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# PERMANENT EDUCATION: ASSISTANCE IMPROVEMENT TOOL FOR PRESSURE ULCERS

## EDUCAÇÃO PERMANENTE: FERRAMENTA DE APRIMORAMENTO ASSISTENCIAL ÀS LESÕES POR PRESSÃO

## EDUCACIÓN PERMANENTE: HERRAMIENTA DE APRIMORAMIENTO ASISTENCIAL A LAS LESIONES POR PRESIÓN

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**ABSTRACT**

***Objective:*** to analyze the incidence of pressure ulcers in a Special Care Unit. ***Method:*** this is a quantitative, descriptive and exploratory study, with educational intervention, in a medium-sized public hospital. The sample was composed by 10 participants. The technique of data collection was established through direct non-participant observation, and the results were presented in the form of tables. ***Results:*** 50 samples (n = 50) were observed, with an incidence of 48% (n = 24), with emphasis on ulcers related to medical devices (15%) and sacral (10%). The theoretical qualification of ten employees (n = 10) was established, and 90% of the employees missed questions related to the current classification of pressure ulcers, however, 90% were able to identify possible preventive forms. ***Conclusion:*** it is demonstrated by the results obtained that, despite being an avoidable phenomenon, it continues to be present in daily practice, necessitating the implementation of professional qualification measures as a strategy to reduce this aggravation. ***Descriptors:*** Health Education; Permanent Education; Quality management; Nursing; Pressure Ulcer; Continuing Education.

**RESUMO**

***Objetivo***: analisar a incidência de lesões por pressão em uma Unidade de Cuidados Especiais. ***Método:*** trata-se de um estudo quantitativo, descritivo e exploratório, com intervenção educacional, em um hospital público de médio porte. Compôs-se a amostra por 10 participantes. Elencou-se a técnica de coleta de dados por meio de observação direta não participante, e os resultados apresentaram-se em forma de tabelas. ***Resultados:*** observaram-se 50 amostras (n=50) onde se constatou uma incidência de lesões por pressão de 48% (n=24), com destaque para as lesões relacionadas a dispositivos médicos (15%) e sacrais (10%). Constituiu-se a capacitação teórica de dez funcionários (n=10) e observou-se que 90% dos funcionários erraram questões relacionadas à atual classificação das lesões por pressão, entretanto, 90% souberam identificar possíveis formas preventivas. ***Conclusão:*** demonstra-se, pelos resultados obtidos, que, apesar de ser um fenômeno evitável, continua presente na prática diária, necessitando da implantação de medidas de qualificação profissional como estratégia de redução desse agravo. ***Descritores*****:** Educação em Saúde; Educação Permanente; Gestão da Qualidade; Enfermagem; Lesão por Pressão; Educação Continuada.

**RESUMEN**

***Objetivo:*** analizar la incidencia de lesiones por presión en una Unidad de Cuidados Especiales. ***Método:*** se trata de un estudio cuantitativo, descriptivo y exploratorio, con intervención educativa, en un hospital público de mediano porte. Se compone la muestra por 10 participantes. Se elaboró la técnica de recolección de datos por medio de observación directa no participante, y los resultados se presentaron en forma de tablas. ***Resultados:*** se observaron 50 muestras (n = 50) donde se constató una incidencia de lesiones por presión de 48% (n = 24), con destaque para las lesiones relacionadas con dispositivos médicos (15%) y sacros (10%). Se constituyó la capacitación teórica de diez funcionarios (n = 10) y se observó que el 90% de los funcionarios erraron cuestiones relacionadas a la actual clasificación de las lesiones por presión, sin embargo, el 90% supieron identificar posibles formas preventivas. ***Conclusión:*** se demuestra, por los resultados obtenidos, que, a pesar de ser un fenómeno evitable, sigue presente en la práctica diaria, necesitando la implantación de medidas de calificación profesional como estrategia de reducción de ese agravio. ***Descriptores*****:** Educación en Salud; Educación Continua; Gestión de la Calidad; Enfermería;Úlcera por Presión.

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## INTRODUCTION

It is known that epidemiological transitions and scientific advances in recent years have led to an increase in life expectancy and, consequently, a higher incidence of chronic noncommunicable diseases (CNCD). Due to this change in the epidemiological profile, the increase in long-term hospitalizations led to new indicators of population illness, characterizing pressure ulcers as one of them. Therefore, it became fundamental to know the aspects of the epidemiological transition in order to understand the relationship between people and health services.[1-2]

Thus, as an aspect of nursing care, it is essential to maintain the integrity of the skin, and it is necessary to use preventive actions to achieve this objective.[3]

Pressure injury is understood to be that on the skin and / or underlying tissue, usually on a bone prominence, resulting from exposure to pressure or the combination between shear forces, and multifactorial etiology, including intrinsic and extrinsic factors, besides mobility, nutrition, cutaneous hydration, chronic-degenerative diseases, weight and other factors.[4-5]

These ulcers represent a public health problem, evidencing an indicator of the quality of Nursing care and, in addition to the prolongation of hospitalization time, also generate negative impacts on the financial expenses of health institutions.[6]

It presents the Nursing, known as a profession responsible for caring, also, in its spectrum, the ability to educate, guide and prevent. Therefore, through an educational action carried out with the professionals, it can be an instrument of intervention in the quality of care, acting in the reduction of the incidence of pressure ulcers.[3]

It can be understood the professional qualification of the Nursing team as an important way to develop and enhance the team's abilities, being the nurse a constant educator and an indispensable agent during the decision-making.[7]

It is necessary, in order to perform a quality preventive action, to know the risk factors for the development of injury and, thus, to establish an individualized assistance for each patient, becoming a function of the nurse the permanent education of the health team with the objective of reducing risk factors.[8]

Permanent education (PE) should be part of professionals' thinking and action, aiming to provide personal and professional growth, as well as contributing to the organization of the work process, as it is based on problems encountered in daily practice.[9]

## OBJECTIVES

- To analyze the incidence of pressure ulcers in a Special Care Unit.
- To carry out an educational action in order to update nursing professionals working in the sector.
- To evaluate, through a semi-structured questionnaire, the knowledge of nursing professionals about pressure ulcers before and after the educational action.

## METHOD

It is a quantitative, descriptive and exploratory study, with intervention device of an educational character, since it sought to describe the incidence of pressure ulcers based on real observations. Thus, through this research, the real understanding of the emergence of the mentioned phenomena is allowed.

Thus, the research was carried out in the dependencies of a medium-sized public hospital located in a city in the interior of São Paulo, specifically in the Special Care Unit (SCU) sector, composed of six beds intended for patients in unstable clinical state, as with the participation of Nursing professionals working in this sector.

The project was approved by the Research Ethics Committee of the UNIFAFIBE University Center under CAEE No. 66267117.1.0000.5387, following the guidelines of Resolution 466/2012 of the National Health Council, which guides the conduct of research involving human beings in Brazil.[10] Participants signed the Free and Informed Consent Term (FICT).

The number of hospital admissions occurred at the SCU was collected over a period of 30 days and, within this period, the appearance of pressure ulcers in the patients of the sector, in order to establish a relationship between the number of hospitalizations and the number of hospitalizations. onset of these ulcers.

After the data collection, an educational action based on the current literature on pressure ulcers was performed for Nursing staff, using as a tool for professional training.

For this purpose, a semistructured evaluative questionnaire was used prior to the educational action, with questions that were clarified during the training and, after the educational action, the same questionnaire was used in order to evaluate the knowledge

of the Nursing team about the theme before and after the educational intervention.

Established as inclusion criteria: to be part of the Nursing team; act in direct care in the special care sector independent of the day shift or night shift; be in accordance with the proposals established in the Free and Informed Consent Term.

It is revealed that, among the individuals eligible to participate in the training, there were three nurses and 13 Nursing technicians, however, five Nursing technicians and one nurse refused to participate in the research, showing no interest in professional training on the subject. Thus, the population was accessible by two nurses and eight Nursing technicians, totaling ten participants.

The sample was obtained by means of conventional sampling, being adopted as part of the study every hospitalized client that passed the care of the nursing professionals in the sector during the 30 days of research. Thus, 50 patients (n = 50) with the research criteria.

The technique of data collection was established through direct non-participant observation, thus ensuring the reliability of the data found.

Statistical quantitative data were analyzed by means of percentage calculations, averages and Microsoft Excel® software aid, and presented in the form of tables. Qualitative data obtained by writing the open questions contained in the semi-structured questionnaire, based on the ethical aspects contained in the ipsis litteris method, were evaluated and described. For that, fictitious names were used to represent the data obtained in order to respect the identity of the professionals involved.

## RESULTS

It was observed that, among the 50 samples, only 52% (26) maintained intact skin from the beginning to the end of the hospitalization period, and therefore the incidence of pressure ulcers during the study period was 48% (24).

Table 1 shows some variables presented by patients during the hospitalization period.

Table 1. Clinical characteristics of patients admitted to the SCU during the research period. Bebedouro (SP), Brazil, 2017.

| Variables | n | % |
|---|---|---|
| Gender | | |
| Male | 33 | 66% |
| Female | 17 | 34% |
| Use of sedation | | |
| Conscious from the beginning to the end of hospitalization | 39 | 78% |
| Sedated sometime during hospitalization | 11 | 22% |
| Skin condition | | |
| Dry skin | 8 | 16% |
| Moisturized skin | 42 | 84% |
| Body weight | | |
| Obese | 4 | 8% |
| Adequate weight | 46 | 92% |
| Criteria for discharge | | |
| Continuing Hospitalization | 37 | 74% |
| Death | 13 | 26% |
| **Total** | **50** | **100%** |

According to the data presented in Table 1, some risk factors for the incidence of pressure ulcers are identified: the use of sedation (22%), acting directly as a triggering factor for immobility in the bed; (16%), being an important indicator of skin vulnerability and obesity (8%), which, together with shear forces, bedside manipulation and unstable hemodynamic conditions, lead to the appearance of these ulcers.

In addition to the variables found in Table 1, the length of hospitalization and age acting directly as vulnerability factors for the development of pressure ulcers are highlighted, as shown in the table 2.

Table 2. Arithmetic mean of hospitalization time and age of patients admitted to the SCU sector during the research period. Bebedouro (SP), Brazil, 2017.

| Variables | n | % | Arithmetic Mean≅ |
|---|---|---|---|
| Age (years) | | | |
| Up to 50 | 9 | 18% | |
| 51 to 70 | 22 | 44% | 64 Years |
| ≥ 70 | 19 | 38% | |
| Duration of Hospitalization (days) | | | |
| ≤ 5 | 45 | 90% | |
| 6 to 10 | 4 | 8% | 4 Days |
| ≥ 11 | 1 | 2% | |
| **Total** | **50** | **100%** | |

It is reported that another relevant finding of this study was the high incidence of pressure ulcers (48%), when compared to the mean length of hospital stay (3.72 days), making it clear that, despite being a short stay period, was enough for the appearance of ulcers.

These findings can be related to the hemodynamic, psychological and emotional instability of the patients during the first days of hospitalization, since in some cases it is necessary to use sedatives and devices responsible for bed restriction.

A total of 78 pressure ulcers (Table 3) of various types were observed in the different sites of the body, due to the fact that a single patient can develop more than a lesion during hospitalization, a quantitative one that is considerably high when compared to the equivalent value of 48% (24), making it clear that the number of ulcers found is three times greater than the total number of patients who developed some lesion and, therefore, the average number of ulcers per patient in this study is close to three ulcers per patient in an average of four days of hospitalization.

Following the classification rules proposed by the National Pressure Ulcer Advisory Panel (PUAP) and transcribed by the Brazilian Association of Stomatherapy (SOBEST), 11 the following ulcers were observed (Table 3).

Table 3. Pressure ulcers found in patients hospitalized during the study period. Bebedouro (SP), Brazil, 2017.

| Types of Ulcers Found | n | % |
|---|---|---|
| Degree 1 Pressure Ulcer | | |
| Sacral Region | 8 | 10.2% |
| Right Trocanteric Region | 4 | 5.1% |
| Left Trocanteric Region | 2 | 2.6% |
| Right Calcaneus | 7 | 9% |
| Left calcaneus | 8 | 10.2% |
| Left Scapular Region | 1 | 1.3% |
| Degree 2 Pressure Ulcer | | |
| Sacral Region | 1 | 1.3% |
| Right Calcaneus | 1 | 1.3% |
| Deep Tissue Pressure Ulcer | | |
| Right Calcaneus | 1 | 1.3% |
| Left calcaneus | 1 | 1.3% |
| Medical Device-related Pressure Ulcer Grau 1 | | |
| Right Auricular Region | 12 | 15.4% |
| Left Auricular Region | 12 | 15.4% |
| Right Nostril | 1 | 1.3% |
| Left Nostril | 1 | 1.3% |
| Upper lip | 1 | 1.3% |
| Medical Device-Related Pressure Ulcer Degree 2 | | |
| Right Auricular Region | 4 | 5.1% |
| Left Auricular Region | 3 | 3.8% |
| Left Nostril | 1 | 1.3% |
| Deep Tissue Pressure Ulcer Related to Medical Device | | |
| Right Auricular Region | 4 | 5.1% |
| Left Auricular Region | 5 | 6.4% |
| **Total** | **78** | **100%** |

It was found that the highest percentage of ulcers (15%) is related to some medical device for the maintenance of life. Among them, we can mention a nasoenteric catheter, an oxygen therapy mask, orotracheal tube attachment material, among others.

It was found that the highest percentage of ulcers (15%) is related to some medical device for the maintenance of life. Among them, we can mention a nasoenteric catheter, an oxygen therapy mask, orotracheal tube attachment material, among others.

Due to the etiological scenario involved in the appearance of pressure ulcers, through an educational action, it was intended to update the health professionals working in this sector, since when there is knowledge about prevention, there is consequently the practice.

Based on this assumption, a semi-structured questionnaire was used before and after the educational intervention, making it possible to recognize and tabulate the main points of doubts and concepts that supposedly fell into oblivion after professional training. It was therefore envisaged by the reapplication of it, to provide the researcher with feedback on training and whether the proposed goal was achieved.

On the face of it, the training data are presented in table 4.

Table 4. Semi-structured questionnaire with multiple choice questions Bebedouro (SP), Brazil, 2017.

| Issues addressed | Pre-intervention (n=10) | | | | Post-intervention (n=10) | | | |
|---|---|---|---|---|---|---|---|---|
| | Rights | | Wrong | | Rights | | Wrong | |
| | n | % | n | % | n | % | n | % |
| **1** | 1 | 10% | 9 | 90% | 9 | 90% | 1 | 10% |
| **2** | 9 | 90% | 1 | 10% | 9 | 90% | 1 | 10% |
| **3** | 10 | 100% | 0 | 0% | 10 | 100% | 0 | 0% |
| **4** | 7 | 70% | 3 | 30% | 10 | 100% | 0 | 0% |
| **5** | 5 | 50% | 5 | 50% | 8 | 80% | 2 | 20% |
| **6** | 9 | 90% | 1 | 10% | 9 | 90% | 1 | 10% |
| **TOTAL** | | | **10** | | | **100%** | | |

It can be observed in table 4, and analyzing the answers to question 1 - "Which of the following situations is the only one related to a pressure injury classified as stage 3?" - which, prior to theoretical training, 90% of the study participants obtained a lower than expected average in relation to knowledge regarding the normative classification of pressure ulcers, reinforcing the need for permanent education of the health team.

However, sufficient knowledge has been demonstrated to achieve an acceptable average of 2 - "Granulation tissue is known as:" - a fact that demonstrates that the study team has sufficient knowledge to identify aspects present in the wound bed and, consequently, to adjust the care plan according to the observed aspect.

With reference to question 3 - "Of the risk factors cited below, which is NOT linked to the development of pressure ulcers?", a positive perception regarding risk factors, which makes questionable the reason for the sector of study has an incidence index of high pressure ulcers, since the professional's knowledge about risk factors is essential for direct action in prevention. However, it is corroborated by the data found in question 4 - "During the routine physical examination, the nurse identified an intact blister in the sacral region of a patient who had been hospitalized for five days. According to the classification system of pressure ulcers, at what stage does this lesion fit?, the findings found in question 1, making evident the doubts of the study team regarding the classification proposed in the current literature.

It was found, with regard to question 5 - "Edge maceration is a frequent phenomenon when related to pressure ulcers. A macerated border is understood as: "- that only half of the study team had sufficient knowledge to identify aspects related to the edge of the wound, since knowing how to distinguish the possible negative aspects present at the edge reflects directly on the implanted therapeutic proposal.

On the other hand, the information found in question 6 - "Nursing care described below, which is NOT linked to the prevention of pressure ulcers?" - showed that 90% of the team had knowledge about possible forms of prevention of this aggravation, revalidating the question raised after the observation of question 3, on the reason of the high incidence found, considering that this knowledge, by the Nursing staff, are of paramount importance when associated with the development of prevention strategies.

In relation to the questionnaire applied after the educational intervention, it was found that the error rates decreased

significantly, so that they remained prevalently at 10%, demonstrating the quality of training.

It was noticed, in the same questionnaire, some qualitative aspects that can be interpreted according to table 5.

Table 5. Semi-structured questionnaire of quantitative analysis. Bebedouro (SP), Brazil, 2017.

| Issues addressed | Yes (n=10) | | No (n=10) | |
|---|---|---|---|---|
| | n | % | n | % |
| 1 | 9 | 90% | 1 | 10% |
| 2 | 9 | 90% | 1 | 10% |
| 3 | 1 | 10% | 9 | 90% |
| **Total** | **10** | | | **100%** |

It could be observed, according to table 5, analyzing the answers referring to question 1 - "After his professional training, did he participate in any training related to the subject 'pressure ulcers'?" - that only 10% (n = 1) of the study team never participated in any method of improvement on the theme, justifying the findings found in table 4, which showed that the professional team had sufficient knowledge about prevention strategies and risk factors.

"Regarding the issue of number 2 -" At some point in your professional career, have you ever had to deal with any kind of pressure injury? "- that 90% (n = 9) of the team knew how to recognize some form of pressure injury during the professional career and participated in some therapeutic plan to deal with the treatment of this lesion; likewise, 10% (n = 1) of the professionals never had contact with the lesion or could not identify them during their care. It is reinforced, from these data, that the professionals involved have some theoretical and practical knowledge on the subject.

It was noted, with reference to issue number 3 - "In the sector that you operate, is there any instrument that evaluates the risk and the appearance of pressure ulcers? If yes, which one? -, that 90% (n = 9) of the professional staff affirm that they do not have any instrument to identify and assess the risk of pressure ulcers in the sector in which they operate. However, when analyzing the writing contained in the questionnaire, 10% (n = 1) of the team affirms that there is some kind of instrument, as highlighted below.

> *Periodic evaluation during bathing. Daily assessment of skin cleansing / bath time. (Dandelion)*

It is observed, in this context, that a health work tool is a simple object, which allows the aid in the observation of factors that could go unnoticed during the daily routine, being composed by contents based on the literature in a way that allows , the professional, a fast and practical form of assistance anchored to prevention protocols.

## DISCUSSION

It is now known that pressure ulcers consist of a phenomenon that has multifactorial causality and is directly linked to risk factors that affect groups of more vulnerable patients, thus increasing their morbidity and mortality.[12-3]

It is essential to systematize care in a comprehensive way during hospitalization, starting from the perspective of the various risk factors involved in the process of illness, such as the average age of 64 years, pointed out in this study with the greater percentage in relation to the others, and can therefore be considered as a risk factor for the development of these ulcers.

The forms of prevention of pressure ulcers are therefore included not only physical factors, such as pressure and shear, but also the ability to identify physiological factors involved in the process.[3]

It is believed, therefore, that the nurse must be qualified to act in the prevention and treatment of these ulcers, in view of their direct action in the control of risk factors. These professionals have been responsible for 24 hours assisting the patients by the implementation of preventive measures, using protocols based on scientific studies, in order to avoid the unfortunate event. [5,13-4]

In other studies found in the literature, results different from those found in this research were evidenced. It is revealed that the global incidence of pressure ulcers in hospitalized patients varies from 2.7 to 29%, and this number increases to 33% when related to clients hospitalized in Intensive Care Units (ICU). Due to the existence of these ulcers, there is a significant impact on the level of morbidity, mortality and health care expenditures.[15]

Due to the incidence of these ulcers, there may be an increase in the length of hospital stay by up to five times, and the risk of death increases by around 4.5 times when compared to clients who have the same risk of death, meanwhile, are absent from this condition.[15]

In contrast to the findings of this study, 18 events of pressure ulcers were reported in a large ICU located in Belo Horizonte, generating an incidence rate of 27.3%, a result similar to that found in another study conducted in Brazil, in a medium-sized ICU in João Pessoa, where it was possible to verify an incidence of 22.2%.[12,16]

The variables presented in the various studies related to the incidence of pressure ulcers with factors present in the different ICUs are correlated, such as the physical characteristic, the profile of hospitalized patients, human resources, among others.

It can be related, in addition, the lack of knowledge of the scientific progress, by the working professionals, with the lack of initiative by the health institution to update the employees.[16]

It is thus believed that one of the possible strategies for reducing the incidence of ulcers would be to invest more in vocational education through lifelong education.[12]

In the definition of Quality Standards of Nursing Care, the aim is to promote the continuous improvement of quality of care, pressure ulcers as a health problem, since it is considered an indicator of the quality of care provided. The need for an evidence-based professional practice is therefore undeniable, with a view to ensuring better quality care.[17-8]

In this sense, it is believed that investment in the training of health professionals has become an indispensable aspect, where education at work has been considered one of the instruments necessary for changes in daily practices, with the aim of achieving the highest satisfaction of users and professionals.[9]

It is necessary, with a view to promoting patient safety and reducing its exposure to adverse events brought about by hospitalization, to reinforce the importance of following up and completing protocols that have the objective of managing risk and controlling the prevention of ulcers. It becomes, therefore, the transformation of daily situations into learning, from the reflective perspective of existing problems, crucial for the implementation of preventive measures.[6,19]

It is understood, therefore, that it is essential to use protocol scales that have the objective of verifying the risk of the appearance of pressure ulcers, thus offering subsidies for the appropriate Nursing prescription for each patient. It is noticed that the incidence of ulcers in patients submitted to intensive treatments is high, and nursing resources can act in reducing the rates of these ulcers. [20-1]

## CONCLUSION

The results show that the occurrence of pressure ulcers was a factor that can be considered relevant to the severity presented and that the theoretical training of the team can be used as a positive strategy to stimulate adherence to new health practices.

It was verified the need to implement a protocol for the evaluation of the risk of pressure ulcers arising in view of the fact that the periodic evaluation during the bath did not show a strategy of total positivity. However, we must study this statement with caution, since we must consider the availability of material resources so that specific prevention strategies can be carried out, as well as the team's adherence to a new protocol.

It is reiterated that one of the difficulties found in the study was to stimulate the participation of the team in the theoretical training, considering that some did not show interest and desire to improve their knowledge about the proposed theme.

It is concluded, therefore, that the research reached the proposed objectives and obtained a positive result and that the continuous training of the health team should be an increasingly widespread factor among health institutions as a strategy for the maintenance of preventive care.

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