DEPRESSIVE SYMPTOMS IN PEOPLE WITH DIFFICULT-TO-HEAL LEG ULCERS TREATED BY A REFERRAL OUTPATIENT CLINIC

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ABSTRACT

Objective: To evaluate the prevalence of depression symptoms and associated factors in people with difficult-to-heal leg ulcers. **Methods:** a descriptive-exploratory and cross-sectional study with a quantitative approach was conducted at the Wound Outpatient Clinic of a municipality located in the north of Minas Gerais - Brazil, the prevalence of depressive symptoms in 32 people with difficult-to-heal leg ulcers was evaluated using the Beck Depression Inventory. **Results:** the prevalence of the outcome analyzed was important, with about 70% of the people presenting depressive symptoms, an association was identified with the location of the ulcer and also with lifestyle. **Conclusion:** depressive symptoms were highly prevalent in people with leg ulcers, which was associated with the location of the ulcers and lifestyle, and it was important for professionals to seek strategies that favor the mental health of people with leg ulcers, especially through multiprofessional action, therapeutic listening and support in operative groups.

Keywords: Wounds and Injuries. Leg ulcer. Depression.

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INTRODUCTION

Leg ulcers are not an isolated disease, but are the result of one or several underlying diseases, and are a public health problem of global concern. Despite few epidemiological surveys on leg ulcers, research indicates that this syndrome affects up to 5% of the adult population of Western countries, in Brazil information on the prevalence is incipient.[1]

Although the data are not well explored, the problem of chronicity of difficult-to-heal leg ulcers has become a challenge for health professionals and health systems, especially due to the fact that their occurrence is related to costly and time-consuming treatments, with inevitable results in the various aspects of the person's and family's life. impacting mental health and quality of life.[2]

In addition, they affect self-image, mobility, and the performance of activities of daily living due to local changes resulting from the wound, such as pain and foul odor, and can result in isolation and social distancing that produces negative impacts on the person's mental health. [2-3-4] For people with chronic wounds or wounds that are difficult to heal, these complications can lead to loss of independence, mood swings, impaired self-esteem and self-image, social and family isolation, and can result in depression.[5]

Ulcers in the lower limbs are of great importance in the lives of patients, a study shows that patients with ulcers had mild to moderate and severe depression. Regarding the intensity of the symptoms, the ones that stood out the most were: lack of satisfaction, pessimism, sense of failure, irritability, indecision and sleep disturbance, distortion of body image, self-depreciation, social withdrawal and suicidal tendencies.[5]

Depression is a worrying condition, given the high prevalence of depression in the world and its negative impact on multiple aspects of life. The early identification of the disease, its severity and its associated factors, are crucial for the recognition of the impact of this disease by the population, health professionals and government agencies responsible for the management of public health policies, in order to stimulate reflection on the theme and instigate the development of strategies/actions aimed at preventing the disease and promoting mental health.[6]

Its development is associated with females, older, with low education, low socioeconomic status, with an impaired social network and the presence of chronic diseases7, such as leg ulcers that do not heal in the expected period, as well as with a low quality of life, since the signs and symptoms of depression promote a negative perception of health in the individual.[8]

Research indicates that when people have an ulcer, there are several changes in their lifestyle in relation to leisure, social restriction, movement and changes in physical appearance due to pain and the appearance of the wound, so these people often feel sad, frustrated, afraid, feeling helpless, and many lose hope that the injury will be healed. which is why most people abandon treatment. People may experience anxiety, depressive symptoms, and may even develop negative feelings about body image, associated with sadness, self-deprecation, and reduced libido. [9-10]

Thus, health demands are intrinsic to chronic illness processes that produce negative results in mental health and quality of life, especially in those who have chronic wounds or wounds that are difficult to heal, the chances of mental suffering, anguish and concerns with the treatment of the injury are greater, thus supporting the realization of the present study, because, Even if there is the institution of an innovative treatment that has assured effectiveness, the efficiency of the treatment depends, among other aspects, above all, on the psychological conditions of the person, which validates the need to investigate these characteristics in people with leg ulcers that are difficult to heal. In this sense, the objective of this study was to estimate the prevalence of depressive symptoms associated with this condition.

METHODS

A descriptive-exploratory and cross-sectional study with a quantitative approach was conducted at the Wounds Outpatient Clinic of a municipality located in the north of Minas Gerais - Brazil. This service treats six wound sufferers in the morning shift and six in the afternoon shift, from Monday to Friday. The study population consisted of 32 people with leg ulcers that were difficult to heal, venous insufficiency, mixed and others who underwent conventional treatment and photobiomodulation in the years 2022 and 2023. Adults of both sexes, who had lesions for at least six weeks, with the ability to respond to the research instruments, were included in the study, and people with types of skin lesions of other etiologies were disregarded.

Data collection was carried out by five trained and calibrated researchers in a pilot study, these people were not included in the final sample of the present study. A questionnaire, a form and four validated instruments were used for data collection. The first, a questionnaire with sociodemographic data and aspects of life, adapted from the National Health Survey - Brazil/Sociodemographic Characteristics and Social Support developed by

Fiocruz in partnership with the Brazilian Institute of Geography and Statistics.[11] The second was a form containing clinical data and laboratory test results, prepared for this research, in order to conduct the primary evaluation of the person with injury, which was based on the medical records of the person with skin lesions followed at the Wound Outpatient Clinic of the municipality.

The validated instruments were the PUSH 3.0 (adapted) or *the Pressure* Ulcer Scale for *Healing12, the WHOQOL* – bref, *which assesses the person's quality of life13, and the "Fantastic Lifestyle"*14 and the Beck Depression Inventory (BDI)15 were used to measure lifestyle, to assess symptoms of depression.

To assess QoL, the *WHO WHOQOL-bref* instrument was used , consisting of 26 questions that make up the 24 facets divided into four domains: "physical" (e.g. physical pain and discomfort, dependence on medication/treatment, energy and fatigue, mobility, sleep and rest, activities of daily living, ability to work), "psychological" (e.g. positive and negative feelings, spirituality/personal beliefs, learning/memory/concentration, acceptance of body image and appearance, self-esteem), "social relationships" (e.g. personal relationships, sexual activity, social support) and "environment" (e.g. physical safety, physical environment, financial resources, new information/skills, recreation and leisure, home environment, health care, transportation). The WHOQOL-bref questions are formulated for responses on a Likert scale, including the level of intensity ("not at all" to "extremely"), ability ("not at all" to "extremely"), frequency ("never" to "always") and evaluation ("very satisfied" to "very dissatisfied"; "very good" to "very bad"). The values of each domain were transformed into a scale from 0 to 100 and described in terms of mean, as indicated in the manual published by the WHOQOL team, in which the highest averages suggest a better perception of QoL.[13]

Lifestyle was assessed using the "Fantastic Lifestyle" *questionnaire*, a generic, self-administered instrument that considers the behavior of individuals in the last month and whose results allow determining the association between lifestyle and health. The instrument has 25 questions divided into nine domains, which are: 1) family and friends; 2) physical activity; 3) nutrition; 4) cigarettes and drugs; 5) alcohol; 6) sleep, seat belt, stress and safe sex; 7) type of behavior; 8) introspection; 9) work. The questions are arranged in the form of a Likert scale, 23 have five answer alternatives and two are dichotomous. The alternatives are arranged in the form of columns to facilitate their coding, and the alternative on the left is always the one with the lowest value or the least relation to a healthy lifestyle.

The coding of the questions is carried out by points, as follows: zero for the first column, 1 for the second column, 2 for the third column, 3 for the fourth column and 4 for the fifth column. The questions that only have two alternatives score: zero for the first column and 4 points for the last column. The sum of all the points allows us to reach a total score that classifies the individuals into five categories, which are: "Excellent" (85 to 100 points), "Very good" (70 to 84 points), "Good" (55 to 69 points), "Regular" (35 to 54 points) and "Needs improvement" (0 to 34 points).[14]

The "*BDI"* is a self-report questionnaire, consisting of 21 questions composed of four alternatives, which mention behaviors and attitudes that the participant may be currently presenting. Each alternative will be evaluated from zero to three points, which will be added later to reach a score. Cut-off points below 10 indicate that the person does not have depression or has minimal depression; from 10 to 18 points, the participant may be presenting a mild to moderate depression; from 19 to 29 points may be presenting a moderate to severe depression and between 30 and 63 points the participant may present a severe condition of the disease.[15]

People with ulcers were invited to participate in the study while waiting for care at the outpatient clinic, and it is noteworthy that at no time was there interference in the participants' responses.

The variables investigated were: sociodemographic characteristics (gender, age, skin color, marital status, years of schooling, professional activity, and family income), behavioral characteristics (performed physical exercise in the last three months and participated in religious activity), clinical conditions (BMI, associated diseases, type of treatment, lifestyle, and quality of life), and characteristics of the lesion (time, region, and area). The dependent variable Symptoms of depression was dichotomized into no symptoms and mild/moderate. The variable quality of life (Whoqol) was categorized through tertiles (the data are divided into three equal parts). The variables that composed the blocks of sociodemographic and behavioral characteristics, clinical conditions, and lesion characteristics were considered as independent variables.

Initially, descriptive analyses of all the variables investigated were performed using simple and relative frequencies, followed by bivariate analyses between the dependent variable (Depression Symptoms) with each independent variable, using the chi-square test, at the level of 5% of significance. Crude and adjusted Prevalence Ratios (PR) were estimated with their respective 95% confidence intervals. The Poisson model with robust

variance was adopted. Variables with *a p-value* ≤ 0.20 were selected for multiple analysis. To evaluate the quality of the model's fit, the *deviance* test was used.All analyses were performed using the Statistical *Package for the Social Sciences* (SPSS), version 20.0.

It is noteworthy that the study complied with the standards related to the ethical aspects recommended by the Resolution of the National Health Council (CNS) No. 466/2012, so that the study was submitted to and approved by the Research Ethics Committee of the State University of Montes Claros under CAAE 96928518.7.0000.5146 and opinion No. 4.332.499.

RESULTS

The study included 32 people with venous insufficiency, mixed insufficiency and others, most of whom were male (56.1%), aged 60 years or older (53.1%) and non-white skin color (71.9%). Other information can be found in Table 1.

Table 1 - Sociodemographic, behavioral, clinical and injury conditions of people with venous, mixed and other insufficiency, Montes Claros, MG, 2022 to 2023.

Variables	n	%
Sociodemographic		
Sex		
Male	17	56,1
Female	15	46,9
Age		
< 60 years	15	46,9
≥60 years old	17	53,1
Skin color		
White	9	28,1
Non-white	23	71,9
Marital status		
With partner	18	56,3
No companion	14	43,8
Years of study		
Higher/Secondary/Technical Education	8	26,7
Elementary school/no study	22	73,3
Professional activity		
Retiree/pensioner	24	82,8
Formal/informal remuneration	5	17,2
Household income		
>2 minimum wages	5	16,1
≤ 2 minimum wages	26	83,9
Behavioral		
Has exercised in the last 3 months		
Yes	4	12,5
No	28	87,5
Participate in religious activity		
Yes	20	62,5
No	12	37,5
Clinical conditions		
BMI		

Eutrophic/Low Weight	9	28,1
Overweight/obesity	23	71,9
Associated diseases		
Hypertension/Other	16	50,0
Diabetes	16	50,0
Type of treatment		
Laser plus conventional treatment	18	56,3
Conventional treatment	4	43,8
Lifestyle (EFV)		
Regular	6	28,6
Needs to improve	15	71,4
Quality of life (Whoqol)		
<tertile 1	10	33,3
Tertile 1 to Tertile 2	10	33,3
>tertile 2	10	33,3
Symptoms of depression		
No depression	10	31,3
Mild to moderate	22	68,7
Characteristics of the lesion		
Time of injury		
< 1 year	13	41,9
>= 1 year	18	58,1
Region of the lesion		
Leg	18	56,3
Foot	14	43,8
Area (cm2)		
< 20	22	71,0
>20	9	29,0

Source: survey data, 2024.

Table 2 presents the Prevalence and Crude Prevalence Ratio for the variable depression symptoms with the independent variables. The variables that showed a p-value ≤ 0.20 were included in the multiple model: family income, BMI, associated diseases, lifestyle, quality of life, time of injury, and region of injury. Only the lifestyle and lesion region variables showed a significant association.

Table 2- Bivariate analysis for Symptoms of mild to moderate depression in people with venous, mixed and other insufficiency, Montes Claros, MG, 2022 to 2023

Variables	Prevalence n (%)	Gross RP	p-value
Sociodemographic			
Sex			0,599
Male	11(64,7)	1	
Female	11(73,3)	1,09	
Age			0,811
< 60 years	10(66,7)	1	
≥60 years old	12(70,6)	1,04	
Skin color			0,874
White	6(66,7)	1	
Non-white	16(69,6)	1,03	
Marital status			0,773
With partner	12(66,67)	1	
No companion	10(71,4)	1,05	
Years of study			0,243

Higher/Secondary/Technical Education	4(50,0)	1	
Elementary school/no study	16(72,7)	1,26	
Professional activity			0,454
Retiree/pensioner	15(62,5)	1	
Formal/informal remuneration	4(80,0)	1,19	
Household income			0,096
>2 minimum wages	2(40,0)	1	
≤ 2 minimum wages	20(76,9)	1,45	
Behavioral			
Has exercised in the last 3 months			0,387
Yes	2(50,0)	1	
No	20(71,4)	1,24	
Participate in religious activity			0,325
Yes	15(75,0)	1	
No	7(58,3)	0,85	
Clinical conditions			
BMI			0,064
Eutrophic/Low Weight	4(44,4)	1	
Overweight/obesity	18(78,3)	1,40	
Associated diseases			0,127
Hypertension/Other	13(81,2)	1	
Diabetes	9(56,2)	0,78	
Type of treatment			0,631
Laser plus conventional treatment	13(72,2)	1	
Conventional treatment	9(64,3)	0,92	
Lifestyle (EFV)			0,040
Regular	6(100)	1	
Needs to improve	8(53,3)	0,63	
Quality of life (Whoqol)			0,091
<tertile 1	8(80,0)	1	
Tertile 1 to Tertile 2	4(40,0)	1,0	
>tertile 2	8(80,0)	0,67	
Characteristics of the lesion			
Time of injury			0,160
< 1 year	7(53,8)	1	
>= 1 year	14(77,8)	1,27	
Region of the lesion			0,009
Leg	9(50,0)	1	
Foot	13(92,9)	1,54	
Area (cm2)			0,445
< 20	14(63,6)	1	
>20	7(77,8)	1,15	

Source: survey data, 2024.

Table 3 presents the adjusted model, adjusted prevalence ratio, and the confidence interval for depression symptoms. The variable Symptoms of depression was compared with the variables that showed a p-value ≤ 0.20 in Table 2 of Prevalence and Crude Prevalence Ratio. The result was significant only for the variable lesion region (PR= 1.54, P=0.002). People with foot injuries had a higher prevalence of depressive symptoms at 86%.

Table 3- Model adjustment for Symptoms of mild to moderate depression in people with venous, mixed and other insufficiency, Montes Claros, MG, 2022 to 2023.

Variables	RPadjusted	95% CI	p-value
Household income			
>2 minimum wages	1		
≤ 2 minimum wages	1,64	(,49-5,49)	0,419
BMI			
Eutrophic/Low Weight	1		
Overweight/obesity	0,88	(0,28-2,78)	0,882
Associated diseases			
Hypertension/Other	1		
Diabetes	1,22	(0,61-2,41)	0,835
Lifestyle (EFV)			
Regular	1		
Needs to improve	0,85	(0,64-1,12)	0,246
Quality of life (Whoqol)			
<tertile 1	1		
Tertile 1 to Tertile 2	075	(0,39-1,47)	0,407
>tertile 2	0,76	(0,36-1,61)	0,477
Time of injury			
< 1 year	1		
>= 1 year	0,92	(0,45-1,88)	0,882
Region of the lesion			
Leg	1	-	**0,012**
Foot	1,86	(1,14 – 3,01)	

PR: Adjusted prevalence ratio, CI: confidence interval Deviance: 14.403, P= 0.480
Source: survey data, 2024.

DISCUSSION

In this study, the symptoms of depression and associated factors in people with difficult-to-heal leg ulcers were evaluated, in this sense, the prevalence of the analyzed outcome was important, with about 70% of people presenting depressive symptoms. Depression represents considerable numbers in contemporary times, and can cause serious damage to people's quality of life16, also reflecting on psychosocial issues17.

A study conducted in the United States indicates that between 20 and 40% of people with leg ulcers have depressive symptoms18.

A meta-analysis that evaluated studies conducted in Europe, Asia, and North America identified prevalence of depressive symptoms of 49%, 37%, and 62%, respectively.[19] The profile of the study population was predominantly elderly, the increase in the prevalence of wounds in this public is a fact known by health professionals and has produced many discussions. Health care for people with skin lesions is a problem of significant dimension, representing a challenge to be faced routinely, both by professionals and by the person and their caregivers.[10]

Ulceration in the lower limbs of the elderly is a condition that leads the person to social isolation, as a result of worsening mobility, decreased functional capacity and the presence of pain, leading to worsening quality of life, low self-esteem, compromised self-image and depression.[20-21] Depression in the elderly population is an important public health problem due to its high prevalence, frequent association with chronic diseases, negative impact on quality of life, and risk of suicide.[10]

Another important aspect was the low education level of people with leg ulcers, in this sense, the level of education is a variable that can influence people's self-care, especially those who have wounds, since the use of medications, dressings and sometimes complex diets is part of the treatment.[22] Lack of education can be pointed out as one of the factors responsible for ignorance in relation to certain health care. Such a situation, added to other biosocial, cultural and economic factors, can lead to the adoption of a lifestyle considered to be at risk for chronic non-communicable diseases.[23]

Paradoxically, the whole dynamics of life can be different when one has a higher level of education, for example, greater opportunities for occupation, more adequate salaries and adherence to treatment with specialized professionals.[21]

Lifestyle impacted depressive symptoms, a healthy lifestyle, through proper nutrition, sun exposure, maintenance of sleep quality, physical activity, spirituality and balanced mental health help maintain health. Healthy habits practiced in an integral way enhance the immune system and reduce the vulnerability of the elderly, making the body more resistant to comorbidities.[24] It is noteworthy that physical health is intrinsically related to mental health, and it is important to adopt healthy habits for the maintenance of both and better coping with diseases.[25]

In this study, the location of the ulcer was associated with depressive symptoms, thus, leg ulcers can limit and even prevent the execution of basic aspects of daily life, such as locomotion and ambulation, due to chronic pain or discomfort, thus affecting the person's lifestyle habits. There is also damage to coexistence, causing depression, social isolation, low self-esteem, absence from work or early retirement, and increased hospitalizations or outpatient visits, which causes a reduction in quality of life and an important social and economic impact.[26]

In clinical practice, it is noted that people with leg ulcers are limited in the performance of work activities, either due to the use of dressings, which may be necessary to change two or more times daily, or due to physical difficulties. This promotes feelings

such as sadness, frustration, fear, powerlessness, as well as loss of autonomy and independence. These feelings can arise because the person feels mutilated and has difficulty choosing a garment so that people do not notice that he has an injury and that his leg is swollen, which can intensify when the wound has exudate and odor.[27]

Aesthetic factors are significantly relevant for these people, since most of them live daily with the use of bandages, socks and other instruments of continuous use. In addition to the visual aspects, there are those that affect other senses, such as smell. The odor exhaled by the lesion retracts the person from social interaction and leisure, resulting in isolation from friends and family, as many fear prejudice. Such factors lead to low self-esteem, changes in self-image and quality of life, anxiety, and depression. [28-29]

Depression is considered one of the top ten reasons for disability in the world, limiting physical, personal, and social functionality. However, a small portion of the affected people receive timely treatment and stigma weighs heavily on them. The way society identifies the symptoms of depression and beliefs about its causes can limit the process of seeking help, adherence to treatments, as well as the attitude and behavior of the community towards people who have this condition.[30]

The results of the present study indicate the need to redirect the care of people with leg ulcers. The search for and identification of emotional changes among these people is recommended in health services, both in outpatient and hospital institutions, and in home care. In view of the needs registered in recent decades, resulting from the increase in chronic diseases and the number of people with injuries, it is equally necessary to rethink the academic training and qualification of health professionals, valuing not only the content, but also the practice of care.[10]

CONCLUSION

The prevalence of the analyzed outcome was important, with most people presenting depressive symptoms, in this sense, the location of the leg ulcer was associated with symptoms of depression, it is possible that this result is related to the limitations imposed by the ulcer, as this condition entails numerous challenges that interfere with the performance of life activities in a satisfactory way. Leg ulcers potentiate disabilities, causing discomfort, pain, physical limitation and difficulties in performing daily activities, impacting the quality of life of the general population. It is emphasized that differentiated strategies are needed to reduce the impact caused by the wound.

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