



RESEARCH ARTICLE

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## IN-SERVICE EDUCATION OF THE NURSING STAFF IN THE INTENSIVE CARE UNIT (ICU) – THE IMPORTANCE OF SKIN CARE FOR CRITICALLY ILL PATIENTS

**\*<sup>1</sup>Geovana Brito Nascimento, <sup>1</sup>Leilane Almeida de Morais, <sup>1</sup>Nicole Pinheiro Lobato, <sup>2</sup>Adams Brunno Silva, <sup>3</sup>Alex Miranda Franco, <sup>4</sup>Ediane dos Anjos Leão Franco and <sup>5</sup>Ilma Pastana Ferreira**

<sup>1</sup>Nursing Academic at Universidade do Estado do Pará

<sup>2</sup>Nurse, Mastering Degree in Nursing at Universidade do Estado do Pará

<sup>3</sup>Nurse, Mastering Degree and Intensive Care Unit teacher at Universidade do Estado do Pará

<sup>4</sup>Nurse, Specialist in Intensive Case Unit at Hospital Ophir Loyola

<sup>5</sup>Nurse, PhD in Nursing at Programa de Pós Graduação em Ensino em Saúde na Amazônia

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### ABSTRACT

Educational programs raise individuals' awareness for a better and more enjoyable life. Among types of education, the education in service stands out, being applied continuously and proficiently in various professional fields. Nurses take this responsibility for the continuing education. Taking the high level of complexity of the ICU, nursing team is responsible for promoting care in a complex manner, requiring skill and technological knowledge. Therefore, it is important their constant participation in updates in order to improve the quality of care provided, always ensuring patient safety, preventing long stay in hospitals and possible Pressure Injuries (PI). PI cause considerable damage to patients, hindering the functional recovery process, causing pain and leading to the development of severe infections, sepsis and mortality. This study was born from academic's observation, performed during the practical classes of the curricular component called Nursing in the ICU. It was done at an oncology's hospital located at North region, Brazil. The methodology used was a qualitative exploratory Berbel's Problematicization, divided into 5 stages. During the performance of the dynamic, we observed that the team was very receptive, lively and participatory. Playfulness facilitated the participation and exchange of experiences between professionals and academics.

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## INTRODUCTION

The education of health workers is an area that requires a commitment to the improvement of educational methods that effectively reach multi-professional teams. In order to promote the development of the work process, it is necessary to create education strategies that encourage the participation of health workers and thus enable professional training (PEIXOTO et al., 2013). In 2003, the Ministry of Health approved the National Policy on Continuing Education in Health, which proposes that the processes of education of health workers be based on the problematization of the work process, and emphasized that the demands for changes and improvements

should be based on the analysis of the work process, its problems and challenges (MONTANHA, 2010). Within the various educational forms, we highlight the value of Education in Health Service, which is a strategy capable of ensuring the maintenance of competence in relation to care offered to users. Thus, in the nursing team, it is essential that nurses take responsibility for the continuing education of their staff, enhancing the standard of care provided at all levels of care, promoting the valorization of human resources in health (JACONDINO et al.; 2010). Therefore, for the correct use of the technological apparatus existing in Intensive Care Centers (ICUs), it is important to recognize that this sector has light and hard technologies and performs invasive procedures (KOTZ et al., 2014). Then, professional updating is essential, through in-service education practices to meet these demands.

\*Corresponding author: Geovana Brito Nascimento,  
Nursing academic at Universidade do Estado do Pará

The ICUs have as their main function the care and treatment of critically ill patients of high complexity. This sector has resources with a high level of technology in order to constantly monitorate the critically ill patient (SILVEIRA *et al.*, 2016). The nurse who works in the ICU is known as an intensivist nurse. To act in this area requires a lot of skill, technological knowledge and emotional stability, because culturally, the environment sends pain and suffering. Taking into account the high level of complexity, the nursing team is one of those responsible for promoting care in a complex way (MENDES *et al.*, 2013). Therefore, it is important that these professionals are constantly participating in updates to improve the quality of care provided, always ensuring patient safety in order to promote care that helps restore health. According to the World Health Organization (WHO), every year, thousands of people suffer unnecessary damage to health within care. The consequences range from an increase in length of service, in addition to an increase in expenses for preventable management and dissatisfaction of the population. Patient safety is understood as the reduction to a minimum of the risk of unnecessary harm related to health care, whether events or circumstances that could have caused, or caused, unnecessary harm to the patient (BRASIL, 2013). Considering that many of the adverse events can be avoided, the adoption of preventive measures aimed at reducing their probability of occurrence can avoid unnecessary suffering, save resources and save lives. Thus, in 2013, the Ministry of Health instituted Ordinance n.º 529, which provides on Patient Safety (MINISTÉRIO DA SAÚDE, 2013). The National Patient Safety Program (NPSP) recommends six measures that should be used to ensure patient safety in care. The basic patient safety protocols are instruments for the implementation of measures aimed at patient safety. GM/MS Ordinance n.º 1.377/2013 and Ordinance n.º 2.095/2013, approve the basic patient safety protocols. The protocols constitute patient safety practices aimed at providing a safe care practice, as established by Resolution RDC n.º 36/2013. “Safety practices should be: based on the best scientific evidence that they are effective in reducing the chance of harm to the patient; applied at different levels of care and for different types of patients; comprehensive and sustainable; and used by patients, health professionals, payers and researchers.” (Ordinance n.º 529, 2013). The themes contained in MS/GM Ordinance n.º 529/2013 are: Practice of hand hygiene in health facilities; Safe surgery; Safety in the prescription, use and administration of medications; Identification of patients; Communication in the environment of health facilities; Prevention of falls; Injury by pressure; Transfer of patients between points of care; and Safe use of equipment and materials.

One of the most common consequences of long stay in hospitals is Pressure Injuries (PI), which is a localized damage to the underlying skin and/or soft tissues, usually over a bony prominence or related to the use of a medical device or other artifact. The lesion may present on intact skin or as an open ulcer and may be painful and occurs as a result of intense and/or prolonged pressure in combination with shear. Soft tissue pressure tolerance may also be affected by nutrition and its condition (MINISTÉRIO DA SAÚDE, 2013). According Comitê de Prevenção e Tratamento de Lesão de Pele (CPTLP) of Vila Santa Catarina’s Hospital (2017), lesions can be characterized in degrees (1, 2, 3 and 4). There are also Deep Tissue Pressure Lesions (DTPL), lesions by medical devices, and lesions on membranes and mucous membranes. Both are closely related to medical devices, and can be caused by

overstay, lack of pathway change (such as nasal oxygen catheter), or lack of care at the time of fixation or removal of devices. Maintaining skin integrity in bed-restricted patients has its application with relatively simple measures, most recommendations for skin assessment, and its preventive measures can be used to prevent various other skin lesions, not just PI. Injuries have been the target of health services because their occurrence causes harm to the patient and family, in addition to increasing the patient's stay in the service, thus increasing the costs that could be avoided. In addition, pressure injuries cause considerable damage to patients, hindering the recovery process, leading to the development of severe infections, sepsis and mortality (BRASIL, 2013). The skin is a defense mechanism of the organism that acts as a kind of protective layer, preventing the penetration of external agents. Thus, this layer retains several harmful substances to which the skin is daily exposed. When this occurs, besides being weakened, it has its hydration potential reduced, acquiring a dry aspect and causing a sensation of discomfort and irritation. In addition, it is important to evaluate the patient's nutrition, because it is directly linked to the maintenance of skin integrity (JORDÃO, 2016).

The skin care and prevention measures for PI are relatively simple and do not require a high cost. We have as preventive measures the hydration and cleaning of the skin, humidity and temperature management, pain management, friction prevention, repositioning and nutritional evaluation (CPTLP, 2017). Braden’s scale is a good tool for systematic risk assessment for PI development. This scale was created by the Nurse Bárbara Braden, who, in order to estimate the risk for PI, has based on six risk conditions (WECHI *et al.*, 2017):

- Humidity - the degree of moisture that the skin is exposed to;
- Activity - degree of physical activity;
- Mobility - the individual's ability to change body position;
- Nutrition - assesses the nutritional status of protein intake;
- Friction and Shear - the degree of contact of the client's skin and sheet according to the individual's mobility.
- Sensory Perception - altered level of consciousness

The objective of Braden’s Scale is to individualize the treatment that will be given to each patient in a systematic way through the score obtained, where the risk (which can be classified as: mild, moderate or severe) will determine the risk that the patient has to develop or not the PI. However, Braden’s Scale will only be effective and will bring good results if a qualified and trained professional uses it (WECHI *et al.*, 2017). The knowledge of the professional who provides care to critically ill patients is fundamental, because the quality of care provided in the prevention of PIs may be impaired if their ability and knowledge is not properly conducted. The implementation of educational programs aimed at identifying the risk factors for PI is a measure recommended by the Agency of Health Care Policy and Research, which also highlights the importance that the guidelines are aimed at all health service providers, and made available to patients and their families and/or caregivers (PESTANA *et al.*, 2012). During the practical classes at Nursing Graduation, in a discipline called Nursing in ICU, done at an Intensive Care Center of an oncology’s hospital, located at Pará-Brazil, we

observed that some professional's practices can enhance risks in the care of critically ill patients, thus, causing more aggravation to the clinical picture that can lead to a reduction in the perspective of survival to the patient. Among these activities, it was possible to visualize during the bath in bed, a professional when removing an adhesive tape that was being used to fix a probe, caused a lesion in the patient's skin. The same professional then, went to the nursing station to seek a material that was appropriated to protect the skin during the fixation of adhesive tape (extra thin Hydrocolloid), in order not to cause this damage again. The result of the adhesive tape on the fragile skin was an injury that damaged the integrity of the patient's skin, providing an entry point for infectious agents. These adverse events end up hindering the quality of patient safety, which has goals to be met to help the process of restoring health. Among the six patient safety goals, the study focused on Pressure Injury Prevention (PIP). Thus, it is essential to emphasize the importance of education in the service of the team, in order to promote training, reflection, and updating of the same, always seeking quality care to the patient. In this context, this study aimed to report the experience of undergraduate nursing students during an in-service education of the ICU nursing team on skin care.

## MATERIALS AND METHODS

The methodology used was a qualitative exploratory study, addressing Berbel's problematization instrument. According to Berbel (1998), the use of the Problematization's Methodology begins by observing a reality and at in the end, returns to this same reality, taking the form of an arch. The steps foreseen for the realization of this methodology are: (1) Observation of reality, (2) Survey of key points, (3) Theorization, (4) Solution Hypotheses and (5) Return to reality. The observation of reality was performed in an ICU of a Teaching Hospital (HE), reference in oncology located at Pará-Brazil, during the ICU Nursing practices. In this period it was possible to observe the presence of patients bed restricted, with low level of consciousness, invasive medical devices, monitoring devices and some with level of skin impairment. The survey of key points was made taking into account the observed injuries due to inadequate use of fixation devices (adhesive tape) that caused damage when they were removed, defining the theme of the work with the purpose of raising the reflection of members of the nursing team on the risk that these cases represent and how to avoid them. In the third stage of the arch, which is the theorization, the subgroup conducted research on articles, legislation and protocols in the BVS databases, in ANVISA and BIREME, where we used some keywords to find our basic articles that had as content the patient's safety, the recommended goals and how to promote them, besides pressure lesions and how to avoid them. The keywords used were: pressure injury, nursing education, skin and continuing education. Theoretical bases on in-service education were also used as an instrument for reflection.

The fourth stage of the arch, where hypotheses of solution are seen, the subgroup met and created a dynamic for the nursing team, which consisted of 12 statements divided between true and false that addressed issues of skin care, measures to prevent PIs, factors that would favor or not the appearance of lesions and the first signs of injury. The questions were divided and presented as follows: 1. The presence of urine and feces in contact with the skin favors the appearance of pressure injury; 2. Decreased blood pressure may contribute to the

appearance of pressure injury; 3. Patient's malnutrition may contribute to the appearance of PI; 4. Wearing a procedural glove full of water to protect body parts helps prevent pressure injury; 5. Cushions or other devices to prevent prolonged contact of body parts help prevent PI; 6. The presence of a reddish area on the skin may be the first sign of a PI; 7. Massaging the skin after the first sign of PI is beneficial; 8. Patients with altered level of consciousness are more vulnerable to the appearance of pressure lesion; 9. Patients with decreased sensitivity have more chances to develop the pressure lesion; 10. Keeping the skin moist after bathing contributes to hydration and helps to avoid the pressure lesion; 11. The body regions with bone saliencies can be in direct contact with each other; 12. The use of micropore in contact with the skin is advisable in critical patients with fragile skin.



Fonte: personal archive.

Picture 1. Roulette wheel questions

In the reality's return, which is the fifth stage of the arch, the subgroup returned to the hospital's ICU, and had the presence of a group with 3 nursing technicians, 2 residents and 2 academics, both nursing. The referred activity was performed in the rest area of the team that is outside the ICU. In the dynamic proposed, each participant turned the roulette wheel once, and it indicated an affirmative. The participants, according to their knowledge about the subject, said whether the assertion was true or false and complemented it with the justification for their response, taking into account their experiences in the ICU.

## RESULTS AND DISCUSSIONS

The initiative to develop in-service education activities with the Nursing team is relevant for professional qualification and training, because it promotes an improvement in techniques and care due to the quality of care provided, always ensuring patient safety in order to promote care, which help restore health. In order to reduce the negative impacts of a hospital stay, goals were created for patient safety, which are important for the development of strategies to improve care. One of the negative impacts that we evidenced in the ICU service were recurrent cases of impaired skin integrity, due to the risk potentials that the critically ill patient has, so we visualized the importance and the need for a more specific skin care for this patient. In order to address the theme of skin care in the form of in-service education, we used playfulness to awaken reflection and interest of participants on the topic. During the performance of the dynamics, we observed that the team was very receptive, lively and participative, due to the fact that it was the first time that they participated in an in-service

education with the playful dynamics method. With this, we realized that playfulness facilitated the participation and exchange of experiences between professionals and academics. In the roulette dynamics, the participants demonstrated a good knowledge about the care and prevention of PIs, contributing with their daily experiences in the ICU, discussing about the statements being true or false and justifying their response, exposing situations of assistance in each case raised in the conversation, leading to an exchange of experiences and knowledge between professionals and academics. In the dynamic, 12 statements were taken, these being true or false. The participants answered correctly 10 of the statements, however two statements generated doubts about their veracity. One of these statements said that hypotension contributed to the emergence of PIs, The result was that 2 participants disagreed with the statement, 2 agreed with the statement and the rest abstained, but this statement is true, since hypotension leads to peripheral vasoconstriction, causing the capillaries to obstruct more easily and with a much lower pressure than normal.

Another statement that also generated doubts and discussions said that the use of procedural gloves full of water could reduce pressure on the body and helps to prevent pressure injury. All participants agreed with the statement, however, it is false. According to guidelines of the study group and patient safety research of the School of Nursing of Ribeirão Preto (USP) clearly mention that the use of gloves with water should not be used to relieve pressure, given that the pressure in the glove with water is 12% higher than in the hospital mattress (WILLIAMS, 1993). Given this, we can highlight the relevance of updating and in-service education for the improvement of nursing care, since scientific research is constantly published. Therefore, professionals need to follow the results of these productions, and education in service is the opportunity for this, considering that the exhausting and tedious daily life of professionals does not offer availability of time to seek these scientific productions. Thus, we noted the importance of an in-service activity in order to improve the communication among the team. The contribution of each participant in the discussions about how to act in certain situations involving skin care, which often due to the intense routine in the ICU does not have this opportunity to meet to share ideas, knowledge and experiences, strengthened the local protocols, promoting a uniformed conduct.

### Final Considerations

This study showed the importance of education in service and its exchange of experiences. It is essential that everyone be aware that skin care for critically ill patients is essential, one of the Nursing's team responsibility, since it is responsible for the care. It is necessary that we reflect on why skin lesions are still so recurrent in hospitals despite the knowledge about preventive measures. The role of nursing is significant for the reduction of this index as the avoidance of so many unnecessary injuries that hinder the process of functional recovery, often causing pain and leading to the development of severe infections associated with prolonged hospitalizations, sepsis and mortality. In view of this, it is extremely important the care and protection of critically ill patients, since most of them are unable to self-care, providing them a quality and humanized care, which involves much more technical skills,

involves touch, handling, interaction and communication, in order to offer better survival prospects to these patients.

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