

# Clinical and socio-demographic profile of patients with venous disease treated in health centers of Maceió (AL), Brazil

*Perfil clínico e sociodemográfico dos portadores de doença venosa crônica atendidos em centros de saúde de Maceió (AL)*

Larissa Maranhão Costa<sup>1</sup>, Wesley J.F. Higino<sup>1</sup>, Flávia de Jesus Leal<sup>2</sup>, Renata Cardoso Couto<sup>2</sup>

## Abstract

**Background:** Chronic venous disease (CVD) is to change the system causing a venous valvular incompetence associated with obstruction of flow or not. It affects 10 to 20% of world population, with higher prevalence in females. It presents as the most common symptoms and pain and swelling in advanced form, venous ulcer, and brings functional limitations, social isolation, affecting quality of life.

**Objective:** Profiling of patients with CVD, the survey data indicate that clinical and socio-demographic characteristics that may contribute to possible change of habit in the life, who for reasons of work, lack of knowledge and/or instructions had affected their routine by the disease, with consequent decline in their quality of life.

**Methods:** A descriptive, observational, cross-sectional study that evaluated patients with CVD treated at health centers in Maceió (AL) Brazil, applying a form for collecting data, such as CEAP, Brazil Criterion of Economic Classification Questionnaire and SF-36.

**Results:** The sample consisted of 66 patients with CVD, 83% were female and 17% male. The patients had predominantly aged between 50 and 60 years who were sedentary, assuming prolonged standing, low educational level and economic status, severe clinical disease (symptomatic C6), and quality of life variable.

**Conclusion:** The results showed a predominance of females, 50 to 60 years old, with triggering factors and/or aggravating factors for development of CVD as lack of physical activity, low education and low economic income, affecting quality of life.

**Keywords:** venous insufficiency; lower extremity; quality of life.

## Resumo

**Contexto:** A doença venosa crônica (DVC) consiste em alteração do sistema venoso causando uma incompetência valvar associada à obstrução de fluxo ou não. Acomete 10 a 20% da população mundial, tendo maior prevalência no sexo feminino. Apresenta como sintomas mais comuns dor e edema e na forma avançada, a úlcera venosa. Traz limitações funcionais e isolamento social, afetando a qualidade de vida.

**Objetivo:** Traçar o perfil dos portadores de DVC, pelo levantamento de dados clínicos e sociodemográficos que indiquem características que possam contribuir para possível mudança de hábito na vida de pacientes que, por motivos de trabalho, falta de conhecimento e/ou instruções, tiveram sua rotina afetada pela doença, com consequente diminuição da sua qualidade de vida.

**Métodos:** Estudo descritivo, observacional do tipo transversal, sendo avaliados portadores de DVC atendidos em centros de saúde de Maceió (AL), aplicando um formulário para coleta de dados, como classificação CEAP, Critério de Classificação Econômica Brasil e Questionário SF-36.

**Resultados:** A amostra foi composta por 66 pacientes com DVC; 83% eram do sexo feminino e 17%, do masculino, a faixa etária predominante foi entre 50 a 60 anos; eram sedentários, assumindo ortostatismo prolongado, baixo nível de escolaridade e classe econômica, doença clínica grave (C6 sintomático) e qualidade de vida variável.

**Conclusão:** Os resultados demonstraram predomínio da doença no sexo feminino, entre 50 a 60 anos de idade, com fatores desencadeadores e/ou agravantes para desenvolvimento da DVC como falta de atividade física, baixo nível de escolaridade e baixa renda econômica, afetando a qualidade de vida.

**Palavras-chave:** insuficiência venosa; extremidade inferior; qualidade de vida.

---

Study carried out at the Faculdade Estácio de Alagoas (FAL) – Maceió (AL), Brazil.

<sup>1</sup> Physical Therapy Student at FAL – Maceió (AL), Brazil.

<sup>2</sup> Master's student at Universidade Federal de São Paulo (UNIFESP) – São Paulo (SP), Brazil; Assistant professor at Universidade Estadual de Ciências da Saúde de Alagoas (UNCISAL) – Maceió (AL), Brazil.

Conflict of interest: nothing to declare.

Submitted on: 08.28.11. Accepted on: 01.11.12.

J Vasc Bras. 2012;11(2):108-113.

## Introduction

Among the chronic diseases that affect mankind, venous disease of the lower limbs currently presents the highest incidence and prevalence, with high morbidity rates<sup>1</sup>. It is a congenital or acquired disease of the superficial or deep venous system of the lower limbs<sup>2,3</sup>. Currently, it is considered to be a functional rather than only a cosmetic problem<sup>4</sup>.

The pathophysiological mechanism of the chronic venous disease (CVD) there is a direct relationship between impairment of venous valves and the calf muscle pump, in a way that any disorder in either function may compromise venous circulation<sup>2</sup>.

The most common symptoms are pain, swelling and trophic skin changes<sup>5</sup>, while the most severe late complication is venous ulceration, which can be recurrent or not<sup>2,6</sup> and which prevalence increases with aging<sup>7</sup>. It is estimated that nearly 3% of the Brazilian population suffer from this disease<sup>8</sup>.

Risk factors for the development of CVD signs and symptoms are: the need for remaining in the same position (standing or sitting) for prolonged periods of time, previous lower limb operations, lower limb trauma, sedentary lifestyle, use of high-heeled footwear, obesity, and pregnancy<sup>9</sup>.

The severity of the venous disease is described based on the internationally accepted CEAP classification (*Clinical manifestation, Etiologic factors, Anatomic distribution of disease, Pathophysiologic findings*), which classifies the clinical signs of the disease in seven categories: C0 (no signs of venous disease), C1 (telangiectasias and reticular veins), C2 (varicose veins), C3 (swelling), C4 (subcutaneous changes: C4a is related to pigmentation and eczema changes, and C4b is related to lipodermatosclerosis and white atrophy of the skin), C5 (healed stasis ulceration), and C6 (open stasis ulceration)<sup>5</sup>.

CVC is a serious public health issue of greater prevalence among females<sup>10</sup> and individuals in the third decade of life. It directly affects the working capacity of patients<sup>5</sup>, thus significantly reducing their quality of life. It can also cause psychological changes such as sadness, depression, irritability, concern about physical appearance, and social isolation<sup>8,11</sup>.

By evaluating quality of life, one can observe the patient under a functional and psychological perspective. Studies conducted using the *Medical Outcomes Study 36 – Item Short –Form Health Survey* (SF-36) showed that CVD, even in initial stages, has a significant impact on the physical dimension of patients' health, which is translated in functional limitations<sup>12</sup>.

This study is justified because it is an attempt to understand and characterize the profile of DVC patients, based on a survey of clinical and sociodemographic data that may point to a possible change in life habits of individuals who had their routines affected due to working reasons of lack of knowledge and orientation, with consequent decrease in quality of life.

## Material and Methods

This study was approved by the Ethics Committee of Faculdade de Alagoas (Protocol 201012/045). The overall objective was to analyze the characteristics of the studied population, based on the national and international literature on venous disease as related to the sociodemographic and clinical profile of patients with CVD treated at health centers in the city of Maceió (AL). Data collection was performed at *Centro de Saúde PAM Salgadinho*, University Hospital Doctor Hólvio Auto (HEHA), and at *Primeiro Centro de Saúde de Alagoas* from February to May 2011.

We conducted a descriptive cross-sectional observational study with 94 patients, with a sample deviation of 28 subjects who refused to answer the questionnaires, after signing the informed consent form, or who were not evaluated by vascular surgery specialists to be categorized according to the CEAP classification. We included patients with the characteristics described in Resolution No. 196/96 and 251/96 – IV from the National Health Council, Ministry of Health, for venous disease and/or venous ulcers who were sedentary, older than 30 years and had no cognitive impairment. Subjects with peripheral arterial disease, cognitive impairment, less than 30 years old or who exercise regularly were excluded from the sample.

The participants received all the information related to the study before, during and after its completion, so they were aware that participation would occur in accordance with their wishes, and they were free to withdraw if they wanted.

The data collection form included: name, birth date, sex, education level, occupation, practice of exercises, researcher name, time and date of data collection, location, and CEAP classification determined by the vascular surgeon who assisted the patients at the previously mentioned institutions. We also applied the Brazil Economic Classification Criterion Questionnaire (CCEB) and the Quality of Life Questionnaire SF-36 (QQV SF-36).

According to the National Association of Research Companies, the CCEB emphasizes its function of estimating

the purchasing power of people and urban families by defining economic classes and abandoning the intension of classifying the population in terms of “social classes”<sup>13</sup>. This is a criterion that establishes eight classes as to the average value of family monthly income: Class A1 (R\$ 13,100.00), Class A2 (R\$ 9,100.00), class B1 (R\$ 4,900.00), class B2 (R\$ 2,750.00), C1 (R\$ 1,650.00), class C2 (R\$ 1,100.00), class D (R\$ 710.00), E (R\$ 490.00)<sup>14</sup>.

The QQV SF-36 is a quality of life questionnaire comprising 36 items grouped into eight domains, four of them related to physical health and the other four related to mental health. It evaluates functional capacity, physical aspects, pain, general health status, vitality, social aspects, level of independence, personal beliefs, relationship with environmental characteristics, and emotional aspects<sup>5,12</sup>.

The variables to be studied were divided according to gender, regional health unit (HEHA, PAM Salgado and Primeiro Centro de Saúde), age group, practice of exercises, professional occupation, education level, income classification, clinical CEAP classification, and individuals’ quality of life.

**Results**

Data from 66 patients were collected. Only 11 (16.7%) were males and 55 (83.3%) were females (Table 1). Initially the Shapiro-Wilk test was applied to verify data normality, and indicated that their distribution was not normal.

As to age groups, there was predominance of men between 30-40 years old and women between 50-60 years old. In CEAP, C4 to C6 were the most common for both sexes (Table 2).

In order to compare the distribution of SF-36 QQV domains by sex (Table 3), the nonparametric Mann-Whitney test was used. There was no significant differences between the domains with respect to sex (p>0.05).

To compare the distribution of SF-36 QQV domains by CEAP (Table 4), the nonparametric Mann-Whitney test was applied, and we observed a significant difference between patients with mild (C1-C3) and severe (C4-C6) CEAP when it came to vitality (p<0.05). The remaining domains had no statistically significant differences (p>0.05)

To compare the distribution of SF-36 QQV domains by age group (Table 5), we used the nonparametric Kruskal-Wallis test. There was a significant difference between patients with mild (C1-C3) and severe CEAP (C4-C6) as to vitality (p<0.05). However, there were no significant differences between domains regarding age (p>0.05).

The period of inactivity among women and men was longer than 3 months in 47 females (85%) and 8 males (73%), and less than 3 months in 8 females (15%), and 3

**Table 1.** Patients divided by sex.

Variable	Category	n	%
Sex	Female	55	83.3
	Male	11	16.7

**Table 2.** Distribution of patients according to the Clinical manifestation, Etiologic factors, Anatomic distribution of disease, pathophysiologic findings and age group, by sex.

Variable	Category	Female		Male	
		n	%	n	%
Age group (years)	30 to 40	5	9.1	4	36.4
	40 to 50	4	7.3	3	27.3
	50 to 60	24	43.6	1	9.1
	60 to 70	12	21.8	3	27.3
	Older than 70	10	18.2	0	0.0
CEAP	Light (C1-C3)	13	23.6	3	27.3
	Severe (C4-C6)	42	76.4	8	72.7

CEAP: Clinical manifestation, Etiologic factors, Anatomic distribution of disease, Pathophysiologic findings

**Table 3.** Mean values of SF-36 questionnaire by sex.

	Female		Male		p-value
	Mean	Standard deviation	Mean	Standard deviation	
Functional capacity	30.4	26.9	44.5	23.3	0.067
Physical limitation	23.2	37.2	11.4	30.3	0.195
Pain	44.8	27.1	54.5	33.3	0.458
Overall health status	58.5	27.5	67.6	12.2	0.379
Vitality	57.0	26.3	70.0	22.2	0.129
Social aspects	62.0	28.6	64.8	26.1	0.801
Emotional limitations	30.3	39.7	45.5	47.8	0.324
Mental health	62.9	25.3	64.7	18.6	0.979

**Table 4.** Mean values of SF-36 questionnaire, by Clinical manifestation, Etiologic factors, Anatomic distribution of disease, Pathophysiologic findings.

	Light (C1-C3)		Severe (C4-C6)		p-value
	Mean	Standard deviation	Mean	Standard deviation	
Functional capacity	25.6	24.0	35.0	27.4	0.221
Physical limitation	17.2	33.8	22.5	37.2	0.606
Pain	44.1	22.7	47.1	29.9	0.702
Overall health status	49.1	27.1	63.5	24.5	0.072
Vitality	47.5	22.0	62.9	26.2	0.048
Social aspects	64.8	27.1	61.8	28.5	0.757
Emotional limitations	33.3	43.9	32.7	40.7	0.993
Mental health	57.5	30.4	65.0	21.9	0.333

**Table 5.** Mean values of SF-36 divided by age group.

Age group	30-40		40-50		50-60		60-70		Over 70		p-value
	M	SD	M	SD	M	SD	M	SD	M	SD	
Functional capacity	27.2	24.4	37.9	29.3	29.8	26.3	30.3	24.9	45.0	31.7	0.539
Physical limitation	2.8	8.3	17.9	37.4	22.0	36.3	23.3	37.2	35.0	47.4	0.396
Pain	46.1	29.4	49.4	36.5	43.6	25.0	50.3	32.1	45.8	27.6	0.991
Overall health status	47.3	29.8	67.3	22.4	59.9	27.4	64.1	20.3	60.5	27.7	0.714
Vitality	62.8	30.4	54.3	26.7	59.4	25.4	58.7	22.8	59.5	31.7	0.952
Social aspects	56.9	27.3	71.4	23.6	65.0	27.0	62.5	31.7	55.0	30.7	0.726
Emotional limitations	33.3	44.1	19.0	37.8	36.0	44.0	24.4	36.7	46.7	42.2	0.567
Mental Health	57.3	29.7	60.0	23.1	66.9	25.0	56.3	20.7	72.0	22.5	0.388

M: mean; SD: standard deviation.

males (27%). There was a predominance of a period of sedentarism longer than three months for both sexes.

As to prolonged time in certain positions at work in men and women, there was a greater incidence of orthostatic position in 42 (76%) and 4 (36%), respectively, sitting upright with pending lower limbs in 4 (7%) and 3 (27%), respectively, and alternation of postures in 8 (15%) and 4 (36%), respectively. There was also one (2%) and 0 individuals, respectively, that had been away from work.

As to education levels among males and females, respectively, 19 (35%) and 2 (18%) subjects had finished high school, 6 (11%) and 2 (18%) had completed elementary school, 11 (20%) and 0 had not completed high school, 6 (11%) and 2 (18%) had completed secondary school, 1 (2%) and 1 (9%) had completed the higher education, 5 (9%) and 1 (9%) were illiterate, and 7 (13%) and 3 (27%) were functionally illiterate. Thus, there was a predominance of patients with incomplete elementary education among females and functional illiteracy among males.

Analyzing the economic classes of males and females, respectively, we observed that the classes/average monthly family income class found were A1 with 0 and 1 (9%), class B1 with 0 and 1 (9%), class B2 with 3 (5%) and 1 (9%), class C1 with 11 (20%) and 1 (9%), class C2 with 20 (36%) and 4 (36%), class D with 20 (36%) and 2 (18%), and class E with 1 (2%) and 1 (9%), with prevalence of class C2 in both sexes.

In clinical CEAP, the values found for males and females, respectively, were: C0 – 0 and 1 (9%), C1 – 3 (5.5%) and 1 (9%), C2 – 13 (23, 4%) and 0, C3 – 15 (27.3%) and 0, C4a – 2 (3.7%) and 2 (18%), C4b – 3 (5.5%) and 0, C5 – 7 (12.8%) and 0, C6 – 9 (16.4%) and 0, C6 symptomatic – 24 (43.7%) and 6 (54%), asymptomatic C6 – 2 (3.7%) and 2 (18%), with higher prevalence of symptomatic C6 in both sexes

Interpreting the SF-36 questionnaire QQV, we evaluated the functional capacity with the following results for males and females, respectively: poor index 32 (58%) and 3 (27%), regular 11 (20%) and 5 (45%), good 8 (15%) and 2 (18%), and very good 4 (7%) and 1 (9%); physical limitations rated as poor in 45 (82%) and 10 (91%), 0 and 0 regular, good 2 (4%) and 0, and very good 8 (15%) and 1 (9%). As to pain, it was classified as severe 15 (27%) and 3 (27%), regular 18 (33%) and 2 (18%), good 17 (31%) and 4 (36%), and very good 5 (9%) and 2 (18%). With respect to the general health status, we obtained 7 (13%) and 0 poor rating, 16 (29%) and 2 (18%) regular, 15 (27%) and 5 (45%) good, and 17 (31%) and 4 (36%) very good. when analyzing social aspects, females and males were, respectively: 10 (18%) and 1 (9%) bad, 11 (20%) and 3 (27%) regular, 19 (35%) and 3 (27%) good, and 15 (27%) and 4 (36%) very good.

## Discussion

Epidemiological studies carried out in some countries have shown an incidence of at least a form of DVC in over 50% of women and 30% men<sup>15</sup>, which confirms a high prevalence in women.

In Europe, 5-15% of adults between 30 and 70 years of age present CVD, and 1% of them have ulcer<sup>5</sup>. Almost seven million people in the United States have CVD, which is responsible for about 70-90% of stasis ulcers of the lower limbs<sup>5</sup>. Some studies show that individuals are commonly affected by CVD in the most productive phase of life, the third decade<sup>5</sup>. Our study showed a prevalence of CVD in males from 30 to 40 years old, and females between 50 and 60 years old.

Activities that require the individual to remain for long periods in the standing or sitting positions contribute significantly to the development and maintenance of CVD, and lead to the appearance and chronicity of ulcers, especially

among people with double work shift<sup>16</sup>. The standing position was more prevalent among females, while males often have to switch positions during the work day.

Costa et al. have studied 4,030 employees of a university from the state of Rio de Janeiro by Costa<sup>17</sup>, and found that physical inactivity was observed in 47.8% of males and 59.2% of females. The study showed that most subjects had been sedentary for periods longer than three months.

Another study showed a greater number of patients with CVD with lower education level, which may directly interfere with the understanding and assimilation of the relevant health care<sup>17</sup>. The study by Costa<sup>17</sup> also showed a prevalence of incomplete elementary school among females and functional illiteracy among males.

Population-based studies investigated the influence of venous ulcers in the lives of individuals with income of less than two minimum wages. For these people, the presence of venous ulcer is considered to be an additional source of financial expenses, as family income is an important aspect of economic planning that can block the effectiveness of these actions, thus prolonging treatment and establishing a chronic lesions<sup>17</sup>. The present study showed a C2 income level in both sexes.

The low quality of life of patients has their own personal devaluation as a factor, in which the individual with CVD, by presenting skin disorders and pain, develops a self-image disorder that leads to impairment in social life with emotional implications<sup>17</sup>. A study conducted with 3,072 patients between 18 and 79 years old concluded that CVD affects negatively the quality of life in 3.3% of men and 8.4% of women<sup>12</sup>. In our study, the result of the SF-36 questionnaire showed a greater percentage of the worst rates in females compared to males, including the aspects of physical functioning, general health, social aspects. Physical limitations were mostly related to males, and the aspect of pain was not prevalent in any gender.

The quality of life of 1,135 patients with venous disease was assessed in a multicenter study using the QV SF-36. It was observed that the scores of domains related to physical health were lower among subjects with the disease in more severe stages (CEAP 4.5 and 6), with no significant differences in scores related to mental health between groups more or less affected<sup>11</sup>. In our study, the scores were similar as to physical and mental features, resulting in no significant difference in the sample, except regarding vitality.

The interpretation of the quality of life depends on the emotional interpretation that each individual makes

of facts and events, being directly linked to the subjective perception of events and living conditions. The same CVD clinical classification may not mean the same for different individuals, and functional changes resulting from it may have different social and emotional implications to each of them<sup>11</sup>. The population studied in our research had a low education level, low income, and belonged to older age groups, so the individual characteristics differed as to the understanding of questions and answers in the subjective questionnaire.

A significant negative association between CEAP and quality of life was also demonstrated. Patients who had the worst scores in SF-36 QV in areas related to physical and mental health were those belonging to CEAP 4.5 and 6. It is worth emphasizing that the findings of most authors reveal a worse perception of their quality of life as the disease worsens<sup>11</sup>. In both sexes, C6 classification is more common.

## Conclusion

The study of the socio-demographic profile of patients with CVD showed that females in the age group 50 to 60 years are mostly affected by the disease. Those patients are often sedentary, stand up for prolonged periods in their daily tasks, present low schooling levels, belong to a less favored social stratus, and present with higher severity categories of disease (CEAP C6). The quality of life of patients with CVD is variable in QV SF-36. The analysis showed a negative impact on functional capacity among females and physical limitations for both sexes, but without significant impact in the other variables analyzed.

## References

1. Yamada BFA. Qualidade de vida de pessoas com úlceras venosas crônicas. [dissertação de mestrado]. São Paulo: Universidade de São Paulo; 2001. [cited 2011 Mar 10]. Available from: <http://www.teses.usp.br/teses/disponiveis/7/7138/tde-16022007-113552/pt-br.php>
2. Franca LHG, Tavares V. Insuficiência venosa crônica: uma atualização [Internet]. J Vasc Bras. 2003;2(4):318-28. [cited 2011 Mar 10]. Available from: <http://www.jvascbr.com.br/03-02-04/03-02-04-318/03-02-04-318.pdf>
3. Barros Jr N. Insuficiência venosa crônica. In: Pitta GBB, Castro AA, Burihan E, (editores). *Angiologia e Cirurgia Vasculare: guia ilustrado*. Maceió (AL): UNCISAL/ECMAL & LAVA; 2003 [cited 2011 Mar 10]. Available from: [http://www.lava.med.br/livro/pdf/newton\\_ivc.pdf](http://www.lava.med.br/livro/pdf/newton_ivc.pdf)
4. Faria AL, Santos TCMM, Matos RCSA, et al. Varizes: perfil social e patológico dos pacientes submetidos a cirurgia [Internet]. Rev Enferm UFPE. 2010;4(4):1631-8. [cited 2011 Apr 20]. Available

- from: [http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/1038/pdf\\_213](http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/1038/pdf_213)
5. Santos RFFN, Porfírio GJM, Pitta GBB. A diferença na qualidade de vida de pacientes com doença venosa crônica de leve e grave [Internet]. *J Vasc Bras.* 2009;8(2):143-7. [cited 2011 Mar 10]. Available from: <http://www.scielo.br/pdf/jvb/v8n2/a08v8n2.pdf>
  6. Figueiredo M. Úlcera Varicosa. In: Pitta GBB, Castro AA, Burihan E, (editores). *Angiologia e Cirurgia Vasculiar: guia ilustrado*. Maceió (AL): UNCISAL/ECMAL & LAVA; 2003 [cited 2011 Mar 10]. Available from: [http://www.lava.med.br/livro/pdf/marcondes\\_ulcera.pdf](http://www.lava.med.br/livro/pdf/marcondes_ulcera.pdf)
  7. Abbade LPF, Lastoria S. Abordagem de pacientes com úlcera da perna de etiologia venosa [Internet]. *An Bras Dermatol.* 2006;81(6):509-22. [cited 2011 Mar 10]. Available from: <http://www.scielo.br/pdf/abd/v81n6/v81n06a02.pdf>.
  8. Macedo EAB, Oliveira AKA, Melo GSM, et al. Caracterização sócio-demográfica dos pacientes com úlcera venosa atendidos em um hospital universitário. *Rev Enferm UFPE on line*. [periódico na Internet]. 2010;4(Suppl):1863-7. [cited 2011 Apr 20]. Available from: [http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/1475/pdf\\_125](http://www.ufpe.br/revistaenfermagem/index.php/revista/article/view/1475/pdf_125).
  9. Moura RMF. Funcionalidade e qualidade de vida em idosos com doença venosa crônica. [tese de doutorado]. Belo Horizonte (MG): Universidade Federal de Minas Gerais; 2010. [cited 2011 May 20]. Available from: [http://www.eef.ufmg.br/mreab/documentos\\_new/Dissertpdf/ReginaMarcia.pdf](http://www.eef.ufmg.br/mreab/documentos_new/Dissertpdf/ReginaMarcia.pdf)
  10. Castro e Silva M, Cabral ALS, Barros Jr N, et tal. Diagnóstico e tratamento da doença venosa crônica. Normas de orientação clínica da Sociedade Brasileira de Angiologia e Cirurgia Vasculiar (SBACV) [Internet]. *J Vasc Bras.* 2005;4(Suppl 2):S185-94. [cited 2011 Mar 10]. Available from: [http://www.jvascbr.com.br/vol4\\_n4\\_supl2.pdf](http://www.jvascbr.com.br/vol4_n4_supl2.pdf)
  11. Moura RMF, Gonçalves GS, Navarro TP, et al. Correlação entre classificação clínica CEAP e qualidade de vida na doença venosa crônica. [Internet]. *Rev Bras Fisioter.* 2010;14(2):99-105. [cited 2011 Mar 10]. Available from: [http://www.scielo.br/pdf/rbfs/v14n2/aop007\\_10.pdf](http://www.scielo.br/pdf/rbfs/v14n2/aop007_10.pdf)
  12. Leal JAR. Como avaliar o impacto da doença venosa crônica na qualidade de vida. [dissertação de mestrado]. Porto: Universidade do Porto; 2010. [cited 2011 Apr 24]. Available from: <http://repositorio-aberto.up.pt/bitstream/10216/53463/2/Como%20Avaliar%20o%20Impacto%20da%20Doena%20Venosa%20Crnica%20na%20Qualidade%20de%20Vida>
  13. ANEP - Associação Nacional de Empresas de Pesquisa. Dados com base no Levantamento Sócio Econômico – 2000 – IBOPE. [cited 2011 Apr 22]. Available from: [www.anep.org.br](http://www.anep.org.br)
  14. Comunicação NA. IPC Maps. São Paulo, 2011. [cited 2011 May 11]. Available from: <http://www.ipcbr.com/imprensa>
  15. Lima RCM; Santiago L; Moura RMF; et al. Efeitos do fortalecimento muscular da panturrilha na hemodinâmica venosa e na qualidade de vida em um portador de insuficiência venosa crônica [Internet]. *J Vasc Bras.* 2002;1(3):219-26. [cited 2011 May 11]. Available from: <http://www.jvascbr.com.br/02-01-03/02-01-03-219/02-01-03-219.pdf>
  16. Pena JCO; Macedo LB. Existe associação entre doenças venosa e nível de atividade física em jovens? [Internet]. *Fisioter Mov.* 2011;24(1):147-54. [cited 2011 May 25]. Available from: [www.scielo.br/pdf/fm/v24n1/v24n1a17.pdf](http://www.scielo.br/pdf/fm/v24n1/v24n1a17.pdf)
  17. Bertoldi CML; Proença RPC. Doença venosa e sua relação com as condições de trabalho no setor de produção de refeições [Internet]. *Rev Nutr.* 2008;21(4):447-54. [cited 2011 May 25]. Available from: <http://www.scielo.br/pdf/rn/v21n4/v21n4a09.pdf>
  18. Costa IKF. Qualidade de vida de pessoas com úlcera venosa: associação dos aspectos sociodemográficos, de saúde, assistência e clínicos da lesão. [dissertação de mestrado]. Natal (RN): Universidade Federal do Rio Grande do Norte; 2011. [cited 2011 May 20]. Available from: [http://www.pgenf.ufrn.br/arquivos/teses/dissertacao\\_corrigida\\_final\\_isabelle.pdf](http://www.pgenf.ufrn.br/arquivos/teses/dissertacao_corrigida_final_isabelle.pdf)

---

**Correspondence**

Larissa Maranhão Costa  
Praça Floriano Peixoto, 264 – Centro  
CEP 57150-000 – Pilar (AL), Brazil  
E-mail: [larimaranhao@hotmail.com](mailto:larimaranhao@hotmail.com)

**Author's contributions**

Conception and design: LMC, WJFH, FJL, RCC  
Analysis and interpretation: LMC, WJFH, FJL, RCC  
Data collection: LMC, WJFH  
Writing the article: LMC, WJFH, FJL  
Critical revision of the article: FJL, RCC  
Final approval of the article\*: LMC, WJFH, FJL, RCC  
Statistical analysis: LMC, WJFH, FJL  
Overall responsibility: LMC, WJFH, FJL, RCC

\*All authors have read and approved the final version submitted to *J Vasc Bras*.