Profile of people with pressure injuries admitted to the intensive care unit

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Abstract

Pressure Injury (PI) are lesions located on the skin and/or underlying tissue, usually over a bony prominence, or related to healthcare devices. They are considered a serious health problem in the hospital environment, representing a constant challenge for patients, professionals and institutions, due to the high incidence and prevalence in certain populations and the consequences resulting in increased morbidity and mortality. This study aimed to identify the profile of people with pressure injuries admitted to the intensive care units of a teaching hospital in Recife, PE. This is a descriptive study with a quantitative approach, with secondary data obtained from the records of the Dressing Committee of the Recife, PE school hospital. The collection took place from March to September 2015. 83 patients were identified with PI, predominantly >80 years old (26.5%), male (53.0%), the most frequently visited intensive care unit was the Clinic at 49.40%. As for mobility, 96.39% were bedridden, the anatomical location was often in the sacral region (80.72%), most had one lesion (87.95%) and they were mainly in stage 1 (53.01%). The most commonly used preventive measures were essential fatty acids (26.51%) and barrier creams (24.10%). With this study it is possible to focus on the elaboration and implementation of strategies for preventive measures in critical patient care, low cost and daily care.

Key words: Nursing; Pressure Injury; Patient safety; Intensive Care Units.

INTRODUCTION

The terminology for pressure ulcers was updated in its nomenclature in 2016 to pressure injury (PI), as well as its stages of the classification system, advocated by the National Pressure Ulcer Advisory Panel (NPUAP)[1]. Lesions are located on the skin and/or underlying tissue, usually over a bony prominence, or related to health care devices resulting from sustained pressure, including the association between the device and shearing[2].

The PI classification indicates the extent of tissue injury: stage 1, non-blanchable erythema in intact skin; stage 2, loss of partial skin thickness with dermis exposure; stage 3, loss of total skin thickness; stage 4, total loss of skin thickness and tissue loss; not classifiable when there is non-visible tissue loss; and deep tissue pressure injury is persistent, non-blanchable dark red, brown or purple discoloration[2-3].

PI is considered a serious health problem in

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hospitals, representing a constant challenge for patients, professionals and institutions, both due to the high incidence and prevalence in certain populations, as well as the consequences generated in relation to increased morbidity and mortality; besides the costs generated for the institution as well as damage to the patient[3].

The prevalence and incidence of PI vary, depending on the population and each peculiarity studied. The high rate of occurrence is an important problem in the care process, as it negatively influences the recovery of hospitalized patients, thus becoming a parameter for health service evaluation[4].

The risk factors for the onset or worsening of PIs that stand out are mentioned on the Braden Scale, such as sensory perception related to the degree of disorientation (i.e. the ability to respond to the discomfort generated by the pressure exerted), activity, mobility, humidity generated by urinary and/or anal incontinence, nutrition, friction and shear. There are also other contributing factors to the formation of pressure injuries: age, gender, length of stay, comorbidities, chronic diseases and the use of certain medications[3-5].

Some risk scales for developing pressure injuries have been studied and implemented in vulnerable groups or groups most exposed to changes in skin integrity. These practices improve the quality of the care process, which must be performed continuously and completely, in order to reduce complications for assisted patients. These initiatives promoting safety and quality in health care with the involvement of health institutions as well as their professionals are growing, aiming to offer excellent care, reduce costs and ensure customer satisfaction[6-13].

It is well known that despite being quite widespread, the emergence of pressure injuries is still with high numbers. However, it is worth remembering that the nursing staff is responsible for direct care with the patient and the management of care, that is, the largest portion of care[13]. Given the above, this study proposed to outline the profile of people with pressure injuries in intensive care units (ICU) of a teaching hospital in Recife. The ICU was the sector selected because, generally, the health status of people hospitalized in this sector is critical, resulting in a place where this problem is more prevalent. Thus, more ICU nursing professionals care for this adverse pressure injury event.

METHODOLOGY

This was a retrospective, descriptive study with a quantitative approach, using secondary data obtained from the records of the Dressing Committee of the Recife, PE university hospital. The Dressing Committee is composed of a nurse, a plastic surgeon and an administrative assistant, who accompany the patients admitted to the hospital sectors of the present study, specifically when there is a need to accompany the injury. This lesion may either originate from an operative wound or pressure injury (PI), and this committee follows the injury from its notified until it heals.

Data collection was performed based on data from the Dressing Committee, following the sample selection criteria: ICU patients (Obstetric, Transplant, Clinical, Surgical and Hemodynamic), older than 14 years and possessing a notification of pressure injury in the period between March and September 2015.

Data were tabulated and analyzed using Epi Info version 5.3.4 software. The absolute and percentage frequency of the following variables were calculated: age, gender, ICU (Obstetric, Transplant, Clinical, Surgical and Hemodynamic), comorbidities, level of awareness, mobility, hygiene, nutrition and eliminations, PI numbers, PI location, PI staging, prevention/treatment. The results found were grouped and presented as tables.

The study was approved by the Research Ethics Committee with CAE No. 42624515.2.0000.5201 followed the ethical principles, norms and regulatory guidelines for research involving human subjects,

RESULTS

established by Resolution 466/2012 of the National Health Council.

In the five sectors of the adult intensive care unit (ICU) of the hospital under study, 83 patients who developed pressure injuries (PI) during their hospitalization were analyzed. The predominant age group was over 80 years (26.5%), the highest occurrence was in males (53.01), the Clinic ICU had the highest occurrence (49.40%), while in the hemodynamic ICU there were no cases reported. Regarding comorbidities, neoplasms were the most evident (48.19%) (Table 1).

Patients who developed PI had a very varied clinical profile during the physical examination. Regarding the level of awareness, most were oriented (48.2%), in the variable for mobility the vast majority were bedridden (96.39%), had good hygiene (78.31%) and had a nasoenteral tube (SNE) diet (54.95%). Intestinal eliminations were normal (69.88%) and used a delayed bladder catheterization (71.08%) (Table 2).

The most frequent anatomical location was the sacral region (80.72%), followed by the gluteal region (12.05%), and were mostly a single lesion (87.95%). Regarding the classification of the PI, the percentages found were stages 1 (53.01%), 2 (38.55%), 3 (7.23%) and 4 (1.21%). Regarding the most commonly used prevention measures and PI treatment products, Essential Fatty Acid (EFA) appeared in 26.51% of lesion treatments, followed by 16.87% hydrogel and 1.20% activated carbon. As preventative measures, barrier cream was used by 24.10% of patients with PI, hydrocolloid plate was used in 18.07% and pneumatic mattress was in used in 13.25% (Table 3).

Table 1 - Characterization of patients with pressure injury admitted to the intensive care units of a teaching hospital. Recife, PE, 2015.

Variables	Nº	%	Variables	Nº	%
Age			**ICU ***		
15-20	2	2.43	Obstetric	1	1.20
21-26	1	1.20	Transplant	14	16.83
27-32	-	-	Clinic	41	49.40
33-38	5	6.02	Surgical	27	32.57
39-44	3	3.61	Hemodynamics	-	-
45-50	2	2.41	Comorbidities		
51-56	6	7.23	Diabetes Melittus	7	8.44
57-62	11	13.25	Systemic Arterial Hypertension	14	16.87
63-68	11	13.25	Vascular Diseases	4	4.82
69-74	14	16.87	Neoplasms	40	48.19
75-80	6	7.23	Obesity	1	1.20
> 80	22	26.5	Others	2	2.41
Sex			No background	15	18.07
Male	44	53.01			
Female	39	46.99			

*Intensive care unit.
Source: Fernando Figueira Institute of Integral Medicine Dressing Committee - IMIP, 2015.

Table 2 - Clinical profile of patients with pressure injury admitted to the intensive care units of a teaching hospital. Recife, PE, 2015.

Variables	Nº	%	Variáveis	Nº	%
Level of awareness			**Intestinal Eliminations**		
Oriented	40	48.2	Normal	58	69.88
Disoriented	4	4.82	Constipation	19	22.89
Sedated	1	1.20	Diarrhea	6	7.23
Comatose	38	45.78	UrinaryEliminations		
Mobility			Diaper	20	24.10
Ambulant	3	3.61	SVD *	59	71.08
Bedridden	80	96.39	Nutrition		
Hygiene			Oral route	17	20.48
Good	65	78.31	NGT **	13	16.14
Regular	18	21.69	NET ***	46	54.95
			TPN ****	7	8.43

*Delayed bladder catheter; **Nasogastric tube; *** Nasoenteral tube; **** Total parenteral nutrition.
Source: Fernando Figueira Institute of Integral Medicine Dressing Committee - IMIP, 2015.

Table 3 - Characteristics, classification and prevention/treatment measures of pressure injuries of patients admitted to the intensive care units of the teaching hospital. Recife, PE, 2015.

Variables	Nº	%	Variables	Nº	%
Sacrum			Staging		
Trochanter	67	80.72	Stage 1	44	53.01
Calcaneus	1	1.20	Stage 2	32	38.55
Glute	-	-	Stage 3	6	7.23
Others	10	12.05	Stage 4	1	1.21
Outros	5	6.02	**Prevention and treatment measures**		
PI Number			Pneumatic mattress	11	13.25
01	73	87.95	Barrier cream	20	24.10
02	8	9.64	Hydrocolloid plate	15	18.07
03	2	2.41	EFA*	22	26.51
04 ou +	-	-	Hydrogel	14	16.87
			Activated carbon	1	1.20

* Essential fatty acid;
Source: Fernando Figueira Institute of Integral Medicine Dressing Committee - IMIP, 2015.

DISCUSSION

In this study it was verified that male individuals predominated. Similar data were found in a study in a public hospital in Natal, RN where a majority of the 29 patients of the sample with PI were males (82.76%)[2-12]. The age group of those older than 80 years demonstrated the largest number of people affected by PI in this study. Therefore, age appears to be a contributing factor to the onset of PI, as skin aging slows the healing and vascularization process. It also reduces collagen's function making the skin more fragile, especially in elderly individuals who compose the profile found in this study[7-8].

The result found in relation to the profile of hospitalized patients with PI in this study is similar to that of the public hospital of the Federal District, where 87.5% were in the general hospitalization unit and 50% in the trauma unit[8]. This is due to the clinical condition of the patient, which becomes an extremely important factor in the risk assessment for the development of the lesions. Moreover, the onset of PI is interconnected with the length of stay of these patients, as was shown by the present study with mostly chronic patients.

It is important to emphasize that lack of mobility, sensory or cognitive impairment, reduced tissue perfusion, impaired nutritional level, friction, humidity and age-related changes are factors that contribute to the development of PIs6. Thus, individuals in ICUs with restricted locomotion due to diseases may have a higher risk of developing PIs, which require effective interventions for short-term healing in order to prevent possible complications and increase costs with prolonged treatments[6-9].

Among the regions affected by the PI, the sacrum, occipital, trochanter, lateral malleolus, calcaneal, ischium, elbow, scapular regions, among others, stand out. In a study conducted in São Paulo in the University Hospital (HU), the lesions were located in 18 body regions, most frequently in the sacrum region (28 patients: 71.8%), calcaneal D and E (seven patients: 17.9%) and trochanters D and E (six patients: 15.4%), approaching the results found in the present study[10]. Regarding the characteristics of the PIs, the results of this study were similar to the research carried out in the ICU of a public hospital in Petrolina. PE. Most of the evaluated patients (75%) had a single lesion. As for classifications identified there were stage 1 (73.3%), 2 (20%) and 3 (6.6%), with no stage 4 lesions detected; which differs from the present study where one patient had a stage 4 lesion[11].

PIs are a serious and routine problem in health services, due to the high incidences, the increased mortality and the resulting costs. Therefore, the nursing team's performance, knowledge of risk factors and the use of daily preventive measures to manage care integrally are important; especially in relation to critical patients admitted to ICUs[12-14].

The study's results demonstrated that the majority of professionals use the EFA as a preventive measure in injuries, even knowing that in the ICU low-cost preventive measures are available; such as change of position, support surfaces and the use of protocols, that act more effectively in reducing the onset of PI in hospitalized patients[15-16].

Linoleic acid and linolenic acid are the most important EFAs for wound care. In general, they are applied to lesions with granulation tissue, there is no strong scientific evidence to prove the effectiveness of EFA in wound healing. However, it is a widely used product in Brazil for wound prevention and treatment, possibly for cultural and economic reasons, as well as other treatments that are available in institutions[2,15].

CONCLUSION

The profile of patients with pressure injuries in the present study is generally elderly males with neoplasms. These patients during clinical evaluation were oriented, bedridden, considered having good hygiene, normal bowel elimination, use of delay urinary bladder tube and received nutrition through the nasoenteral tube device. PIs mostly affected the sacrum region of the patients under study, and most of them only had one lesion with a stage 1 classification. The main measures taken were the use of barrier cream and EFAs.

With this study it was possible to investigate the elaboration and implementation of prevention strategies and from this, identify the profile of patients with PIs in ICUs. The result of which can lead to prevention strategies developed by the nursing team in order to minimize costs and length of stay of these patients in the institution. It is understood that nurses' decision-making about the patient's skin care should be based on an individualized assessment, and the professional must be scientifically based to implement effective interventions.

This study emphasizes the need to motivate nursing teams to use preventive measures in critical patient care, at a low cost and with daily care. They should base themselves on recommendations in the literature concerning the use of support surfaces, the use of pneumatic mattress, changing positions, hygienic measures and applying existing PI prevention protocols.

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