

Direct cost of dressings for pressure ulcers in hospitalized patients

Custo direto dos curativos de úlceras por pressão em pacientes hospitalizados
Coste directo de los emplastos de úlceras por presión en pacientes hospitalizados

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ABSTRACT

Objective: to identify the average direct cost (ADC) on the direct labor (DL) for nurses and the consumption of materials and solutions used in performing dressings for pressure ulcers (PU) in hospitalized patients. **Methods:** case study, exploratory and descriptive case conducted in a teaching hospital. For six months, 228 dressings were performed for the treatment of PU patients. We calculated the cost by multiplying the time spent by nurses by the DL unit cost, adding to the cost of materials and solutions consumed. **Results:** the dressings ADC of PU corresponds to US\$ 19.18 (PUs-category I); US\$ 6.50 (PUs-category II); US\$ 12.34 (PUs-category III); US\$ 5.84 (PUs-category IV); US\$ 9.52 (PUs-unclassifiable) and US\$ 3.76 (PU suspected deep tissue injury). **Conclusion:** the methodology used can be reproduced in different hospital settings for the development of other studies to expand and complement the knowledge gained.

Key words: Pressure Ulcer; Nursing Care; Nursing Service, Hospital; Costs and Cost Analysis; Nursing Administration Research.

RESUMO

Objetivo: identificar o custo direto médio (CDM) relativo à mão de obra direta (MOD) de profissionais de enfermagem e ao consumo de materiais e soluções consumidos na realização de curativos de úlceras por pressão (UPs) em pacientes hospitalizados. **Método:** estudo de caso único, exploratório-descritivo, realizado em um hospital universitário. Durante seis meses observou-se a realização de 228 curativos para o tratamento de pacientes portadores de UPs. Calculou-se o custo multiplicando-se o tempo despendido por profissionais de enfermagem pelo custo unitário da MOD, somando-se ao custo dos materiais e soluções consumidos. **Resultados:** o CDM de curativos de UPs correspondeu a US\$ 19.18 (UPs-categoria I); US\$ 6.50 (UPs-categoria II); US\$ 12.34 (UPs-categoria III); US\$ 5.84 (UPs-categoria IV); US\$ 9.52 (UPs-inclassificáveis) e US\$ 3.76 (suspeita de lesão tissular profunda). **Conclusão:** a metodologia adotada poderá ser reproduzida em diferentes contextos hospitalares para o desenvolvimento de outros estudos visando ampliar e complementar o conhecimento obtido.

Descritores: Úlcera por Pressão; Cuidados de Enfermagem; Serviço Hospitalar de Enfermagem; Custos e Análise de Custo; Pesquisa em Administração de Enfermagem.

RESUMEN

Objetivo: identificar el coste directo medio (CDM) relativo a la mano de obra directa (MOD) de profesionales de enfermería y al consumo de materiales y soluciones consumidos en la realización de emplastos de úlceras por presión (UPP) en pacientes hospitalizados. **Método:** estudio de caso único, exploratorio-descriptivo, realizado en un hospital universitario. Durante seis meses se observó la realización de 228 emplastos para o tratamiento de pacientes portadores de UPP. Se calculó el coste

multiplicando el tiempo que gastaron profesionales de enfermería por el coste unitario de la MOD, sumándose aún al coste de los materiales y soluciones consumidos. **Resultados:** el CDM de emplastos de UPP correspondió a US\$ 19.18 (UPP-categoría I); US\$ 6.50 (UPP-categoría II); US\$ 12.34 (UPP-categoría III); US\$ 5.84 (UPP-categoría IV); US\$ 9.52 (UPP-inclasificables) e US\$ 3.76 (sospecha de lesión tisular profunda). **Conclusión:** la metodología adoptada podrá ser reproducida en distintos contextos hospitalarios para el desarrollo de otros estudios que pretendan ampliar y complementar el conocimiento obtenido.

Palabras clave: Úlcera por Presión; Cuidados de Enfermería; Servicio Hospitalario de Enfermería; Costes y Análisis de Coste; Investigación en Administración de Enfermería.

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INTRODUCTION

The European Pressure Ulcer Advisory Panel (EPUAP) and the National Pressure Ulcer Advisory Panel (NPUAP) define pressure ulcer (PU) as a lesion on the skin and/or tissue, or underlying structure, generally over a bone prominence, as a result of isolated or combined pressure with friction and/or shear. According to their characteristics, it can be classified into categories (I, II, III and IV) as ulcers that cannot be classified until they are debrided (unclassifiable) and/or suspected of deep tissue injury (SDTI)⁽¹⁾.

The etiology of pressure ulcers (PUs) is multifactorial, including intrinsic and extrinsic factors of the individual, such as age, comorbidities, mobility conditions, nutritional status and level of consciousness. Elderly and/or people with difficulties to detect sensations that indicate a need for change in position, such as those with paraplegia, coma, undergoing major surgery with orthopedic pulls, in sedation or under mechanical restraint with plaster casts, constitute the risk population for the development of PUs⁽²⁾.

PUs are an important public health problem, and the treatment and management of complications arising are associated with the increasing costs of health services^(1,3-5). During hospitalization, the successful prevention of PUs, in patients at risk, is intrinsically related to the knowledge and skills of health professionals, thus becoming one of the indicators of quality of care.

Nurses, in the condition of leader of the nursing staff, have been responsible for providing and provide human resources, material and structure, basing it on scientific evidence, to implement preventive measures to PUs. However, when the development of PUs is inevitable, the adoption of appropriate therapeutic actions are necessary to minimize its consequences and prevent the development of its severity.

From this perspective, nurses need, besides the specific technical and scientific knowledge, information on the costs incurred in nursing care for the treatment of PUs in order to direct the rational and efficient use of scarce resources, contributing effectively to the management of the associated costs.

To obtain economic information related to the care provided, nurses can support consistently their arguments in different deliberative bodies of healthcare organizations in favor of the adequacy of the resources involved⁽⁶⁾. Based on these, as well as on the lack of studies addressing the PU treatment costs, we conducted the present study.

OBJECTIVE

To identify the average direct cost (ADC) of direct labor (DL) of the nursing professionals team and the consumption of materials and solutions involved in performing PUs dressings in patients admitted to a teaching hospital.

METHOD

This is a quantitative, exploratory, descriptive single case study method⁽⁷⁾, performed with adult inpatients from a university hospital (UH) in the state of Sao Paulo, after approval of the Nursing Board and approval by the Commission of Education and Research Ethics Committee of the Institution.

The exploratory and descriptive research enable the observation, description and documentation of aspects of a given reality, characterized by the systematic collection of numerical data in controlled conditions, with the use of statistical procedures for analyzing the results⁽⁸⁾.

The case study method was chosen so that we could assess and describe dynamic situations where the human element is present. Through this method, we seek to grasp the totality of a situation and creatively describe, understand and interpret the complexity of a real case, through deep and comprehensive learn of researchers in a delimited object⁽⁷⁾.

The Medical Clinics units (MC), Surgical Unit (SU) and Adult Intensive Care Unit (AICU) of the UH were selected as study settings because they have the highest incidence of PUs and because they have a PU prevention protocol implemented since July 2005⁽²⁾. The protocol was established based on international guidelines⁽¹⁾, which were adapted to the institutional reality.

At the time of study completion, the MC had 41 beds for patients from the Adult ER (AER), Ambulatory (AMB), AICU and other hospital units, the majority were elderly patients and those with chronic diseases. All patients were assessed by nurses every day, and classified in High Dependency Care (14 beds) and Intermediate Care (27 beds), according to the System of Patient Classification (SPC)⁽⁹⁾.

With a view to comprehensive, continuous and individualized care of surgical patients, pre- and postoperatively, aged from 15 years, the SC had 44 beds (36 for general surgery and 8 for orthopedic surgery). In SC patients were admitted from the AMB for elective surgery, and AICU, usually to carry out urgent/emergency surgery. The admission of patients transferred from other units of the TH could also be done, if they needed surgical procedures.

The SC nurses also classified the patients according to the SPC, but the high turnover of surgical patients made their grouping into distinct physical areas not possible, as recommended by this classification. Therefore we used the SPC⁽⁹⁾ for the planning of nursing professionals board and distribution of activities, preventing work overload.

AICU serves patients over the age of 15 years, mostly elderly and those with exacerbation of chronic diseases, from the various units of the hospital, as well as other hospitals. The structural area comprised 20 beds, 12 intended to patients in intensive care and 8 beds for patients in semi-intensive care.

In the three units, nurses performed care through the Nursing Process which started with doing interviews and physical examinations, enabling them to establish the diagnosis that best demonstrated the patient's condition at the time of hospitalization, the results to be achieved, and to prescribe the most appropriate interventions for the achievement of expected results.

At the time of hospital admission, nurses applied the Braden Scale, which consists of six subscales (sensory perception, moisture, activity, mobility, nutrition, friction and shear⁽¹⁰⁾), to all patients, in order to prevent the occurrence of PUs. Patients with scores greater than 11 were considered at high risk (90% to 100% chance of developing PUs); Patients with a score of 12-14 were considered at moderate risk (65% to 90% chance of developing PUs in stage I or II); and patients with score 15 and 16 were considered at low-risk (50% to 60% chance of developing PUs in stage I). If the score of the Braden Scale was less than or equal to 16, nursing professionals should implement all the preventive actions specified in the running protocol⁽²⁾.

To achieve the objective of the study, direct costs were identified and quantified⁽¹¹⁾, in the hospital context, made up of labor costs and inputs used directly in the care process⁽¹²⁾. The direct labor (DL) with regard to staff working directly on a product or service, it is possible to measure the time spent and the identification of the worker. It consists of salaries, taxes, payed holiday and 13th salary⁽¹¹⁾.

The survey of data on PUs dressings performed by nurses, nursing technicians and nursing assistants occurred through non-participant direct observation. Admitting the possibility that a patient has more than one PU, at different stages, requiring specific products, counted on the collaboration of three stomatherapists nurses that documented the category and quantity of nursing professionals involved, the time (timed) expended by them, the materials and solutions consumed.

Non-probability convenience sampling was used due to the availability of stomatherapists nurses to perform the data collection. Over six consecutive months, we observed the performance of 228 (100%) PU treatment dressings, 20 (8.80%) classified as category I, 54 (23.68%) as a category II, 16 (7.00%) as category III, 56 (24.56%) as a category IV, 69 (30.26%) unclassifiable and 13 (5.70%) as SDTI.

We calculated the ADC of dressings for the treatment of patients with PUs multiplying the time (timed) spent by nursing professionals at a unit cost of DL, adding to the cost of materials and solutions consumed. The Brazilian currency Real (R\$), originally used for the calculations was converted to US dollar currency (US\$) at the rate of US\$ 0.49/R\$, based on the exchange

rate of 29/06/2012, provided the Central Bank of Brazil.

The information on the amounts paid by the UH for the purchase of materials and solutions used in observed dressings were provided by Material, Warehouse Department and supplemented, when necessary, by the Manage Nurse of the Nursing Department.

The ADC of nursing professionals was calculated from the average salaries provided by the Financial Director of the UH, considering the study period. Thus, the unit cost of DL of nurses corresponded to US\$ 5,607.98/144 hours, US\$ 38.95/hour and US\$ 0.65/minute and for nursing technicians/assistants - US\$ 3,693.39/144 hours, US\$ 25.65/hour US\$ 0.43/minute. As there are no differences between the dressings performed by nursing technicians and assistants, salaries of both categories were obtained jointly by weighted average.

RESULTS

According to the Braden Scale, 94.9% of the evaluated patients were at risk for the development of PUs (total score equal to or less than 16) and, of that number, 69.2% were at high risk (total score between nine and 12 points).

Thirty-nine (100%) patients originated 228 observations of PUs dressing performances, 20 of them (51.3%) were males and 19 (48.7%) were female. The average age of these patients, according to the classification of PUs, is shown in Table 1.

Table 1 - Age distribution of patients from the 228 observations according to the classification of pressure ulcers, São Paulo, Brazil, 2013

Observations	n	Average	SD	Median
Category I	20 ²²⁸	65.69	18.20	64
Category II	54 ²²⁸	66.00	18.80	71
Category III	16 ²²⁸	64.25	27.58	67
Category IV	56 ²²⁸	59.33	26.14	60
Unclassifiable	69 ²²⁸	71.25	8.48	71.5
Suspected deep tissue injury	13 ²²⁸	71.50	3.54	71.5

During the study period, the stomatherapist nurses documented the performance of dressing in 55 PUs, located in 18 body regions, most frequently in the sacral region (28 patients: 71.8%), calcaneus R and L (seven patients: 17.9%) and trochanters R and L (six patients: 15.4%).

The majority (74.56%) of dressings focused on PUs cases, that is, patients who have had lesions prior to data collection period. There was variation in the occurrence of lesions 1-5 PUs in the same patient, who was admitted to the AICU and then transferred to MC: sacral region (category II), trochanter R (SDTI), calcaneus R (unclassifiable), malleolus R (unclassifiable) and ear R (category II). The observations of the dressings performed on the same patient ranged from 1 to 38 times, one (43.6%) and two (15.4%) times the most frequent cases.

Although the dressing frequencies vary from 1 to 5 times a day, from every three days, every five days and every seven days, more frequent nursing prescriptions corresponded to 3 times a day (44.3 %), 2 times a day (26.3%) and 1 time a day (18.4%). The specific materials and solutions prescribed by the nurses, according to their clinical experience, to perform the dressings are shown in Box 1.

Box 1 - Used materials and solutions according to the classification of pressure ulcers, to perform the observed 228 dressings, São Paulo, Brazil, 2013

Classification	Materials and solutions
Pressure ulcers - Category I	- Water-activated dressing plate (hydrocolloid) 15 cm x 18 cm triangular edge, Essential Fatty Acids (EFA), extra thin hydrocolloid 10cm x 10cm, rayon bandage 20cm x 7cm, hydrocolloid 10cm x 10cm and white gauze sterile 15cmx10cm.
Pressure ulcers - Category II	- AGE, rayon bandage 7cm x 20cm, papain, white gauze sterile 15cmx10cm, extra thin hydrocolloid 10cm x 10cm, hydrocolloid 10cm x 10cm, hydrocolloid 15cm x 18cm triangular edge and skin protective (barrier cream).
Pressure ulcers - Category III	- Papain, rayon bandage 7cm x 20cm, white gauze 15cm x 10cm sterile and skin protective (barrier cream).
Pressure ulcers - Category IV	- Rayon bandage 7cm x 20cm, white gauze 15cm x 10cm sterile, AGE, papain and curative compound silver 15cm x 15cm.
Pressure ulcers - Category - Unclassifiable	- Papain, bandage rayon 7cm x 20cm, white gauze sterile 15cmx10cm, skin protective (barrier cream), AGE, extra thin hydrocolloid bandage 10cm x 10cm, bandage rayon 7cm x 20cm, dressing hydrocolloid plate 10cm x 10cm and disposable scalpel.
Pressure ulcers - Category - Suspected of deep tissue injury	- Papain, AGE, rayon bandage 7cm x 20cm.

Nonsterile examination gloves medium size (US\$ 0.06), white gauze sterile 7.5cm x 7.5cm (US\$ 0.16) and 0.9% saline solution (US\$ 0.05/ampoule 10 ml) were common inputs that nursing professionals used in all dressings, regardless of the classification of PUs, sterile gloves for procedures (US\$ 0.06 / pair) was the most used material.

The average performance duration of the 20 PUs dressings - category I, 13 patients, corresponded to 8.54 (SD=5.04) minutes, while the 54 PUs dressings - category II, 16 patients, lasted 3.11 (SD= 1.71) minutes.

Regarding 16 PUs dressings - category III, related to four patients, the average length of performance was 9.94 (SD= 5.96) minutes, while the 56 PUs dressings - category IV, referring to six patients, was 4.43 (SD=2.59) minutes.

The average length of the performance of 69 unclassifiable PUs dressings, related to eight patients was 5.62 (SD= 4.61) minutes, and 13 PUs dressing classified as SDTI, involving two patients, corresponded to 2.77 (SD= 1.30) minutes.

DISCUSSION

The results show that 39 patients that led 228 observations of dressings for the treatment of PUs were elderly, and among them, 94.9% presented risk for the development of the lesions, that is, their total score of Braden Scale⁽¹⁰⁾ was less than or equal to 16.

In a recent research developed in the MC, SC and AICU of the UH, the field of study has shown that since the implementation of the Protocol, from the risk patients developing PUs or those already hospitalized with PUs diagnosed, PUs - category II have been the most frequent and, due to the recommended preventive actions, patients have not aggravated to PU - categories III and IV⁽²⁾. Thus, it is believed that the lesions in categories III, IV, unclassifiable and SDTI observed corresponded to patients who had already developed these PUs in other institutions or in the residence, before their admission to the hospital, since 74.56% of dressings were cases of prevalence.

Table 2 - Distribution of the direct labor cost of the nursing staff and the cost of materials and solutions regarding the performance of dressings for pressure ulcers categories I and II, São Paulo, Brazil, 2013

Observações	n	Average US\$*	SD US\$	Median US\$	Minimum US\$	Maximum US\$
<i>Pressure Ulcers- category I</i>						
Direct labor cost for Nursing staff	20	2.95	3.55	1.69	0.42	16.86
Cost of materials and solutions	20	16.23	12.97	8.04	0.28	30.45
Average Direct Cost -Total- Pressure Ulcers category I	20	19.18	11.80	23.46	1.78	37.88
<i>Pressure Ulcers- category II</i>						
Direct labor cost for Nursing staff	54	1.85	1.27	1.69	0.42	5.32
Cost materials and solutions	54	4.65	7.37	2.08	0.49	29.70
Average Direct Cost -Total – Pressure Ulcers category II	54	6.50	7.68	8.30	1.98	35.34

Notes: *Conversion rate: US\$ 0.49/R\$, based on the price of 29/06/2012, provided by the Central Bank of Brazil.

Table 3 - Distribution of the cost of direct labor of the nursing staff and the cost of materials and solutions relating to the completion of dressing for pressure ulcers categories III and IV, São Paulo, Brazil, 2013

Observações	n	Average US\$*	SD US\$	Median US\$	Minimum US\$	Maximum US\$
<i>Pressure Ulcers category III</i>						
Direct labor cost for Nursing staff	16	8.20	7.11	3.80	0.59	21.27
Cost of materials and solutions	16	4.14	6.29	2.33	1.29	27.36
Average Direct Cost – Total- Pressure Ulcers - category III	16	12.34	11.24	14.86	5.17	49.63
<i>Pressure Ulcers - category IV</i>						
Direct labor cost for Nursing staff	56	2.53	1.85	1.69	0.42	8.43
Cost of materials and solutions	56	3.31	5.22	2.21	1.23	40.99
Average Direct Cost – Total- - Pressure Ulcers category IV	56	5.84	7.02	8.45	3.16	51.39

Notes: *Conversion rate: US\$ 0.49/R\$, based on the price of 29/06/2012, provided by the Central Bank of Brazil..

Table 4 - Distribution of the cost of observations regarding the performance of pressure ulcers dressing unclassifiable and suspected deep tissue injury, São Paulo, Brazil, 2013

Observações	n	Average US\$*	SD US\$	Median US\$	Minimum US\$	Maximum US\$
<i>Pressure Ulcers - unclassifiable</i>						
Direct labor cost for Nursing staff	69	4.80	4.32	3.19	0.42	29.70
Cost of materials and solutions	69	4.72	4.53	2.71	0.34	19.68
Average Direct Cost – Total- Pressure Ulcers - unclassifiable	69	9.52	8.60	9.30	1.83	34.55
<i>Suspected deep tissue injury</i>						
Direct labor cost for Nursing staff	13	2.26	1.58	1.71	0.42	5.32
Cost of materials and solutions	13	1.50	0.68	1.80	0.35	2.43
Average Direct Cost – Total - Suspected deep tissue injury	13	3.76	2.46	6.26	1.84	9.32

Notes: *Conversion rate: US\$ 0.49/R\$, based on the price of 29/06/2012, provided by the Central Bank of Brazil.

The 20 observations of PUs - category I - were related to patients admitted to the AICU. Lesions in categories III, IV, unclassifiable and SDTI were referred also to hospitalized patients in this unit after clinical improvement and then transferred to the MC.

All dressings were performed with the participation of secondary education level professionals, mainly nursing technicians, according to requirements developed by nurses working in the units of the UH-USP. The performance of dressing by nurses was not significant, being observed more frequently in cases of lesions in categories III, I and SDTI, respectively.

The limited participation of nurses was already expected because the national scenario, in the field of health, the number of secondary education level professionals is higher in relation to the category of nurses, even in the special reality as the hospital focused on this work. So, as the nurses' working process comprises the management of the unit and care plan⁽¹³⁾, and the development of interdisciplinary collaboration activities, it is necessary that these professionals

prioritize, according to their critical judgment, direct care that hold patients under their responsibility.

The cost of materials and solutions was the most impressive in the composition of the total ADC PUs dressings categories I, II, IV, and the DL nursing team the value that contributed most to the ADC total dressing categories III, unclassifiable and SDTI.

The hydrocolloid plates 15cm x 18cm triangular edge (unit cost US\$ 22.40), extra thin 10cm x 10cm hydrocolloid (unit cost US\$ 6.86) and hydrocolloid 10cm x 10cm (unit cost US\$ 6.86) represented the most impactful material value in ADC composition.

Currently, the literature provides insufficient evidence to indicate which dressing is the most efficient in the treatment of PUs. However, the choice of a dressing/topical agent should be based on the assessment of the skin and the lesion condition, goals of treatment, dressing characteristics, previous positive effects of certain dressings, indications and against indications usage dressings or topic agents, adverse effects risks and patient preferences. There is indication of the preferred use of dressings that create a suitable environment for wound healing such

as hydrocolloids⁽¹⁴⁾. It is noteworthy that researchers in the field have indicated, for more than a decade, the use of hydrocolloids coverage, especially in mild to moderately exuding PUs, as examples in categories II and III, with the presence of necrotic tissue (autolytic debridement)⁽¹⁵⁻¹⁷⁾.

In the present study, note the importance of the use of hydrocolloids coverage, especially in PUs category I dressings, which showed the highest total ADC (US\$ 19.18) and the second highest average performance length of time (8.54 minutes). However, regardless of the cost of PUs treatment category I, the investment is highly justifiable, since the identification of the risk of its occurrence and early treatment allows lower costs, prevent progression and accelerate the regeneration of lesion⁽¹⁸⁾. It is reiterated that containing the progression of PUs in its early stage, has the potential to eradicate great pain and suffering related to its later stages, saving thousands of lives and significantly reducing health costs⁽³⁾.

Considering the macro and microeconomic scenarios, the cost of Brazilian public health institutions is growing, while available resources do not increase proportionately. Therefore, the relevance of projection and management of rational use of hospital materials used in the PUs dressings is highlighted⁽¹⁹⁾.

Efforts need to be engaged to prevent the occurrence of lesions of this nature and, given the inevitability of the occurrence of a PU, immediate action in order to prevent its progression is essential, as the stage advances the higher are the costs related to the treatment and management of associated complications^(1,3-5).

In 2010, a study conducted in an American teaching Hospital found the cost of treatment to 19 PUs patient category IV, 11 with lesions acquired in the hospital and 8 community-acquired lesions, which were retrospectively analyzed, for a period up to 29 months. The average cost found was U\$ 129,248 to the PUs acquired in the hospital during admission and U\$ 124,327 to those acquired in the community for an average of four admissions, being evidenced high cost of treatment⁽³⁾.

Nurses need knowledge to assist them in the selection, acquisition and recommendation of materials and solutions required for the treatment of PUs according to their classification. On condition of hospitals managers, nurses take an important role in the allocation of material, human and technological resources, as their daily decisions require, including the use of economic and financial information⁽²⁰⁾.

It is noteworthy that the calculation of the individual cost procedures is vital for future estimates, the base of the budget process and funding for each unit/service in health institutions. Therefore, the lack of these costs precludes any negotiation process to price/cost ratio adjustment, preventing profit, returns, investments in infrastructure, education and professional growth⁽²¹⁾.

Due to increased demand, higher healthcare costs and scarce resources, healthcare organizations need to become efficient, increasing their productivity and minimizing expenses, studying their care and management processes in order to align resources and actions⁽²²⁾, promoting financial balance and greater accessibility without damaging the quality of care.

CONCLUSION

The costs directed for the treatment of patients with PUs are increasing, requiring health professionals with the knowledge and application of economic fundamentals to support the efficient allocation of human, material, structural and financial resources.

Through this study, we identified the ADC of PUs dressings, of which US\$ 19.18 for PUs-category I, US\$ 6.50 for PUs-category II, US\$ 12.34 for PUs-category III, US\$ 5.84 for PUs-category IV, US\$ 9.52 for PUs-unclassifiable US\$ 3.76 for SDTI.

The description of materials and solutions prescribed by nurses, who work at the TH, which base their educational, investigative, management and care actions, subsidizing the best available evidence for good nursing practices, will assist nursing professionals, active in other realities, to reflect on the inputs required for the treatment of patients who develop PUs. It is considered that the methodology may be reproduced in different hospital settings, to develop new studies in order to expand and complement the knowledge gained.

It is clear that the understanding and analysis of the costs of the procedures are essential for managers and health professionals to contribute effectively in the proposal and adoption of rationalizing measures to promote the financial sustainability of organizations.

Through the identification of the ADC concerning DL professionals of the nursing staff and the consumption of materials and solutions used in the performance of PUs dressings and hence the total ADC according to the classification of PUs, the authors hope to contribute to the advancement of knowledge related to this topic.

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