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Oliveira, Shirley Batista; Soares, Daniela Arruda; Pires, Patrícia da Silva

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Federal University of Rio de Janeiro State



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## RESEARCH

### Prevalência de úlceras venosas e fatores associados entre adultos de um centro de saúde de Vitória da Conquista - BA

Prevalence of venous ulcers and associated factors among adults of a health center in Vitória da Conquista - BA

La prevalencia de las úlceras venosas y los factores asociados en adultos de un centro de salud en Vitória da Conquista - BA

Shirley Batista Oliveira<sup>1</sup>, Daniela Arruda Soares<sup>2</sup>, Patrícia da Silva Pires<sup>3</sup>

#### ABSTRACT

**Objective:** estimating the prevalence of venous ulcers and identifying the sociodemographic, behavioral, of health factors, the characteristics of the wound and treatment associated among individuals adults met in a health centre of Vitória da Conquista- BA. **Method:** this is a cross-sectional study in which there were studied 42 individuals. The statistical analyzes were performed using Epi Info version 3.5.3. **Results:** the prevalence of venous ulcers was of 83,3%, being higher in females (95,5%). The factors that remained associated were: sex, living together, diabetes, chronic venous insufficiency, pain, start time of the first recurrence of ulcers and wounds. **Conclusion:** the results suggest the need for further researches to improve national records about venous ulcers and enable strategies to ensuring better health care based on scientific and clinical evidence. **Descriptors:** Varicose ulcer, Nursing care, Health profile.

#### RESUMO

**Objetivo:** estimar a prevalência de úlceras venosas e identificar os fatores sociodemográficos, comportamentais, de saúde, características da ferida e tratamento associados entre indivíduos adultos atendidos em um Centro de Saúde de Vitória da Conquista - BA. **Método:** trata-se de um estudo transversal no qual foram estudados 42 indivíduos. As análises estatísticas foram feitas no Epi Info versão 3.5.3. **Resultados:** a prevalência de úlceras venosas foi de 83,3%, sendo maior no sexo feminino (95,5%). Os fatores que se mantiveram associados foram: o sexo, morar acompanhado, diabetes, insuficiência venosa crônica, presença de dor, tempo de início da primeira úlcera e reincidência da ferida. **Conclusão:** os resultados sugerem a necessidade de novas pesquisas para melhorar os registros nacionais acerca das úlceras venosas e viabilizar estratégias que garantam uma melhor assistência à saúde baseada em evidências científicas e clínicas. **Descritores:** Úlcera varicosa, Cuidado de enfermagem, Perfil de saúde.

#### RESUMEN

**Objetivo:** estimar la prevalencia de las úlceras venosas e identificar los factores socio-demográficos, comportamentales, de salud, características de la herida y el tratamiento asociados en adultos atendidos en un centro de salud en Vitória da Conquista - BA. **Método:** se trata de un estudio transversal en el que se estudiaron 42 individuos. Los análisis estadísticos se realizaron utilizando Epi Info versión 3.5.3. **Resultados:** la prevalencia de las úlceras venosas fue del 83,3%, siendo mayor en las mujeres (95,5%). Los factores que se mantuvieron asociados fueron: el sexo, la convivencia, la diabetes, la insuficiencia venosa crónica, el dolor, la hora de inicio de la primera recurrencia de las úlceras y de las heridas. **Conclusión:** los resultados sugieren la necesidad de más investigación para mejorar los registros nacionales sobre las úlceras venosas y permitir estrategias para garantizar una mejor atención de la salud basada en la evidencia científica y clínica. **Descritores:** Úlcera varicosa, Atención de enfermería, Perfil de salud.

Ulcers of lower limbs in a population assisted at a Health Center in Vitória da Conquista - BA. Work of Course Completion (Graduate Nursing), Federal University of Bahia, Vitoria da Conquista, 2011.

<sup>1</sup>RN. Specialist. E-mail: enf\_shirley@hotmail.com; <sup>2</sup>RN. PhD. Adjunct Professor, Universidade Federal da Bahia - Campus Anísio Teixeira, Vitória da Conquista, BA, Brazil. E-mail: dandani23@yahoo.com.br; <sup>3</sup>RN. PhD. Adjunct Professor, Universidade Federal da Bahia - Campus Anísio Teixeira, Vitória da Conquista, BA, Brazil. E-mail: patriciaspires@gmail.com.br

## INTRODUCTION

**C**hronic wounds can be seen as lesions of difficult healing and of frequent recurrence, usually from multiple systemic problems.<sup>1</sup> Usually they are not seen as a pressing public health problem, although representing a common, complex and costly condition<sup>2</sup>, since interfere with several of the individual life of the components, such as mobility, sleep and rest, and cause stress, anxiety, severe pain and persistent in many cases.<sup>1-2</sup> They are of multifactorial etiology, such as venous disease, arterial, diabetic neuropathy, cancer, and metabolic, hematologic and infectious and parasitic diseases.<sup>3</sup>

Among the above mentioned etiologies, there are the venous ulcers, conceptually defined as a tissue loss in the extremities due to a vascular dysfunction<sup>4,5</sup>, due to a failure in valvular<sup>6</sup> system or due to factors such as venous obstruction caused by varicose veins, evil valve formation, venous hypertension, venous occlusion by clot causing venous hypertension and occasioning the ulcer of this etiology.<sup>3</sup> The most common are chronic leg ulcers<sup>3</sup>, and can reach a rate of 80% and may affect from youth to old age.<sup>7</sup>

International studies indicate that the occurrence of venous ulcers increases with age.<sup>2,8</sup> Some previous studies in Brazil showed an association of venous ulcers with low income and education<sup>9,10</sup>, single and recurring lesions<sup>3,7,11</sup> and presence of pain process.<sup>10</sup> However, we can see some little statistical data on the prevalence of this type of ulcer in the country and in different regions, as well as the factors associated with the history of the wound and its treatment, which implies the underestimation of the problem.

Care for individuals with this type of problem, led by nurses and developed in community clinics, as has been strongly supported in the UK, since the late 90's.<sup>2</sup> A similar project developed in London showed that before and after a 12-week audit this type service, of leg ulcers healing rates improved from 22% to 69% with the new service.<sup>12</sup> In Brazil, the nurse integrates stomatherapy teams, whether in outpatient or hospital network, and has different functions ranging from assessment injuries and execution of dressing as well as the development of educational activities and the realization of referrals.<sup>7</sup>

The venous leg ulcers constitute an important psychosocial burden, financial and in terms of morbidity for their patients and for health services and the knowledge of its prevalence and associated factors can contribute to a better nursing care and multidisciplinary. Thus, this study aimed to estimating the prevalence of venous leg ulcers among adults treated at the Victoria da Conquista Health Centre - BA and identify sociodemographic factors, health and wound characteristics and its treatment associated with this event.

## METHOD

This article comes from a larger study called the "characteristics of patients with lower limb ulcers treated at a health center in the countryside of Bahia, 2011," in which multiple health outcomes were investigated.

There was conducted in a Health Center (CS) located in the city of Vitoria da Conquista, in the Southwest of Bahia. This is the only Municipal outpatient specialized and reference to patients with chronic lesions, consisting of a multidisciplinary team, among them, a medical specialist, nurses and nursing technicians. There were registered in the service during the period of data collection about 800 patients, this number refers to both individuals followed by the specialized service, and by individuals who perform episodic contacts with the same for the execution of dressing less complex or withdrawal points. Health Center meets from patients with chronic ulcers or difficult treatment referred from the Family Health Units and other health centers, as well as patients from spontaneous demand. Patients with higher morbidity or complications of other comorbidities such as diabetes mellitus are referred to hospitals.

The sample was non-probabilistic, random and without repetition, and for obtaining were approached all eligible patients in the study of the occurrence period (January to March 2011) that met the following criteria: patients had lower limb ulcers, over 18 years old, in attendance in CS the dressing rooms in the period of data collection. There were excluded those with ulcers in another part of the body other than the lower limbs and those who were not in the CS to perform curative but due to other reasons.

The interviews were conducted by researchers in every day and functioning of the service hours and occurred at the time that individuals awaiting service, when the impossibility of doing so in the same day, a new schedule is made for the nearest day for attendance at the CS, a fact that happened to one individual. Thus, all 43 individuals addressed expressly agreed to participating in the study by signing the Informed Consent Form (ICF) and the refusal rate was zero.

Just prior to data collection a pre-test was conducted in order to verifying instrument feasibility and conditions for conducting research. The individuals interviewed in this phase were not included in the final study sample.

To obtaining data we used a structured form; it contained sociodemographic variables (gender, age, education, marital status, color/race, income, living arrangements and place of residence); health variables: (hours of sleep per night, physical mobility, pain, type 2 diabetes, hypertension and chronic venous insufficiency); and variables on the history and treatment of the wound: (wound start time, presence of wound recurrence, number of wounds, frequency of exchange of toppings and place of the healing).

The above variables were used as potential factors associated with venous ulcers. The etiological hypothesis of the wound, the dependent variable in this study was obtained

through self-report and dichotomized as venous ulcers and not venous ulcers. Although some studies have been based on clinical judgment of the lower limbs and established a set of clinical indicators for classification of venous ulcers, we decided to using the self-report validated by the diagnostics of medical records, since there was no difference between this and the diagnosis prior.

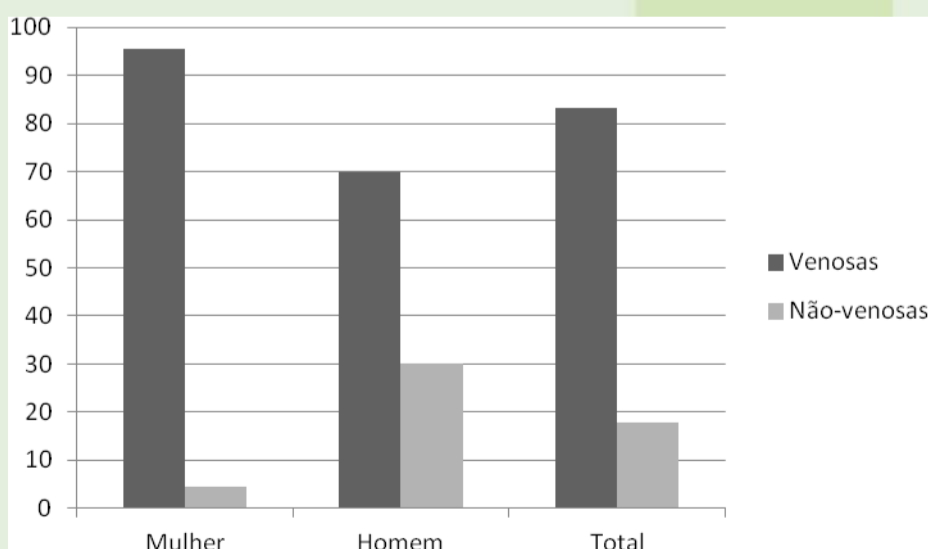
There were interviewed 43 people, and from this total there was excluded 1 (2,32%) individual who did not answer the question on the etiological hypothesis of the wound and which was not found diagnosis in the medical record.

The analytical plan included the estimation of the prevalence of types of ulcers stratified by sex and for all individuals, using both descriptive statistical procedures. For the analysis of associated factors (sociodemographic variables, health and variables related to the history and treatment of the wound) the venous ulcers, the chi-square test of Pearson or Fisher exact tests were performed. Were considered statistically significant differences less than or equal to 5% ( $p = 0,05$ ). The data collected was used Epi Info software version 3.5.3 (Centers for Disease Control and Prevention, Atlanta, USA).

The research was approved by the Research Ethics Committee of the Municipal Health Secretariat of Vitoria da Conquista - BA; and by the Research Ethics Committee of the State University of Southwest Bahia (UESB), under Opinion No 199/2010 and CAAE: 0033.0.454000-10. All individuals have expressed agreement with the free and informed consent (IC) and signed it.

## RESULTS AND DISCUSSION

A prevalence of 83,3% of venous ulcers and 17,7% of non-venous ulcers (15,3% of neurotrophic ulcers and 2,4% of traumatic ulcers) for the general population was found. When stratified by gender, we identified a higher prevalence of venous ulcers among women (95,5%) and the lowest prevalence of ulcers in this other sex too (4,5%) compared with men (FIGURE 1).



**Figure 1- Distribution of the sample according to kinds of ulcers, according to sex and to the total population. Vitoria da Conquista, Bahia, Brazil, 2010.**

The data in Table 1 show the distribution of the prevalence of venous ulcers according to sociodemographic characteristics. It was observed that higher proportions of subjects with venous ulcers were statistically significant for women (95,5%) and those who live together (86,8%).

**Table 1- Sampling distribution and prevalence of venous ulcers and other socio-demographic and economic variables according to ulcers, among adults of a Health Center. Vitoria da Conquista, Bahia, Brazil, 2011.**

Characteristics	Venous Ulcers		Other Ulcers		p-value
	n	%	n	%	
<b>Gender</b>					
Female	21	95,5	1	4,5	<b>0,006<sup>‡</sup></b>
Male	14	70,0	6	30,0	
<b>Age</b>					0,090 <sup>‡</sup>
≤ 59 years old	16	72,7	6	27,3	
> 59	19	95,0	1	5,0	
<b>Schooling</b>					0,333 <sup>‡</sup>
Illiterate	13	92,9	1	7,1	
Literate	22	78,6	6	21,4	
<b>Marital Status</b>					0,070*
With a partner	9	81,8	2	18,2	
Without a partner	26	83,9	5	16,1	
<b>Color/Race</b>					0,544*
White/Dark	32	84,2	6	15,8	
Black	3	75,0	1	25,0	
<b>Monthly Income</b>					
<1 minimum wage	9	100	0	0	0,152*
1-2 minimum wages	26	78,8	7	21,2	
<b>Companion</b>					<b>0,004*</b>
Lives alone	2	50,0	2	50,0	
With a partner	33	86,8	5	13,2	
<b>Residence</b>					0,222*
Urban Area	28	80,0	7	20,0	
Rural Area	7	100,0	0	0	

<sup>‡</sup>Chi-square; \* Fischer's exact

Regarding health variables described in Table 2, it remained statistically associated with venous ulcers the presence of pain (p = 0,004) and self-reported morbidities, diabetes mellitus type II chronic venous insufficiency (p = 0,002).

**Table 2- The prevalence of venous ulcers and other ulcers according to health variables among adults of a Health Centre. Vitoria da Conquista, Bahia, Brazil, 2011.**

Characteristics	Venous Ulcers		Other Ulcers		p-value
	N	%	n	%	
<b>Sleep hours</b>					0,666*

≤ 6 hours	20	83,3	4	16,7	
>6 hours	15	83,3	3	16,7	
<b>Physical mobility</b>					0,932*
Roams without difficulty	11	78,6	3	21,4	
Roams with difficulty	24	85,7	4	14,3	
<b>Presence of pain</b>					0,004*
Yes	33	86,8	5	13,2	
No	2	50,0	2	50,0	
<b>Diabetes mellitus type II</b>					0,002 <sup>‡</sup>
Yes	8	57,1	6	46,9	
No	27	96,4	1	3,1	
<b>Chronic Venous Insufficiency</b>					0,002*
Yes	28	93,3	2	6,7	
No	7	58,3	5	41,7	
<b>Hypertension</b>					0,343*
Yes	16	76,2	5	23,8	
No	19	90,5	2	9,5	

<sup>‡</sup>Chi-square; \* Fischer's exact

Regarding the data on the history of venous ulcers and its treatment, there was a higher proportion of subjects who had more than 10 years of start of the first venous ulcer (100,0%), and among those who had episodes of wound recurrence (100,0%), and associations were not statistically significant at 5% for these variables (Table 3).

**Table 3- The prevalence of venous ulcers and other ulcers according with history-related variables and the treatment of wounds, among adults of a Health Centre. Vitoria da Conquista, Bahia, Brazil, 2011.**

Characteristics	Venous Ulcers		Other Ulcers		p-value
	n	%	n	%	
<b>Start time of the first ulcer</b>					0,002*
Less than 1 until 10 years	17	70,8	7	29,2	
More than 10 years	18	100,0	0	0	
<b>Reincidence of the wound</b>					0,044*
Yes	29	100,0	0	0	
No	6	46,2	7	56,8	
<b>Number of wounds</b>					0,388 <sup>‡</sup>
1 wound	19	76,0	6	24,0	
2 or more	16	94,1	1	5,9	
<b>Periodicity of toppings</b>					0,515 <sup>‡</sup>
1 to 2 times per day	24	80,0	6	20,0	
1 to 3 times per day	10	90,9	1	9,1	
<b>Place of performance of the curative</b>					0,234*
At home and at the Health Center	18	94,7	1	5,3	
Always at the Health Center	5	62,5	3	37,5	
Always at home	11	78,6	3	21,4	

<sup>‡</sup>Chi-square; \* Fischer's exact

The prevalence of venous ulcers among individuals analyzed in this study was of great magnitude, resembling that found in the United States, where 80% of leg ulcers are due to rise of venous ulcers<sup>6</sup>, similar to that found in Juiz de Fora - MG (79%)<sup>5</sup> and less than that found in Goiania, whose prevalence was 61%.<sup>13</sup> The lower prevalence of venous ulcers in Goiania may be related to the fact that they have been clinically evaluated, besides the patients were recruited in Basic Units of dressing rooms of Health<sup>13</sup>, in contrast to the present study which the classification of ulcers was based on self-report and by checking on records and performed in a specialized service and reference in the treatment of wounds.

The major predominance of venous ulcers in females corroborates with two studies in Minas Gerais<sup>5,14</sup>, and may reflect hormonal and gestational aspects involved in this susceptibility, and socio-cultural aspects that make women seek more health services men<sup>15</sup>. However, the predominance in males also have a tendency is observed in some regional studies<sup>7,9</sup> confirming that this situation is not only characteristic of women.

When analyzing the factors associated with venous ulcers, it was observed that some sociodemographic and health characteristics may be contributing to the construction of the profile of patients affected by this type of ulcers. Among the sociodemographic factors, beyond sex, family arrangement was the only one that remained associated with venous ulcers. Higher prevalence of this disease in women has also been mentioned in other studies.<sup>5,8,14</sup> A plausible explanations for the association between living together and the presence of venous ulcers may be related to greater responsibility in caring for the family and housework<sup>14</sup>, and therefore less time for self-care, however, this association needs further investigation.

Among the surveyed morbidity, type 2 diabetes mellitus and chronic venous insufficiency constitute relevant associations before countless other factors that may influence the onset of venous ulcers and depict the importance of both the control as the treatment of these morbidities. Higher proportion of patients with chronic venous insufficiency was found among those who had venous ulcers in this study, which confirms previous study which showed that venous ulcers match 70-90% of all leg ulcers<sup>16</sup>. The chronic venous insufficiency can bring aesthetic and functional complications and its most exuberant manifestation venosa<sup>6</sup> ulcer. It is engaged with the increase in venous pressure, which damages the hair and make it more permeable, allowing the exit of several molecules, generating eczema caused by the degradation of hemoglobin; edema due to the accumulation of interstitial fluid, hyperpigmentation and lipodermatosclerosis.<sup>6,15</sup> In those circumstances, a venous ulcer can be developed either using a light trauma, such as due to a collision with a mobile, or even spontaneously.<sup>1,17</sup>

Regarding diabetes mellitus, its absence was associated with higher prevalence of venous ulcers. It is important reporting that these findings are consistent with the low frequency of venous ulcers due to causes such as diabetes.<sup>5</sup> This finding may also be partly attributed due to the sample size. In line with the above, about 20% of diabetic patients develop lower limb ulcers at some point in their lives and their development may be associated with both neuropathic and vascular changes.<sup>18</sup> Diabetic neuropathy, chronic complication of this disease, can lead the decrease or loss of tactile, thermal, painful,



anhidrosis and atrophy of various peripheral regions of the body, due to autonomic nervous impairment and motor<sup>18</sup>. In vascular disorders, atherosclerosis is responsible for the pathophysiological process of obstruction and arterial ischemia.<sup>17,18</sup>

The association between the occurrence of pain and the presence of venous ulcers is well established and is in agreement with other studies.<sup>19,20</sup> The painful component can represent as well as an exacerbation of the inflammatory phase and delay the healing process<sup>21</sup>, an important factor actor in the quality of life of individuals with venous ulcers.<sup>10,16</sup>

Regarding the history of the wounds, the highest prevalence of individuals with venous ulcers were found among those who had more than 10 years of start of the first ulcer and among those who had recurrence of the wound, which denotes a situation of chronic wounds, these findings also indicated in other studies.<sup>9,22,23</sup> This situation can still picture a greater demand for health services both with regard to the mobilization of human, material and structural as well as the impact this has on the quality of life of individuals affected, requiring greater health care.<sup>7</sup> Nevertheless, the fact of the individuals come from a referral center for the treatment of wounds, may represent greater complexity of the lesions, explaining in part the results.

It is noteworthy that, with regard to the treatment to the healing of venous ulcers and improves venous return, it is recommended that it should be provided by doctors, nurses and other professionals with the joint participation of the patient, with compression therapy one of the pillars,<sup>6,15</sup> with a view to reducing edema and venous stasis.<sup>7</sup> Yet, regarding the treatment of venous ulcers, although not statistically significant, most patients reported using the Health Center and the home to carry out the roofing trade. Like most of venous ulcers can recur in up to 70% of cases<sup>3,7</sup>, and all the cases that had relapsed venous ulcers in this study, the use of the Health Center and the household as care environments may reflect this need to equip the individuals' conditions and knowledge to receive care and self-care. However, it is known that the decentralization of care for the individual to perform the dressing in his home, it involves from the availability of staff to conduct the training of customers, to the receptivity of the same, will, and, above all, in preparation to realize it, and also permeating the discussions on health about the cost-effectiveness of clean and sterile techniques, the use of antiseptics and frequency of exchanges of coverage depending on the needs of each wound and their vectors.

Because they are venous ulcers so prevalent in the analyzed context, they require expensive and prolonged treatment and have shocked the quality of life of their patients, it is urgent that health services are prepared for the effective care of this clientele and that health professionals are properly trained and trained to work in an interdisciplinary, competent and safe manner.

## CONCLUSION

The results showed that venous ulcers are common health problems among adults in ascribed rated service and the associated factors such as gender, living arrangements, type 2 diabetes mellitus, chronic venous insufficiency, pain and time of beginning of the first ulcer are consistently observed at other national-scale studies. These findings are configured as input for the preparation of planning, prevention and treatment relevant to this subject in order to enhancing the chances of successful treatment, contributing to the reduction of recidivism, healing without complications, reduced spending improving the health and quality of life.

However, a limitation highlights the difficulty of cross-sectional studies in establishing temporal relationship, because of the exposure and the outcomes are measured simultaneously. The fact that the response variable have been based on self-report, although less accurate than the clinical evaluation of the ulcer, had the advantage of being inexpensive and more likely to be replicated with large samples.

In this light, there is the importance of further research in different scenarios and with more representative samples in order to improving national records about venous ulcers and other etiologies and enable strategies to ensuring better health care based on scientific evidences and substantial clinics.

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Contact of the corresponding author:  
Shirley Batista Oliveira  
Universidade Federal da Bahia - UFBA Campus Anísio Teixeira.  
E-mail: enf\_shirley@hotmail.com