

**10 - PRESSURE INJURY IN HOSPITALIZED PATIENTS IN INTENSIVE CARE UNIT**

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doi:10.16887/88.a1.10

**INTRODUCTION**

The damaging effects of pressure injuries are undeniable, being of multifactorial cause and with occurrence linked to the presence of some risk factors, affecting certain groups of more vulnerable patients, corroborating with the increase of morbidity and mortality (SILVA, et al., 2013).

These injuries are characterized as the effects of the hospitalization process, indirectly and negatively reflecting the quality of care provided by both, the nursing team and the multidisciplinary team. (MATOS; DUARTE; MINETTO, 2010).

They are defined as a localized area of cell death, arising when the skin and/or soft tissue are compressed over a bone prominence and a hard surface for an extended period, as a result of pressure or a combination of pressure with rubbing and shearing. (IRION, 2012).

Regarding pressure injuries risk factors, the literature classifies as extrinsic or external, those ones related to physical exposure, such as moisture, pressure, friction and shear; and intrinsic or internal, the ones that are inherent to the individual, involving systemic conditions and neurological impairment, comorbidities, edema, advanced age and metabolic disorders. (BAVARESCO; MEDEIROS; LUCENA, 2011).

The Intensive Care Unit (ICU) is the appropriate sector for the treatment of critical patients. However, the severity of clinical conditions associated with activity limitations, higher complexity frequent interventions, use of sedatives and vasoactive drugs, use of mechanical ventilation and hemodynamic instability, make these patients more susceptible to develop pressure lesions. (ROLIM, et al. ., 2013, ROGENSKI and KURCGANT, 2012).

Consequently, identification of the prevalence and the risk factors for the development of Pressure injury in critically ill patients constitutes a factor of substantial importance for the proposal of preventive measures directed to the inherent needs of the patients in a specific context, might resulting positively in the decrease of the occurrence of these lesions.

Based on the above considerations, the present study aims to identify the prevalence of pressure injury in patients admitted to the Intensive Care Unit, and the risk scores for the occurrence of these lesions, according to the Braden Scale.

**METHOD**

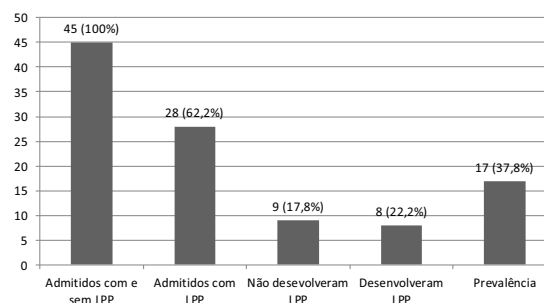
This is an exploratory, descriptive study with a quantitative approach that discusses the risk of Pressure Injury and the prevalence of this condition. It was developed at the ICU of a public hospital in João Pessoa-PB. We got sample of 45 people who fulfilled the inclusion criteria. For data collection we used a form to record sociodemographic and clinical data, and also the Braden Scale to measure pressure ulcer risk.

Guidelines from Resolution 466/2012 of the National Health Council (BRASIL, 2012) were met, receiving an assent, according to protocol No. 023/12.

The collected data has been typed in Microsoft Excel for Windows and later transferred to the PASW Statistic version 18 software, in which was attained the descriptive analysis of data performed and the results were presented in tables and figures.

**RESULTS**

Figure I - Prevalence of pressure lesions among the study patients. João Pessoa-PB, 2013.



In order to calculate the prevalence, the 45 patients who participated in the study were included, of whom 9 (17.8%) were admitted to the intensive care unit with pressure injury and 08 (22.2%) developed the disease during the period of hospitalization, totalizing a prevalence of 37.8%.

Table I - Distribution of patients according to Braden Scale risk scores and the occurrence of pressure injury. João Pessoa - PB, 2013.

Avaliação do Escore de Risco (Escala de Braden)	LPP			
	Sim (n=17)		Não (n=28)	
	N	%	N	%
Alto risco	15	88,2	15	53,6
Risco moderado	2	11,8	8	28,5
Em risco	0	0,0	4	14,3
Sem risco	0	0,0	1	3,6
Total	17	100,0	28	100,0

Source: direct search. João Pessoa – PB, 2013.

In line with the distribution of patients according to Braden Scale risk score and the occurrence of pressure injury, it was observed that the majority of the patients (88.2%) who developed Pressure Injury were presented at high risk (10 to 12 points).

When analyzing the total number of patients and the risk for Pressure Injury, 30 (66.7%) patients were classified as high risk (10 to 12 points), 10 (22.2%) were at moderate risk, (13 to 14 (8.9%) at risk (15 to 18 points), and only 1 (2.2%) without any risk (19 points).

Table II – Braden subscales and the occurrence of pressure injury. João Pessoa – PB, 2013.

Domínios da Escala de Braden	LPP			
	Sim (n=17)		Não (n=28)	
	N	%	N	%
<b>Percepção Sensorial</b>				
Totalmente Limitado	11	64,7	11	39,3
Muito Limitado	3	17,6	2	7,1
Levemente Limitado	2	11,8	11	39,3
Nenhuma Limitação	1	5,9	4	14,3
<b>Umidade</b>				
Muito Molhado	1	5,9	2	7,1
Ocasionalmente Molhado	16	94,1	24	85,8
Raramente Molhado	0	00,0	2	7,1
<b>Atividade</b>				
Acamado	17	100,0	28	100,0
<b>Mobilidade</b>				
Totalmente Imóvel	13	76,5	12	42,9
Bastante Limitado	4	23,5	9	32,1
Levemente Limitado	0	00,0	4	14,2
Não apresenta Limitação	0	00,0	3	10,7
<b>Nutrição</b>				
Muito Pobre	8	47,1	14	50,0
Provavelmente Inadequado	0	00,0	3	10,7
Adequado	9	52,9	10	35,7
Excelente	0	00,0	1	3,6
<b>Fricção e Cisalhamento</b>				
Problema	17	100,0	18	64,2
Problema em Potencial	0	00,0	5	17,9
Nenhum Problema	0	00,0	5	17,9

Source: direct search. João Pessoa – PB, 2013.

Table 2 shows that the patients categorized in the sub-score "totally limited", most of them presented lesion 11 (64.7%).

Regarding humidity, a high index in the "occasionally wet" subscale was observed in both patients, the ones who developed and those who did not develop the lesion, totalizing 16 (94.1%) and 24 (85.8%) respectively. In terms of the activity, the two groups of patients were in the subcategory bedridden, totalizing 100% each.

In the mobility domain, there was a predominance in the "totally unmoving" subscore for both groups, 13 (76.5%) of the patients who developed Pressure Injury and 12 (42.9%) of the patients who did not develop the disease.

Regarding friction and shearing, all patients with Pressure Injury, that is, 17 (100%), were within the subcategory "problem", as well as the group of patients without Pressure Injury, totaling 18 (64.2%).

## DISCUSSION

In this investigation, from the 45 patients that composed the sample, 9 were already admitted already with early Pressure Injury and 8 has developed it after hospitalization, representing a prevalence of 37.8%. Corroborating with other studies that showed similar indices in the intensive care setting. (GOMES, et al., 2010).

All these findings reinforce that pressure injuries keep having an impact on patient care in Intensive Care Units, even with all the material resources that the market has made available to prevent these injuries and the updates available to professionals, such as congresses, researches and books about the theme (SILVA, et al., 2016).

To evaluate the risk of developing Pressure Injury, we used the Braden Scale, which evaluates the intrinsic and extrinsic risk factors that contribute on the development of pressure injuries, through its six subscales: sensory perception, humidity, activity, mobility, nutrition, friction and shearing (BAVARESCO; MEDEIROS; LUCENA, 2011).

Concerning to the Braden Scale subscales, individually analyzed, it was observed that in the sensory perception domain 11 (64.7%) patients who developed Pressure Injury were totally limited, that is, with a lowered level of consciousness due

to the clinic condition or the use of sedatives. For those patients who did not develop the lesion, there was predominance in "totally limited" and "slightly limited" (39.3% and 39.3%), which refers to the link between sensory perception and Pressure Injury development.

The sensory deficit impairs or inhibits the patient's change of decubitus, by virtue of the decrease in the pain threshold. Therefore, more and more important becomes the role of the multidisciplinary team in the care designed to prevent the occurrence of such injury.

In relation to humidity, the majority of patients who developed Pressure Injury were in the group "occasionally wet". As they are critical patients, it is expected that this state of humidity occurs due to the restriction in the bed, and the need for hygiene by the team, when the patients are not using a bladder probe. In addition to this factor, medicine use and edema also interfere with the permanence in this table of humidity.

The excess skin moisture results in an increase of the risk of maceration, which enhances the risks for the occurrence of Pressure Injury (NOGUEIRA, ASSAD, 2013).

About the subscale "activity", all patients who developed the Injury were bedridden. That is, they did not perform any basic needs, such as wandering or physiological needs in the bathroom, because they were restricted to the bed.

In a study carried out in an university hospital in Belo Horizonte, the same results were reported, in which 100% of the patients who composed the study and developed Pressure Injury were bedridden (SALES; BORGES; DONOSO, 2010).

With reference to mobility, the majority of the patients (76.5%) were totally unmoving, followed by 23.5% in very limited condition. Patients with reduced or totally unmoving mobility are subject to pressure forces, which leads to tissue ischemia, and are thus subject to the development of lesions (BAVARESCO, MEDEIROS; LUCENA, 2011; ROLIM, et al., 2013).

Patients admitted to the ICU are generally exposed to adverse conditions and show affected clinical signs, such as: changes in sensitivity or consciousness level, neurological or cardiovascular diseases, multiple trauma patients, and those using sedative, hypnotic and analgesic drugs, which in turn, interfere on the natural stimulus of pressure change for reduction and pressure relief (ROLIM, et al., 2013).

Analyzing the subscale "Nutrition", it was verified that the patients who developed Pressure Injury were, in their majority (52,9%), with an adequate nutrition and those that did not develop (50%), in very poor nutrition. Find that diverges from other researches that present malnutrition or inadequate nutrition as one of the main risk factors that contribute to the development of pressure injury/ulcers, in addition to this risk, also impair healing due to the reduction of nutrients needed for the repair and maintenance of damaged tissues (CAMPOS, 2010).

In relation to friction and shearing, all patients who participated in the research and developed Pressure Injury (100%) presented this variable as a "problem". The skin pH is slightly acid, and moisture can change it, making it basic and brittle, leaving it more susceptible to friction and shear. (ROGENSKI; KURCGANT, 2012). The friction affects the more superficial skin layers, while shear, along with pressure, mainly affects the deeper layers. (ROLIM, et al., 2013).

Thus, it becomes apparent that the risk factors end up adding to each other and leading to the increase of the patient's susceptibility to the development of Pressure Injury.

#### CONCLUDING REMARKS

This study highlighted a predominant index compatible with other scenarios of intensive care in Brazil. The majority of the patients were classified as at high risk, and all of them presented the lesion, setting up the use of the Braden Scale as an efficient instrument to measure the risk of developing pressure injury, helping to guide care actions to critical patients.

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#### PRESSURE INJURY IN HOSPITALIZED PATIENTS IN INTENSIVE CARE UNIT ABSTRACT

Objective: To identify the prevalence of pressure injury in patients admitted to the Intensive Care Unit and the risk scores for the occurrence of these lesions according to the Braden Scale. Method: an exploratory, descriptive, quantitative approach study, developed with 45 ICU patients from a public hospital in João Pessoa, Paraíba, Brazil. The data were collected through a form containing sociodemographic and clinical data and by the application of the Braden Scale, and were analyzed through descriptive statistics. Results: prevalence of 37.8% of Pressure Injury. From those who developed the injury, 15 (88.2%) were classified as high risk, and the activity categories (bedridden) and friction and shear (problem) were the most affected according to the Braden Scale. Conclusion: get to know the prevalence and risk of Pressure Injury in critically patients favors decision-making and guide the care provided.

Descriptors: Pressure Injury, Intensive Care Unit, Prevalence.

#### ULCÈRE DE PRESSION DANS LES PATIENTS HOSPITALISÉS À L'UNITÉ DES SOINS INTENSIFS RÉSUMÉ

Après une lésion médullaire le fonctionnement de l'individu est normalement affecté et plusieurs facteurs sont impliqués dans ce processus. OBJECTIF : Classer le fonctionnement des personnes souffrant de lésion médullaire dans la ville de João Pessoa – PB. MÉTHODES : étude descriptive transversale. On a utilisé l'échantillonnage par chaîne de référence, avec échantillon de 25. Les critères d'inclusion : sujets des deux genres, jeunes et adultes de l'âge entre 18 et 60 ans, paraplégiques souffrant de lésion médullaire complète ou incomplète qui se sont mis à disposition à participer d'étude. L'étude a été développée en cinq institutions de soutien à la personne handicapée dans la ville de João Pessoa. La saisie des données a eu lieu dans la période entre avril et juillet 2012. On a utilisé deux instruments : I – Profil socioéconomique et clinique des sujets ; et II – CIF : Structure du corps, Fonction du corps et Activité et participation. On a fait l'analyse descriptive et exploratoire des données quantitatives, des graphiques et des grilles de fréquence simples et croisés, des calculs minimums, maximums et des moyennes, et encore des écarts types dans les variables d'intérêt. RESULTATS ET DISCUSSIONS : les catégories et sub-catégories les plus affaiblies par rapport aux fonctions du corps ont été émotion, intestin et vessie, sexualité et force et tonus musculaire. Au domaine des activités et de la participation, on a noté les difficultés majeures dans les tâches de locomotion, travailler, maintenir des relations affectives et sexuelles et encore exercer leurs droits en tant que citoyens. Au domaine des facteurs environnementaux, on a noté la famille et les amis comme les agents facilitateurs. Les catégories classées comme barrières ont été les agents de santé. CONCLUSION : l'application de la CIF en personne souffrant de lésion médullaire a permis de démontrer une série de limitations à ces patients, ainsi que elle a recensé la fragilité dans plusieurs aspects de la vie des PSLM de façon à faciliter le processus de réhabilitation.

Mots-clés : Lésion médullaire ; Classification internationale du fonctionnement, du handicap et de la santé ; Handicap et santé.

#### LESIÓN POR PRESIÓN EN PACIENTES INTERNADOS EN UNIDAD DE TERAPIA INTENSIVA RESUMEN

Objetivo: identificar la prevalencia de lesión por presión en pacientes internados en la Unidad de Terapia Intensiva y los scores de riesgo para la ocurrencia de esas lesiones, según la Escala de Braden. Método: estudio exploratorio, descriptivo, cuantitativo, desarrollado con 45 pacientes de la UTI de un hospital público de João Pessoa, Paraíba, Brasil. Los datos fueron recolectados a través de formulario que contenía datos sociodemográficos y clínicos y aplicación de la Escala de Braden, y fueron analizados a través de la estadística descriptiva. Resultados: prevalencia del 37.8% de LPP. De los que desarrollaron LPP, 15 (88,2%), clasificados en alto riesgo, y las categorías actividad (acamado) y fricción y cizallamiento (problema) fueron las más afectadas, según Escala de Braden. Conclusión: conocer la prevalencia y el riesgo de LPP en los pacientes críticos favorece la toma de decisiones y direccionamiento de los cuidados prestados.

Descriptores: lesión por presión, Unidad de Terapia Intensiva, Prevalencia.

#### LESÃO POR PRESSÃO EM PACIENTES INTERNADOS EM UNIDADE DE TERAPIA INTENSIVA RESUMO

Objetivo: identificar a prevalência de lesão por pressão em pacientes internados na Unidade de Terapia Intensiva e os scores de risco para a ocorrência dessas lesões, segundo a Escala de Braden. Método: estudo exploratório, descritivo, quantitativo, desenvolvido com 45 pacientes da UTI de um hospital público de João Pessoa, Paraíba, Brasil. Os dados foram coletados através de formulário contendo dados sociodemográficos e clínicos e aplicação da Escala de Braden, e foram analisados através da estatística descritiva. Resultados: prevalência de 37.8% de LPP. Dos que desenvolveram LPP, 15 (88,2%), classificados em alto risco, e as categorias atividade (acamado) e fricção e cisalhamento (problema) foram as mais afetadas, segundo Escala de Braden. Conclusão: conhecer a prevalência e o risco de LPP nos pacientes críticos favorece a tomada de decisões e direcionamento dos cuidados prestados.

Descritores: lesão por pressão, Unidade de Terapia Intensiva, Prevalência.