



## PRESSURE ULCERS PREVENTION ACCORDING TO THE INTENSIVIST NURSING PROFESSIONAL PERSPECTIVE

### PREVENÇÃO DE ÚLCERAS POR PRESSÃO SEGUNDO A PERSPECTIVA DO ENFERMEIRO INTENSIVISTA

### PREVENCIÓN DE ÚLCERAS POR PRESIÓN SEGÚN LA PERSPECTIVA DEL ENFERMERO INTENSIVISTA

Anna Livia de Medeiros Dantas<sup>1</sup>, Josenilton Diniz Batista de Araújo<sup>2</sup>, Patrícia Cabral Ferreira<sup>3</sup>, Cecília Nogueira Valença<sup>4</sup>, Kessya Dantas Diniz<sup>5</sup>, Ana Luisa Brandão de Carvalho Lira<sup>6</sup>

#### ABSTRACT

**Objective:** to analyze the role of nurses in the Intensive Care Unit in the prevention of pressure ulcer. **Method:** it is a descriptive study, developed with 13 nurses from the Intensive Care Unit of the *Hospital Universitário Onofre Lopes* (HUOL) in Natal/RN/Brazil. We have applied a questionnaire, which was submitted to thematic content analysis. The study was approved by the Ethics Research Committee from UFRN, under CAAE n° 0240.0.051.000-10. **Results:** nurses reported the execution of the change in position; risk assessment; discussion with colleagues about the undertaken measures; hygiene and hydration of the skin of the patient, through the use of essential fatty acids and moisturizing body lotion; the care for the arrangement of the sheets, in order to avoid folds; the use of air mattress and application of hydrocolloid plates in the bone prominences. **Conclusion:** the prevention practice of pressure ulcers applied by nurses from the Intensive Care Unit happens with no standardization of the care procedures. **Descriptors:** Pressure Ulcer; Nursing Care; Intensive Care Unit.

#### RESUMO

**Objetivo:** analisar a atuação dos enfermeiros de unidade de terapia intensiva na prevenção da úlcera por pressão. **Método:** trata-se de estudo descritivo desenvolvido com 13 enfermeiros da unidade de terapia intensiva do Hospital Universitário Onofre Lopes (HUOL), em Natal-RN. Foi aplicado um questionário, submetido à análise de conteúdo temática. O estudo foi aprovado pelo Comitê de Ética da Universidade Federal do Rio Grande do Norte (UFRN), sob o CAAE n. 0240.0.051.000-10. **Resultados:** os enfermeiros reportaram a realização da mudança de decúbito, a avaliação de risco, a discussão com os colegas sobre as medidas adotadas, a higiene e hidratação da pele do paciente através de uso de ácidos graxos essenciais e hidratante corporal, o cuidado com a disposição dos lençóis, de forma a evitar dobras, a utilização de colchão de ar e a aplicação de placas de hidrocoloide nas proeminências ósseas. **Conclusão:** a prática da prevenção das úlceras por pressão aplicada pelos enfermeiros da unidade de terapia intensiva ocorre sem padronização dos cuidados. **Descritores:** úlcera por pressão; assistência de enfermagem; unidade de terapia intensiva.

#### RESUMEN

**Objetivo:** analizar la actuación de los enfermeros de unidad de cuidados intensivos en la prevención de úlcera por presión. **Métodos:** esto es un estudio descriptivo desarrollado con 13 enfermeros de la unidad de cuidados intensivos del Hospital Universitário Onofre Lopes (HUOL), en Natal, Rio Grande do Norte, Brasil. Fue aplicado un cuestionario, sometido al análisis de contenido temático. El estudio fue aprobado por el Comité de ética de la Universidade Federal do Rio Grande do Norte (UFRN), bajo el CAAE 0240.0.051.000-10. **Resultados:** los enfermeros reportaron la realización del cambio de decúbito, la evaluación de riesgo, la discusión con los colegas acerca de las medidas adoptadas, la higiene e hidratación de la piel del paciente por medio del uso de ácidos grasos esenciales e hidratante corporal, la atención con la disposición de las sábanas, para evitar dobladuras, la utilización de colchón de aire y la aplicación de placas de hidrocoloide en las prominencias óseas. **Conclusión:** la práctica de la prevención de las úlceras por presión aplicada por los enfermeros de la unidad de cuidados intensivos ocurre sin estandarización de los cuidados. **Descriptor:** úlcera por presión; atención de enfermería; unidad de cuidados intensivos.

<sup>1,3</sup>Nurse, specialist in intensive care, Professor at the Graduated Program in the FACISA/UFRN. Santa Cruz (RN), Brazil. E-mails: [livia\\_enfa@yahoo.com.br](mailto:livia_enfa@yahoo.com.br); [titiciafc@yahoo.com.br](mailto:titiciafc@yahoo.com.br); <sup>2</sup>Nursing Student from the FACISA/UFRN. Santa Cruz (RN), Brazil. E-mail: [enf.nilton\\_rn@yahoo.com.br](mailto:enf.nilton_rn@yahoo.com.br); <sup>4</sup>Nurse, Assistant Professor, Ph.D Student, Postgraduating Program in Nursing, Federal University of Rio Grande do Norte, Natal (RN), Brazil. E-mail: [cecilia\\_valenca@yahoo.com.br](mailto:cecilia_valenca@yahoo.com.br); <sup>5</sup>Nurse, Master in Nursing; Professor, Federal University of Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mail: [kessyadantas@yahoo.com.br](mailto:kessyadantas@yahoo.com.br); <sup>6</sup>Nurse, Ph.D, Professor, Undergraduation/Postgraduation Program in Nursing of the Federal University of Rio Grande do Norte/UFRN. Natal (RN), Brazil. E-mail: [analuisa\\_brandao@yahoo.com.br](mailto:analuisa_brandao@yahoo.com.br)

## INTRODUCTION

The patient is considered critical when it shows changes in one or more vital organs, is at risk or has hemodynamic instability, becomes worse due to serious disorders, requires strict controls or makes use of greater complex therapies. This patient demands care from a multidisciplinary team, ongoing monitoring and performance of invasive procedures.<sup>1</sup> Furthermore, it has a high dependency degree related to the clinical picture, increased time and cost of treatment and numerous complications, such as the formation of pressure ulcers (PUs) and nosocomial infection.<sup>1</sup>

In the context of possible complications to which critically ill patients admitted in an ICU are susceptible, pressure ulcers (PUs) still constitute a great challenge for health services, due to the complexity of the shares which involve the prevention and treatment of these injuries.

Pressure ulcers are a relevant cause of morbidity and mortality, by affecting the life quality of patients and its caregivers and constituting an unsustainable economic burden to the health services, and they are also an important indicator of quality of care. A study conducted in a general hospital in Recife/PE/Brazil showed that 68% of expenditures with dressings at the unit at stake are provided only to the care of pressure ulcers.<sup>2</sup>

Given the aforementioned, one can understand the extreme importance of working toward the prevention of complications to which critically ill patients are more susceptible, due to their clinical conditions, among them the formation of pressure ulcers.

Pressure ulcers are preventable; for this purpose, it is very important to adopt methods and practices that enhance prevention, which starts by an individualized risk assessment. The use of protocols that include risk assessment and preventive and therapeutic measures concerning PU is, therefore, essential for the daily assessment of the patient.<sup>3</sup>

The daily skin care of the critically ill patient should be performed by the nurse, professional that, coupled with knowledge about the risk factors and complications arising from PUs, enables the classification of the dependency degree and prescription of the necessary care in preventing the development of these injuries.<sup>3</sup>

Epidemiological studies conducted at a university hospital of São Paulo, Brazil, showed that the overall incidence of the development of pressure ulcers in the above mentioned institution is 39.8%, rising up to 41% when dealing with patients of the Intensive Care Unit.<sup>4</sup>

Thus, the relevance of this study lies in contributing to the improvement of care provided to the patient with PUs in the scope of intensive care, with the possible reduction of the incidence of injuries and complications arising from their onset, by reflecting a lower length of stay of the admitted patient and in lower treatment costs.

## OBJECTIVE

- To analyze the role of nurses in the Intensive Care Unit in the prevention of pressure ulcer

## METHOD

This is a descriptive study, conducted in the complex of intensive care at the *Hospital Universitário Onofre Lopes* (HUOL), in Natal/RN/Brazil.

The HUOL has two ICUs, one with eight beds for the care of surgical and general clinical patients and, and another one with four beds for the treatment of coronary and surgical patients of the Cardiology and Neurology specialties. In this study, the population consisted of nurses of the HUOL ICUs, totaling 13 professionals.

The sample type was intentional, and the inclusion criteria were: to be a nurse in the ICU and is not on vacation during the data collection.

The project was approved by the Ethics Research Committee - *Comitê de Ética em Pesquisa* (CEP) from UFRN, through the Protocol n° 047/2011 and CAAE n° 0240.0.051.000-10. All participants have signed a Free and Informed Consent Form.

The data collection tool was a structured questionnaire, which was applied in June and July 2011.

Throughout the data analysis, the following steps were followed: sorting the data, reading the text with the aim of finding "meaning units", transformation of meaning units into themes, interpretation and discussion of the themes with the existing literature.

Later, from the answers of nurses, the following category has emerged: *Prevention of pressure ulcers applied in practice*. To

ensure the anonymity of respondents, we used pseudonyms of Roman gods.

## RESULTS AND DISCUSSION

The prevention of pressure ulcers requires a systematic approach, which starts with individualized assessment of the patient with regard to the risk factors and proceeds with the adoption of effective measures to be instituted in a timely manner and by the whole team. To that end, nurses must hold knowledge and skills to provide such care.<sup>5</sup>

Regarding the preventive measures applied in the aid practice, it was observed, from the nurses' report, the repetitive citation of some relevant aspects, which will be presented here in subcategories within the issue of prevention: changes in position, risk assessment, skin care, use of protective plates and air mattress.

In the care provided to the prevention of PUs in ICU patients, nurses have reported the execution of a rigorous change in position, every 2 hours, followed by risk assessment and that they discuss with other colleagues about the measures to be taken, by glimpsing the priorities.

As for the main risk factors for the onset of pressure ulcers, a study showed that the need of ventilatory assistance, the dependence on the bed, the level of consciousness and the nutritional conditions are decisive factors for the emergence of such injuries, deserving a special attention from the healthcare professionals.<sup>6</sup>

The above mentioned data show that the care provided to the critically ill patient is complex and demands several particularities, thereby becoming necessary that the nursing professional deeply knows all risk factors related to the process and develops a care plan, in order to minimize these risks.

As seen, the nursing interventions related to the prevention should be directly related to the risk factors, by addressing aspects, such as: care for skin integrity, positioning on the bed, hygienic care and nutritional assessment, and implementing actions like the mobilization on the bed, planning of educational activities, pain management, elevation of the headboard to 30 and conduction of new nursing researches on the theme.<sup>7</sup>

The European consensus also shows that the frequency of change in positioning should vary according to the tissue tolerance and the answer of the individual, and there may be the need to be modified in a shorter time.<sup>8</sup>

Another study reinforces that the pressure relief over a bone prominence for five minutes every two hours enables adequate recovery to tissue in relation to the ischemic process, which may avoid the appearance of injuries.<sup>9</sup>

One factor well evidenced in the nurses' report is the enhancement with the healthcare team for sanitizing and hydrating the skin of the patient, through the use of essential fatty acids and moisturizing body lotion, besides the careful arrangement of the sheets, in order to avoid folds that favor the increase of local pressure.

*A common procedure which is done in this ICU is the comfort massage to the change in position, application of essential fatty acids, application of plate in riskier areas and bone protrusions. (Angita)*

*In practice, I supervise nursing care regarding the hygiene, the decubitus mobilization, the use of sheets, massages and topical devices for the prevention. I advise the team when necessary (Bellona).*

*Daily, we apply measures to prevent the ulcers; the change in position through skin hydration and ridding the bone prominences from direct contact with the bed (Egeria).*

For bedridden patients, the use of a bed liner to move the person, rather than drag it, will avoid friction. Moreover, the practice of checking the headboard, so that it does not remain in the raised position (over 30°) for a long period, will decrease pressure in the sacral region, by favoring the prevention of pressure ulcers.<sup>10</sup>

Studies show that hygiene is an important factor for maintaining the skin integrity, but should be properly performed, in order not to damage the upper layers. Cleaning should be performed with soaps for individual usage, preferably with a neutral pH, and their use is not required for all cleanings. The ideal is to use warm water and do not perform skin friction. Skin should be properly dried, in a smooth way, to prevent flaking.<sup>11</sup>

It is also important to pay attention to massage or rubbing procedures in the prevention of pressure ulcers, since they are not recommended; because if the skin is too dry or too wet, it runs the risk of developing pressure ulcer. Moisturizers should be softly applied, as well as the frequent skin cleaning through warm water and a neutral cleaner product, without soap, since it causes skin dryness.<sup>10</sup>

As a constant in the nurses' report is the application of hydrocolloid plates in the bone prominences, according to product availability at the institution in question.

*The change in position, comfort massage, protection of the bone prominences with hydrocolloids, use of air mattress, use of cushions and care for the stretched bed linen. (Bacchus)*

*Through the change in position, regions already inflamed are protected with specific dressings (hydrocolloids) and by checking the patient's nutritional status. (Juno)*

The European Consensus on PUs prevention states that the plates should be placed in areas of bone prominences, in order to promote the pressure relief, which are directly applied over the skin, but such devices do not replace the change in position and other skin care procedures.<sup>8</sup>

The aforementioned data reinforce the idea that prevention should combine a number of interventions jointly performed, and the performance of isolated procedures to avoid the onset of injuries should not be encouraged.

Another factor present in the nurses' report is the use of air mattress as a strategy for distribution of pressures in patients with long stay at the ICU.

*We perform the change in position, comfort position, use of the proper mattress; care for the hygiene and prevention of moisture and use of cushions. (Venus)*

*I use the air mattress, depending on the financial condition of the patients. We have no pillows and cushions, which hinders the protection of the bone prominences. (Carna)*

The international consensus shows that the use of highly specific foam mattresses has the ability to redistribute the body weight. The alternating pressure mattresses with small cells fail to ensure the pressure relief in non-inflated regions.<sup>8</sup>

Few professionals reported the use of cushions or other support surfaces as strategies to relieve the pressure. The support surfaces alone do not provide problem-solving for PUs prevention and treatment, but an integrating strategy within a set of measures and interventions already discussed in this topic.<sup>12</sup>

*I use in practice knowledge from a course that I did and from consultations to papers, and, from that, I apply in practice, always seeking to discuss with a colleague about the use the products and treatment progress, besides highlighting the change in position (Felicitas).*

In light of the foregoing, it is observed that nurses establish important care for the prevention of pressure ulcers, but they need

to put into practice some aspects of extreme importance to avoid the onset of these injuries.

The above mentioned observations corroborate the studied literature, since a study, conducted in a health institution that researched the level of knowledge of the nursing staff about the prevention of pressure ulcers, has concluded that nurses' knowledge is not enough for the provision of effective care to patients.<sup>13</sup>

After all, Nursing has always been committed to the function of educating and guiding, within its practice, and should be prepared to develop educational processes, in several healthcare environments, in order to foster the development of basic skills for personal and professional growth, with the responsibility to ensure a quality care.<sup>10,13</sup>

It is important to point out that, for that the nursing professional may provide quality care, it must have available tools for the risk assessment in relation to the onset of PUs, in order to drive care for patients at higher risk. The Braden scale is considered one of the best validation indexes for assessing the risk of development of pressure ulcers, and is internationally used. This scale is an appropriate tool for risk assessment at the admission time and for conducting a reassessment from 24 to 48 hours after admission.<sup>14,15-7</sup>

Furthermore, it should be highlighted the need for a more systematic assistance that covers other aspects of utmost importance for the prevention, which are simple to be performed, for example: to place the patient in a decubitus position of 30 degrees in any remaining rotations; to encourage the use of support surfaces for relieving the pressure of the bone prominences; the exercise and mobility of the patient, even if it is held through passive movements; the use of appropriate positioning techniques to prevent friction and shearing. These additional measures are essential components for the success of the therapeutic management.<sup>11</sup>

A study which collected data concerning the main nursing interventions for the prevention of pressure ulcers unveiled the following issues: preparation of prevention protocol to pressure ulcers; use of scales for risk assessment; registration of changes in the patient's skin, by using the classification stages of the NPUAP; to monitor and to document interventions and obtained results.<sup>7</sup>

The outlined above findings were not mentioned in the nurses' report, but proved to be of highly relevance for the assessment



and evolution of the provided care, since they enable the continuity of the care by several professionals.

The use of prevention protocols to pressure ulcers has shown success when applied in a systematic manner, and it is an important tool for the care. The implementation of the prevention protocol to PUs means a strategic decision to the strengthening of the best care practices.<sup>18-9</sup>

The understanding of the care practice, from the technical-scientific development, is held only based on an individualized gaze over the critical patient, being necessary to identify elements that integrate care with the patient's skin, in order to keep it intact or restore its integrity during the institutionalization.<sup>20</sup>

It is also worth noting that the prevention of pressure ulcers constitutes a complex process due to the multicausality of their occurrence, and it should be a responsibility of the whole multidisciplinary team, not only of the nursing staff.<sup>20</sup>

In view of this question, it should be observed that nurses establish important care for the prevention of pressure ulcers, but they need to perform such care in a systematic manner and with basis on the current scientific evidence. This process can be achieved through the building of prevention protocols of the pressure ulcers, which should be periodically reviewed, as well as formation of multidisciplinary discussion groups for individual assessment of the patient at risk.

## CONCLUSION

As an active agent in the care process for the patient and its needs, the nursing professional should take ownership of knowledge that provide the basis for the prevention of iatrogenic complications, among them, the pressure ulcers.

From the divergent report of professionals regarding the conducts performed in practice, it is concluded that the care is randomly carried out, with no standardization of the care procedures. Still regarding the care of PUs, there is the need of updating professionals with regard to the use of prevention methods; with this, the researcher suggests the qualification of these nursing professionals, as well as the implementation of protocols of actions to facilitate the provided care.

Therefore, one must consider the importance of the qualification of the nursing staff from the Intensive Care Unit regarding

the prevention, as well as the systematization of the care through the building of protocols that allow the standardization of the care, with an emphasis on health education.

It also becomes relevant to stimulate the multidisciplinary team for working in an integrated way, through the sharing of skills, case discussion and joint action, in order to provide a quality care to patients.

## REFERENCES

1. Fernandes NCS, Torres, GV. Incidência e fatores de risco de úlceras de pressão em pacientes de Unidade de Terapia Intensiva. *Cienc Cuid Saude* [internet]. 2008 [cited 2012 Aug 6];7(3):304-10. Available from: <http://periodicos.uem.br/ojs/index.php/CienCuidSaude/article/view/6484/3855>
2. Beck ACL, Guerra DM. Avaliação do custo do tratamento de úlceras por pressão em pacientes hospitalizados usando curativos industrializados. *Cien Saude Colet* [internet]. 2011[cited 2012 Aug 6];16(1):267-77. Available from: <http://www.scielo.br/pdf/csc/v16n1/v16n1a29.pdf>
3. Furman GF, Rocha AF, Guariente MHDM, et al. Úlceras Por Pressão: Incidência E Associação De Fatores De Risco Em Pacientes De Um Hospital Universitário. *Rev enferm UFPE on line* [Internet]. 2010 [cited 2012 Aug 6];4(3):1506-514. Available from: [http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/1148/pdf\\_1](http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/1148/pdf_1)
4. Rogenski NMB, Kurcgant P. Incidência de úlceras por pressão após a implementação de um protocolo de prevenção. *Rev Lat Am Enfermagem* [internet]. 2012 [cited 2012 Aug 6];20(2):1-7. Available from: [http://www.scielo.br/pdf/rlae/v20n2/pt\\_16.pdf](http://www.scielo.br/pdf/rlae/v20n2/pt_16.pdf)
5. Valença MP, Lima PO, Pereira MM, Santos RB. Percepção dos enfermeiros sobre a prevenção das úlceras por pressão em um Hospital Escola da cidade do Recife. *Rev enferm UFPE on line* [internet]. 2010 [cited 2012 Aug 6];4(2):673-82. Available from: [http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/852/pdf\\_54](http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/852/pdf_54)
6. Santos JGN, Carvalho PO, Vieira JCM. Perfil dos pacientes com úlcera por pressão na Unidade de Terapia Intensiva. *Rev enferm UFPE on line* [internet]. 2012 [cited 2012 Aug 6];6(2):378-85. Available from: [http://www.ufpe.br/revistaenfermagem/index.php/revista/article/viewFile/2198/pdf\\_812](http://www.ufpe.br/revistaenfermagem/index.php/revista/article/viewFile/2198/pdf_812)

7. Medeiros ABF, Lopes CHAF, Jorge MSB. Análise da Prevenção e Tratamento das Úlceras por Pressão Propostas por Enfermeiros. Rev Esc Enferm USP [internet]. 2009 [cited 2012 Aug 6];43(1):223-8. Available from:  
<http://www.scielo.br/pdf/reeusp/v43n1/29.pdf>
8. European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel. Prevention and treatment of pressure ulcers: quick reference guide. Washington DC: National Pressure Ulcer Advisory Panel; 2009.
9. Wada A, Neto NT, Ferreira MC. Úlceras por pressão. Rev Med [internet]. 2010 [cited 2012 Aug 6];89(3/4):170-7. Available from:  
<http://www.revistademedicina.org.br/ant/89-3/14-ulceras%20pressao.pdf>
10. Lise F, Silva LC. Prevenção de úlcera por pressão: instrumentalizando a enfermagem e orientando o familiar cuidador. Acta Bioeth [internet]. 2007 [cited 2012 Aug 6];29(2):85-9. Available from:  
<http://periodicos.uem.br/ojs/index.php/ActaSciHealthSci/article/view/1072/530>
11. Pauma MR, Casanova PL, Molina PG, et al. Superficies Especiales para el manejo de la presión em prevención y tratamiento de las úlceras por presión. Serie Documentos Técnicos GNEAUPP n° XIII. Grupo Nacional para el Estudio y Asesoramiento em Úlceras por Presión y Heridas Crónicas. Logrono, 2011.
12. Miyazaki MY, Caliri MHL, Santos CB. Conhecimento dos profissionais de enfermagem sobre a prevenção das úlceras por pressão. Rev Lat Am Enfermagem [internet]. 2012 [cited 2012 Aug 6];18(6):10telas. Available from:  
[http://www.scielo.br/pdf/rlae/v18n6/pt\\_22.pdf](http://www.scielo.br/pdf/rlae/v18n6/pt_22.pdf)
13. Araújo CRD, Lucena STM, Santos IBC, et al. A enfermagem e a utilização da escala de Braden em úlcera por pressão. Rev enferm UERJ [internet]. 2010 [cited 2012 Aug 6];18(3):359-64. Available from:  
<http://www.facenf.uerj.br/v18n3/v18n3a04.pdf>
14. Fernandes LM, Caliri MHL. Uso da escala de Braden e de Glasgow para a identificação do risco para úlceras de pressão em pacientes internados em centro de terapia intensiva. Rev Lat Am Enfermagem [internet]. 2008 [cited 2012 Aug 6]; 16(6):2-7. Available from:  
[http://www.scielo.br/pdf/rlae/v16n6/es\\_06.pdf](http://www.scielo.br/pdf/rlae/v16n6/es_06.pdf)
15. Donoso MTV, Borges EL, Carazzato CPR. Prevalência de úlceras por pressão em pacientes internados em uma Unidade cirúrgica de um Hospital Universitário. Rev enferm UFPE on line [internet]. 2011 [cited 2012 Aug 6];5(7):1684-690. Available from:  
[http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/1601/pdf\\_621](http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/1601/pdf_621)
16. Souza TS, Maciel OB, Méier MJ, Danski MTR, et al. Estudos clínicos sobre úlceras por pressão. Rev bras enferm [internet]. 2010 [cited 2012 Aug 6];63(3):470-6. Available from:  
<http://www.scielo.br/pdf/reben/v63n3/a20v63n3.pdf>
17. Louro M, Ferreira M, Póvoa P. Avaliação de protocolo de prevenção e tratamento de úlceras por pressão. Rev bras ter intensiva [internet]. 2007 [cited 2012 Aug 6];19(3):337-341. Available from:  
<http://www.scielo.br/pdf/rbti/v19n3/v19n3a12.pdf>
18. Silva EWNL, Araújo RA, Oliveira EC, Falcão, VTFL. Aplicabilidade do protocolo de prevenção de úlcera de pressão em unidade de terapia intensiva. Rev bras ter Intensiva [internet]. 2010 [cited 2012 Aug 6];22(2):175-185. Available from:  
<http://www.scielo.br/pdf/rbti/v22n2/a12v22n2.pdf>
19. Freitas MC, Medeiros ABF, Guedes MVC, et al. Úlcera por pressão em idosos institucionalizados: análise da prevalência e fatores de risco. Rev gaúcha enferm [internet]. 2011 [cited 2012 Aug 6];32(1):143-50. Available from:  
<http://www.scielo.br/pdf/rgenf/v32n1/a19v32n1.pdf>
20. Alves AR, Belaz K, Rodrigues RM, Ribeiro SMT, et al. A importância da assistência de enfermagem na prevenção da úlcera por pressão no paciente hospitalizado. Rev Inst Invest Cienc Salud [internet]. 2008 [cited 2012 Aug 6];26(4):397-402. Available from:  
[http://www.unip.br/comunicacao/publicacoes/ics/edicoes/2008/04\\_out\\_dez/V26\\_N4\\_p397-402.pdf](http://www.unip.br/comunicacao/publicacoes/ics/edicoes/2008/04_out_dez/V26_N4_p397-402.pdf)

Submission: 2012/09/18

Accepted: 2013/01/19

Publishing: 2013/03/01

**Corresponding Address**

Cecília Nogueira Valença  
Universidade do Estado do Rio Grande do  
Norte/UERN  
Campus Caicó  
Rua André Sales, 667, Bairro Paulo XI  
Cep: 59300-000 – Caicó (RN), Brazil