

<http://dx.doi.org/10.1590/0104-07072018005180016>

## PRESSURE INJURY HEALING IN PATIENTS FOLLOWED UP BY A HOME CARE SERVICE<sup>1</sup>

Diani de Oliveira Machado<sup>2</sup>, Sati Jaber Mahmud<sup>3</sup>, Rosane Pignones Coelho<sup>4</sup>, Cristina Oliveira Cecconi<sup>5</sup>, Gislaine Santos Jardim<sup>6</sup>, Lisiane Manganelli Girardi Paskulin<sup>7</sup>

<sup>1</sup> Manuscript extracted from dissertation – Pressure ulcer healing in home care patients, presented to the *Programa de Pós-graduação em Enfermagem da Escola de Enfermagem, Universidade Federal do Rio Grande do Sul (UFRGS)*, in 2016.

<sup>2</sup> M.Sc. in Nursing. Nurse, *Hospital Nossa Senhora da Conceição*. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: dianimachado@hotmail.com

<sup>3</sup> M.Sc. in Health Technology Assessment and Production. Family and community Doctor and from Home care service Doctor from *Grupo Hospitalar Conceição*. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: satijaber@gmail.com

<sup>4</sup> Nurse of the Home care services from *Grupo Hospitalar Conceição*. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: rosanepig@bol.com.br

<sup>5</sup> Nurse of the Home care service from *Grupo Hospitalar Conceição*. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: crisceconi@uol.com.br

<sup>6</sup> Nurse of the Home care service from *Grupo Hospitalar Conceição*. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: nanejardim@yahoo.com.br

<sup>7</sup> PhD in Sciences. Professor, Nursing School, UFRGS. Porto Alegre, Rio Grande do Sul, Brazil. E-mail: paskulin@orion.ufrgs.br

### ABSTRACT

**Objective:** to evaluate the healing of pressure injuries in home care patients.

**Method:** longitudinal observational study with an intentional sample of 38 patients conducted in a home care service. Sociodemographic and clinical data were collected as well as the characteristics of the pressure injuries between April and October of 2015. Healing was evaluated by using the Pressure Ulcer Scale for Healing instrument, by measuring planimetry and depth of pressure injuries. Data were collected during home visits at the patient's admission to the service and then after four and six weeks. Data from patient records were also collected. The comparison of the variables related to healing was performed by using the Friedman test and the Kaplan-Meier method was used for the probability of healing.

**Results:** 50% of the patients were women and 60.5% were elderly. There was an average of 2 pressure injuries per patient. Pressure injury stage 2 (48.3%) and 3 (35.6%) predominated and 47.1% of the wounds healed. The Pressure Ulcer Scale for Healing score, planimetry and depth varied significantly over the study period ( $p < 0.05$ ). The probability of healing increased over time, with the average time of healing being 44 days.

**Conclusion:** there was a favorable evolution in healing according to the measurement methods used.

**DESCRIPTORS:** Home care services. Home patients. Pressure ulcer. Wound healing. Longitudinal study.

## CICATRIZAÇÃO DE LESÕES POR PRESSÃO EM PACIENTES ACOMPANHADOS POR UM SERVIÇO DE ATENÇÃO DOMICILIAR

### RESUMO

**Objetivo:** avaliar a cicatrização de lesões por pressão em pacientes na atenção domiciliar. **Método:** estudo longitudinal observacional com amostra intencional de 38 pacientes conduzido em um serviço de atenção domiciliar. Foram coletados dados sociodemográficos, clínicos e as características das lesões entre abril e outubro de 2015. A cicatrização foi avaliada pelo instrumento *Pressure Ulcer Scale for Healing*, por planimetria e pela profundidade das lesões por pressão. A coleta de dados ocorreu durante as visitas domiciliares realizadas na admissão do paciente no serviço e após quatro e seis semanas. Dados em prontuário também foram coletados. A comparação das variáveis referentes à cicatrização foi realizada pelo Teste de Friedman e a probabilidade de cicatrização, pelo método Kaplan-Meier.

**Resultados:** dos pacientes, 50% eram mulheres e 60,5%, idosos. A mediana de lesões por paciente foi 2. Predominaram os estágios 2 (48,3%) e 3 (35,6%), e 47,1% das feridas cicatrizaram. O escore do *Pressure Ulcer Scale for Healing*, a planimetria e a profundidade variaram significativamente no período do estudo ( $p < 0,05$ ). A probabilidade de cicatrização aumentou com o passar do tempo, sendo a mediana de cicatrização 44 dias.

**Conclusão:** houve evolução favorável na cicatrização de acordo com os métodos de mensuração utilizados.

**DESCRIPTORIOS:** Serviços de assistência domiciliar. Pacientes domiciliares. Úlcera por pressão. Cicatrização de feridas. Estudo longitudinal.

# CICATRIZACIÓN DE LESIONES POR PRESIÓN EN PACIENTES ACOMPAÑADOS POR UN SERVICIO DE ATENCIÓN DOMICILIARIA

## RESUMEN

**Objetivo:** evaluar la cicatrización de lesiones por presión en pacientes en la atención domiciliaria.

**Método:** estudio longitudinal y observacional con una muestra intencional de 38 pacientes, conducido en un servicio de atención domiciliaria. Fueron obtenidos datos sociodemográficos, clínicos y las características de las lesiones entre abril y octubre de 2015. La cicatrización fue evaluada por el instrumento *Pressure Ulcer Scale for Healing*, por planimetría y por la profundidad de las lesiones por presión. La recolección de datos ocurrió durante las visitas domiciliarias realizadas en la admisión del paciente en el servicio, después cuatro y seis semanas. Los datos en prontuario también fueron recolectados. La comparación de las variables referentes a la cicatrización fue realizada por el Test de Friedman y la probabilidad de cicatrización por el método Kaplan-Meier. El presente estudio fue aprobado por el Comité de Ética en Investigación de la Universidad Federal de Rio Grande do Sul bajo el número 965.082. **Resultados:** entre los pacientes, el 50% eran mujeres y el 60,5% eran ancianos. El promedio de lesiones por paciente fue 2. Predominaron las categorías II (48,3%), III (35,6%) y 47,1% de las heridas cicatrizaron. El resultado del *Pressure Ulcer Scale for Healing*, la planimetría y la profundidad variaron significativamente en el período del estudio ( $p < 0,05$ ). La probabilidad de cicatrización aumentó con el pasar del tiempo, siendo el promedio de cicatrización de 44 días.

**Conclusión:** hubo una evolución favorable en la cicatrización de acuerdo con los métodos de mensuración utilizados.

**DESCRIPTORES:** Servicios de asistencia domiciliaria. Pacientes domiciliarios. Úlcera por presión. Cicatrización de heridas. Estudio observacional.

## INTRODUCTION

Home Care (HC) is a modality of care integrated into the health care network, aimed at integrality and actions of health promotion, palliative care, prevention and treatment of diseases and rehabilitation.<sup>1</sup> In 2011, HC was reordered within the Brazilian Unified Health System (SUS), provided by Primary Health Care Units or specific services called Home Care Services (HCS), according to the complexity of care demanded by the patients. Approximately 480 HCS and 930 multiprofessional health teams were implemented throughout the whole country.<sup>2</sup>

A considerable prevalence of patients with wounds who receive care from HCS have been observed in clinical practice and in publications. Surgical wounds, leg ulcers, and pressure injuries are reported to be the most prevalent.<sup>3-5</sup> International studies conducted in Japan, the United States and Canada have observed a prevalence of 3.52 to 9% in patients with pressure injury who receive home care assistance.<sup>6-8</sup> In Brazil, data on the occurrence of pressure injury in HCS are limited. A study in the Municipality of Ribeirão Preto/SP, Brazil found a prevalence of 19.1%.<sup>9</sup>

Pressure injuries are related to physical and psychological morbidity, mortality, increased stay in health care services and increased attendance costs. In general, they are slow healing and expensive to treat.<sup>10</sup>

The therapeutic approach of pressure injury involves a broad evaluation of the patient, including physical and psychological aspects, health history, physical examination with emphasis on factors that alter healing like nutritional status, presence of pain, behavior and cognition, functional capacity, use of pressure redistributors and repositioning

maneuvers, social and financial support, ability to adhere to the prevention and treatment plan and the characteristics of the wound. The findings help nurses to elaborate care plans and to choose dressing, highlighting observation of healing, which is fundamental for reassessment and treatment follow-up.<sup>11</sup> The measurement of the pressure injury associated with validated healing observation instruments are methods that can be used in clinical practice. Validated healing tools are still scarce in the country. Two available tools are the Pressure Ulcer Scale for Healing (PUSH), translated and validated in Brazil for the evaluation of pressure injuries<sup>12</sup> and leg ulcers,<sup>13</sup> and the Bates-Jensen Wound Assessment Tool (BWAT), recently translated and adapted to Brazilian culture. Validation and reliability studies on the Brazilian version of BWAT are recommended.<sup>14</sup>

The current Home Care model in the Brazilian Unified Health System also focuses on caregiver education which allows them to perform the dressing at home. Therefore, nursing care with wounds becomes a challenge considering limitations in providing an adequate environment for healing and patient and family adherence to treatment.

As HC is one of the main strategies for the de-hospitalization of patients and the supply of this type of care is increasing in Brazil, research conducted in this context is fundamental, since little is known about the healing behavior of these wounds in this modality of attention. Also, considering the magnitude of pressure injuries in relation to the patient's prognosis and treatment costs, the need to conduct studies regarding the healing of pressure injuries was observed. Therefore, the objective of this study was to evaluate the healing of pressure injuries in patients in HCS.

## METHOD

A longitudinal, observational and analytical study conducted in the HCS of the *Grupo Hospitalar Conceição* (HCS/GHC) in Porto Alegre/RS, Brazil. The Service focuses on the care transition, de-hospitalization and on the end of home health treatment.<sup>15</sup> The HCS multiprofessional teams monitor the patients for an average of four weeks and then refer them to the Primary Health Care units. Home visits (HV) occur at least once a week and nurses have an institutional protocol to guide wound care. During the HV, nurses assisted by nursing assistants, educate and supervise the accomplishment of the dressing by the caregiver, supplying the material necessary to perform the dressings on the other days of the week.

The investigation followed the patients for a period of six weeks, counting from the first HV of the HCS/GHC. The sample was intentional and the patients were sequentially inserted into the study as they were admitted to HCS/GHC. For the purpose of sample calculation, a study conducted in a hospital environment was used due to the scarcity of studies that addressed the use of the healing measurement tools for pressure injury in HCS with considerable quantitative sample. This study evaluated the healing of pressure injury by means of the variation of the PUSH tool score. In the investigation period, pressure injuries that healed had a variation of six points on the scale and those that did not heal presented a variation around 1.2 points.<sup>16</sup> For sample size estimation, a difference of 1.2 points was considered, 90% power and a significance level of 5%, with 35 patients being necessary. The 3.13 version of the Winpepi program was used.

Data collection occurred between April and October 2015, 59 pressure injury patients were admitted to the HCS/GHC. Eight patients were excluded from the study, one due to the presence of deep tissue injury and seven due to the unavailability of data collection during the first HV. These seven patients required extensive care, had unreliable caregivers and lived in violent territories, which required that the health team prioritize other actions. Regarding the losses, nine patients returned to the hospital and four died before completing the period proposed for the study. Thus, 38 met the inclusion criteria: adults with pressure injury stages 2, 3, 4 and unclassifiable. The classification of the wounds was performed according to the National Pressure Ulcer Advisory Panel (NPUAP) and the European Pressure Ulcer Advisory Panel (EPUAP).<sup>11</sup>

For data collection, a tool was used which contained sociodemographic, economic, clinical,

pressure injury characteristics related to exudate, borders, location, healing and the perilesional region. The wound area was measured by planimetry, depth and the PUSH instrument was used to evaluate healing. PUSH was developed in 1997 by NPUAP and validated in Brazil by Santos et al. in 2005.<sup>12</sup> The instrument evaluates the area of the wound, the amount of exudate and appearance of the wound bed. The score of the instrument can range from 0 to 17 points. Higher scores indicate worse wound conditions.<sup>12</sup> For the planimetry measurement, the pressure injury was drawn on transparent acetate paper and the area was then verified on a graph paper. The depth was measured with a blunt-tipped sterile instrument. It was decided to include depth because this measure is not contemplated in the PUSH tool and because it influences the healing evolution.

Pressure injury characteristics, planimetry, depth, and the PUSH tool were collected during the first HV by the HCS nurses, who were trained to do so, and then collected again four and six weeks later. On a daily basis, the researcher in charge reviewed the charts in order to review complete wound healing prior to the scheduled collection period. The other data were collected from the medical records.

The determination of the data collection interval was based on the mean follow-up period of patients by HCS/GHC, which was an average of four weeks, and based on the study used for the sample calculation, which reports an average of 6 (+3.09) weeks for the complete healing of pressure injuries.<sup>16</sup> The collections were performed preferably by the same nurse, with the patient in the same position, as is recommended by the EPUAP, NPUAP.<sup>11</sup> Patients received routine treatment from the service according to the institutional protocol. The special dressings used were composed of calcium alginate, silver, hydroactive gel and essential fatty acids with vitamin A and E.

The variables were divided into two databases, one referring to the characteristics of the subjects and the other to the characteristics of the pressure injury. The data were entered as double entries in order to verify their internal consistency.

Descriptive analysis was used to characterize the sample. The normality of the variables was analyzed using the Kolmogorov-Smirnov test. The comparison of the variables related to healing was performed by the Friedman test complemented by Wilcoxon. Calculation of the probability of healing by the Kaplan-Meier method was obtained and the curves were compared using the Log-rank test. The

calculated effect measure was the Hazard Ratio in conjunction with the 95% confidence interval. Statistical analysis was performed in the software Statistical Package for Social Sciences 18.0. The significance level was 5%. The patients participated voluntarily, their consent was obtained with the Informed Consent Term. The present study was approved by the Research Ethics Committee of the Federal University of Rio Grande do Sul under number 965.082 and CAAE 40080214.7.0000.5347. The GHC Research Ethics Committee authorized the study as a cooperating institution in the project.

## RESULTS

The mean age of the participants was 61.6 years ( $\pm 21.3$ ), they had an average of five years of formal education (Percentiles 25-75: 4-8) and had an average income of R\$ 780,00 (Percentiles 25-75=R \$ 780.00-835.00). This value represents the minimum Brazilian wage. Three ( $\pm 1.4$ ) people lived in the household and the per capita household income was R\$883.40 ( $\pm 425.20$ ). The other sociodemographic characteristics of the participants are described in Table 1.

**Table 1 - Sociodemographic characterization of patients with pressure injuries followed-up by Home Care Service, Grupo Hospitalar Conceição. Porto Alegre, RS, Brazil, 2015. (n=38)**

Variable	n	%
Sex		
Female	19	50
Male	19	50
Marital status		
Widowed	14	36.8
Married	13	34.2
Single	7	18.5
Seperated /divorced	4	10.5
Work status		
Retired/pensioner	25	65.8
Continuous benefits	8	21
Informal worker	2	5.3
Other	3	7.9

The most prevalent medical diagnoses (ICD-10) that justified HCV/GHC follow-up were stroke (28.9%), followed by pressure injury (18.4%), bacterial infection (7.9%) and malignant neoplasia (7.9%). As for comorbidities, the average amount of diseases per patient was three diseases (Percentiles 25-75: 2-4). Systemic arterial hypertension (SAH) was present in 52.6% of the patients, followed by

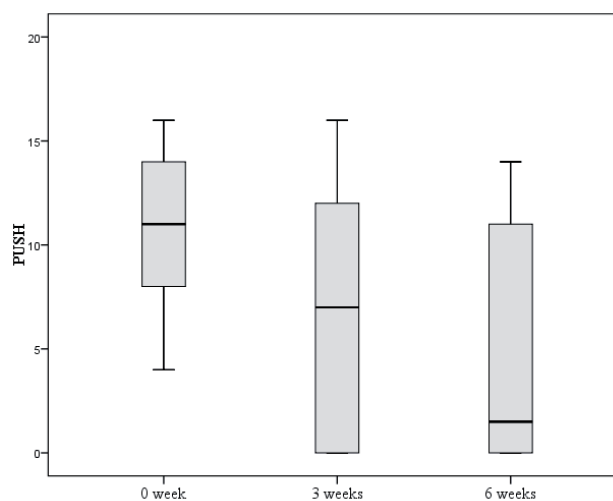
depression (36.8%), type 2 diabetes mellitus (DM) (28.9%), stroke (28.9%), hypothyroidism (15.8%), paraplegia (15.8%), malignant neoplasia (13.2%), dementia (10.5%), neurogenic bladder (7.9%), %, atrial fibrillation (7.9%), among others.

Regarding nutritional status, 40.1% of the adults were malnourished and 26.7% presented with Body Mass Index (BMI) values indicating good nutrition. Among the elderly, 43.5% (n.10) were eutrophic and 30.4% (n.7) were underweight.

The average number of pressure injuries per patient was 2 (Percentiles 25-75=1-3), giving a total of 87 LPs. The average duration of pressure injury prior to admission to the HCS/GHC was 33 days (Percentiles 25-75=24.5-66). Stage 2 was the most common (48.3%), 3 (35.6%), 4 (10.3%), and the most common regions were, sacral (52.9%), gluteal (10.3%), and heel (9.2%).

The most prevalent characteristics of the pressure injury were serous exudate (65.5%) and healthy borders (63.2%). In the perilesional region, the healthy (73.6%) and macerated (14.9%) characteristics were the most common.

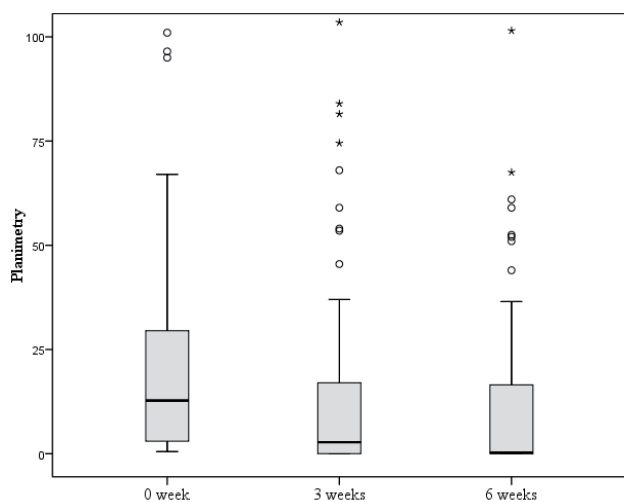
In the study period, 47.1% (n=41) of the pressure injuries healed completely, with stage 2 (70.7%) followed by stage 3 (24.4%) having the best responses. Regarding healing, according to the PUSH tool, there was a significant difference between the total scores over time ( $p < 0.001$ ). The initial average was 11 (Percentiles 25-75=8-14) points, and after four weeks it was 7 points (Percentiles 25-75=0-12) and 3 (Percentiles 25-75=0-11) points after six weeks, demonstrating that there were wounds that did not heal at the end of the study (Figure 1).



\*, †, ‡ Different symbols represent statistical significance at the 5% level in the Wilcoxon test.

**Figure 1 - Pressure Ulcer Scale for Healing score in patients with pressure injuries followed-up by Home Care Service, Grupo Hospitalar Conceição. Porto Alegre, RS, Brazil. 2015**

The healing of the pressure injuries according to the variation in the planimetry showed a significant difference over time ( $p < 0.001$ ), the initial median was 10.5 cm<sup>2</sup> (Percentiles 25-75=2.5-29), after four weeks it was 2.8 cm<sup>2</sup> (Percentiles 25-75=0-17.4), and in final median, it was 0.5 cm<sup>2</sup> (Percentiles 25-75=0-16,5), as shown in figure 2.

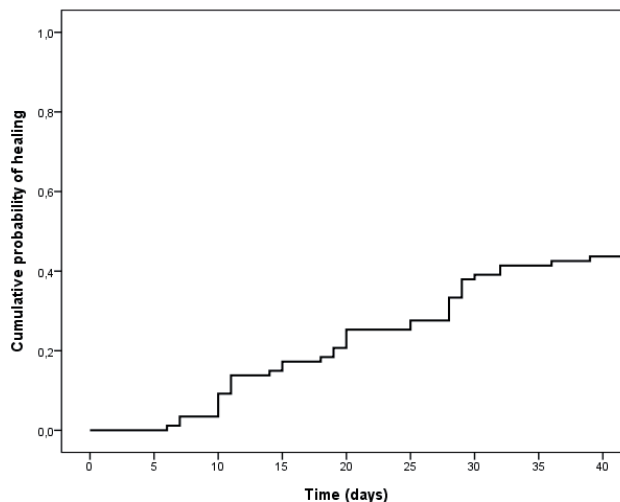


†, ‡, §. Different symbols represent statistical significance at the 5% level in the Wilcoxon test\*  
□, Outliers

**Figure 2 - Variation in planimetry of pressure injuries in patients followed-up by Home Care Service, Grupo Hospitalar Conceição. Porto Alegre, RS, Brazil. 2015**

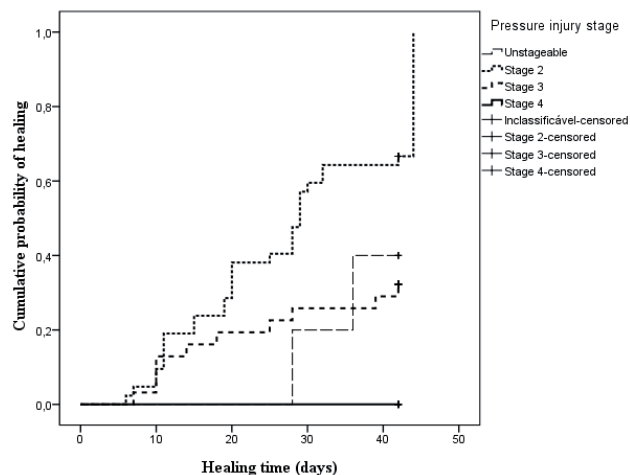
Regarding the depth of the pressure injuries, initially 19 wounds presented some depth, none of them completely healed during the study, but a significant difference in depth over time was observed (Friedman test;  $p = 0.034$ ). The initial median was 2.5 cm (Percentiles 25-75=1.9-4.8), after four weeks it was 1.7 cm (Percentiles 25-75=0.5-2.8), and the final median was 1.7cm (Percentile 25-75=0.8-3.1). The percentage of depth reduction throughout the study was 32%.

The probability of healing increased over time, with a median healing time estimated at 44 days (Figure 3).



**Figure 3 - Cumulative probability of healing of pressure injuries in patients followed-up by Home Care Service, Grupo Hospitalar Conceição. Porto Alegre, RS, Brazil. 2015**

There was a difference between the pressure injury stages regarding healing time ( $p = 0.001$ ), as seen in figure 4.



**Figure 4 - Cumulative probability of healing of pressure injury stages in patients followed-up by Home Care Service, Grupo Hospitalar Conceição. Porto Alegre, RS, Brazil. 2015**

The lifetime of the pressure injury had a borderline association with healing ( $p = 0.062$ ). When there is one extra day in the pressure injury lifetime, there is a tendency to reduce the probability of healing by 0.6% (PR=0.994, 95% CI: 0.989-1000). In pressure injuries lasting for 30 days, there is a tendency of a 16% reduction in healing ( $H = 0.84$ ).

In the follow-up period, the time for healing was not significantly altered ( $p>0.05$ ) by BMI, pressure injury localization, sex, age, marital status, work situation, smoking, morbidities or medications.

## DISCUSSION

In the present investigation, there was a prevalence of elderly people, which is also seen in national and international pressure injuries profile surveys.<sup>17-18</sup> The predominance of the elderly in HCS can be justified by the aging of the population, the greater occurrence of chronic diseases and, consequently, greater demand for hospital care and the use of other health services. In addition, advanced age is also considered a risk factor for pressure injury development and is associated with skin fragility and decreased mobility.

It was verified that only a third of the sample had a companion and the number of people living in the household was small, which may compromise the availability of caregivers to assist in patient care and dressing changes.

The findings regarding income and formal education are similar to those found in a characterization study in a HCS in São Paulo/Brazil, in which about 50% ( $n=30$ ) received minimum wage and a large amount did not complete elementary education.<sup>19</sup> It is known that low income may be associated with low levels of formal education, such data is observed in the present investigation. Such conditions are possible obstacles faced by HCS staff during wound treatment. Conditions related to low income require adaptation of the patient care and caregiver education regarding their social reality. People with low levels of formal education may find it difficult to understand the care, the correct administration of the medicines, as well as performing different types of dressings. These are facts which, if well observed by the team can be taken into account while creating the care plan so that it is appropriate to the particularities of the home, the patient and caregiver.

As for the most common morbidities in the sample, diseases related to the circulatory system (SAH, stroke, HF) and other chronic diseases (DM, hypothyroidism, paraplegia, neoplasias) were observed. This fact is also evident in two cross-sectional investigations conducted in Brasília<sup>17</sup> and Ribeirão Preto.<sup>9</sup> Moreover, they are diseases more frequently seen in the elderly, which is the predominant sample age group in this study.

The higher prevalence of stage 2 and 3 pressure injury was also present in a Brazilian household study (stage 2=73-34.5%, stage 3=51-14.4%). The higher prevalence of stage 2 pressure injuries may indicate better quality in the implementation of preventive measures for pressure injury formation.

In relation to healing, the PUSH tool presented significant score variations after four and six weeks, as well as a considerable percentage reduction. A similar result was found in a North American study conducted with 47 patients in Long Term Care services and hospital institutions, who observed a significant variation ( $P=0.000$ ) of the baseline PUSH score ( $12.1 \pm 2.8$  points) and again after four weeks ( $9.4 \pm 4.2$  points).<sup>20</sup>

The findings have similar results to the present investigation regarding the reduction of the final score. However, the research conducted in the HCS/GHC showed better results in reducing the wound area. The discrepancies may be related to the differences between the study population and the particularities of the services in the different countries.

Significant variation in planimetry was consistent with findings of a North American study in which a significant reduction ( $p<0.0001$ ) was observed in the mean of the planimetry in the first collection ( $9.2 \pm 12.3$  cm<sup>2</sup>) for the four weeks of follow-up ( $6.2 \pm 10.8$  cm<sup>2</sup>).<sup>20</sup>

In the present study, the depth of the pressure injuries can be considered as a contributing factor to the delay in healing evolution, as no wound that presented depth in the first data collection healed during the study period. Even so, it must be considered that there was a significant depth reduction, which indicates good evolution of the pressure injuries.

The probability of healing was higher for stage 2 and 3 pressure injuries. It can be inferred that the positive result is due to the low tissue involvement of these stages. Similar inference is possible regarding the probability of healing in 40 days in the present investigation. An international study with stage 2 pressure injuries found a higher probability.<sup>21</sup>

A Danish cohort study investigated wound healing and mortality in 958 HCS patients who were followed up for two years, it was discovered that the healing of pressure injuries became significant after 3 weeks of follow-up ( $p<0.002$ ) and remained constant until the completion of the study ( $>90$  days).<sup>22</sup> This study showed more positive results regarding healing after four weeks.

According to worldwide guidelines, there are still no definitive answers regarding the factors that

influence and that determine the time for healing, since the contextual variables differ between the studies and between the subjects. However, some factors are common, such as the initial size and stage of the pressure injury, the presence or absence of infection, the adequacy of the treatment plan in relation to pressure injury evaluation, comorbidities and nutritional status. In addition to several known factors that may interfere with the healing process, the constant exposure of the lesion to its cause is an aggravating factor, as occurs in patients without pressure relief.<sup>11</sup>

The practice in HCS allows to infer that the care provided by the caregiver can interfere in healing, since it is not possible for the nurse to be present at each dressing change, nor to ensure that measures favorable to healing are being performed. Poor socioeconomic conditions lead to inadequate nutrition, poor hygiene and housing, which all interfere with care. Creating care plans which are shared with the patient and the caregiver contributes to the adherence to the proposed plan, allowing the empowerment of these patients. The aforementioned facts should be considered when assessing the differences between the findings of the present study and the investigations cited.

The positive results of the present investigation demonstrate the probable potentialities of HCS in wound care. In this context, it is also important to highlight that in the home environment the wounds appear to evolve in a similar way to other studies, revealing slow healing wounds, which demands longer HCS follow-ups and justifies the use of special dressings suitable for each stage of healing.

## CONCLUSION

A predominance of elderly people with chronic diseases compatible with the population epidemiological profile was observed which should be taken into account in the evaluation of healing in pressure injuries. The methods used to evaluate healing showed favorable evolution, and it should be noted that, even with positive results, healing was slow.

Considering these results, studies that evaluate the factors that interfere in the healing of pressure injuries in the HC context and that compare the healing of pressure injuries in patients followed in other health services and in HCS will also allow the verification of similarities and/or divergences between the characteristics of the sample and the healing evolution.

## REFERENCES

1. Ministério da Saúde (BR). Portaria 825, de 25 de abril de 2016: redefine a Atenção Domiciliar no âmbito do Sistema Único de Saúde e atualiza as equipes habilitadas. 2016. [cited 2016 May 17]. Available from: <http://www.jusbrasil.com.br/diarios/113894163/dou-secao-1-26-04-2016-pg-33>
2. Ministério da Saúde (BR). Sala de Apoio à Gestão Estratégica. Melhor em Casa Brasília. [página na Internet]. Brasília (DF): MS; 2016 [cited 2016 Out 15]. Available from: <http://sage.saude.gov.br/#>
3. Adkins CL. Wound care dressings and choices for care of wounds in the home. Home Healthc Nurse [Internet]. 2013 May [cited 2014 Jun 20]; 31(5):259-67. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/23652977>
4. Bezerra SMG, Barros KM, Brito JA, Santana WS, Moura ECC, Luz MHBA. Caracterização de feridas em pacientes acamados assistidos pela Estratégia Saúde da Família. Rev Internd [Internet]. 2013 [cited 2015 May 18]; 6:(3):105-14. Available from: <http://revistainterdisciplinar.uninovafapi.edu.br/index.php/revinter/article/view/95>
5. Canadian Home Care Association. Evidence-based wound care: home care perspective. [Internet]. Canada: Canadian Home Care Association; 2012 [cited 2014 Jun 15]. Available from: <http://www.cdnhomecare.ca/content.php?doc=263>
6. Kamimura HM, Lee H, Take A, Mukaikubo S, Ogata S. Educational Strategies for Preventing Pressure Ulcer in Japan. Bull. Sch Health Sci [Internet]. 2012 [cited 2017 May 12]; 22:(1):7-12
7. Asimus M, Li P. Pressure ulcers in home care settings: is it overlooked?. Wound Practice Rese [Internet]. 2011 May [cited 2014 Jun 01]; 19(2):88-97. Available from: <http://conne ction .ebscost.com/c/articles/62819482/pressure-ulcers-home-care-settings-overlooked>
8. Woo KY, Sears K, Almost J, Wilson R, Whitehead M, VanDenKerkhof EG. Exploration of pressure ulcer and related skin problems across the spectrum of health care settings in Ontario using administrative data. Int Wound J [Internet]. 2015 Nov. [cited 2015 Jan 2]. Available from: <http://onlinelibrary.wiley.com/wol1/doi/10.1111/iwj.12535/full>
9. Chayamiti E, Caliri MHL. Pressure ulcer in patients under home care. Acta Paul Enferm [Internet]. 2010 [cited 2014 Jan 03]; 23(1):29-34. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0103-21002010000100005](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-21002010000100005)
10. Badia JG, Santos AB, Segura JCC, Teren CA, Gonzalez LC, Ramirez EL et al. Predictors of mortality among elderly dependent home care patients. BMC Health Serv Res [Internet]. 2013 Aug [cited 2014 Jun 03]; 13(8):1-23. Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3765804/>

11. European Pressure Ulcer Advisory Panel, National Pressure Ulcer Advisory Panel, Pan Pacific Pressure Injury Alliance. Prevention and treatment of pressure ulcers: clinical practice guideline. Perth (AU): Cambridge Media; 2014.
12. Santos VL, Azevedo MA, Silva TS, Carvalho VM, Carvalho VF. Crosscultural adaptation of the pressure ulcer scale for healing to the portuguese language. *Rev Latino-am Enfermagem* [Internet]. 2005 May-Jun [cited 2014 Jun 03]; 13(3):305-13. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-11692005000300004](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-11692005000300004)
13. Santos VL, Sellmer D, Massulo MME. Inter rater reliability of Pressure Ulcer Scale for Healing (push) in patients with chronic leg ulcers. *Rev Latino-am Enfermagem* [Internet]. 2007 May-Jun [cited 2014 Jun 03]; 15(3):391-6. Available from: [http://www.scielo.br/scielo.php?script=sci\\_arttext&pid=S0104-1692007000300005&lang=pt](http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-1692007000300005&lang=pt)
14. Alves DFS, Almeida AO, Silva JLG, Morais FI, Dantas SRPE, Alexandre NMC. Translation and adaptation of the Bates-Jensen Wound Assessment Tool for the brazilian culture. *Texto Contexto Enferm* [Internet]. 2015 Jul-Set [cited 2016 Jan 10]; 24(3):826-33. Available from: <http://dx.doi.org/10.1590/0104-07072015001990014>
15. Machado DO, Moraes F, Mahmud SJ, Fengler F, Paskulin LMG. Care demands regarding home-care service: a descriptive study. *OBJN* [Internet]. 2014 Sep [cited 2015 Oct 14]; 13(3):353-61. Available from: [http://www.objnursing.uff.br/index.php/nursing/article/view/4397/html\\_173](http://www.objnursing.uff.br/index.php/nursing/article/view/4397/html_173)
16. Günes UY. A prospective study evaluating the Pressure Ulcer Scale for Healing to assess stage II, stage III, and stage IV pressure ulcers. *Ostomy Wound Manage*. 2009 May; 55(5):48-52.
17. Souza LL. Úlceras por pressão em pacientes da atenção domiciliar. [monografia Graduação em Enfermagem]. Brasília (DF): Universidade de Brasília; 2014.
18. Stevenson R, Collinson M, Henderson V, Wilson L, Dealey C, McGinnis E et al. The prevalence of pressure ulcers in community settings: an observational study. *Int J Nurs Stud* [Internet]. 2013 Nov [cited 2014 Jun 03]; 50(11). Available from: <http://www.sciencedirect.com/science/article/pii/S0020748913001004>
19. Maroldi MAC, Dal Ponte LCR, Figueiredo RM, Caliani JS. Internação domiciliar: caracterização de usuários e cuidadores. *Cuid Arte Enfermagem*. 2012 Jun; 6(1): 24-9.
20. Hon J, Lagden K, McLaren AM, O'Sullivan D, Orr L, Houghton PE, Woodbury MG. A prospective, multicenter study to validate use of the PUSH in patients with diabetic, venous, and pressure ulcers. *Ostomy Wound Management*. 2010 Feb; 56(2):26-36.
21. Palese A, Luisa S, Ilenia P, Laquintana D, Stinco G, Di Giulio P. What is the healing time of stage II pressure ulcers? findings from a secondary analysis. *Adv Skin Wound Care*. [Internet]. 2016 Feb. [cited 2016 Feb]; 28(2):69-75. Available from: [http://journals.lww.com/aswcjournal/Abstract/2015/02000/What\\_Is\\_the\\_Healing\\_Time\\_of\\_Stage\\_II\\_Pressure.5.aspx](http://journals.lww.com/aswcjournal/Abstract/2015/02000/What_Is_the_Healing_Time_of_Stage_II_Pressure.5.aspx)
22. Zarchi K, Martinussen T, Jemec GBE. Wound healing and all-cause mortality in 958 wound patients treated in home care. *Wound Repair Regen*. 2015 Sep; 23(5):753-8.