

## Quality of life of hospitalized patients with chronic wounds

Kezia Cristina Batista dos Santos<sup>1</sup>,  
Gabriela Sellen Campos Ribeiro<sup>2</sup>,  
Adrielly Haiany Coimbra Feitosa<sup>3</sup>,  
Barbara Regina Souza da Silva<sup>4</sup>,  
Tamires Barradas Cavalcante<sup>5</sup>

### ABSTRACT

The aim was to assess the quality of life of hospitalized patients with chronic wounds. An analytical, cross-sectional study with a quantitative approach. The study sample was composed of 30 patients admitted with chronic wounds in a university hospital in the northeast region of Brazil, from August 2017 to January 2018. For the data collection, a mental health assessment questionnaire, socio-economic and clinical forms and the Brazilian version of the Freiburg Life Quality Assessment Wound were used. The domain with higher interference in the quality of life of hospitalized patients was the social life and the one with least interference, the psychological well-being. There was a significant association between the higher age and totally limited mobility with a worse quality of life of admitted patients. This study contributes to the planning and implementation of nursing actions focused on the biopsychosocial aspects to collaborate to a better quality of life of patients and with aids for future studies.

**Descriptors:** Quality of Life; Wounds and Injuries; Inpatients; Nursing Care.

<sup>1</sup> Nurse. Student of the Nursing Graduate Program at the Federal University of Maranhão, Master's level. São Luís, MA, Brazil. E-mail: [kezia\\_cristinabs@hotmail.com](mailto:kezia_cristinabs@hotmail.com).

<sup>2</sup> Nurse. Professor at the Technical School of Bacabeira, MA, Brazil. E-mail: [gabrielasellen@gmail.com](mailto:gabrielasellen@gmail.com).

<sup>3</sup> Nurse. São Luís, MA, Brazil. E-mail: [adrielly.enf.coimbra@hotmail.com](mailto:adrielly.enf.coimbra@hotmail.com).

<sup>4</sup> Nurse. Assistencial Nurse at São Domingos Hospital. São Luís, MA, Brazil. E-mail: [barbara.rsss@hotmail.com](mailto:barbara.rsss@hotmail.com).

<sup>5</sup> Nurse, Master of Nursing. Student of the Graduate Program of Collective Health at the Federal University of Maranhão, Doctoral level. Nurse of the Trauma-Orthopedics Unit and preceptor of the Multi-professional Health Residency Program at the University Hospital of the Federal University of Maranhão. São Luís, MA, Brazil. E-mail: [tamiresbarradas@gmail.com](mailto:tamiresbarradas@gmail.com).

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## INTRODUCTION

Chronic wounds are defined as ruptured in the skin with a duration higher than six weeks, they do not follow a normal healing process, and they can persist despite the implementation of adequate care<sup>(1)</sup>.

In Brazil, despite the lack of registries, the chronic wounds constitute a severe public health issue, due to its psychological, social and economic impact caused to the patient, associated to high and growing costs to the health system<sup>(2)</sup>.

Among the most prevalent chronic wounds in Brazil, the pressure wound (PW), affecting approximately 25.9% of hospitalized patients, especially the elderly<sup>(3)</sup>. Secondly, the diabetic ulcer (DU), prevalent in 62.5% between 42 hospitalized patients<sup>(4)</sup>. And the complicated surgical wounds (CSW), with a 6% incidence in the hospital environment, as identified in a Brazilian study<sup>(5)</sup>, while in the USA, the prevalence of 2% to 5%<sup>(6)</sup>.

Studies show that patients with chronic wounds present worse quality of life (QoL) in comparison to those not affected, due to pain, mobility issues, frustration, anxiety, depression, social isolation and, frequently, changes in body image, resulting in lifestyle changes, worse self-esteem and their functional capacity; therefore, many times affecting them to execute their daily and work functions<sup>(7-8)</sup>.

The growing number of people with chronic wounds contributes to the increase in public expenses with health, besides directly interfering with the QoL of the population. To avoid this from happening, the multi-professional team should provide global assistance aiming to meet the biopsychosocial needs to improve the living conditions of these individuals<sup>(2)</sup>. In this context, Nursing is critical, as, in wound prevention and treatment, the nurse is the professional who follows the lesion evolution, provide guidance and performs the dressing<sup>(9)</sup>.

However, how patients deal with the problem and perceive family support are challenges faced by nurses. Thus, the QoL assessment is an important mechanism to measure the results of health interventions, as well as, to direct the creation and establishment of therapeutic goals focused in individual biopsychosocial aspects of patients to prevent the problem<sup>(10)</sup>.

The difficulty in assessing the QoL of patients with chronic wounds is a challenge for health professionals due to the specific health needs of this population<sup>(10)</sup>. For the treatment of wounds, this difficulty is minimized due to the availability of specific instruments for this QoL assessment, as the FLQA-Wk, that was recently translated to Brazilian Portuguese<sup>(11)</sup>. The FLQA-Wk is the abbreviated version of the Freiburg Life Quality Assessment-Wound (FLQA-W)<sup>(12)</sup> validated in 2010 and used in studies in many countries<sup>(13-16)</sup>. In Brazil, there are no existing studies that used the FLQA-Wk to assess the QoL of patients with chronic wounds<sup>(17)</sup>.

Patients with chronic wounds are treated in different points of the health network. Most studies are conducted with patients attended in basic health units and specialized ambulatories. Studies conducted in nosocomial environments are aimed at chronic wounds with specific etiology, such as PW and DU; however, little is addressed about the other types. The admittance is an opportune moment for interventions focused on QoL, through orientations or by the use of other technologies to treat wounds characterized by this environment.

Thus, considering the diversity of chronic wounds, the need to assess the QoL of patients hospitalized with chronic wounds and the availability of specific instruments with the new perspective about the QoL assessment, the aim was to analyze the QoL of hospitalized patients with chronic wounds using the Brazilian version of the instrument Freiburg Life Quality Assessment Wound (FLQA-Wk)<sup>(11)</sup>.

## METHODS

An analytical, cross-sectional study with a quantitative approach developed in the University Hospital of the Federal University of Maranhão (HUUFMA) Unit Presidente Dutra, in the city of São Luís do Maranhão, Brazil, between August 2017 and January 2018. The hospital is considered a reference in the state and responsible for the assistance of elective patients, and clinical/surgical and traumatology urgency, with stomatherapy service coordinated by a stomatherapeutic nurse.

The population corresponded to 71 patients with chronic wounds admitted in the Clinical and Surgical Admittance Units of the referred hospital. Patients with age  $\geq 18$  years, with one or more chronic wounds, admitted in the referred admittance units, with a score  $\geq 07$  points in the Mental Assessment Questionnaire validated to Portuguese<sup>(18)</sup> were included. The Mental Assessment questionnaire used in the study is available as public domain, consists of 10 questions that assess if the individual suffers or not of an organic mental syndrome. The interviewed should answer a minimum of seven of the ten questions correctly, totalizing a minimum of seven points<sup>(18)</sup>.

Patients were excluded if they were not able to comprehend and to have effective verbal communication, patients with wounds resulting from extensive, neoplastic and malign burns, or who had Acquired Immunodeficiency Syndrome (AIDS). After applying the inclusion and exclusion criteria, the convenience sample was constituted by 30 patients, collected under the possibility to apply the instruments and to conduct a physical exam to assess the wound promptly.

The researchers conducted the data collection through an individual interview during morning and afternoon shifts, twice a week, divided into two steps: active search in the admittance units of the institution through the list of patients provided by the technology and informatics department, application of the Mental Assessment Questionnaire<sup>(18)</sup>, semi-structured questionnaire referring to the socioeconomic and clinical variables and, the use of the FLQA-Wk<sup>(11)</sup>; physical exam of the skin to identify and assess the chronic wounds. The data collection instruments were applied individually, in the bed after explaining the study and the signature of two copies of the Free and Informed Consent Term.

The socioeconomic and clinical variables used in the study were: sex, age, skin color, birthplace, family income, education, hospitalization time, mobility, type of wound, number and wound area, signs of healing and symptoms of infection.

The physical exam and the assessment of chronic wounds were by observation during the dressing. The evaluation of the wound measurement was conducted in a bi-dimensional way, measuring its length and width and the help of a disposable paper rule for each patient, with following registration of the wound area in  $\text{cm}^2$  (length x width).

In the case of patients with more than one wound, the total area was obtained from the sum of areas of all wounds of the patient. Healing signs were assessed as its presence or not (presence of the granulation tissue). The infection signs were evaluated according to the presence of the characteristics: erythema, edema, and presence of purulent exudate, simultaneously. The mobility was evaluated by the categories: does not present limitations, mildly limited, very limited and totally limited.

The Freiburg Life Quality Assessment-Wound (FLQA-W) is an instrument globally used, validated in 2010 and recently adapted to Brazilian Portuguese<sup>(11)</sup>. The FLQA-Wk<sup>(11)</sup> is the abbreviated version of the FLQA-W<sup>(12)</sup>, and it aims to measure the QoL of people with chronic wounds. It is composed of 24 items, distributed in six domains: physical symptoms, daily life, social life, psychological well-being, treatment and satisfaction<sup>(11)</sup>. Each question is scored following the answer of the interviewed, varying from one to five. The arithmetic mean of each answer calculates the domains, and the total score is computed by the mean of values of each domain. The score varies from one (best QoL) to five (worst QoL), except in the satisfaction domain that should be re-coded. The higher the score, the worse the QoL<sup>(11-12)</sup>.

The FLQA-Wk instrument also presents three analogic visual scales, graduated from zero (very bad) to ten (very good) that assessed the QoL, general health and wound condition in the last week. The total of the analogic visual scale of the FLQA-Wk is the result of the mean between the three cited scales. These scales help in the control of domain values, that is, comparing their results with the total score of the instrument<sup>(11-12)</sup>.

The collected data were double entered into a database in a Microsoft Excel 2013 spreadsheet. After, they were exported and analyzed using descriptive statistics, using the software Statistical Package for the Social Sciences (version 20.0). In the univariate analysis, the mean and standard deviation were calculated for continuous variables and relative and absolute frequencies for categorical variables. In the bivariate analysis, the Shapiro-Wilk test was used to verify the normality of the data, and the association between the study variables and the QoL were assessed using the Student's t-test, ANOVA and Pearson's correlation, considering a significance level of 5% ( $p < 0.05$ ).

The ethical aspects were respected following the Ruling Guidelines and Norms for Research Involving Human Beings and the Resolution from the National Health Council (CNS) nº 466/2012. The study was submitted and approved by the Ethics Committee of the University Hospital of the Federal University of Maranhão, under the protocol nº 2.135.308.

## RESULTS

Thirty patients participated in the study, 70% male, aged between 19 to 77 years with an average of 47.1 ( $SD \pm 15.66$ ) years, 56.7% were brown race, 43.3% had incomplete middle school education, and 40% had a family income between 1-2 minimum wages. The characteristics of chronic wounds are demonstrated in Table 1.

The QoL data show that the FLQA-Wk obtained a mean score of 3.15 ( $SD \pm 0.63$ ), in a scale varying from one to five, and the higher the score value, higher interference in the QoL. Regarding the scores in the domains, the psychological well-being obtained the lowest score of 2.15 ( $SD \pm 0.90$ ), and the social life domain had the highest score of 3.90 ( $SD \pm 1.10$ ). The total value of the analogic visual scale of FLQA-Wk presented the mean of 5.98 ( $SD \pm 2.05$ ), as a result of the average of the three analogic visual scales (Table 2).

Table 3 presents the result of the association between the FLQA-Wk domains and the study variables. A significant association was found between mobility and the domains daily life, treatment and FLQA-Wk total score and, the variable infection signs with the physical symptoms domain.

**Table 1:** Characteristics of chronic wounds of 30 hospitalized patients. São Luís, MA, Brazil, 2017-2018.

Variables	n (%)	Min–Max	Mean(SD)	Median(AI)
<b>Number of wounds</b>	48	01/dez	1.60(±2.01)	
<b>Wound time (month)</b>	30	1.47-96	6.77(±17.35)	2.47(±2.00)
<b>Wound area (cm<sup>2</sup>)</b>	30	3.00-635.82	62.69(±122.67)	19.75(±41.75)
<b>Wound types</b>	48*			
Complicated surgical wound	12(2.0)			
Scleroderma wounds	12(25.0)			
Pressure wound	6(12.5)			
Diabetic foot	5(10.4)			
Vasculogenic ulcer	2(4.2)			
Others*	11(22.9)			
<b>Signs of healing</b>				
Present	19(63.3)			
Absent	11(36.7)			
<b>Signs of infection</b>				
Present	23(76.7)			
Absent	7(23.3)			

\* sums over 100%, considering that one patient can have more than one wound.

\*\* systemic erythematosus lupus, erysipelas, and trauma.

**Table 2:** Mean scores of domains, total quality of life and FLQA-Wk scales assessed in 30 hospitalized chronic wound patients. São Luís, MA, Brazil, 2017-2018.

Domains/Scales	Mean	Standard Deviation	Min	Max
Physical symptoms	2.93	0.74	1.40	4.20
Daily life	3.62	0.98	1.80	5.00
Social life	3.90	1.10	1.67	5.00
Psychological well-being	2.15	0.90	1.00	4.50
Treatment	3.74	0.69	2.50	5.00
Satisfaction	2.58	0.92	1.00	4.33
Total domains <i>FLQA-Wk</i>	3.15	0.63	1.83	4.24
General health scale	6.53	2.35	0.00	10.0
Wound satisfaction scale	5.33	2.77	0.00	10.0
General quality of life scale	6.06	2.75	0.00	10.0
Total <i>FLQA-Wk</i> scales	5.98	2.05	1.00	9.67

**Table 3:** Association between the FLQA-Wk domains with the assessed variables of 30 hospitalized patients with chronic wounds. São Luís, MA, Brazil, 2017-2018.

Variables	Domains					
	Physical symptoms	Daily life	Social life	Psychological well-being	Treatment	Satisfaction
Age	-	(r=0.37) p=0.04***	(r=0.42) p=0.02***	-	-	(r=0.46) p=0.010***
Mobility	-	p=0.001**	-	-	p=0.036**	-
Total wound area	-	(0.619) p<0.001****	-	-	-	-
Infection signs	p=0.04*	-	-	-	-	-

\* Student's t-test; \*\* ANOVA; \*\*\* Pearson's correlation; \*\*\*\* Spearman's correlation.

The Pearson's coefficient correlation demonstrated a significant statistical positive correlation between age and daily life  $r=0.37$  ( $p=0.04$ ), social life  $r=0.42$  ( $p=0.02$ ) and, total FLQA-Wk score  $r=0.47$  ( $p=0.008$ ); indicating that the more age, the higher the scores in these domains; meaning more losses in daily and social life, and quality of life of interviewed; besides, there was a statistically significant positive correlation regarding the re-coded Satisfaction domain  $r=0.46$  ( $p=0.01$ ) indicating that the more age, the higher the score, therefore, being the higher

satisfaction of the individual in relation to his general health, treatment and wound appearance. The Spearman's correlation coefficient demonstrated a positive statistically significant correlation between the total wound area and the Daily life domain  $r=0.619$  ( $p<0.001$ ). Such results point that the higher the total wound area, the higher the scores of such domains and the higher the interference in the daily life and the treatment of interviewed.

Table 4 presents the result of the association between two FLQA-Wk analogic visual scales (AVE) with the study variables through the Student's t-test. The sex variable male category presented a significant association with general health AVE and the variables mobility category totally limited and healing signs category present, with the AVE Wound satisfaction.

**Table 4:** Association between FLQA-Wk Analogic Visual Scales with the variables assessed in 30 hospitalized patients with chronic wounds. São Luís, MA, Brazil, 2017-2018.

Variables	Scales			FLQA-Wk Scales total
	General health	Satisfaction with the wound	General quality of life	
Sex	$p=0.01^*$		-	-
Mobility	-	$p=0.05^*$	-	-
Healing signs	-	$p=0.05^*$	-	-

\* Student's t-test.

## DISCUSSION

The subjects' characteristics were similar to national and international publications. Regarding sex, the results of this study corroborate with a QoL assessment study of chronic wound patients conducted in Brazil<sup>(19)</sup> and with a prospective study that applied the FLQA-W in adult patients with chronic wounds in Germany<sup>(16)</sup>, attended in the ambulatory and hospitalized<sup>(20)</sup>, but it diverges from results found in the literature<sup>(13-15)</sup>. The male gender predominance can be associated with the access limitation to health services, delay in looking for attention or the fact that they do not admit the need of being cared for<sup>(21)</sup>.

Regarding age, the results point that the mean found was lower than in other studies conducted with chronic wound patients<sup>(11-12-15)</sup>, such fact can be justified by the sample composed by patients with types of wounds not necessarily associated to a higher age, but yes to hospitalization. However, studies point that the appearance of chronic wounds has been becoming more common with the aging process of the population, an increment of life expectancy and the presence of risk factors such as tobacco, obesity, sedentarism and chronic diseases, including diabetes mellitus, that predispose the occurrence of these illnesses<sup>(6,19)</sup>.

Regarding education, the FLQA-W translation study to Brazilian Portuguese<sup>(11)</sup> found a higher frequency of elementary school, also found in other studies<sup>(10,22)</sup>, corroborating with the present study. Many studies found that low education and income are present in chronic wounds patients<sup>(4,22)</sup> many times interfering with the comprehension and assimilation of health care, especially the care with wounds, especially among older patients with chronic diseases who need to deal with medicines, diets, and dressings<sup>(21-22)</sup>.

The primary type of chronic wound identified in the study was complex operatory wound (dehiscent). Differently from results found in a study with 202 patients admitted with DU in six hospitals in Portugal<sup>(20)</sup>. The present infection in the surgical site extends the admission time for its treatment, as observed in the present

study. Besides, the admitted patient is more susceptible to acquire infections and the appearance of new wounds<sup>(22)</sup>.

Regarding the FLQA-Wk domains, a study that assessed QoL using the FLQA-W with 61 patients with a venous ulcer diagnosis in Germany identified the worst result for the Daily life domain ( $3.61 \pm 0.93$ ), and the best for the Psychological well-being domain ( $2.76 \pm 1.08$ )<sup>(16)</sup>. Another study that assessed QoL using the Short-Form Health Survey 36 (SF-36) in admitted patients<sup>(20)</sup> identified that the score of mental components was higher than the physical components score, both results were similar to the ones found in the present study. This result is interesting, once the compromising of the physical domain is expected in a patient with chronic wounds, in opposition, it was observed that the psychological well-being had the best result and it was not compromised as expected.

Regarding the domain Social life, it obtained the highest score when compared to scores of other domains, similarly to what was found in the FLQA-W validation study<sup>(12)</sup>; indicating more interference in the social life of interviewed, such fact in the present study can be related to the impossibility of individuals to exercise their social, leisure activities, family conviviality due to the hospitalization regime.

A significant association was seen between age and daily life and social life, satisfaction and FLQA-Wk total score, a similar result to what was found in a study that identified the worse score for daily life<sup>(15)</sup>. With the increase in age, at the measure that these patients demonstrated some dependence to administer their activities, being at home, during leisure and in the social and familial context, they can have their autonomy affected, becoming dependent of their family members and friends<sup>(15,19,22)</sup>. Due to their fragile clinical state and wound location, hospitalized patients almost always depend on other people; caregivers, family members or health professionals, to perform daily activities as to move around, to eat and to go to the bathroom, a fact that reflects in their autonomy and negatively impacts their QoL.

Regarding Satisfaction, it was seen that the more the age, the higher the individual satisfaction with their general health, treatment and appearance of the chronic wound, a result similar to what was found in a study that identified that younger people with chronic wounds experience a significantly worse QoL when compared to older people, once the younger have trouble to cope with the chronic character of the disease and, therefore, do not deal the same way as the older peers<sup>(23)</sup>.

There was a correlation between mobility and the domains daily life, treatment and the FLQA-Wk total score and the AVE Satisfaction with the wound, indicating a strong relationship between worse QoL the lower the mobility. Studies point that the presence or history of chronic wounds provokes large impact in the physical functioning and mobility<sup>(21,24)</sup>. The presence of chronic wound affects the perception that the individual has over their physical well-being, and it limits daily and labor activities. The interference in mobility and transport obligate patients with chronic wounds to re-structure their activities in their routine and, in a few cases, to feel dependent on others, impairing the social relationships<sup>(12)</sup>.

The present study identified a significant association between the total wound area with the Daily life domains, differently of the result detected in the FLQA-W validation study which showed low sensitivity to the change in the wound area and QoL<sup>(11)</sup>. However, it is known that the type, size, and the number of wounds impact



the QoL, once people with chronic wounds have large or multiple dressings, causing them to be embarrassed to get closer to other people, directly affecting their social and family conviviality<sup>(21)</sup>.

The clinical variables related to the wound, the signs of infection and healing presented a significant association with the domains Physical Symptoms and AVE Satisfaction with the wound, respectively. A qualitative study conducted in Australia investigated the QoL of people with chronic wounds that self-treated, and it identified that the wound infection was a constant concern among people with chronic wounds. The concern with contamination was serious among participants, and it occurred when they believed to be at risk or when they had an infection, or when they thought that professional care received increased the risk of infection<sup>(25)</sup>.

Although the present study had identified an association between the total wound area and the daily life domain, a study conducted in Brazil using the Quality of Life Index from Ferrans and Powers-Wound (FPQLI-WV) found that the wound healing did not correspond to a predictor of changes in QoL of chronic wounds patients. However, to know the minimal significant change in wound healing is of great importance to the patient and serves as a reference to establish therapeutic goals focused on their QoL<sup>(10)</sup>.

The present study was limited with the small sample size and the low education level of participants, that impaired the questionnaire application.

## CONCLUSION

The results demonstrated that the QoL of hospitalized patients with chronic wounds had a general mean of 3.15 and SD±0.63, and the higher the score value, the worse the QoL. The FLQA-Wk domain that most interfered in the QoL of hospitalized patients was social life, and the least interfering was the psychological well-being. A significant association was seen between older age, male sex, totally limited mobility, larger total wound area and presence of infection signs with a worse QoL of hospitalized patients.

The QoL assessment of hospitalized patients with chronic wounds become relevant considering the specific needs resulting from the hospitalization regime and consequent impact in patients' QoL. It is expected that this study can contribute with the planning and implementation of holistic and individualized nursing actions focused in the biopsychosocial aspects that help to improve the QoL of patients and to serve as an aid for future studies.

Future studies should be conducted, aiming to increase the sample size, to use the FLQA-Wk instrument and the comprehension of the magnitude of QoL aspects of hospitalized patients with chronic wounds.

## REFERENCES

1. Markova A, Mostow EN. US skin disease assessment: ulcer and wound care. *Dermatol Clin* [Internet]. 2012 [cited 2018 Dec 31];30(1):107-11, ix. Available from: <https://doi.org/10.1016/j.det.2011.08.005>.
2. Waidman MAP, Rocha SC, Correia JL, Brischiliari A, Marcon SS. O cotidiano do indivíduo com ferida crônica e sua saúde mental. Texto contexto - enferm. [Internet]. 2011 [cited 2018 Dec 31];20(4):691-9. Available from: <http://dx.doi.org/10.1590/S0104-07072011000400007>.
3. Santos LRO, Avelino FVSD, Luz MHBA, Cavalcante TB, Silva JLM, Santos CAPS. Característica demográficas e clínicas de pacientes de unidade de terapia intensiva com úlcera por pressão. *Rev enferm UFPE on line* [Internet]. 2016 [cited 2018 Dec 31];10(supl.1):225-231. Available from: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/viewFile/10944/12250>.
4. Oliveira JC, Taquary SAS, Barbosa AM, Veronesi RJB. Pé diabético e amputações em pessoas internadas em hospital público: estudo transversal. *ABCS Health Sciences* [Internet]. 2016 [cited 2018 Dec 31];41(1):34-39. Available from: <https://doi.org/10.7322/abcshs.v41i1.843>.



5. Oliveira PR, Carvalho VC, Felix CS, Paula AP, Santos-Silva J, Lima ALLM. The incidence and microbiological profile of surgical site infections following internal fixation of closed and open fractures. *Rev Bras Ortop* [Internet]. 2016 [cited 2018 Dec 31];51(4):396-9. Available from: <https://doi.org/10.1016/j.rboe.2015.09.012>.
6. Agência Nacional de Vigilância Sanitária. Critérios Diagnósticos de Infecções Relacionadas à Assistência à Saúde [Internet]. 2ª ed. Brasília: ANVISA, 2017 [cited 2018 Dec 31]. Available from: <http://portal.anvisa.gov.br/documents/33852/3507912/Caderno+2+-+Critérios+Diagnósticos+de+Infecção+Relacionada+à+Assistência+à+Saúde/7485b45a-074f-4b34-8868-61f1e5724501>.
7. Evangelista DG, Magalhães ERM, Moretão DIC, Stival MM, Lima LR. Impacto das feridas crônicas na qualidade de vida de usuários da estratégia de saúde da família. *Revista de Enfermagem do Centro Oeste Mineiro* [Internet]. 2012 [cited 2018 Dec 31];2(2):254-63. Available from: <http://www.seer.ufsj.edu.br/index.php/recom/article/view/15>.
8. Salomé GM, Ferreira LM. Qualidade de vida em pacientes com úlcera venosa em terapia compressiva por bota de Unna. *Rev Bras Cir Plástica* [Internet]. 2012 [cited 2018 Dec 31];27(3):466-71. Available from: <https://doi.org/10.1590/S1983-51752012000300024>.
9. Santos LSF, Camacho ACLF, Oliveira BGRB, Nogueira GA, Joaquim FL. Influência da úlcera venosa na qualidade de vida dos pacientes: revisão integrativa. *Rev enferm UFPE on line* [Internet]. 2015 [cited 2018 Dec 31];9(supl. 3):7710-22. Available from: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/10512>.
10. Santos VLCG, Oliveira AS, Amaral AFS, Nishi ET, Junqueira JB, Kim SHP. Quality of life in patients with chronic wounds: magnitude of changes and predictive factors. *Rev Esc Enferm USP* [Internet]. 2017 [cited 2018 Dec 31];51:e03250. Available from: <https://doi.org/10.1590/S1980-220X2016049603250>.
11. Domingues EAR, Alexandre NMC, Silva JV. Cultural adaptation and validation of the Freiburg Life Quality Assessment - Wound Module to Brazilian Portuguese. *Rev Lat Am Enfermagem* [Internet]. 2016 [cited 2018 Dec 31];24:e2684. Available from: <https://doi.org/10.1590/1518-8345.0289.2684>.
12. Augustin M, Herberger K, Rustenbach SJ, Schäfer I, Zschocke I, Blome C. Quality of life evaluation in wounds: validation of the Freiburg Life Quality Assessment-wound module, a disease-specific instrument. *Int Wound J* [Internet]. 2010 [cited 2018 Dec 31];7(6):493-501. Available from: <https://doi.org/10.1111/j.1742-481X.2010.00732.x>.
13. Purwins S, Herberger K, Debus ES, Rustenbach SJ, Pelzer P, Rabe E et al. Cost-of-illness of chronic leg ulcers in Germany. *Int Wound J* [Internet]. 2010 [cited 2018 Dec 31];7(2):97-102. Available from: <https://doi.org/10.1111/j.1742-481X.2010.00660.x>.
14. Augustin M, Baade K, Heyer K, Price PE, Herberger K, Wild T et al. Quality-of-life evaluation in chronic wounds: comparative analysis of three disease-specific questionnaires. *Int Wound J* [Internet]. 2017 [cited 2018 Dec 31];14(6):1299-304. Available from: <https://doi.org/10.1111/iwj.12803>.
15. Miertová M, Dluhošová K, Ovšonková A, Čáp J. Chosen aspects of quality of life in patients with venous leg ulcers. *Cent Eur J Nurs Midw* [Internet]. 2016 [cited 2018 Dec 31];7(4):527-533. Available from: [http://periodicals.osu.eu/cejnm/5\\_133\\_chosen-aspects-of-quality-of-life-in-patients-with-venous-leg-ulcers.html](http://periodicals.osu.eu/cejnm/5_133_chosen-aspects-of-quality-of-life-in-patients-with-venous-leg-ulcers.html).
16. Blome C, Baade K, Debus ES, Price P, Augustin M. The "Wound-QoL": a short questionnaire measuring quality of life in patients with chronic wounds based on three established disease-specific instruments. *Wound Repair Regen* [Internet]. 2014 [cited 2018 Dec 31];22(4):504-14. Available from: <https://doi.org/10.1111/wrr.12193>.
17. Almeida WA, Ferreira AM, Ivo ML, Rigotti MA, Gonçalves RQ, Pereira APS. Características sociodemográficas e clínicas e a qualidade de vida de pessoas com feridas: revisão integrativa. *Rev enferm UFPE on line* [Internet]. 2014 [cited 2018 Dec 31];8(12):4353-61. Available from: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/10183>.
18. Blay SL, Mari JDJ, Ramos LR, Ferraz MPT. Validity of a brazilian version of the mental status questionnaire as a screening test for dementia among elderly urban subjects. A pilot study. *Int J Geriatr Psychiatry* [Internet]. 1991 [cited 2018 Dec 31];6(11):779-85. Available from: <https://doi.org/10.1002/gps.930061105>.
19. Wachholz PA, Masuda PY, Nascimento DC, Taira CMH, Cleto NG. Quality of life profile and correlated factors in chronic leg ulcer patients in the mid-west of São Paulo State, Brazil. *An Bras Dermatol* [Internet]. 2014 [cited 2018 Dec 31];89(1):73-81. Available from: <https://doi.org/10.1590/abd1806-4841.20142156>.
20. Pedras S, Carvalho R, Pereira MG. Predictors of quality of life in patients with diabetic foot ulcer: the role of anxiety, depression, and functionality. *J Health Psychol* [Internet]. 2018 [cited 2018 Dec 31];23(11):1488-98. Available from: <https://doi.org/10.1177/1359105316656769>.
21. Silva TG, Vasconcelos APL, Ramos EVC, Farias Neto JP. Avaliação da qualidade de vida de pacientes portadores de feridas crônicas atendidos no ambulatório de cicatrização do Hospital Universitário de Sergipe. *Rev Bras Qual Vida* [Internet]. 2017 [cited 2018 Dec 31];9(3):234-46. Available from: <https://doi.org/10.3895/rbqv.v9n3.6704>.
22. Almeida WA, Ferreira AM, Ivo ML, Rigotti MA, Barcelos LDS, Silva ALNV. Fatores associados à qualidade de vida de pessoas com feridas complexas crônicas. *Revista de Pesquisa: Cuidado é Fundamental Online* [Internet]. 2018 [cited 2018 Dec 31];10(1):9-16. Available from: <https://doi.org/10.9789/2175-5361.2018.v10i1.9-16>.
23. Kapp S, Santamaria N. The financial and quality-of-life cost to patients living with a chronic wound in the community. *Int Wound J* [Internet]. 2017 [cited 2018 Dec 31];14(6):1108-19. Available from: <https://doi.org/10.1111/iwj.12767>.
24. Nogueira GA, Oliveira BGRB, Santana RF, Cavalcanti ACD. Diagnósticos de enfermagem em pacientes com úlcera venosa crônica: estudo observacional. *Rev. Eletr. Enf* [Internet]. 2015 [cited 2018 Dec 31];17(2):333-9. Available from: <https://doi.org/10.5216/ree.v17i2.28782>.

25. Kapp S, Miller C, Santamaria N. The quality of life of people who have chronic wounds and who self-treat. J Clin Nurs [Internet]. 2018 [cited 2018 Dec 31];27(1-2):182-92. Available from: <https://doi.org/10.1111/jocn.13870>.