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ORIGINAL ARTICLE

Mapping the nursing care with the NIC for patients in risk for pressure ulcer

MAPEAMENTO DE CUIDADOS DE ENFERMAGEM COM A *NIC* PARA PACIENTES EM RISCO DE ÚLCERA POR PRESSÃO

MAPEO DE CUIDADOS DE ENFERMERÍA CON LAS *NIC* PARA PACIENTES CON RIESGO DE ÚLCERAS DE PRESIÓN

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ABSTRACT

Objective: To identify the nursing care prescribed for patients in risk for pressure ulcer (PU) and to compare those with the *Nursing Interventions Classification* (NIC) interventions. **Method:** Cross mapping study conducted in a university hospital. The sample was composed of 219 adult patients hospitalized in clinical and surgical units. The inclusion criteria were: score ≤ 13 in the Braden Scale and one of the nursing diagnoses, Self-Care deficit syndrome, Impaired physical mobility, Impaired tissue integrity, Impaired skin integrity, Risk for impaired skin integrity. The data were collected retrospectively in a nursing prescription system and statistically analyzed by crossed mapping. **Result:** It was identified 32 different nursing cares to prevent PU, mapped in 17 different NIC interventions, within them: Skin surveillance, Pressure ulcer prevention and Positioning. **Conclusion:** The cross mapping showed similarities between the prescribed nursing care and the NIC interventions.

DESCRIPTORS

Pressure ulcer
Risk assessment
Nursing care
Nursing diagnosis
Nursing process

RESUMO

Objetivo: Identificar os cuidados de enfermagem prescritos para pacientes em risco de úlcera por pressão (UP) e compará-los com as intervenções da *Nursing Interventions Classification* (NIC). **Método:** Estudo com mapeamento cruzado realizado em hospital universitário. A amostra constou de 219 pacientes adultos internados em unidades clínicas e cirúrgicas. Os critérios de inclusão foram: escore ≤ 13 na Escala de Braden e um dos diagnósticos de enfermagem, Síndrome do déficit do autocuidado, Mobilidade física prejudicada, Integridade tissular prejudicada, Integridade da pele prejudicada, Risco de integridade da pele prejudicada. Os dados foram coletados retrospectivamente em sistema de prescrição de enfermagem e analisados estatisticamente e por mapeamento cruzado. **Resultados:** Identificou-se 32 diferentes cuidados de enfermagem para prevenção de UP, mapeados em 17 diferentes intervenções NIC, dentre elas: Supervisão da pele, Prevenção de úlcera por pressão e Posicionamento. **Conclusão:** O mapeamento cruzado apontou semelhança entre os cuidados de enfermagem prescritos e as intervenções NIC.

DESCRITORES

Úlcera por pressão
Medição de risco
Cuidados de enfermagem
Diagnóstico de enfermagem
Processos de enfermagem

RESUMEN

Objetivo: Identificar los cuidados de enfermería prescritos para pacientes con riesgo de úlceras por presión (UPP) y compararlos con las intervenciones de la *Clasificación de Intervenciones de Enfermería* (NIC). **Método:** Estudio con mapeo cruzado en el hospital universitario. La muestra estuvo compuesta por 219 pacientes adultos internados en unidades médico-quirúrgicas. Los criterios de inclusión fueron: puntuación ≤ 13 en la escala de Braden y uno de los siguientes diagnósticos de enfermería: Síndrome de déficit de autocuidado, Deterioro de la movilidad física, deterioro de la integridad tisular, deterioro de la integridad cutánea, riesgo de deterioro de la integridad cutánea. Los datos fueron recolectados retrospectivamente en el sistema de prescripción de enfermería y analizados estadísticamente y con mapeo cruzado. **Resultados:** Se identificaron 32 cuidados de enfermería distintos para la prevención de las UPP, mapeados en 17 intervenciones NIC diferentes, entre ellas: Supervisión de la piel, Prevención de úlceras por presión y Posiciones corporales. **Conclusión:** El mapeo cruzado mostró similitud entre los cuidados de enfermería y las intervenciones NIC.

DESCRIPTORES

Úlcera por presión
Medición de riesgo
Atención de enfermeira
Diagnóstico de enfermeira
Procesos de enfermería

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INTRODUCTION

Pressure ulcer (PU) is a lesion on the skin and/or on the underlying tissue in consequence of pressure, or from the pressure in combination with the shear and/or friction. It normally happens in bony prominences locations in subjects with compromised mobility[1]. The PU incidence can vary depending on the patients profiles and the kind of institution where they are located[2-3], but the majority of Brazilian studies demonstrate incidence with variability between 19.1 and 39.8%[4-6] and the international ones, an incidence between 10.2 and 26.7%[7-9]. For that, the PU still deserves studies, especially those that address prevention measures, to search better safety and assistance quality[10-11].

The care with the skin integrity and tissues are elements of practice for the nurse and it includes the PU prevention. This requires the patients' evaluation with risks identification for this type of lesion and, consequently, to implement nursing interventions[8,12] to prevent complications that can compromise their health status and quality of life. The identification of patients at PU risk is essential to implement preventive actions since the initial hospitalization moment until the discharge[12]. One of the most broadly used instruments by nurses to predict the PU risk is the Braden Scale[11,13].

A study that investigated the clinic profile and the nursing diagnoses (ND) of patients with PU risk[14] found that the BS and the ND are important elements to subsidize the nursing in the implementation of an intervention to vulnerable patients to lesion. However, although the literature points nursing interventions as indicated to those patients[12,15], it is observed a lack of studies that describes in the clinical practice the types of prescribed care in accordance with the ND designed to the patients with PU risk. Adding to that, most of the times nursing care is described without a standardized language as the Nursing Interventions Classification (NIC)[15-16].

Therefore, it was identified the need to deepen the knowledge about the prescribed nursing care for patients with PU risk, comparing those with the NIC. For that, this study had as objectives; to identify the prescribed nursing care with PU risk and to compare those with the nursing interventions proposed by the NIC.

METHOD

A cross mapping study[17-18] conducted in a university hospital (HU) from the South of Brazil, with a sample of 219 records of patients hospitalized in clinical and surgical units, that met the following inclusion criteria: to have a score of ≤13 in the Braden Scale (risk score for PU in the institution) at the hospitalization moment or up to 48 hours after it (maximal time established in the institution for the first evaluation of the patient with the Braden Scale); to have established at least one of the following ND: Self-Care Deficit Syndrome, Impaired physical mobility, Impaired tissue integrity, Impaired skin integrity and Risk for impaired skin integrity. Stressing out that the selection of the real ND type was guided by the fact that those have related factors that also consists PU risk[19]. From those, the NDs that show real impairment on the skin and/or tissues were included by the fact that one patient that presents lesion can have an increased risk to develop a new PU. Therefore, many times the nurse needs to treat and prevent the PU simultaneously. The Self-Care Deficit Syndrome ND was included in the study because it presents related factors that are also a PU risk (e.g. immobility). The patients that did not have complete information registered in the Braden Scale were excluded.

The data collection was retrospective, considering the occurred hospitalizations in a period of six consecutive months in an informed system of nursing prescription at the institution. The data was inserted in *Excel for Windows* spreadsheets and statistically analyzed with the *Statistical Package for the Social Sciences* – SPSS, version 16.0. Posteriorly, the nursing care related to the PU prevention were mapped in a crossed way with the NIC, in accordance with the level of intervention connection with each ND. The cross mapping consists in compare the data, aiming to identify similarity and to validate the study object in different contexts[17-18]. In this study, it was conducted in three big phases: a) identification of nursing care prescriptions linked to the ND selected and related to the PU prevention; b) comparison of each nursing care prescribed with the nursing interventions from NIC; c) organization of a NIC intervention list for each ND studied considering the PU prevention care scenario. The rules applied in the crossed mapping were based on the Moorhead and Delaney referential adapted by Lucena[17-18], having as a start point the NDs from NANDA-I[19] and the NIC nursing interventions, with their different levels of connection with the NDs[15].

The study was approved by the Institution Ethics Committee (protocol nº 08-319) and the researchers signed the Commitment Term to use the data.

RESULTS

In the 219 hospitalizations of patients in risk for PU there was a predominance of elderly, female gender with an average hospitalization period of nine days (Table 1).

Within the identified NDs for the 219 patients, the ND *Self-Care Deficit Syndrome* was established for 102 (46.5%), with 32 different types of care prescribed and nine of them were related to PU prevention. The ND *Impaired physical mobility* was established for 70 (32%) patients, with 34 different types of care prescribed, being 17 (50%) related to PU prevention. The ND *Impaired tissue*

integrity was established for 45 (20.5%) patients, with 31 different types of care prescribed, being 13 (42%) of those related to PU prevention. The ND *Impaired skin integrity* was established for 29 (13%) patients, with 17 different types of prescribed care, being 13 (76%) related to PU prevention. The ND *Risk for impaired skin integrity* was establish for 29 (13%) patients, with 20 different types of prescribed care, being 14 (70%) related to the PU prevention.

Table 1 - Sample characteristics of patients in risk for PU in a university hospital - Porto Alegre, 2013

Characteristics	(n=219)
Age (years)*	67.18 ± 20.2
Gender (female)+	132 (67)
Hospitalization time§	9.0 (5-17.25)
Hospitalization unit (medical clinic)+	129 (59)
Reason for hospitalization	
(cerebrovascular diseases)+	49 (22)
(pulmonary diseases)+	34 (15.5)
(cardiovascular diseases)+	30 (14)
Comorbidities	
(cardiovascular diseases)+	88 (40)
(cerebrovascular diseases)+	83 (38)
(metabolic diseases)+	61 (28)

*Mean ± standard deviation; categorical variables n (%)+; § median and percentiles 25 e 75%.

Some types of care were prescribed for more than one ND, therefore excluding the repetitions; there were 32 different types of care related to PU prevention. Those were mapped in the NIC interventions in different levels of connection with the NDs, that is, prioritized, suggested, additional option and not connected to ND. There were cares mapped in more than one NIC intervention, causing repetitions. Excluding the repetitions there were 17 different NIC interventions: Skin surveillance; Pressure ulcer prevention; Positioning; Bed rest care; Bathing; Self-care assistance: Bathing/Hygiene; Self-care assistance: feeding; Perineal care; Positioning: Wheelchair; Exercise therapies: Ambulation; Environment management; Wound Care; Pressure management; Pressure ulcer care; Skin care: Topical treatments; Nutrition therapy; Nutrition management. Therefore, for each group of prescribed nursing cares for each ND it was identified a group of NIC interventions to prevent PU (Chart 1).

Chart 1 - Cross mapping between prescribed nursing care for patients in risk for PU, with nursing diagnosis and the NIC interventions and their connection levels – Porto Alegre, 2013.

Nursing Diagnosis	Prescribed Nursing Care	NIC Interventions and their level of connection with the DE/ NANDA-I
*** Self-Care Deficit Syndrome**	- To implement assistance protocol for PU prevention	- Skin surveillance (Additional option) - Pressure ulcer prevention (Not connected to ND)
	- To keep pyramidal mattress	- Positioning (Additional option) - Bed rest care (Not connected to ND) - Pressure ulcer prevention (Not connected to ND)
	- To protect bony prominences	- Pressure ulcer prevention (Not connected to ND)
	- To change decubitus	- Positioning (Additional option)
	- To do perineum hygiene after each evacuation	- Bathing (Priority) - Self-care assistance : bathing/hygiene (Priority) - Perineal care (Suggested)
	- To keep perineum clean and dry	- Bathing (Priority) - Perineal care (Suggested)
	- To sit patient in the chair	- Positioning (Additional option)
	- To do personal hygiene	- Bathing (Priority) - Perineal care (Suggested)
	- To feed patient	- Self-care assistance: feeding (Priority)
Impaired Physical Mobility	- To keep pyramidal mattress	- Positioning (Suggested) - Bed rest care (Suggested) - Pressure ulcer prevention (Not connected to ND)
	- To implement assistance protocol for PU prevention	- Skin surveillance (Additional option) - Pressure ulcer prevention (Not connected to ND)
	- To protect bony prominences	- Pressure ulcer prevention (Not connected to ND)

Continued…

…Continuation

Nursing Diagnosis	Prescribed Nursing Care	NIC Interventions and their level of connection with the DE/ NANDA-I
Impaired Physical Mobility	- To sit patient in the chair	- Positioning (Suggested) - Positioning: wheelchair (Suggested)
	- To change decubitus	- Positioning (Suggested) - Bed rest care (Suggested) - Pressure ulcer prevention (Not connected to ND)
	- To help patient to sit in the chair	- Positioning (Suggested) - Positioning: wheelchair (Suggested)
	- To assist decubitus change	- Positioning (Suggested) - Bed rest care (Suggested) - Pressure ulcer prevention (Not connected to ND)
	- To stimulate movement in bed	- Positioning (Suggested) - Bed rest care (Suggested) - Pressure ulcer prevention (Not connected to ND)
	- To provide comfortable position to the patient	- Positioning (Suggested) - Environment management (Suggested)
	- To stimulate to get out of bed	- Exercise therapy: ambulation (Priority)
	- To assist active movements	- Positioning (Suggested)
	- To assist ambulation	- Exercise therapy: ambulation (Priority)
	- To stimulate ambulation	- Exercise therapy: ambulation (Priority)
	- To accompany during ambulation	- Exercise therapy: ambulation (Priority)
	- To raise lower limbs	- Positioning (Suggested)
	- To stimulate active movements	- Positioning (Suggested) - Bed rest care (Suggested)
	- To do passive movements	- Positioning (Suggested) - Bed rest care (Suggested)
Impaired tissue integrity	- To keep pyramidal mattress	- Positioning (Suggested) - Pressure ulcer prevention (Suggested) - Bed rest care (Not connected to ND)
	- To stimulate movements in bed	- Pressure management (Additional Option)
	- To implement assistance protocol for PU care	- Pressure ulcer care (Suggested)
	- To protect bony prominences	- Pressure ulcer prevention (Suggested)
	-To communicate lesions appearance	- Wound care (Priority) - Skin supervision (Priority)
	- To keep external bandage clean and dry	- Wound care (Priority)
	- To register lesions appearance	- Wound care (Priority) - Skin surveillance (Priority)
	- To sit patient in a chair	- Positioning (Suggested)
	- To change decubitus	- Positioning (Suggested) - Pressure ulcer prevention (Suggested) - Bed rest care (Not connected to ND)
	- To observe perineum conditions	- Skin surveillance (Priority) - Perineal care (Suggested)
	- To assist decubitus change	- Positioning (Suggested) - Pressure ulcer prevention (Suggested) - Bed rest care (Not connected to ND)
	- To protect skin to avoid rupture	- Skin surveillance (Priority) - Pressure ulcer prevention (Suggested)
	- To do passive movements	- Positioning (Suggested) - Bed rest care (Not connected to ND)
Impaired skin integrity	- To implement assistance protocol for PU care	- Pressure ulcer care (Priority)
	- To change decubitus	- Positioning (Suggested) - Pressure ulcer prevention (Suggested) - Bed rest care (Not connected to ND)
	- To protect bony prominences	- Pressure ulcer prevention (Suggested)

Continued…

…Continuation

Nursing Diagnosis	Prescribed Nursing Care	NIC Interventions and their level of connection with the DE/ NANDA-I
Impaired skin integrity	- To assist decubitus change	- Pressure ulcer prevention (Suggested) - Positioning (Suggested) - Bed rest care (Not connected to ND)
	- To keep external bandage clean and dry	- Wound care (Priority)
	- To register lesion appearance	- Wound care (Priority) - Skin supervision (Priority)
	- To offer skin moisturizer	- Pressure ulcer prevention (Suggested) - Bathing (Suggested)
	- To protect skin to avoid rupture	- Skin surveillance (Priority) - Pressure ulcer prevention (Suggested)
	- To assist patient to sit in a chair	- Positioning (Suggested) - Positioning: wheelchair (Not connected to ND)
	- To sit patient in a chair	- Positioning (Suggested) - Positioning: wheelchair (Not connected to ND)
	- To stimulate movement in bed	- Positioning (Suggested) - Pressure ulcer prevention (Suggested) - Bed rest care (Not connected to ND)
	- To stimulate hygiene care	- Bathing (Suggested) - Perineal care (Suggested)
	- To moisturize skin	- Skin care: topical treatments (Suggested) - Pressure ulcer prevention (Suggested)
Risk for impaired skin integrity	- To keep pyramidal mattress	- Pressure ulcer prevention (Priority) - Positioning (Suggested) - Bed rest care (Suggested)
	- To implement assistance protocol for PU care	- Skin surveillance (Priority) - Pressure ulcer prevention (Priority)
	- To protect skin to avoid rupture	- Skin surveillance (Priority) - Pressure ulcer prevention (Priority)
	- To change decubitus	- Pressure ulcer prevention (Priority) - Positioning (Suggested) - Bed rest care (Suggested)
	- To protect bony prominences	- Pressure ulcer prevention (Priority)
	- To keep perineum clean and dry	- Bathing (Suggested) - Perineal care (Suggested)
	- To implement protocol for PU care	- Pressure ulcer care (Not connect to ND)
	- To assist decubitus change	- Pressure ulcer prevention (Priority) - Positioning (Suggested)
	- To moisturize skin	- Pressure ulcer prevention (Priority)
	- To offer skin moisturizer	- Skin care: topical treatments (Suggested)
	- To overlook skin in search of hyperemic or ischemic points	- Skin surveillance (Priority) - Pressure ulcer prevention (Priority)
	- To sit patient in a chair	- Positioning: wheelchair (Not connected to ND) - Positioning (Suggested)
	- To stimulate movement in bed	- Pressure ulcer prevention (Priority) - Positioning (Suggested) - Bed rest care (Suggested)
	- To stimulate food ingestion	- Nutrition therapy (Suggested) - Nutrition management (Suggested)

* ND not described by NANDA-I, defined in the study field as a state in which the subject presents impairment of the motor and cognitive function, causing a capability reduction or incapability to develop each self-care activity: eating, shower and hygiene, dressing. For the level of connection with the NIC interventions, it was considered the ND Self-care Deficit for shower/hygiene/dressing/eating[19].

Among the 32 different prescribed cares for patients in PU risk, the most frequent was *To keep the pyramidal mattress,* followed by *To implement assistance protocol for PU prevention*, *To protect bony prominences* and *To change decubitus*.

DISCUSSION

The importance of the nurse evaluation for PU risk factors in patients with self-care deficit, mobility restrictions and the presence of skin alterations is corrobored by research about the Nursing Assistance Systematization related to lesions prevention[20], as well as a study in the geriatric unit at a university hospital in Sao Paulo[21]. In the present study, the patients with the ND Self-care syndrome deficit and Impaired physical mobility had nursing care prescribed for PU prevention, because those need assistance for the daily activities as standing up, walking, taking a shower, eating and dressing. Added to that, those two NDs are also related to the need of skin care once the altered self-care and mobility are risks for PU.

Within the care prescribed for the patients with those NDs, highlighting those with skin humidity: *to do perineum hygiene after each evacuation*, *to keep perineum clean and dry* and *to do perineum hygiene*. The humidity makes the skin more vulnerable to lesions because it macerates and weaken their superficial layers[13,22-23] and those cares are important to PU prevention. The humidity assessment is also part of a subscale of Braden Scale, what corroborates its predictive character to PU[23].

It called attention in the cross mapping the no identification of the link between the intervention Pressure ulcer prevention with the ND Self-care deficit syndrome [15]. At one side, it demonstrates the lack of this ND specificity for PU risk, as discussed previously; at the other side, there are related factors to it that can demand this intervention. Therefore, it could be listed in the NIC as an additional option.

The Impaired physical mobility ND results in the decrease of the patient capacity to alleviate the pressure upon the body, what can increase the probability to develop the PU[9,14]. The mobility is an important point in the patient's assessment and the nursing can do it in a more reliable way with the aid of Braden Scale[20,23].

In the cross mapping of the prescribed nursing care for patients with this ND and the NIC interventions it was found similarities, although the pressure ulcer prevention[15] is also not connected to this ND, being found as Skin surveillance intervention at the level suggested. In spite of the NIC directed interventions for positioning and rest of patients with this ND, it is perceived that there is also not specific form of PU preventive interventions. But, it is known that the patients' position change is justified by the possibility to interrupt circulation caused by prolonged immobility that, when associated with external pressure on bony prominences can bring tissue damage by hypoxia and finally cause necrosis[22].

The ND Impaired tissue integrity[19] seems to be the one which better describes the PU evidence, once this lesion presupposes tissue damage. For the patients with this ND, it was identified as prescribed care *to register lesion appearance*, *to communicate lesion appearance* and *to protect skin to avoid rupture*, which indicates the existence of lesion and the need to implement measures to avoid complications[1,22], as the development of other lesion.

In the cross mapping within the prescribed care to patients with this ND and the NIC interventions, it was observed that the interventions were in majority, connected to it, with emphasis to the skin care and patient's positioning. Only the intervention Pressure ulcer prevention was not connected to ND, which can be understood once the same portrays the PU preventive actions and in this ND, the patient already presents at least one lesion. At the same time, it is verified that this ND has a broad scope, not being specific to determine only the PU presence but all and any type of tissue lesion.

Within the NDs of NANDA-I[19], it is understood that the *Risk for impaired skin integrity* is the one that better describes the patients' condition at PU risk, subsidizing the better lesion preventive care planning although it is not the more specific for this type of worsening[12]. For its better accuracy, the Braden Scale risk assessment instrument can be used[12-14,19,23]. The prescribed cares to patients with this ND were majorly related to the PU prevention, for example *to protect skin to avoid rupture*, *to moisturize skin*, *to inspect skin searching for hyperemic or ischemic points*. Those cares were mapped in the NIC, especially in the prioritized intervention Pressure ulcer prevention. The Positioning, Bathing and Nutrition management were also suggested interventions.

Thus, it can be said that the cross mapping corroborated with the prescribed nursing care precision for patients in PU risk, with NIC identification of the interventions for this clinical situation, even when there is no ND specific in the NANDA-I[19] that points out the PU risk. This ND proposal was already sent to this classification and it is under approval[24].

In the general analysis of 32 different nursing care prescribed to the studied patients, it was verified that the care *to keep pyramidal mattress* was the most described followed by *To implement assistance protocol for PU prevention*. This demonstrates the nurses' worries with the need to diminish the pressure in body parts with special mattresses and other preventive measures protocolled in the institution for the patient in risk for PU[25]. The care *To protect bony prominences* was the third most frequent and it is know that normally the PU normally develops on top of a bony prominence because the bone makes pressure against the skin and causes tissue ischemia[9,22]. Thus, this care was accurately prescribed to those patients. The same happened with the care *to change decubitus*, that reinforce the importance to mobilize and to reposition the patient to prevent PU. Those nursing cares were mapped in the prioritized intervention to prevent pressure ulcer.

Finally, it is inferred that the use of assistance protocols and predictive scales for PU risk associated with the nursing process, especially in the ND steps and interventions, can favor the assistance qualification for patients in risk of PU.

CONCLUSION

The study identified that the most frequent nursing care prescribed for PU prevention in a hospital in the South of Brazil, mapping those in the NIC interventions, demonstrating that the language used for nursing prescriptions is portrayed in this international classification. The ND Risk for impaired skin integrity is the most indicated for those patients, once that the cross mapping of care prescribed to them demonstrated similarity between the nursing care and NIC priority intervention Pressure ulcer prevention. The NDs Self-care deficit syndrome, Impaired physical mobility, Impaired tissue integrity and Impaired skin integrity were the least accurate to describe the PU risk situation, although those nursing care prescription were partially similar with NIC, as discussed.

With implication to the clinical practice, the study identified the nursing cares and NIC interventions more appropriated to plan preventive measures for the patients in risk for PU. There is a need of a ND that portraits specifically the PU risk matter, to better explore the risk factor of this lesion as well as to facilitate the care planning most appropriate in search of better results for the patient.

REFERENCES

1. National Pressure Ulcer Advisory Panel; European Pressure Ulcer Advisory Panel. Prevention and treatment of pressure ulcers: clinical practice guideline. Washington (DC): National Pressure Ulcer Advisory Panel; 2009.

2. Costa IG. Incidência de úlcera por pressão em hospitais regionais de Mato Grosso, Brasil. Rev Gaúcha Enferm. 2010;31(4):693-700.

3. Soares DAS, Vendramin FS, Pereira LMD, Proença PK, Marques MM. Análise da incidência de úlcera de pressão no Hospital Metropolitano de Urgência e Emergência em Ananindeua. Rev Bras Cir Plast. 2011;26(4):578-81.

4. Scarlatti KC, Michel JLM, Gamba MA, Gutiérrez MGR. Pressure ulcers in surgery patients: incidence and associated factors. Rev Esc Enferm USP [Internet]. 2011 [cited 2013 Aug 19];45(6):1372-79. Available from: http://www.scielo.br/pdf/reeusp/v45n6/en_v45n6a14.pdf

5. Ursi ES, Galvão CM. Ocorrência de úlcera por pressão em pacientes submetidos a cirurgias eletivas. Acta Paul Enferm. 2012;25(5):653-9.

6. Chayamiti EMPC, Caliri MHL. Úlcera por pressão em pacientes sob assistência domiciliária. Acta Paul Enferm. 2010;23(1):29-34.

7. McGuinness J, Persaud-Roberts S, Marra S, Ramos J, Toscano D, Policastro L, et al. How to reduce hospital-acquired pressure ulcers on a neuroscience unit with a skin and wound assessment team. Surg Neurol Int [Internet]. 2012 [cited 2013 Aug 19];3(1):138. Available from: http://www.surgicalneurologyint.com/text.asp?2012/3/1/138/103645

8. Schindler CA, Mikhailov TA, Kuhn EM, Christopher J, Conway P, Ridling D, et al. Protecting fragile skin: nursing interventions to decrease development of pressure ulcers in pediatric intensive care. Am J Crit Care. 2011;20(1):26-35.

9. Yepes D, Molina F, Léon W, Pérez E. Incidence and risk factors associated with the presence of pressure ulcers in critically ill patients. Med Intensiva. 2009;33(6):276-81.

10. Santos CT, Oliveira MC, Pereira AGS, Suzuki LM, Lucena AF. Indicador de qualidade assistencial úlcera por pressão: análise de prontuário e de notificação de incidente. Rev Gaúcha Enferm. 2013;34(1):111-8.

11. Rogenski NMB, Kurcgant P. The incidence of pressure ulcers after the implementation of a prevention protocol. Rev Latino Am Enferm. 2012;20(2):333-9.

12. Bavaresco T, Lucena AF. Nursing intervention classifications (NIC) validated for patients at risk of pressure ulcers. Rev Latino Am Enferm. 2012;20(6):1109-16.

13. Menegon DB, Bercini RR, Santos CT, Lucena AF, Pereira AGS, Scain SF. Análise das subescalas de Braden como indicativos de risco para úlcera por pressão. Texto Contexto Enferm. 2012;21(4):854-61.

14. Lucena AF, Santos CT, Pereira AGS, Almeida MA, Dias VLM, Friedrich MA. Clinical profile and nursing diagnosis of patients at risk of pressure ulcers. Rev Latino Am Enferm. 2011;19(3):523-30.

15. Bulechek G, Butcher H, Dochterman J, Wagner C, editors. Nursing interventions classification (NIC). 6th ed. St Louis: Elsevier; 2013.

16. Salgado PO, Chianca TCM. Identificação e mapeamento dos diagnósticos e ações de enfermagem em unidade de terapia intensiva. Rev Latino Am Enferm. 2011;19(4):

17. Moorhead S, Delaney C. Mapping nursing intervention data into the Nursing Interventions Classification (NIC): process and rules. Nurs Diagn.1997;8(4):137-44.

18. Lucena AF, Barros ALBL. Mapeamento cruzado: uma alternativa para a análise de dados em enfermagem. Acta Paul Enferm. 2005;18(1):82-8.

19. Herdman HT. NANDA-International Nursing Diagnoses: definitions and classification, 2012-2014. Oxford: Wiley-Blackwell; 2012.

20. Rodrigues MM, Souza MS, Silva JL. Sistematização da assistência de enfermagem na prevenção da lesão tecidual por pressão. Cogitare Enferm. 2008;13(4):566-75.

21. Sakano LM, Yoshitome AY. Diagnósticos e intervenções de enfermagem em idosos hospitalizados. Acta Paul Enferm. 2007;20(4):495-8.

22. Lyder CH, Ayello EA. Pressure ulcers: a patient safety issue. In: Hughes RG, editor. Patient safety and quality: an evidence-based handbook for nurses [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2008 [cited 2013 Aug 19]. Available from: http://www.ncbi.nlm.nih.gov/books/NBK2650/

23. Medeiros ABF, Lopes CHAF, Jorge SBM. Analysis of prevention and treatment of the pressure ulcers proposed by nurses. Rev Esc Enferm USP [Internet]. 2009 [cited 2013 Aug 19];43(1): 223-8. Available from: http://www.scielo.br/pdf/reeusp/v43n1/en_29.pdf

24. Santos CT, Lucena AF, Oliveira MC. Definition and risk factors of a new nursing diagnosis: risk for pressure ulcer. In: Sheerin F, Sermeus W, Ehrenberg A, editors. Proceedings at 9th International Conference of ACENDIO; 2013; Dublin, Ireland [Internet]. Dublin, Ireland: Association for Common European Nursing Diagnoses, Interventions and Outcomes; 2013 [cited 2013 Aug 19]:374-7. Available from: http://www.acendio.net/members/proceedings/ACENDIO2013.pdf

25. Menegon DB, Bercini RR, Brambila MI, Scola ML, Jansen MM, Tanaka RY. Implantação do protocolo assistencial de prevenção e tratamento de úlceras de pressão do Hospital de Clínicas de Porto Alegre. Rev HCPA. 2007;27(2):61-4.

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