# CUIDADO É FUNDAMENTAL

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RESEARCH

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# Fatores associados à qualidade de vida de pessoas com feridas complexas crônicas\*

Factors associated with quality of life of people with chronic complex wounds

Los factores asociados con la calidad de vida de personas con heridas crónicas complejo

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### **ABSTRACT**

**Objective:** To analyze the quality of life of people with chronic complex wounds. **Method:** Data were collected through a questionnaire containing the WHOQOL-Bref instrument of the World Health Organization and questions about sociodemographic and clinical variables. Statistical analysis methods used were: linear correlation of Pearson; Analysis of Variance and Tukey with reliability of 95% and p < 0.05. **Results:** We evaluated 53 patients with complex wounds. 28 (52.83%) of these were female with an average age of 62.17 years and with low education. In the evaluation of the quality of life, the pain was correlated with the physical domain (p = 0.030) and psychological (p = 0.051); while the area was correlated with age (p = 0.051) and pain correlated with the time of injury (p = 0.001). **Conclusion:** Knowning the clinical characteristics and the quality of life enables better understanding of the complaints and better healthcare planning, which contributs to improved quality of life.

**Descriptors:** the Quality of Life, Wounds and Injuries, Chronic Disease, Pain, Socioeconomic Factors.

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#### **RESUMO**

**Objetivo:** Analisar a qualidade de vida de pessoas com feridas complexas crônicas. **Método:** Os dados foram coletados por meio de questionário contendo o instrumento WHOQOL-Bref da Organização Mundial de Saúde e questões sobre variáveis sociodemográficos e clínicas. Para análise estatística foram utilizados os métodos: Correlação Linear de Pearson; Análise de Variância e Tukey com confiabilidade de 95% e p<0,05. **Resultados:** Foram avaliados 53 pacientes com feridas complexas. Desses, 28 (52,83%) são do sexo feminino com média de idade de 62,17 anos e com baixa escolaridade. Na avaliação da qualidade de vida, a dor se correlacionou com o domínio físico (p=0,030) e psicológico (p=0,051); enquanto que a área se correlacionou com a idade (p=0,051), e a dor se correlacionou com o tempo de lesão (p=0,001). **Conclusão:** Conhecer as características clínicas e a qualidade de vida possibilita melhor compreensão das queixas e melhor planejamento assistencial contribuindo para melhoria da qualidade de vida.

**Descritores:** Qualidade de Vida, Ferimentos e Lesões, Doença Crônica, Dor, Fatores Socioeconômicos.

#### **RESUMEN**

**Objetivo:** Analizar la calidad de vida de las personas con heridas crónicas complejas. **Métodos:** Los datos fueron recolectados a través de un cuestionario que contiene el instrumento WHOQOL-BREF de la Organización Mundial de la Salud y las preguntas acerca de las variables sociodemográficas y clínicas. Se utilizaron métodos de análisis estadístico: correlación lineal de Pearson; El análisis de varianza y Tukey con una fiabilidad del 95% y p <0,05. **Resultados:** Se evaluaron 53 pacientes con heridas complejas. De éstos, 28 (52,83%) eran mujeres con una edad media de 62,17 años y con bajo nivel de educación. En la evaluación de la calidad de vida el dolor se correlacionó con el dominio físico (p = 0,030) y psicológico (p = 0,051); mientras que el área se correlacionó con la edad (p = 0,051) y el dolor correlacionado con el momento de la lesión (p = 0,001). **Conclusión:** Conocer las características clínicas y la calidad de vida permite una mejor comprensión de las quejas y una mejor planificación de la salud, lo que contribuye a una mejor calidad de vida.

**Descriptores:** Calidad de Vida, Heridas y Traumatismos, Enfermedad Crónica, Dolor, Los Factores Socioeconómicos.

## INTRODUCTION

Complex chronic wounds carry multiple burdens for patients, family members, caregivers, and the health care system. These generate suffering, pain, serious infections, various comorbidities, social isolation, depression, mental health impairment in general, loss of mobility and increased costs. In many cases, they can lead to amputation of the affected limb and even death.<sup>1</sup>

The wound is considered chronic if healing does not occur within a period of up to three months. Increasingly, this has become a major therapeutic challenge worldwide and is considered a public health problem that tends to worsen with increasing incidence of conditions that prevent wound healing, such as diabetes, obesity, and Vascular diseases. Chronic wounds can be classified as typical or atypical. Most (95%) are considered typical, which include ischemic ulcers, neurotrophic, diabetic foot and pressure injury.<sup>1-2</sup>

Studies have reported that 80% of leg ulcers are the result of chronic venous insufficiency, 5 to 10% of arterial etiology, and the others of neuropathic origin. Older adults are more frequently affected by complex chronic wounds, profoundly impacting the Quality of Life (QoL) of this population.<sup>1,3</sup> Several factors play an important role in the quality of life of people with wounds and are related to physical functioning, psychosocial functioning and aspects of treatment.<sup>4</sup>

The assessment of the quality of life of patients with wounds provides important information for clinical decision making, treatment evaluation and prognosis.<sup>5</sup> Thus, knowing the characteristics that involve wounds and how they affect the QoL of these patients, as well as the involvement rates, risk factors and causes, allows the multidisciplinary team to elaborate actions of prevention and treatment of this condition, favoring the improvement of targeted public policies and more assertive to this clientele.

# **OBJECTIVE**

In view of the above, with the aim of contributing to the health care of people living with chronic wounds, this study aimed to analyze the quality of life of people with complex wounds and sociodemographic and clinical variables.

# **METHODS**

It is an observational, cross-sectional, analytical study with a quantitative approach that identified sociodemographic/clinical aspects and quality of life of patients with chronic complex wounds during the period from June to August 2014. Sampling was non-probabilistic for convenience, composed of 53 patients with complex chronic wounds of diverse etiologies based on the medical diagnosis.

The study was carried out in Primary Health Care Units, with seven basic health units, seven family health strategies, one referral center: surgery and diagnosis clinic and visits to the homes of wounded patients in a municipality in the interior of the State of Mato Grosso do Sul, Brazil. Patients who met the following inclusion criteria were selected to participate in the study: venous, arterial, neoplastic, neuropathic, diabetic foot ulcers and pressure lesions; with a minimum duration of three months or more; attended in the dressing rooms of all the health units of the municipality, or in their residence; aged 18 years or over; and with cognitive conditions to respond to the research instrument. Before inclusion in the study, participants received information about the research objectives and those who agreed to participate signed the Informed Consent Term (TCLE). Two forms were used for data collection: the first one considered the sociodemographic characteristics and information regarding the wound; the second evaluated the Health-Related Quality of Life (HRQoL), WHOQOL-bref.<sup>6</sup>

The sociodemographic variables included in the form were: age, gender, marital status, number of children, religion, current professional activity, family monthly income and race. The data related to the wound were: lesion etiology, history of previous lesions, number of lesions, presence and intensity of pain using the numerical scale of pain. In the evaluation of quality of life, the WHOQOL-bref instrument was composed of 26 items that refer to four domains: physical, psychological, social relations and the environment in which the individual is inserted. In addition to these four domains, the WHOQOL-bref is also composed of a domain that analyzes the overall quality of life.<sup>7</sup>

The answers to all questions of the instrument were obtained through a scale of Likert responses, with a scale of intensity (nothing - extremely), capacity (nothing - completely), frequency (never - always), and evaluation (very dissatisfied - Very satisfied; very poor - very good). Each domain consists of questions whose answers range from 1 to 5. The final scores of each domain are calculated by a syntax, which considers the answers of each question that compose the domain, resulting in final scores on a scale of 4 to 20, comparable to those of WHOQOL-100, which can be transformed into a scale of 0 To 100. The WHOQOL-bref has been translated into several languages and validated in several countries. In Brazil, this work was carried out at the Federal University of Rio Grande do Sul (UFRGS) by Fleck.<sup>7</sup>

The software used for statistical analysis was Minitab 17 (Minitab Inc.) and Statistica 10 (StatSoft Inc.). To verify the reliability of the instrument, the Cronbrach alpha internal consistency test was performed, suggesting sufficient internal consistency of the data for coefficients equal to or greater than 0.700. The descriptive statistics were used to meet the proposed objectives, the average, median and standard deviation were calculated. The quantitative analysis regarding the comparison of domain scores was performed using the Analysis of Variance test and Tukey's post-hoc test when p <0.05. The comparison of the domains scores among the variables of interest was performed by applying the t-test for independent samples when two groups were compared and applying the Variance Analysis with Tukey's multiple comparison test, at p <0.05. In addition, the variables of

choice were correlated to each other and to the domains of the QoL instrument using the Pearson correlation coefficient test performed with 95% confidence, adopting p <0.05.

The study complied with ethical principles and was presented in accordance with Resolution 466/2012 of the National Health Council and was submitted to the Ethics Committee in Research with Human Subjects linked to the Federal University of Mato Grosso do Sul and approved with the certificate No. 25681513.2.0000.0021 - Protocol No. 545.595/2014.

# **RESULTS AND DISCUSSION**

From the 53 participants in the study, 28 (52.83%) were female, with an average age of 62.17 years ( $\pm$  11.24), 36 (67.92%) and per capita income up to a minimum wage (Minimum salary valid at the time of research R \$ 724.00), 41 (77.36%) with low schooling, ie individuals who reported having attended up to eight years of study. 50 (94.34%) participants were inactive professionally and more than half, 28 (52.83%) as a whole lived without partners.

With regard to the etiology of the lesion, 29 (54.72%) of the total participants were of venous origin, 35 (66.04%) had only one lesion, and 24 (45.28%) reported presenting the wound more than 5 years. Regarding the lesion area, 36 (67.92%) had an area smaller than or equal to  $50 \text{ cm}^2$ .

Pain was quantitatively assessed (n = 53) and it was found that on a scale of 0 (no pain) to 10 (very strong pain), the average pain intensity score of the patients evaluated was 5.45 with a standard deviation of 4.16 and a median of 6.00. The minimum score was 0.00 and the maximum score was 10.00. The coefficient of variation of pain scores resulted in 76.33%, showing high dispersion and variation of pain results. The median indicates that 50% of the patients evaluated presented a pain score equal to or greater than 6.00. Of the total, 15 (39.47%) had very strong pain.

The results show that using WHOQOL-bref among people with chronic wounds, it was verified (p = 0.201), that is, they did not present significant differences in average quality of life scores when domains were compared. On average, the physical domain was the one with the lowest score among those evaluated. Thus, the issues related to this domain are the most problematic for patients presenting with chronic/complex wounds (Table 1).

Table I – Average scores of WHOQOL-bref domains among patients with chronic complex wounds in a municipality in the interior of the state of Mato Grosso do Sul/Brazil. 2014

Domains (n=53)	Average	SD	Minimum	Median	Maximum	Value of p*
General	57.08	25.42	0.00	62.50	100.00	
Physical	49.87	20.67	0.00	53.57	82.14	_
Psychological	56.21	19.45	16.67	58.33	100.00	0.201
Social relationships	58.81	24.43	0.00	58.33	100.00	-
Environment	59.08	20.40	18.75	59.38	100.00	=

<sup>\*</sup>P value for the Analysis of Variance (ANOVA) test at P <0.05..

The quality of life scores of all the domains evaluated regarding patients with chronic and high complexity wounds did not present significant differences in relation to gender, ie, gender is not a variable that significantly influenced patients' quality of life evaluated as described in table 2.

The results of table 3 show that the wound etiology is not a preponderant factor to influence the quality of life of the evaluated patients. The P-value of all comparisons was greater than 0.050 and this assumes that there are no statistically significant differences between the averages of quality of life scores for each of the domains when patients are compared in relation to the wound etiology.

**Table 2** – Average  $\pm$  standard deviation (SD) of the quality of life scores in relation to the patients' gender

Domains	Gender	n	Average±SD	Md	Value of p*	
Gneral	Female	28	56.70±27.11	56.25	0.909	
	Male	25	57.50±23.94	75.00	0.909	
Dh:1	Female	28	51.79±23.70	60.71	0.474	
Physical	Male	25	47.71±16.87	50.00	0.471	
Psychlogical	Female	28	55.06±21.88	58.33	0.449	
	Male	25	57.50±16.67	62.50	0.648	
Social	Female	28	55.95±27.30	58.33	0.366	
	Male	25	62.00±20.84	66.67		
Environment	Female	28	60.16±23.72	60.94	0.403	
	Male	25	57.88±16.32	59.38	0.683	

 $<sup>{}^{\</sup>ast}P$  value for the t test for independent samples at P <0.05..

**Table 3** – Average  $\pm$  standard deviation (SD) of quality of life scores in relation to wound etiology

Domains	Etiology of wound	n	Average±SD	Md	Value of $p^*$	
General	Venous ulcer	29	54.74±22.01	50.00		
	Pressure ulcer	8	57.80±31.30	62.50	0.750	
	Diabetic foot	9	65.28±24.03	75.00	0.759	
	Other types	7	55.40±36.00	62.50		
	Venous ulcer	29	53.33±20.78	60.71	0.172	
Dharaian	Pressure ulcer	8	37.95±19.27	39.29		
Physical	Diabetic foot	9	55.16±21.66	60.71		
	Other types	7	42.35±16.55	46.43		
	Venous ulcer	29	55.17±19.28	58.33	0.875	
D	Pressure ulcer	8	59.90±27.45	62.50		
Psychological	Diabetic foot	9	58.80±18.33	62.50		
	Other types	7	52.98±13.11	50.00		
Social	Venous ulcer	29	59.77±25.11	66.67		
	Pressure ulcer	8	52.08±24.70	45.83	0.720	
	Diabetic foot	9	64.81±29.69	75.00	0,720	
	Other types	7	54.76±14.32	58.33		
Environment	Venous ulcer	29	61.31±20.72	62.50		
	Pressure ulcer	8	49.61±26.70	53.13	0.557	
	Diabetic foot	9	60.76±19.65	71.88	0.556	
	Other types	7	58.48±10.48	56.25		

<sup>\*</sup>P value for the Variance Analysis test at P <0.05.

The results of table 4 assume that the wound time does not significantly influence the quality of life of the patients evaluated, since all P values were higher than the level of significance adopted for the test. This indicates that the quality of life of all domains evaluated is not influenced by the patient's greater or lesser wound time.

In table 5, the injury time correlated with the pain score (p = 0.001), assuming that the pain may increase or decrease according to the duration of the lesion. In addition, the area also correlated with the age of the participants (p = 0.051), indicating that the area of the lesion tends to increase or decrease with advancing age. The correlation results indicate that the pain score correlated significantly (p = 0.030) with the quality of the physical domain and the psychological domain (p = 0.051), assuming that the higher the pain score, the lower the pain score Domains and vice versa. This inversely proportional relation is determined by the negative Pearson correlation coefficient, showing that when one score increases or another decreases (Table 5).

In the present study, female predominance is corroborated by several studies.<sup>8-10</sup> However, in other studies, male predominance has been found.<sup>11-12</sup> It should also be pointed out, the increase of female longevity as a contributing factor to the predominance of women affected by wounds. However, this disparity of information evidences the need for further investigation, analyzing the relationship between gender and the demand for assistance in certain services.

The participants had a average age of 62.17 years (± 11.24), with a minimum of 31 and a maximum of 87 years. The findings of this study showed that the elderly population constituted the majority (64.1%) of affected individuals with complex / chronic wounds, a fact corroborated by other studies. The literature points out that the appearance of wounds has become increasingly common with the aging of the population, being the largest age group between 65 and 70 years and mainly affecting women. Studies have indicated a significant increase in the population affected by complex wounds due to the increase in life expectancy,

**Table 4** – Average  $\pm$  standard deviation (SD) of quality of life scores in relation to wound time

Domínios	Etiology of wound	n	Average±SD	Md	Value of p*
	Less than 1 year	20	53.75±28.42	62.50	
General	From 1 to 5 years	9	68.10±33.10	75.00	0,359
	More than 5 years	24	55.73±18.79	56.25	
	Less than 1 year	20	45.89±20.54	53.57	
Physical	From 1 to 5 years	9	50.00±27.20	50.00	0,522
	More than 5 years	24	53.13±18.31	57.14	
	Less than 1 year	20	54.17±19.54	60.42	
Psychological	From 1 to 5 years	9	62.50±26.68	58.33	0,561
	More than 5 years	24	55.56±16.52	58.33	
	Less than 1 year	20	55.00±25.28	58.33	
Social	From 1 to 5 years	9	65.70±33.70	75.00	0,551
	More than 5 years	24	59.38±19.86	62.50	
	Less than 1 year	20	54.84±19.78	57.81	
Environment	From 1 to 5 years	9	66.67±24.31	71.88	0,351
	More than 5 years	24	59.77±19.34	59.38	

<sup>\*</sup>P value for the Variance Analysis test at P < 0.05.

Table 5 – Pearson correlation coefficients (p - values) of correlation analysis between quality of life scores versus age, injury time, pain score and lesion area in a municipality in the state of Mato Grosso do Sul/Brazil, 2014

	$\Delta t$ wound	Pain Score	Area of Injury	General QoL	Physical	<b>Psychological</b>	Social	Environment
Age	0.042	-0.049	0.268	0.001	0.035	-0.102	-0.029	0.101
Р	0.761	0.725	0.051*	0.992	0.798	0.465	0.836	0.469
∆t wound		-0.428	0.227	0.148	0.171	0.098	0.050	0.218
P		0.001*	0.101	0.288	0.219	0.484	0.719	0.116
Pain			0.078	-0.173	-0.298	-0.268	-0.216	-0.174
P			0.577	0.215	0.030*	0.051*	0.119	0.211
Area of Injury				0.135	0.097	0.089	0.124	0.165
P				0.332	0.487	0.523	0.373	0.235

 $<sup>^{\</sup>circ}P$  value for the Pearson correlation coefficient test being p $\leq$ 0.05 significant.

and the appearance of risk factors that predisposes the onset of these diseases. 1,3,12-13

It was verified that the majority of participants (67.9%) have monthly income per capita equal to or less than a minimum wage. Several studies have shown that low schooling and precarious income is present in patients with wounds. These two factors can generate interference in both the understanding and the assimilation of health care, especially injury care. The presence of ulcers is considered an additional source of costs for services, especially in pharmacological treatment and dressing materials. In precarious economic situations, the presence of wounds and the necessary care are probable elements for the disruption of the financial balance of the family, which may compromise the quality of life. 14

The level of schooling is probably an expressive factor in relation to self-care and is sometimes an obstacle to adequate treatment, which may indicate a lifestyle that favors the appearance of injuries or the lack of access to specialized health services or inadequate management by the professionals that provide care to this population. <sup>14</sup> In the present investigation, participants who attended elementary school 31 (58.4%) predominated, followed by those with 8 years or more (22, 6%), which often interferes with the comprehension and applicability of care, especially among The elderly with chronic diseases, who need to deal with various medications, dressings and nutrition. <sup>14</sup>

The health professional plays an important role on this occasion, and should use effective communication with the person with the wound, facilitating the understanding and assimilation of the guidelines related to the care and treatment of these diseases.

Regarding the occupational situation, it was observed that the majority (94.34%) were inactive, which is in agreement with another study with patients with venous ulcers. This fact portrays the size of the physical impairment caused by the injuries, which impairs the individual's ability to work, contributing to early retirement, unemployment and increased work leave, generating a significant burden on the health and social security system. Faced with this situation, it is possible to verify that the presence of chronic wounds, besides affecting the quality of life of the patients, causes family dependence, social isolation and loss for self-esteem of these individuals.

Regarding marital status, unlike another study15, most interviewees (52.83%) stated that they live without a partner. Living with a partner can contribute to the person affected by injury in overcoming the difficulties experienced, as advanced age and injury conditions interfere with basic wound care and daily activities. The health professional should instigate the development of independent care by promoting self-care and contributing to the treatment and promotion of the improvement of self-esteem and the quality of life of these people.

Concerning the characterization of the different types of wounds, the prevalence of ulcers of venous etiology, due to chronic venous insufficiency with 29 (54.72%) cases, was observed. Studies12,16 registered that venous ulcers represent 70-90% of all lower limb ulcers, being considered the most serious complication of chronic venous insufficiency, mainly to the detriment of varicose veins, sequelae of deep venous thrombosis, abnormalities in the venous valves, among other able to interfere in the venous return causing hypertension of the venous system causing the appearance of the Venous Ulcer.<sup>17</sup>

The average scores of the WHOQOL-Bref domains were not affected by the presence and clinical characteristics of the wounds when compared to the averages between the domains. Regarding the evaluation of QoL, on average, the domain that had the best evaluation, that is, the best QoL index, was the domain environment. However, the physical domain was the one with the lowest score among the evaluated domains, fact that occurred in another study,12 Which shows that the characteristics that most affected the quality of life are present in the physical domain as the pain. Other studies that assessed the quality of life of patients with venous ulcers also identified low quality of life, physical aspects, pain and functional capacity, since the same studies used another instrument of QoL assessment.<sup>8-9,14</sup>

The present study found a correlation between the time of the wounds and the pain score, in which 71.69% of the patients interviewed reported pain. Of these, 68.42% reported severe pain and prevalence of ulcers with more than 5 years of pain duration (45.28%). A study evaluating pain and health-related quality of life of people with chronic ulcers found in no significant association with elevated levels of pain in small ulcers and of shorter duration, and emphasizes that studies on the relationship between size and duration of Ulcers and pain intensity have been very limited. (10) In contrast to this study, another study pointed out that injury time was not significantly associated with the Medical Outcome Study Short Form 36 (SF-36) QoL pain score.<sup>18</sup>

There was correlation with the lesion area and age; Research has shown that the predominance of chronic complex wounds is present mostly in the elderly population. According to the literature3,19, wound healing tends to decrease with increasing age. However, the basic biology of the underlying complex wounds and the influence that age brings about healing are still not well understood since studies in animal models translate a poor condition of cure for humans.<sup>19</sup>

The present study demonstrated that pain correlated significantly (p = 0.030) with the physical domain. This indicates that the higher the pain score, the lower the score of this domain. Of the 53 patients interviewed, 38 (71.6%) reported pain, of which 15 (39.4%) reported feeling the worst pain and 11 (28.9%) had severe pain.

The analysis of this showed that the pain variable was recurrent and affected the QoL of these patients, being this data consistent with that found in the literature12. Another study13 demonstrated that 82% of patients with chronic leg ulcers reported worse pain at the site of the injury, and of these 42% the pain is not alleviated with the use of analgesics. In integrative review studies20, pain is a common symptom in patients with wounds and it is also associated with quality of care and the characteristics of the injury, negatively impacting QoL, generating mobility limitations, sleep deprivation, modifying family and social life and favoring the installation of Depression, anxiety and despair, being described as a major factor in the worsening of quality of life, characteristics probably incident in this study.

In relation to the psychological domain, pain can exert negative effects on the quality of life generating negative feelings which can aggravate the depressive symptoms present in patients with complex wounds. 9,12 Another study points out that, faced with the situation, the questioning of pain relief actions and the inclusion of the psychological approach are necessary to deal with the disturbing issues related to the stressful situation that the wounds entail to individuals. 20

The present study has as limitations the fact that the participants were recruited in Primary Health Care Units, by spontaneous demand, and visited the residences of patients who, on many occasions, did not match the data provided by the professionals of the health units, a fact that may not have covered all patients in the city. It should be noted that although the instrument used is not specific for patients with chronic wounds, it is a generic instrument used worldwide. On the other hand, it provides insight into QoL and its relation to socioeconomic and clinical aspects. It can also provide useful information to support the health policies of prevention and treatment of patients with chronic wounds, improving their QoL.

# CONCLUSION

The present research showed the predominance of female, age over 60 years, with per capita income equal to or less than a minimum wage, low educational level, professionally inactive people and who lived without partners among patients affected by complex chronic wounds. There was a predominance of venous ulcers, and WHOQOL-Bref scores were not affected by wounds, except for the physical domain that obtained a lower score compared to the other domains. Schooling affected the psychological domain, while pain correlated with physical, psychological and time domain of injury, and age with the area of injury.

The nursing team, especially the nurse, has an important role both in the evaluation and in the treat-

ment of these patients, since it has autonomy in the management of these affections. Management must be committed to providing the necessary treatment so that this aggravation has a prospect of improvement in all aspects, in such a way as to have a positive impact on public spending.

Knowing the clinical characteristics of the wounds and the current situation of patients regarding QoL allows a better understanding of the complaints and better care planning contributing to better QoL of the same.

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