



Clinical evaluation of patients with leg ulcers attended in outpatient clinic

Avaliação clínica de pacientes com úlceras de perna acompanhados em ambulatório

Evaluación clínica de pacientes con úlceras de piernas en tratamiento ambulatorio

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ABSTRACT

Objective: to perform clinical and sociodemographic evaluation of patients with leg ulcers. **Method:** cross-sectional study with a quantitative approach, performed with 105 patients with leg ulcers in public outpatient clinics located in Niterói/RJ, approved by the Research Ethics Committee of the Medical School of Universidade Federal Fluminense. Data were collected from January to August 2019, analyzed by descriptive statistics and organized in tables. **Results:** most were male patients (57.1%), aged between 60-80 years (60%), with incomplete primary education (45.7%) and monthly income up to 1 minimum wage (64.8%). Most ulcers were of venous etiology (76.2%), present for 40 months or more (54.3%), with size greater than 10cm² (53.3%), having serous exudate (91.4%) in small quantity (40%) and predominance of granulation tissue (36.2%). Pain was a frequent finding, related with the leg position (31.4%). **Conclusion and implications for practice:** the knowledge of the population profile and clinical characteristics of wounds favors treatment optimization, allowing specific nursing care planning.

Keywords: Ulcer; Leg ulcer; Wounds and Injuries; Nursing; Ambulatory Care.

RESUMO

Objetivo: realizar avaliação clínica e sociodemográfica de pacientes com úlceras de perna. **Método:** estudo transversal, quantitativo, com 105 pacientes com úlceras de perna em ambulatórios da rede pública de Niterói/RJ, aprovado pelo Comitê de Ética em Pesquisa da Faculdade de Medicina da Universidade Federal Fluminense. Os dados foram coletados no período de janeiro a agosto de 2019, analisados por estatística descritiva e dispostos em tabelas. **Resultados:** pacientes do sexo masculino (57,1%), de 60 a 80 anos (60%), com ensino fundamental incompleto (45,7%), renda de até 1 salário mínimo (64,8%). A maioria das lesões foi de etiologia venosa (76,2%), de tempo igual ou superior a 40 meses (54,3%), com tamanho maior que 10cm² (53,3%), apresentando exsudato seroso (91,4%) em pequena quantidade (40%) e predominância de tecido granulado (36,2%). A dor foi um achado frequente, relacionada com a posição do membro (31,4%). **Conclusão e implicações para a prática:** o conhecimento do perfil da população acompanhada e das características clínicas das lesões favorece a otimização do tratamento, permitindo um planejamento específico da assistência de enfermagem.

Palavras-chave: Úlcera; Úlcera da perna; Ferimentos e lesões; Enfermagem; Assistência ambulatorial.

RESUMEN

Objetivo: realizar evaluación clínica y sociodemográfica de pacientes con úlceras de piernas. **Método:** estudio transversal, cuantitativo, con 105 pacientes con úlceras de piernas en clínicas públicas en Niterói/RJ, aprobado por el Comité de Ética en Investigación de la Facultad de Medicina de la Universidade Federal Fluminense. Los datos fueron recolectados de enero a agosto de 2019, analizados por estadística descriptiva y presentados en tablas. **Resultados:** pacientes del sexo masculino (57.1%), de 60 a 80 años (60%), con educación primaria incompleta (45.7%), ingresos de hasta 1 salario mínimo (64.8%). La mayoría de las lesiones fueron de etiología venosa (76.2%), con una duración de 40 meses o más (54.3%), con un tamaño superior a 10 cm² (53.3%), presentando exudado seroso (91.4%) en pequeña cantidad (40%) y predominio de tejido granulado (36.2%). El dolor fue un síntoma frecuente, relacionado con la posición del miembro (31.4%). **Conclusión e implicaciones para la práctica:** el conocimiento del perfil de la población monitoreada y las características clínicas de las lesiones favorecen la optimización del tratamiento, lo que permite una planificación específica de la atención de enfermería.

Palabras clave: Úlcera; Úlcera de la Pierna; Heridas y Traumatismos; Enfermería; Atención Ambulatoria.

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INTRODUCTION

In view of the changes in the population's epidemiological and demographic profile, with increased life expectancy, we can predict an increase in the number of individuals with chronic-degenerative diseases resulting from aging.^{1,2} Thus, with the consequent global increase in chronic diseases, it is estimated a concomitant increase in the number of individuals with injuries secondary to the underlying pathology.³

The presence of comorbidities such as diabetes mellitus, systemic arterial hypertension, obesity, neoplasms and vasculopathies favors the development of complex wounds, difficult to heal.² Chronic injuries associated with these comorbidities delay the healing process, causing an important economic impact on the services of health as they demand specialized interdisciplinary care, use of specific products and a long period of treatment.^{2,4} In addition, they have important implications for the quality of life and the economic situation of the individual and his/her family, since they cause the absence from work activities and hinder the performance of daily activities.^{1,2}

The nurse's assessment, including the relevant guidelines and choosing the most appropriate treatment, should be based on the characteristics of the lesions and the presence of comorbidities, as well as on the profile of the patients and their socio-demographic and economic conditions.²

Thus, it is evident the importance of knowledge of the socioeconomic and clinical characteristics of patients monitored through outpatient care, aiming at identifying their profile and assessing possible changes necessary for the organization of the service, contributing to the guidance and planning of more effective goals, allowing a planning of care by the nurse consistent with the local reality and directed to the needs of the clientele.²⁻⁵

The healing process of acute wounds comprises a series of steps well understood by science and takes place in an orderly manner as healing occurs. When it comes to a chronic wound, this process is interrupted or disordered. Thus, further studies are needed to better understand the factors involved in the pathophysiology of chronic wounds.⁶

This complex process usually occurs in overlapping phases. Initially, there is hemostasis and the inflammatory phase, when there is an increase in vascular permeability, chemotaxis and cell activation. Then the proliferative phase begins, with migration of fibroblasts, production of granulation tissue and angiogenesis. The remodeling phase can take from weeks to years and is characterized by collagen deposition.^{4,6} Several factors can influence the healing process, including wound size, depth, location, age and presence of comorbidities.⁶

Given this context, this study aimed to perform clinical and sociodemographic evaluation of patients with leg ulcers followed up on an outpatient basis.

METHODOLOGY

This is an observational, cross-sectional study with a quantitative approach, carried out through the care of 105 patients with leg ulcers monitored at the Wound Care Clinic of a University Hospital

in the state of Rio de Janeiro/RJ and in a Regional Polyclinic/RJ, both units of the public network of the city of Niterói.

This study used sequential sampling, recruiting patients consecutively during routine outpatient nursing care, and patients with leg ulcers aged over 18 years were included in the study and participants with suspected or confirmed pregnancies were excluded. Data collection was performed by the research nurse responsible for the care, from January to August 2019, using the Leg Ulcer Measurement Tool (LUMT), which includes items for clinical evaluation of the ulcer, pain, quality of life and is considered suitable for use in the context of the Brazilian reality.⁷ The evaluation of the lesion area was performed by decaling the ulcers in sterile acetate for use of the manual planimetry technique.

The variables of sociodemographic characterization and clinical history were: sex, age, education, income and comorbidities present. The lesion characterization variables were: etiology of the lesion, location, ulcer time, ulcer size in cm², type and amount of exudate, amount of necrotic tissue and granulation tissue, presence and type of edema, frequency and intensity of pain and perception of quality of life.

The research was approved by the Research Ethics Committee of the Medical School of Universidade Federal Fluminense, respecting the principles established in Resolution No. 466/2012 of the National Health Council with CAAE No. 56252216.2.0000.5243.

Participants were invited to join in the research, informed about the objectives and method of the study and, data collection occurred after signing of the Free and Informed Consent Form.

The data collected from the research instruments were placed in an electronic spreadsheet of the Microsoft Excel program and later tabulated in relation to the sociodemographic characteristics and clinical and descriptive data of the injuries.

RESULTS

The sample consisted of a total of 105 participants, most of whom were male (57.1%), aged between 60-80 years (60%), presenting as most frequent comorbidities chronic venous insufficiency (81%) and systemic arterial hypertension (73.3%). As for the etiology of the lesions, the majority identified were venous ulcers (76.2%). (Table 1).

Regarding the level of education, the majority declared to have incomplete elementary school (45.7%), followed by complete high school (23.8%), complete elementary school (11.4%), illiterate (5.8%), complete high school and complete higher education (both representing 4.8%) and incomplete higher education (2.9%). As for income, most of the participants stated that they received up to 1 minimum wage (64.8%), followed by 2 to 3 minimum wages (31.4%) and more than 3 minimum wages (3.8%).

As for the clinical characteristics of the lesions, the majority were located in the malleolus region (56.2%), with onset time equal to or greater than 40 months (54.3%) and 62.9% were not recurrent. There was a predominance of lesions larger than 10 cm² (53.3%), according to the manual planimetry method,

Table 1. Distribution of patients according to sex, age, presence of comorbidities and type of ulcer. Niterói, RJ, 2019. (N = 105).

Variable	N	%
Sex		
Female	45	42.9
Male	60	57.1
Age (years)		
20 —40	3	2.9
40 —60	25	23.8
60 — 80	63	60.0
80 —100	14	13.3
Comorbidities		
Systemic Arterial Hypertension	77	73.3
Chronic Venous Insufficiency	85	81.0
Diabetes Mellitus	46	43.8
Peripheral Arterial Occlusive Disease	5	4.8
Type of ulcer		
Venous	80	76.2
Diabetic	20	19.0
Arterial	1	1.0
Mixed	4	3.8

Table 2. Distribution of ulcers according to location, time and size. Niterói, RJ, 2019. (N = 105).

Variable	N	%
Ulcer location		
Malleolus	59	56.2
Anterior Distal Third	8	7.6
Posterior Distal Third	6	5.7
Distal Third	4	3.8
Dorsum of the foot	10	9.5
Limb stump	9	8.6
Hallux	6	5.7
Foot plantar region	3	2.9
Ulcer time (months)		
0 —6	23	21.9
6 — 11	5	4.8
11 — 21	7	6.7
21 —31	8	7.6
31 — 40	5	4.8
Greater than or equal to 40	57	54.3
Ulcer Size		
<2.5 cm ²	24	22.9
2.5-5.0 cm ²	14	13.3
5.1-10.0 cm ²	11	10.5
> 10 cm ²	56	53.3

Table 3. Distribution of ulcers according to type and amount of exudate, amount of necrotic tissue and granulation tissue and type of leg edema. Niterói, RJ, 2019. (N = 105).

Variable	N	%
Exudate Type		
Serosanguineous	8	7.6
Serous	96	91.4
Seropurulent	1	1.0
Quantity of Exudate		
Scarce	22	21.0
Small	42	40.0
Moderate	28	26.7
Large	13	12.4
Quantity of Necrotic Tissue		
Absent	29	27.6
1 to 25% covered	38	36.2
26 to 50% covered	21	20.0
51 to 75% covered	4	3.8
76 to 100% covered	13	12.4
Granulation Tissue Amount		
76 to 100% covered	29	27.6
51 to 75% covered	38	36.2
26 to 50% covered	21	20.0
1 to 25% covered	17	16.2
Type of leg edema		
None	28	26.7
Without pitting or firm	47	44.8
With pitting	8	7.6
Fibrosis	21	20.0
Hardened	1	1.0

which consists of measuring through the drawing of the wound shape, using sterile transparent plastic sheet, overhead pen and graph paper in centimeters, providing thus the size of the lesion accurately⁸ (Table 2).

Most of the lesions presented serous exudate (91.4%) in a small amount (40%), with 51 to 75% of granulated area (36.2%). As for the presence of edema, most participants had firm or without pitting edema (44.8%) (Table 3).

As for the frequency of pain, most participants reported feeling pain depending on the position of the limb (31.4%), of intensity >7 (29.5%) on a numerical scale. Regarding quality of life, most reported feeling satisfied (44.8%) (Table 4).

Table 4. Assessment of pain intensity and frequency and quality of life. Niterói, RJ, 2019. (N = 105).

Variable	N	%
Pain Intensity		
None	32	30.5
>0-2	11	10.5
>2-4	18	17.1
>4-7	13	12.4
>7	31	29.5
Frequency of Pain		
None	32	30.5
Occasional	31	29.5
Depends on the position	33	31.4
Constant	8	7.6
Hinders sleep	1	1.0
Quality of life		
Very satisfied	1	1.0
Satisfied	47	44.8
Not very satisfied	22	21.0
Dissatisfied	25	23.8
Terrible	10	9.5

DISCUSSION

Some studies reveal a predominance of injuries in male patients,^{2,9-11} while others mention a higher number in female patients.^{8,12,13} There is a description in the literature that the percentage difference between the female and male sexes of individuals affected by chronic wounds has been decreasing over the years.^{3,13}

The results regarding the age of the participants are consistent with the fact that most chronic wounds are associated with the conditions of the elderly population, including a higher prevalence of chronic-degenerative diseases, in addition to the harmful effect of aging on wound healing and repair mechanisms.^{3,5,8,14} With advancing age, there is a decrease in the inflammatory response, reducing collagen metabolism, angiogenesis and epithelialization, slowing the healing in the elderly.⁵

The predominance of low level of education is an important finding to be considered for the management of nursing care, since the treatment of injuries involves both pharmacological and educational actions, aiming to control the underlying cause of the ulceration and the factors that exacerbate it, to promote healing and prevention of recurrence.¹⁵ The guidance provided by health professionals can be less easily understood by patients with less education, thus, educational actions must be adapted

and directed in an individualized way, allowing the patient to understand and apply the guidelines in their routine.¹¹

The results of this research for the variables education and income are similar to other studies carried out with patients with chronic wounds and can be explained because the research fields belong to the public health network, presenting a clientele with lower income and less years of study.^{3,5,16,17} These factors may be associated with a lifestyle that favors the appearance of ulcers, with difficulty in accessing specialized health services and inadequate injury management.⁵ Income is an important data to be considered in the context of chronic wounds, as the lack of financial resources to maintain the treatment can cause the patient to abandon therapy.³

Chronic venous insufficiency is responsible for about 70% of leg ulcers, with a general prevalence in the population of 1 to 2%.¹⁵ It is related to prolonged venous hypertension, which may be the result of the existence of primary varicose veins, sequelae of deep vein thrombosis, venous valves abnormalities or other causes capable of interfering with the return of venous blood.⁵ Systemic arterial hypertension and diabetes were also frequent as existing comorbidities and confirm data present in the literature that associate most chronic wounds with these conditions, since they interfere in the healing process due to vascular complications.²⁻⁴

Most of the lesions evaluated were of venous etiology, and this result is compatible with data in the literature that state that venous ulcers stand out among leg ulcers, representing 70 to 90% of all lower limb ulcers and are considered the most severe complication of chronic venous insufficiency, being caused essentially by venous hypertension.^{4,5,15} Diabetic ulcers and possible amputations are the most serious complications of diabetes mellitus and occur in about 15% to 25% of patients with diabetes, as a consequence of the evolution of neuropathy.^{8,18}

The predominance of lesions in the malleolar region is explained by the fact that the majority of leg ulcers present in this study are of venous etiology, which are predominantly located in the distal portion of the lower limbs, especially in the region of the medial malleolus.^{4,8,11,13}

The prolonged healing time is foreseen, due to the pathophysiology of chronic wounds and these results are similar to those of other studies, showing that most patients have leg ulcers for years, with or without recurrences.^{5,11,13-15} Regarding size, there is no consensus in the literature on the classification of ulcers as small, medium and large, with divergences between studies.¹³

As for the type of exudate, the predominance of the serous type is justified by the fact that venous ulcers, occurring in greater numbers in this study, present more commonly serous exudate and in small amounts, being findings compatible with data from other similar studies with chronic wounds.^{4,8,11}

The characteristic of the tissue in the wound bed is an important indicator of the stage of healing achieved or of complications that may be present.^{3,4} The results found show that most injuries had a favorable prognosis, with little or no necrosis area and

predominance of granulated tissue, characterized as the healing stage that precedes epithelialization.^{3,8}

Edema is a common factor among patients with leg ulcers, according to data found in other studies as well.^{8,11,13} Venous insufficiency, a comorbidity highlighted in this research, is involved with venous hypertension, which damages capillaries making them more permeable, allowing the passage of several molecules, generating eczema, caused by the degradation of hemoglobin; edema, due to the accumulation of interstitial fluid, hyperpigmentation and lipodermatosclerosis.¹⁷

The results regarding the presence of pain corroborate evidence that pain is one of the main problems that affect individuals with leg ulcers, and may be present in about 28 to 65% of people with injuries and present with different characteristics, regardless the size of the wound.^{11,13,14} The condition of worsening pain depending on the position is consistent with the prevailing panorama of venous ulcers, which have as a characteristic the pain that worsens when standing or walking and is relieved with elevation of the limbs.¹³ These findings reinforce the importance of incorporating pain assessment by health professionals into the routine of care for this population, in addition to the relevant guidelines.¹¹

Previous studies on the quality of life of individuals with leg ulcers associated the domains related to functional capacity, pain and limitation due to physical and emotional aspects as those responsible for impairing the quality of life standard. The domains related to higher scores were those related to general health, vitality, social aspects and mental health.¹¹ Thus, these results suggest that despite the impact of chronic injuries on the individual's life, some factors have an important positive contribution regarding the patient's perception of their quality of life.

CONCLUSION AND IMPLICATIONS FOR PRACTICE

Regarding sociodemographic characteristics, it was shown that most patients were male, aged 60 to 80 years, with incomplete elementary education and declared income of up to 1 minimum wage. The most frequent comorbidities were chronic venous insufficiency and systemic arterial hypertension. Most of the lesions were of venous etiology, located in the malleolar region, appearing for a period of 40 months or more, non-recurring, of a size greater than 10 cm², presenting serous exudate in small amounts, with little or no necrosis area and with a predominance of granulated tissue. The edema without pitting or firm was predominant, most of the participants declared to feel intense pain (>7) related to the position of the limb and, despite these reports, most of them reported feeling satisfied in relation to quality of life.

The knowledge of the profile of the monitored population and the clinical data of chronic wounds allows a more targeted and individualized performance of the nursing team during outpatient care, helping to determine specific care according to the predominant characteristics of the population and injuries,

aiming at the optimization of treatment with guidelines and actions adapted to the needs and specificities of the clientele served.

As a limitation of the study, the sample size stands out, because although all participants available in the scenarios were included, during the collection period there was an interruption in the flow of admission of patients referred from external units to the hospital, thus preventing new patients from starting treatment at the outpatient clinic, and the other scenario was a regional polyclinic, with service restricted to the local population.

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AUTHORS' CONTRIBUTIONS

Study design. Collection or production of data. Data analysis and interpretation of results. Writing and critical review of the manuscript. Approval of the final version of the article. Responsibility for all aspects of the content and the integrity of the published article. Fernanda Rabello Sergio. Isabelle Andrade Silveira. Beatriz Guitton Renaud Baptista de Oliveira

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