ORIGINAL ARTICLE

PAIN PATTERN IN PATIENTS WITH LEG ULCERS
PADRÃO DA DOR DE PACIENTES COM ÚLCERAS DE PERNA
ESTÁNDAR DEL DOLOR DE PACIENTES CON ÚLCERAS DE PIERNA

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ABSTRACT

Objective: to evaluate the pain pattern of patients with leg ulcers. *Method*: it is an exploratory, descriptive, cross-sectional study with a quantitative approach performed in a university hospital with a sample of 40 patients. Data collection was performed by an instrument composed of patient identification, wound characteristics and pain evaluation (McGill questionnaire and Numerical Pain Scale). The data were organized by spreadsheets in the Microsoft Excel application, analyzed by descriptive statistics, organized in tables. *Results*: the pain was characterized as pinched, pricked, throbbing, needled, nauseous and burning, with a moderate to strong intensity pattern. It appears at dusk, worsens in orthostatic position, requiring medication and elevation of limbs for control. *Conclusion*: the chosen words demonstrated that the pain has nociceptive and neuropathic character. It is important to evaluate the pain multidimensionally to guide the nursing interventions aiming at the effective control of pain. *Descriptors*: Leg Ulcer; Pain; Nursing.

RESUMO

Objetivo: avaliar o padrão da dor de pacientes com úlceras de perna. *Método*: estudo exploratório, descritivo, transversal, de abordagem quantitativa, realizado em um hospital universitário com amostra de 40 pacientes. A coleta de dados foi realizada por um instrumento composto pela identificação do paciente, características da ferida e avaliação da dor (questionário de McGill e Escala Numérica da Dor). Os dados foram organizados por meio de digitação em planilha eletrônica do aplicativo Microsoft Excel, analisados pela estatística descritiva e dispostos em tabelas. *Resultados*: a dor foi caracterizada como fisgada, pontada, latejante, agulhada, enjoada e queimação, com padrão de intensidade moderada a forte. Aparece ao anoitecer, piora em posição ortostática, necessita de medicação e elevação dos membros para controle. *Conclusão*: as palavras escolhidas demonstraram que a dor tem caráter nociceptivo e neuropático. Ressalta-se a importância de avaliar a dor multidimensionalmente a fim de orientar as intervenções de enfermagem visando ao controle efetivo da dor. *Descritores*: Úlcera da Perna; Dor; Enfermagem.

RESUMEN

Objetivo: evaluar el estándar del dolor en pacientes con úlceras de pierna. *Método*: estudio exploratorio, descriptivo, transversal, de enfoque cuantitativo, realizado en un hospital universitario con muestra de 40 pacientes. La recolección de datos fue realizada por un instrumento compuesto por la identificación del paciente, características de la herida y evaluación del dolor (cuestionario de McGill y Escala Numérica del Dolor). Los datos fueron organizados por medio de digitación en planilla electrónica del aplicativo Microsoft Excel, analizados por la estadística descriptiva, dispuestas en tablas. *Resultados*: el dolor se caracterizó como punzada, punzada, palpitante, pinchazo, náuseas y ardor con un patrón de fuerte a moderada intensidad. Aparece al anochecer, empeora en posición ortostática, necesita de medicación y elevación de los miembros para control. *Conclusión*: las palabras escogidas demostraron que el dolor tiene carácter nociceptivo y neuropático. Se resalta la importancia de evaluar el dolor multi-dimensionalmente para orientar las intervenciones de enfermería visando el control efectivo del dolor. *Descriptores*: Úlcera de la Pierna; Dolor; Enfermería.

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INTRODUCTION

The International Association for the Study of Pain states that Pain is "an unpleasant sensory and emotional experience associated with present or potential harm, or described regarding such harm."[1]

The sensation of pain is fundamental to survival, as it is the first indicator of any tissue injury. Several sites are paired with various types of pain sensations, and their perception is a rich and multidimensional experience, which varies in both quality and sensory intensity, as well as in their affective-motivational characteristics.[2]

There are several classifications for pain, such as chronic pain that is usually related to chronic pathological processes, and it can be defined as continuous or recurrent pain lasting at least three months.[3]

It is estimated that 7% to 40% of the world´s population suffers from chronic pain. Despite the high incidence of chronic pain presented by international research, the few Brazilian studies have been conducted in specific situations (workers, elderly, body regions) or at an outpatient level.[4]

Chronic pain is usually a common experience in individuals with leg ulcers, which are prevalent among chronic wounds in the general population (0.6 to 3.6/1000 people). Pain occurs in 28% to 65% of people with these lesions.[5]

The measurement of pain should be part of the evaluation of the nursing team that takes care of injuries, as it subsidizes the elaboration of strategies for effective control, reducing physical and emotional discomfort, resulting in shorter hospital stay or outpatient care, reducing the distance from work and other social activities, as well as reducing direct costs of the health sector.

Appropriate measurement enables to examine the nature, origins, and clinical correlates of pain, depending on the patients´ emotional, motivational, cognitive, and personality characteristics.[6]

Pain scales are the most used feature for their measurement, despite the limitations presented by the fact that they are one-dimensional instruments. There are several types of scale, such as the numerical scale of the word scale and the scale of faces. One multidimensional pain assessment is the use of the McGill questionnaire, considered a good tool for the evaluation of chronic pain through qualitative and quantitative information based on verbal descriptions.

Based on the previously described scenario, this study aims to evaluate the pain pattern of patients with leg ulcers and to correlate pain with the sociodemographic and clinical characteristics of the patient.

METHOD

This is a descriptive, cross-sectional exploratory study with a convenience sample, comprised of 40 patients of both gender who met the inclusion criteria: individuals aged 18 years or over; With one or more venous, arterial, diabetic or other comorbid ulcers whose minimum evolution time was 12 weeks; With cognitive conditions to respond to the questionnaire.

Data collection was performed from November 2013 to February 2014 by a pain assessment instrument composed of patient identification, wound characteristics and pain assessment (using the McGill and Numerical Pain Scale questionnaire).

The McGill Questionnaire, translated in Brazil in 1996, has 78 words that characterize or represent the way the patient feels the pain, being numbered according to their intensity and their summation representing the pain Index. These words are grouped into 20 groups, which represent the Number of Descriptors. The words are arranged within the Descriptors of increasing form of intensity and receive a value corresponding to this intensity. Descriptors 1 to 10 represents sensorial characteristics of the pain, sensitive responses to the painful experience (traction, heat, twist, among others). Descriptors number 11 to 15 represent affective characteristics, which are affective responses (fear, punishment, neurovegetative responses, etc.). Descriptor 16 represents the Evaluative characteristic (evaluation of the overall experience), and those of 17-20 represent Miscellany (which is a mixture of the others).[7]

The Numerical Pain Scale measures the intensity of pain from 0 to 10, in which, with a score of zero to two, the pain is considered mild, three to seven is moderate, and eight to 10 is intense.

The variables of analysis were sociodemographic characterization (gender, age, and education), health (basic diseases), clinical (etiology, lesion size, time of ulcer and location) and pain (location, moment at which pain happens, factors that alleviate and worsen pain, the influence of day-to-day pain, the pain index provided through the questionnaire, and the scale).

The data were collected and organized by spreadsheet in the Microsoft Excel

application. The treatment of the data was done through descriptive analysis, expressed by the mean for numerical data and the frequency (n) and percentage (%) for categorical (qualitative) data. The data analysis included: descriptive and exploratory analysis of the variables through the distribution of absolute and percentage frequencies presented in tables and discussed from the perspective of the literature.

The research is part of the project "Nursing Diagnostics in Patients with Chronic Ulcer," approved by the Research Ethics Committee of the Faculty of Medicine of the University hospital under CAAE number 0235.0.258.000-09, in compliance with the principles of Resolution 196/96 of the National Health Council (CNS) of the Ministry of Health.

RESULTS

The results will be presented in two parts, the first part presenting the sociodemographic and clinical characteristics of the lesions of

♦ **Pain Standard**

individuals with leg ulcers and the second part showing the pain pattern of these individuals.

♦ **Sociodemographic and Clinical Characteristics of Individuals**

Regarding sociodemographic characteristics, 25 (62.5%) the volunteers were female, with mean age of 63.9 years old, a low level of education was evidenced, 21 (52.5%) volunteers presenting only the 1st grade, the predominant underlying diseases were Chronic Venous Insufficiency Associated with Systemic Arterial Hypertension, diagnosed in 16 (40%) volunteers.

Regarding the clinical characteristics of the wounds, 28 (70%) were located in a malleolar region; 31 (77.5%) volunteers had ulcers of venous etiology. The mean time of ulcer evolution was 5.27 years, and the mean wound size was 32.15 cm².

Table 1. Answers on pain of 40 patients with leg ulcers. Niterói (RJ), Brazil, 2014.

Questions	n	%
Location of pain		
In the ulcer	21	52.5%
In ulcer and limb	18	45%
In the limb	1	2.5%
Moment when the pain happens		
At night	17	42.5%
Did not notice	9	22.5%
The whole day	4	10%
At dawn	3	7.5%
Healing exchange	3	7.5%
In activity	2	2.5%
In the afternoon	2	2.5%
Factors Relieving Pain		
Medication	16	40%
Medication/raising limbs	13	32.5%
Raising limbs	4	10%
Wash with 0.9% SF/Medication	2	5%
Home	2	5%
Medication/Warm Compress	1	2.5%
Elevating limbs/Cold compress	1	2.5%
Washing with SF at 0.9%/	1	2.5%
Factors that aggravate pain		
Standing up/walking	23	57.5%
Did not notice	10	25%
Activity break	3	7.5%
Infected wound	2	5%
Daily activities	1	2.5%
Feeding	1	2.5%
Influence of pain daily		
Did not notice	13	32.5%
Decreasing productivity/mood swings	13	32.5%
Hindering everyday activities	11	27.5%
Difficulty walking	3	7.5%

♦ **McGill Questionnaire**

In the sensorial descriptors of the McGill questionnaire (from 1 to 10), the most chosen

words to describe the pain per group were: pinched, with 35 (87.5%) volunteers; pricked with 31 (77.5%) volunteers; throbbing, with 29 (72.5%) volunteers; needling with 26 (65%) volunteers; burning, with 21 (52.5%) volunteers; sensitive with 18 (45%) volunteers; thin with 17 (42.5%) volunteers; ardor, with 14 (35%) volunteers; painful with 12 (30%) volunteers; and nipping, with 9 (22.5%) volunteers.

In the affective descriptors (from 11 to 15), the highlighted ones by group were: nauseous, with

26 (65%) volunteers; tired, with 17 (42.5%) volunteers; punishing, also with 17 (42.5%)

volunteers; and frightening, with 13 (32.5%) volunteers.

In the evaluative descriptor (16), boring and "annoying" descriptors together, accounted for 65% of this group, with 26 volunteers, 14 (35%) for boring and 13 (30%) for "annoying."

In the descriptors of Miscellaneous (from 17 to 20), the highlighted ones by group were: tiresome, with 18 (45%) volunteers; falling asleep, with 12 (30%) volunteers and retreating, also with 12 (30%); spreading with 8 (20%) volunteers and radiating, also with 8 (20%); and cold, with 7 (17.5%) volunteers.

♦ **Numerical Pain Scale**

Table 2. Numerical Pain Scale. Niterói (RJ), Brazil, 2014.

Pain scale	0	1	2	3	4	5	6	7	8	9	10
N	0	2	5	5	3	6	1	6	6	0	6
%	0%	5%	12.5%	12.5%	7.5%	15%	2.5%	15%	15%	0%	15%

In the numerical scale of pain, 0 represents the absence of pain and 10 the strongest pain felt. It can be seen from Table 2 that 82.5% of the volunteers chose a score that ranks moderately to severe pain. No volunteers reported the absence of pain (0).

DISCUSSION

♦ **Sociodemographic and Clinical Characteristics of Individuals**

In this study, there was a predominance of females. In two other Brazilian studies evaluating leg ulcers, the predominance in women was approximately 70% in both. [8-9]

The prevalence of the female can be explained by the pregnancy and presence of the female hormones, the continuous use of contraceptives and hormone replacement medicines during menopause, generating the appearance of varicose veins in young women who, over time, causes obstruction of veins and spontaneous or traumatic hemorrhages, leading to lesions, especially in the lower limbs. [10-1] However, the percentage difference between female and male individuals of wounded individuals has been decreasing over the years, and some recent studies have indicated a higher occurrence of male patients. [12]

The mean age of 63.9 years old was in line with the average of other studies. In one group of 55 individuals the mean age was 66.7 years old and in another, with 42 participants the mean was 60 years old. [14] Considering that the elderly in general are the most affected with chronic wounds and the average age of life of the Brazilian population has increased, it can be said that this factor becomes

relevant since people who live longer will have greater possibility of exposure to the problem. [12]

The level of education was low, being an important factor in the guidelines provided by the professionals to the patients about the health care and the injury, considering that the greater the understanding of these individuals in the performance of the actions of self-care, the greater the success of the treatment. [12]

In another study, the result was similar to the one in which the Association of Chronic Venous Insufficiency with Systemic Arterial Hypertension was predominant in 70.9% of the individuals. [13] Nursing care for the patient with wounds should also involve systemic aspects with guidelines related to the control and treatment of underlying diseases, such as diabetes, arterial hypertension and chronic venous insufficiency, which determine the etiology of the wound. [12]

Leg ulcers were predominantly of venous origin, being the most common occurrence of leg ulcers, corresponding to approximately 80% to 90% of the ulcers found in this place. [15]

Regarding the location of the lesions, the predominance in the malleolar region is explained by the fact that most ulcers are of venous origin, which is predominantly located in the distal portion of the lower limbs, mainly in the region of the medial malleolus. [15-6]

In another study with 55 volunteers, the mean time to ulcer evolution was 5.5 years, [13] similar result to this study. Prolonged healing time is predicted, considering that these are chronic lesions, in addition to the possibility

of relapses.[12] Some factors interfere in tissue repair time, such as the severity of the vasculogenic alteration, access to care services in the area of Angiology, care by a qualified team, lifestyle and adherence to treatment and service.[14]

Regarding the lesion area in cm^2, there is no consensus on the classification of ulcers as small, medium and large. One study considers a large lesion with an area larger than 60 cm^2, while another refers to an area larger than 150 cm^2.[17] The size of venous ulcers does not influence the intensity of pain since small lesions can be very painful, while others can be virtually painless.[18]

♦ **Pain Standard**

Regarding the localization of pain, in the case of ulcers, the pain is caused by tissue aggression, ischemia, hypoxia, inflammation, infection or by adherence of coverages in the wound bed.[19] Pain in the affected limb can be explained by chronic venous insufficiency, which is characterized by a state of hypertension of the venous system caused by insufficiency and/or obstruction of the deep venous system generating edema and causing pain.[20]

As for the moment when the pain happens, the volunteers highlighted the worsening during the night. They considered factors that aggravate the pain to stand or walk, and as for the factors that relieve it, the main resources cited included medication and elevation of limbs.

Clinically, individuals with this type of injury have pain and edema in the legs, which worsen at the end of the day and may be alleviated by elevation of the lower limbs.[21] Elevation of limbs minimizes edema, and it is recommended as adjunctive therapy for venous ulcers and should be performed with the lower limbs above the level of the heart for 30 minutes, three or four times a day.[16]

In addition to limb elevation, volunteers used analgesic medication for pain relief, most often without a prescription, usually continuous using the medication, increasing doses more and decreasing the intervals. Irrational self-medication increases the risk of adverse events and masking of diseases, which may delay the correct diagnosis.[22]

Regarding the influence of pain in daily life, regardless of their association with pain, leg ulcers influence the individuals´ daily lives, either by the amount of exudate, odor and even by the embarrassment that the person can experience, questioned, for example, by the use of bandages. A chronic wound can cause problems during life, both of

a physical order, of the possibility of being incapacitated for some daily activities, and emotional, by affecting psychically the life of the individual, influencing his way of being in the world.[23]

♦ **McGill Questionnaire**

The McGill questionnaire represents how the patient feels the pain. In the sensory group, the words most chosen to represent the pain of the volunteers were pinched, pricked, throbbing, Needling, burning, sensitive, thin, ardor, sore, and nipping. Many of these words are characteristic of chronic neuropathic pain, with symptoms that may include persistent or paroxysmal pain, burning, stinging, itching or tingling, which is independent of any obvious stimuli.[24]

In a study of the neuropathic pain profile, the free words were chosen by the 33 participants to describe their pain were: burning pain (54.5%), tingling (24.3%), pinching (12.1%), throbbing (6.1%) and shock (3%). In another study, the words of pain used by patients with venous ulcers were strong (89%), irritant (87%), tiring (87%), and throbbing (87%).[26]

Regarding affective descriptors, the most chosen words to represent the pain of the volunteers were: nauseous, tiring, punishing and frightening.[5] In a similar study, the most chosen words were tiring (63.2%) and nauseous (56.4%). The justification for choosing the words to describe the affective descriptors of this study may be due to the frequent delay in the healing process.

The evaluative group consists of a single group of words. Another study also pointed to the boring word as the most chosen.[5] Something boring can be considered dull, annoying. The characterization of pain as boring by many of the volunteers reveals how much this can bother and hurt emotional health.

Depressive symptoms are probably the most frequent emotional responses to chronic pain and may compromise the "functioning" of the individual, changing their ability to adapt to social life.[27] Study on the impact of chronic wounds on the quality of life showed that pain was the most mentioned symptom, being classified by the majority as the worst possible pain. Also, pain, dissatisfaction with physical appearance, psychosocial adaptation, and difficulty in mobility have an impact on daily activities, relationships, and leisure.[28]

The descriptor Miscellanea is composed of a combination of the first three groups, but with a predominance of sensorial descriptors. In this study, in the miscellaneous group, the

words that stood out were: boring, going numb, retreating, spreading and radiating.

Regarding the words going numb and retreating, both are symptoms associated with chronic venous insufficiency. The words spreading and radiating may be related to chronic pain, as repetition of painful stimulation may cause increased pain perception in the area around the lesions.

♦ Numerical Pain Scale

When applying the Numerical Pain Scale, it was observed from the scores chosen by the volunteers of this study that the pain was moderate to intense. These data were confirmed in another study, in which pain was considered of moderate intensity for most patients.[5]

despite being an easy-to-use instrument by professionals in pain sizing, the numerical scale of pain is a one-dimensional instrument in which other components are not evaluated, such as sensory, affective and evaluative characteristics.

The perception of pain is subjective, involving several aspects of sensory, emotional and even cultural aspects, so the intensity of pain can represent 10 for one person and 5 for another. However, special attention should be given to the findings, as it provides the intensity of pain in the way the individual perceives it at that very moment. The most reliable indicator of the existence and intensity of pain and any discomfort is the patient's report. Measurement includes the use of numeric or verbal descriptors and the use of analog scales.[29]

CONCLUSION

The study on the evaluation of the pain pattern performed with 40 patients showed a predominance of females, age between 51 and 70 years old, low educational level and Chronic Venous Insufficiency Associated with Systemic Arterial Hypertension. Regarding the clinical characteristics of the lesions, a predominance of venous ulcers located in a malleolar region with an average time of evolution of 5.27 years and a mean area of the lesion of 32.15 cm² was demonstrated.

The intensity of the pain presented moderate to intense when evaluated by the Numerical Scale. Its perception described by sensations of pinching, pricking, needling, throbbing, nausea and burning, of greater recurrence in the night, accentuated in orthostatic position and requiring medication and elevation of the limbs for its control.

Pain in leg ulcers was evaluated in several dimensions, considering the sensory, affective and cognitive-evaluative components of pain, given its subjective and multifactorial nature. It is important to understand the characteristics and presentation of pain associated with injuries to guide the planning of nursing interventions aimed at effective pain control and improvement of the patient´s quality of life.

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