ABSTRACT

Objective: To identify nursing care actions for the prevention and treatment of skin injuries in newborns carried out by the nursing team of a neonatal unit. **Method:** Exploratory descriptive qualitative research involving 12 professionals who had worked for at least six months in a neonatal unit of a hospital in southern Brazil. Data were collected in March and April 2023 through audio-recorded interviews, which were later transcribed into a Microsoft Word® document. The data were analyzed using Bardin's content analysis. **Results:** The results showed the actions developed by the team to prevent skin injuries; the most common injuries in hospitalized newborns from the nursing team's perspective; and the actions developed to treat skin injuries. **Conclusion:** Professionals use practices based on the scientific literature to prevent and treat skin injuries in newborns; however, scales or strategies to predict injury risk are not used, despite their potential to help prevent injuries and reduce neonatal morbidity and mortality.

KEYWORDS: Neonatal nursing. Newborn. Neonatal intensive care unit. Skin. Skin injuries. Wounds and injuries.

Cuidados com lesões de pele em recém-nascido: ações da equipe de enfermagem**

RESUMO

Objetivo: Identificar os cuidados de prevenção e tratamento de lesões de pele em recém-nascidos desenvolvidos pela equipe de enfermagem de uma unidade neonatal. **Método:** Pesquisa descritiva exploratória de abordagem qualitativa envolvendo 12 profissionais que atuavam havia pelo menos seis meses em uma unidade neonatal de um hospital do Sul do Brasil. A coleta de dados ocorreu em março e abril de 2023, por meio de entrevistas que foram armazenadas por gravação e, posteriormente, transcritas em documento do Microsoft Word®. Os dados foram avaliados de acordo com a análise de conteúdo de Bardin. **Resultados:** Os resultados apontaram as ações desenvolvidas pela equipe para prevenir lesões de pele; as lesões mais comuns nos recém-nascidos internados, segundo a visão da equipe de enfermagem, e as ações desenvolvidas para tratar de lesões de pele. **Conclusão:** Concluiu-se que os profissionais possuem práticas baseadas na literatura científica para prevenir e tratar das lesões de pele nos neonatos, porém não são utilizadas escalas ou estratégias para predizer os riscos de aparecimento de lesões, o que poderia evitá-las e reduzir a morbimortalidade neonatal.

DESCRIPTORES: Enfermagem neonatal. Recém-nascido. Unidade de terapia intensiva neonatal. Pele. Lesões de pele. Ferimentos e lesões.

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Cuidados de lesiones cutáneas en recién nacidos: acciones del equipo de enfermería**

RESUMEN

Objetivo: Identificar las medidas de prevención y tratamiento de lesiones cutáneas en recién nacidos desarrolladas por el equipo de enfermería de una unidad neonatal. **Método:** Investigación descriptiva exploratoria con un enfoque cualitativo en la que participaron 12 profesionales que llevaban al menos seis meses trabajando en una unidad neonatal de un hospital del sur de Brasil. La recopilación de datos se llevó a cabo en marzo y abril de 2023, mediante entrevistas que se grabaron y, posteriormente, se transcribieron en un documento de *Microsoft Word®*. Los datos se evaluaron de acuerdo con el análisis de contenido de Bardin. **Resultados:** Los resultados señalaron las medidas implementadas por el equipo para prevenir lesiones cutáneas; las lesiones más comunes en los recién nacidos hospitalizados, según la perspectiva del equipo de enfermería, y las medidas implementadas para tratar las lesiones cutáneas. **Conclusión:** Se concluyó que los profesionales cuentan con prácticas basadas en la literatura científica para prevenir y tratar las lesiones cutáneas en los recién nacidos; sin embargo, no se utilizan escalas ni estrategias para predecir los riesgos de aparición de lesiones, lo que podría evitarlas y reducir la morbilidad y mortalidad neonatal.

DESCRIPTORES: Enfermería neonatal. Recién nacido. Unidad de cuidado intensivo neonatal. Piel. Lesiones cutáneas. Heridas y lesiones.

INTRODUCTION

The neonatal unit (NU) is a hospital environment intended for the care of newborns (NBs) who require continuous monitoring and specialized care, particularly those who are premature, have low birth weight, or present clinical complications during the neonatal period. These NBs are more susceptible to thermal instability, fluid loss, infections, and skin injuries because of the structural and functional immaturity of the skin, as well as the frequent need for interventions and invasive devices¹.

Preterm newborns, especially those with a gestational age of less than 32 weeks, have a significantly higher risk of skin injuries and other complications associated with hospitalization, requiring rigorous care protocols and evidence-based care to reduce harm and improve clinical outcomes¹.

Nurses in NUs play an essential role both in direct NB care and in care management, leading the nursing team, coordinating the work process, performing complex procedures, and supervising delegated tasks, with a focus on health promotion, prevention of complications, and humanized care².

Among the types of care provided by nurses and the nursing team in the NU is skin care. Compared with term babies, the skin of preterm newborns is thinner, more fragile, more delicate, and has less subcutaneous fat, making it more susceptible to injuries. Important aspects of preterm newborn skin care include adequate hygiene, injury prevention, temperature control, hydration, and infection prevention².

Skin injuries are characterized by loss of skin integrity resulting from the action of intrinsic or extrinsic factors that compromise the protective functions of the skin, exposing the individual to important clinical complications³. Neonatal skin integrity is essential not only as a physical barrier but also as a critical component of the NB's immune defense⁴.

Skin immaturity in neonates, especially preterm newborns, is associated with high vulnerability to infections, systemic inflammation, and prolonged hospitalization, factors recognized as important contributors to morbidity and mortality in this population. In many clinical contexts, impaired skin barrier function accounts for a substantial proportion of adverse outcomes observed in NUs, underscoring the importance of preventive skin care strategies⁴.

It is estimated that approximately 41% of this population develops some type of skin injury, the most frequent being those related to incontinence-associated dermatitis, device-related pressure injuries, and medical adhesive-related skin injuries (MARSI)⁵. These injuries may compromise the NB's clinical condition, increase length of hospital stay, and represent important portals of entry for pathogenic microorganisms^{4,5}.

Preventive actions are essential not only to avoid or minimize physical harm but also to reduce pain and health-care-related costs and promote well-being. In this sense, prevention is the best approach to skin injuries, especially in newborns, since currently available treatments for restoring skin integrity are not always able to fully restore skin health to its natural state³.

In practice, nursing professionals implement several actions to prevent these injuries, which motivated this study to identify the types of prevention and treatment used in a neonatal unit. In addition, the research sought to disseminate the topic in the scientific literature and enable more professionals and/or students to access it, thereby gradually improving NB care.

OBJECTIVES

To identify nursing care actions for the prevention and treatment of skin injuries in newborns carried out by the nursing team of a neonatal unit.

METHODS

This exploratory descriptive qualitative research was conducted using the Consolidated Criteria for Reporting Qualitative Research (COREQ) guide to describe the methodological process and ensure the scientific rigor of the study⁶.

The study was conducted in the NU of a university hospital in southern Brazil, which at the time of data collection had 12 active beds: four for intermediate care and eight for intensive care. The NU has a team of 16 neonatologists, 14 nurses, 36 nursing technicians, one administrative assistant, and a multidisciplinary team composed of psychologists, social workers, speech-language therapists, an occupational therapist, and physical therapists.

The participants invited to take part in the research were nurses and nursing technicians. The inclusion criteria were professionals who had been working in the NU for at least six months and were assigned to the unit at the time of data collection. Professionals who were on vacation, on leave of any nature, and/or absent for other reasons were excluded.

Initially, the reference nurse/unit coordinator was contacted to present the study objectives and align the data collection procedures. The researcher also became familiar with the NU routine, identifying the most appropriate times for data collection, which took place in March and April 2023 through semi-structured interviews. The audio recordings were made in full using the main researcher's smartphone.

To guide the interviews, a script was prepared. First, it asked about the characterization of the professionals (age, sex, level of education, professional category, and length of practice in the NU), followed by the following questions: Can you tell me about the care provided in the unit to prevent skin injuries in NBs? What do you think can interfere with NB skin integrity? How do you assess the risk of NBs developing skin injuries? Is there any protocol for the prevention of skin injuries? Could you tell me the main recommendations in this document? Have you received training regarding this protocol? Have you participated in any training or qualification activity regarding NB skin care? Has the institution ever offered a course on this topic? Do you have any suggestions to improve care for the prevention of skin injuries in NBs in the unit where you work?

The invitation to participate in the research occurred gradually during the researcher's stay at the NU, through direct contact with professionals working in the sector during the data collection period. Throughout this process, 19 professionals

were invited to participate in the study, of whom 12 accepted; seven were interviewed at the time of the approach, and five had their interviews scheduled for other dates.

Data collection was ended when data saturation was reached⁷, characterized by recurrence and repetition of the meanings expressed in the participants' statements, at which point new interviews no longer added relevant information to the study results, making it unnecessary to approach the remaining professionals in the unit.

Throughout the study, all ethical precepts related to research involving human beings were respected, in accordance with Brazilian National Health Council Resolutions No. 466/2012 and No. 510/2016. The study was approved by the Human Research Ethics Committee of the Federal University of Santa Catarina, under CAAE No. 66266522.2.0000.0121 and opinion No. 5.941.868.

Participation in the study was voluntary, and participants could refuse or withdraw from the research at any time. All professionals who agreed to participate signed an informed consent form. To ensure the confidentiality of interviewees, names of Brazilian orchid species were used.

The mean interview duration was 9 minutes. All interviews were transcribed in Microsoft Word® by the main researcher and stored in Google Drive®.

The data were evaluated through content analysis⁸, following the stages of pre-analysis, exploration of the material, and treatment of the results. The analytical categories were constructed thematically, based on the units of meaning in the participants' statements, and considered recurrent nuclei of meaning relevant to the study objectives.

At first, the interviews were transcribed directly below the questions, with the participant's identification codename. Subsequently, the statements of all participants were organized in a Microsoft Word® table with two columns: one for raw data and another for the selected codes for the relevant statements. A different color was used for each code. These codes gave rise to the study categories. Thus, the analysis resulted in three categories: actions developed by the team to prevent skin injuries; the most common injuries among NBs hospitalized in the NU from the nursing team's perspective; and actions developed by the team to treat skin injuries.

RESULTS

Twelve nursing team professionals who worked in the NU participated in the study. All were female, aged between 36 and 54 years; four were nurses and eight were nursing technicians. The participants' length of practice in the NU ranged from 1 to 22 years, with a mean of 8 years.

Based on the data collected, three categories emerged: actions developed by the team to prevent skin injuries; the most common injuries in NBs hospitalized in the NU; and actions implemented by the team to treat skin injuries. These actions are presented below.

Actions developed by the team to prevent skin injuries

This category presents the practices used by the participants to prevent skin injuries in preterm and term newborns. The professionals emphasized the importance of prevention to reduce the need for treatment, as well as actions to keep NB skin intact, since NBs are exposed to all types of risks and many undergo prolonged hospitalization, which may contribute to permanent sequelae.

We clean the perineum constantly; we change the diaper every 3 hours. From 1,700 g on, we can bathe the baby in the tub three times a week; there is no need to bathe the baby every day. We do not use products, only pure water; when we need to use something, it is a drop of neutral soap (Ballerina).

For extremely preterm newborns, the first 72 hours require minimum handling, so we do not reposition them [...] After 72 hours, or even with slightly bigger babies, we start repositioning them (Doll's Eye).

Every morning, we apply EFA to all babies' bodies to moisturize, and if the skin is dry, we do it more than once a day (Miltonia).

When we need to secure tubes or place the oximeter sensor, we first put a small hydrocolloid dressing underneath and secure it with adhesive tape over the plate (Doll's Eye).

We change the sites where the equipment will stay on the NB; we always try to rotate them (Dancing Lady).

The dressings are as minimally abrasive as possible; we also have an adhesive remover so that removal is less aggressive, since the baby's skin is so fragile that it can come off together with the adhesive. When this wipe is not available, we use EFA with a cotton swab and apply it while removing the adhesive (Vanilla).

The diaper adhesive tab can stick directly to the baby's skin, and it is a strong adhesive. When we open it, we immediately fold the adhesive so it does not stick to the baby's skin (Lady's slipper).

Regarding chemical agents, we use aqueous chlorhexidine in more premature NBs up to 32 weeks, and after that we use alcoholic chlorhexidine for antisepsis (Bamboo).

Most common injuries in newborns hospitalized in the neonatal unit, from the nursing team's perspective

Despite the measures taken to prevent skin injuries, participants reported that they cannot be completely eliminated during hospitalization. This occurs because NBs need care procedures that may compromise skin integrity, such as venous punctures, tube and catheter insertions, umbilical stump hygiene, capillary blood glucose testing, repositioning, and diaper changes.

The following reports show, from the participants' perspective, the main skin injuries observed in the NU where the study was conducted, which stood out in this category.

We have chemical injuries when chlorhexidine is applied for antisepsis before umbilical catheter insertion, and then it ends up burning the baby's skin, so we have some burn injuries, but we work hard to prevent them from happening. Incontinence-associated dermatitis is the most common because our diapers are not good (Dancing Lady).

The injuries we observe most frequently here occur in the nostril, in babies on CPAP, because the prong, no matter how much we keep it away, is a pressure point, even when a hydrocolloid plate is used on the columella (Doll's Eye).

The injuries are mostly due to serum infiltrations and phlogistic signs at peripheral and central puncture sites; hyperemia, edema, and redness end up occurring. Periumbilical chemical burns also occur from the products we use to clean the stump (Ballerina).

What appears most is incontinence-associated dermatitis [...] the baby has many bowel movements. Pressure injury is rarer; we are very careful about that (Miltonia).

I have only seen pressure injuries in the occipital region (Bamboo).

The most common are CPAP injuries, tube injuries, columella necrosis, and puncture sites that extravasate (Lady's slipper).

They end up developing a lot of incontinence-associated dermatitis. In areas most in contact with the diaper, we see incontinence-associated dermatitis that appears almost raw (Fire-star).

Actions developed to treat skin injuries

This category portrays the pharmacological treatments and behavioral interventions adopted by the team. Essential fatty acid (EFA) was the therapy most frequently mentioned, demonstrating its broad use in the care context in which the participants work, both for prevention and for the treatment of skin injuries.

The buttocks are where it appears most. For incontinence-associated dermatitis, we use ointments and barrier cream. In some cases, such as a baby who is hospitalized now, hydrocortisone is being used on the perineum, according to medical prescription (Cattleya).

We use EFA, barrier cream, hydrocolloid plate, hydrocolloid powder, vitamin ointment, sometimes antifungals, some foams, and, if necessary, we also reposition the baby to prevent worsening (Dancing Lady).

We use EFA and have had good results (Doll's Eye).

If any injury occurs, we use EFA, vitamin ointment, ostomy powder (hydrocolloid powder), hydrocolloid plate, and barrier cream (Ballerina).

Barrier cream, vitamin ointment, hydrocolloid powder, hydrocolloid plate (Miltonia).

If the injury is incontinence-associated dermatitis, we use barrier cream [...] we have to protect it, because if the baby has a bowel movement, it cannot happen on top of the injury again, and it will depend more or less on that. We do not usually use much medication on injuries; we use more vitamin ointment, and if a specific injury occurs, for example, a venous puncture that caused an injury and has exudate, then the prescription is made by the physicians (Bamboo). We use a lot of Dersani® (EFA), vitamin ointment on the perineum or another ointment with antimicrobial, which is prescribed by the physicians. We also use hydrocolloid a lot, more for prevention, but when there is a small injury, we place the plate as well (Spider).

If it is a serum extravasation, for example, we alternate warm and cold compresses and use hydrogel; when there is already necrosis, EFA and hydrocolloid plate. We recently had a baby who developed a pustule that ruptured, so we cleaned the area completely and applied the hydrocolloid plate, and it had a very good effect because it absorbed the draining secretion and healed; it was perfect (Lady's slipper).

We use EFA, hydrogel, hydrocolloid plate, and vitamin ointment on the perineum a lot (Wedding veil).

We use the small hydrocolloid plate a lot if the injury is not yet open and is in a pressure area, and vitamin ointment (Fire-star).

At some points during the interviews, the professionals reported having a manual prepared by an enterostomal therapy nurse, which is available in the unit. However, they reported that they do not habitually use it.

The main categories and subthemes that emerged from the interviews are summarized in Chart 1.

Chart 1. Emerging categories and subthemes on care for skin injuries in newborns. Florianópolis, 2025.

Categories	Related subthemes
Actions developed by the team to prevent skin injuries	- Frequent perineal hygiene - Use of EFA for hydration - Device rotation - Protection with hydrocolloid - Care with adhesives and less abrasive dressings - Bath control and use of neutral soaps
Most common injuries in NBs hospitalized in the neonatal unit	- Incontinence-associated dermatitis - Nasal columella injuries due to CPAP use - Puncture infiltrations - Chemical burn
Actions developed to treat skin injuries	- Use of EFA, vitamin ointments, and barrier cream - Application of hydrocolloid and hydrogel - Use of prescribed antifungals and corticosteroids - Repositioning and protection of injured areas

NBs: newborns; EFA: essential fatty acids; CPAP: continuous positive airway pressure.

Source: Prepared by the authors for the purposes of the present study.

DISCUSSION

The professionals who participated in this study were all female, aged between 36 and 54 years, and most had worked with neonates for many years, with a mean of 8 years.

Data analysis reveals that professionals develop several actions to prevent and treat skin injuries in NBs, demonstrating their knowledge of the topic.

In the NU, patients aged 0 to 28 days are cared for, requiring specific care, qualified professionals, and continuous comprehensive care. It should be emphasized that newborns, especially those hospitalized in NUs, are highly vulnerable because of the structural and functional immaturity of the skin, as well as exposure to multiple procedures and invasive devices, which makes them more susceptible to skin injuries, infections, and other complications associated with hospitalization¹.

In this context, patient safety in the NU is closely related to the implementation of evidence-based care protocols, systematic assessment of skin integrity, and adoption of best practices aimed at preventing harm and preserving the skin barrier¹. This aspect can be seen in the professionals' statements, whose discourses were similar and grounded in scientific evidence.

In the interviews, it was observed that the professionals are extremely concerned about NB hygiene and that most care practices are predetermined, such as bathing with pure water every three days and, if necessary, with only one drop of neutral soap. According to the Brazilian Society of Pediatrics⁹, many infant cosmetic products contain substances potentially harmful to newborn health, such as intense fragrances, dyes, sodium lauryl sulfate, alcohol, parabens, and formaldehyde-releasing preservatives, which compromise the skin barrier. Therefore, during immersion baths, mild products formulated for baby skin should be used to preserve its pH and hydration.

It is always important to reinforce skin care measures, such as gentle cleaning and delicate drying, to avoid completely removing components that protect it, such as vernix caseosa. These practices prevent irritation, chemical reactions, mechanical injuries, and infections. In addition, preterm newborns are considered to require minimal handling and may develop stress, withdrawal behavior, decreased saturation, and hypothermia during bathing procedures¹⁰.

The interviewees mentioned applying EFA to NB skin. Some reported that the goal is to moisturize the skin; others, that it is to prevent injuries; most stated that they use it to treat wounds. Corroborating a study¹¹ in the state of Maranhão, which analyzed nursing practices in the prevention of skin injuries, the authors state that the use of substances such as EFA has become increasingly common in the routine of NUs.

However, from a conceptual standpoint, EFA is not characterized as a moisturizing agent but as a substance with emollient action, whose main function is related to protection of the skin barrier and reduction of transepidermal water loss¹².

Studies on neonatal skin care indicate that products with emollient action, including specific dermatological oil-based formulations, may contribute to the integrity of the epidermal barrier, favoring the incorporation of fatty acids into the superficial layers of the skin^{12,13}. However, evidence from a systematic review indicates that the routine use of these products in very preterm NBs has not demonstrated a consistent impact on the reduction of invasive infections or mortality, reinforcing the need for careful and individualized indication¹³.

A systematic review with meta-analyses suggests a reduction in the risk of infections associated with the topical application of emollient oils in preterm infants; however, despite promising results, the limited availability of evidence in extremely immature NBs has so far restricted its recommendation for routine use¹⁴.

Thus, the findings of this study reinforce the importance of distinguishing between the use of EFA and other emollients as a strategy for skin protection and treatment, and skin hydration itself, which should preferably be achieved with moisturizing products specifically formulated for neonatal skin.

When analyzing participants' statements about strategies for securing tubes and catheters, the team's concern with preventing skin injuries associated with devices and adhesives was observed. The literature points to the importance of protecting the early, immature skin of newborns with protective coverings that minimize friction and shear forces, as well as moisture at the interface between the skin and the device¹⁵.

A recent review on neonatal skin care highlights that the use of adhesive dressings, including hydrocolloids, should be evaluated with caution in newborns with extremely immature skin, given the risk of injuries during adhesive removal¹². In this context, materials such as polyurethane foams, especially those adapted for sensitive skin, have been recognized as appropriate alternatives in clinical settings to provide skin protection and reduce MARSIs, as well as device-related injuries¹². This approach is compatible with the practices reported by professionals in the unit where the study was conducted, underscoring the need for careful, individualized assessment of protective products to maintain NB skin integrity.

During adhesive removal, it is essential to be careful to minimize the risk of skin trauma. Strategies such as using gauze moistened with saline solution, mineral oil, or specific alcohol-free silicone- or water-based removers may favor gentler removal, reducing adhesive force and the risk of MARSII¹⁶.

At the same time, recent literature highlights that prior skin protection measures, such as the application of alcohol-free liquid barrier films and the use of adhesives with a silicone interface, may help preserve skin integrity in NBs with immature skin¹².

These measures are intended to prevent skin damage and provide a safer and less painful or uncomfortable procedure for the NB. In addition, it is recommended that the use of adhesives be restricted to situations of real need, avoiding their application to areas larger than strictly necessary to ensure adequate fixation of devices^{12,16}. It should be emphasized, however, that such strategies must be adopted without compromising the secure fixation of devices, since displacement of tubes, catheters, or other devices may lead to adverse events, such as therapeutic failures or additional risks to NB safety.

During the interviews, cases of necrotic injury in the nasal columella associated with the use of prongs for continuous positive airway pressure (CPAP) were mentioned. In a comparative study, removal of the foam barrier dressing resulted in a marked increase in severe injuries: 48% of newborns presented pressure injuries, of whom 40% progressed to stage 3 or columella necrosis, evidencing the vulnerability of neonatal skin and the urgent need to adopt effective prevention strategies¹⁷.

In this regard, new technologies are emerging and should be used to prevent injuries. A recent review indicates that the use of prophylactic dressings under CPAP interfaces, including hydrocolloids and polyurethane foams, is associated with a significant reduction in the incidence of device-related pressure injuries in the nasal region, especially in preterm newborns. These findings are consistent with the reports of the NU professionals in this study, who highlighted the use of hydrocolloid as a preventive strategy for CPAP-related injuries¹⁸.

According to a study conducted in Ceará, about 41% of neonates develop one or more injuries during hospitalization. The most common include incontinence-associated dermatitis, device-related pressure injury, MARSII, hematoma, infiltration, excoriation, and chemical burn⁶. These findings support the interviewees' reports, which emphasized that the most recurrent injuries in the NU of this study had a similar profile.

A study on antiseptics in NBs indicates that there is no clear consensus on an ideal antiseptic for skin hygiene in neonatal clinical practice, especially in preterm newborns, because of the fragility of immature skin and the risk of injury or systemic absorption of strong agents, such as chlorhexidine in an alcoholic vehicle, which may cause irritation or burns in very preterm neonates¹⁹.

In umbilical stump care, evidence accumulated in recent years reinforces that dry care, that is, keeping the stump clean and dry until it falls off spontaneously, is an effective practice, especially in countries with low neonatal mortality rates and adequate care. This method is not inferior to routine antiseptic use in preventing omphalitis in term NBs²⁰.

In addition, in contexts with a high risk of neonatal infection or environments with low sanitation coverage, some recent reviews report that applying topical chlorhexidine to the umbilical stump region may reduce the incidence of infection and omphalitis, although the benefit in hospital environments with adequate care remains unclear²⁰.

Regarding the treatment of skin injuries, nurses and the team must provide daily care, such as bathing, positioning, checking incubator temperature to prevent burns, and exercising caution with adhesive tapes and monitoring devices. This individualized care is essential to prevent injuries and maintain skin integrity²¹. In the participants' statements, this was also identified as a concern for the team, which seeks to eliminate risk factors and use alternative products to prevent and treat injuries.

Regarding dressings used in neonatology, they should be soft and comfortable. The hydrocolloid plate interacts with the wound by absorbing excess exudate, forming a gel that keeps the wound bed hydrated. It also serves to protect the injury, preventing contact with the external environment and, consequently, the risk of infection²².

Hydrogel is used to hydrate wounds with less exudate, since its absorption capacity is more limited. Often, the effect of this type of dressing is autolytic debridement, but this may take one to two weeks, which is a long time for neonatal patients²².

Incontinence-associated dermatitis was identified by the professionals as one of the most frequent injuries in the NU, especially in preterm NBs, who have high skin vulnerability and an increased risk of irritant injuries in the hospital environment. Continuous exposure to moisture and irritants present in urine and feces contributes to impairment of skin integrity in this population¹.

Current recommendations for the prevention and management of incontinence-associated dermatitis in hospitalized neonates include frequent diaper changes, gentle perineal hygiene with water or non-irritating products while avoiding excessive friction, and the systematic application of skin barrier products after each change. Creams or ointments containing zinc oxide or petrolatum are recommended because they form a protective barrier against moisture and irritants, helping maintain skin integrity. In cases of suspected secondary infection, such as candidiasis, clinical assessment and specific treatment according to medical indication are recommended¹.

It is important to emphasize that the use of predictive injury instruments is a relevant strategy for preventing injuries in NBs. There are currently validated scales to assess the risk of skin injuries in neonates for use in Brazil, but they were not mentioned by the professionals in this study.

The use of scales in care practice is important to make the assessment of patients' health status more consistent and standardized. They ensure that all professionals are aligned when assessing patients and make similar decisions regarding the necessary interventions²³.

The Neonatal Skin Condition Score was created by Carolyn Lund in 2004 in the United States. In 2014, the scale was adapted and validated by a group of nurses from Porto Alegre, Rio Grande do Sul (Brazil), and translated to Brazilian Portuguese as *Escala de Condição da Pele do Recém-Nascido*. The tool is divided into three topics: skin dryness level, evidence of erythema, and the existence of any type of skin breakdown or injury²³.

Regarding the risk of pressure injury, the Braden QD Scale²⁴ should be highlighted, as it assesses the risk of pressure injury related to immobility and the use of invasive devices. The process of adaptation and validation of this instrument for Brazil occurred from 2018 to 2021 and was carried out by nurses from Greater Florianópolis, Santa Catarina (Brazil). Risk assessment is performed by summing the points obtained for three parameters: intensity and duration of pressure, skin tolerance and support structure, and number of medical devices²⁴.

Still in relation to instruments and technologies for newborn skin care, it is possible to highlight the mobile smartphone application entitled Neonatal Skin Safe®, developed by an enterostomal therapy nurse from July 2017 to December 2018²⁵.

This technological innovation in healthcare is a tool that nurses should use during bedside assessment of newborns, helping them recognize factors that may contribute to the occurrence of skin injuries in neonates. In addition, the software supports professional decision-making in identifying nursing diagnoses and planning actions to prevent skin injuries in hospitalized NBs²⁵.

The software uses updated information from scientific studies, validated by experts. It supports nurses' work by enabling them to use clinical reasoning more effectively in neonatal care. In addition, it does not require an internet connection, which facilitates its use at the bedside²⁵.

However, these resources were not reported by the interviewees, suggesting that greater efforts are needed to disseminate and use them in care practice.

Study limitations

The study limitations included difficulties in conducting interviews during work activities in the neonatal unit, which may have restricted the participants' available time and limited the depth of the discussions. In addition, the study was conducted at a single institution and included only nursing professionals, not the multidisciplinary team. It should be noted that other professionals, such as physicians, also participate in prescribing practices and dressings for the treatment of skin injuries, which could broaden understanding of the phenomenon investigated.

Recommendations

It is suggested that strategies be developed to implement predictive instruments for skin injuries, such as the Braden QD Scale and the Neonatal Skin Condition Score, as well as the Neonatal Skin Safe® software, in NUs. The adoption of these tools may contribute to a more accurate assessment of NBs by nursing professionals, thereby preventing injuries and reducing neonatal morbidity and mortality.

Furthermore, additional studies are recommended on the use of dressings and the treatment of skin injuries in neonatal patients, given the scarcity of research on the topic in Brazil and its relevance to the quality of care and the health of hospitalized NBs.

CONCLUSION

Based on the results of this study, it was possible to identify that the nursing professionals at the NU have knowledge of the topic, as they follow care standards even without using protocols or predictive risk scales for injuries.

The participants' reports showed that the team used appropriate products to prevent and treat injuries, and that there has been a significant reduction in skin injuries in NBs in recent years, especially pressure injuries. These favorable results indicate that the nursing team interviewed performed appropriate newborn skin care practices.

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