Original Article

Association Between Knowledge of Chronic Venous Insufficiency and Clinical Severity in Women

Asociación entre el conocimiento sobre insuficiencia venosa crónica y la severidad clínica en mujeres

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Summary

Objective: to determine the association between knowledge about chronic venous insufficiency and clinic severity in women attending a family medicine unit. **Methods**: cross-sectional and analytical study in 280 women with chronic venous insufficiency. The instrument Chronic Venous Insufficiency Knowledge, which evaluates theoretical knowledge about the disease, was applied. The clinical severity of the disease was determined by means of the Venous Clinical Severity Score instrument, which independently measures clinical manifestations of the disease. Spearman's rho coefficient was used to assess the correlation between the degree of knowledge and clinical severity. **Results:** the overall assessment of knowledge of chronic venous insufficiency placed most of the participants at a low level (68%). A strong negative correlation was found between knowledge-presence of pain (Spearman's rho coefficient of -0.611, p=0.000) and knowledge-presence of venous edema (Spearman's rho coefficient of -0.648, p=0.000). When analyzing the correlation between knowledge and the presence of varicose veins, a moderate correlation was reported (Spearman's rho coefficient -0.450, p=0.000), as well as with skin pigmentation (Spearman's rho coefficient -0.464, p=0.000). The rest of the clinical severity topics reported a low correlation. **Conclusions:** low knowledge of chronic venous insufficiency is a risk factor for the severity of the disease. Therefore, it is vital to consider the implementation of educational strategies aimed at patients to improve knowledge and thus prevent disease progression.

Keywords: Venous Insufficiency; Knowledge, Disease

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Resumen

Objetivo: determinar la asociación entre el conocimiento sobre insuficiencia venosa crónica y la severidad clínica en mujeres adscritas a una unidad de medicina familiar. **Métodos:** estudio transversal y analítico en 280 mujeres con insuficiencia venosa crónica. Se aplicó el instrumento Conocimiento de la Insuficiencia Venosa Crónica, que evalúa el conocimiento teórico sobre la enfermedad. Se determinó la severidad clínica de la enfermedad a través del instrumento Venous Clinical Severity Score que mide de manera independiente manifestaciones clínicas de la insuficiencia venosa crónica. Para valorar la correlación entre el grado de conocimiento y la severidad clínica se utilizó el coeficiente rho de Spearman. **Resultados:** la evaluación global del conocimiento sobre insuficiencia venosa crónica ubicó a la mayoría de las participantes en el nivel bajo (68%). Se encontró una correlación negativa fuerte entre conocimiento-presencia de dolor (coeficiente rho Spearman de -0.611, p= 0.000) y conocimiento-presencia de edema venoso (coeficiente rho de Spearman de -0.648, p=0.000). Al analizar la correlación entre conocimiento y la presencia de várices, se reportó correlación moderada (coeficiente rho Spearman -0.450, p=0.000), al igual que con pigmentación cutánea (coeficiente rho de Spearman de -0.464, p=0.000). El resto de los tópicos de severidad clínica reportaron una baja correlación. **Conclusiones:** el bajo conocimiento sobre insuficiencia venosa crónica es un factor de riesgo para la gravedad de la enfermedad. Por ello, es vital que se considere la implementación de estrategias educativas dirigidas a pacientes que mejoren el conocimiento y por lo tanto, eviten la progresión de la enfermedad.

Introduction

Chronic Venous Insufficiency (CVI) is one of the main reasons for consultation in primary care, being the predominant vascular disease.[1] Among the risk factors associated with its presentation are age over 50 years, alterations in venous return, high Body Mass Index and having a first-degree relative with venous alterations. Unlike other chronic diseases, chronic venous insufficiency does not have an established association with conditions such as diabetes and arterial hypertension.[2]

Regarding the prevalence of the disease, the Unified Epidemiological Surveillance System (Epidemiological Surveillance Bulletin 2019) recorded that the incidence rate of venous conditions for the year was 132,020 cases, being more frequent in women.[3] Likewise, with the inversion of the population pyramid and imminent global aging, the presence of CVI is expected to increase exorbitantly, which in turn will increase the costs of medical care and the use of resources in its treatment; therefore prevention is essential.[4]

The clinical manifestations of this condition are insidious at the beginning; from small changes in the reticular veins to the formation of telangiectasias. Therefore, they do not have a significant impact on the daily life of sufferers and go unnoticed, until the disease follows its natural course and causes constant pain, changes in pigmentation, and venous ulcers occur. This symptomatology is indicative of advanced stages of the disease, which complicates management and can lead to disability.[4]

It is important to assess the severity of the disease, as this is how the physician determines the most appropriate therapeutic measures for patients with venous insufficiency. For this purpose, several scales have been used; one of them is the CEAP (clinical, etiology, anatomy and pathophysiology), which guides medical decision making, as it helps in disease stratification and treatment decisions.[5] Another scale is the VCSS (Venous Clinical Severity Score), which evaluates the severity of the disease subjectively (by the patient) and objectively (by the physician); its main advantage is that it covers more clinical variables and, in addition, the results obtained in terms of severity are comparable with those obtained by the CEAP scale.[6]

As it is a slowly progressive disease with few initial symptoms, it is difficult for patients to understand the importance of adhering to conservative treatment: use of compression stockings, weight reduction, consumption of flavonoids and regular exercise.[7] In this regard, there is evidence that in the case of chronic diseases, the knowledge that the person has about their condition is a facilitator for acceptance and integration into the therapeutic treatment, as well as to avoid disease progression.[8]

To achieve this knowledge, it is necessary that health education stimulates participation, and, through this, patients can generate their own notions, establishing a link between theory and practice, so that they can make better decisions about healthy habits and lifestyles, and achieve greater therapeutic adherence.[9] It is also necessary to evaluate this knowledge and skills periodically to know if they are having a real impact on the disease. In this regard, Durán and Martini validated an instrument that measures patients' theoretical knowledge of the disease in order to assess the information they possess on venous insufficiency.[10]

There are many studies in the literature that focus on the relationship between knowledge and severity in chronic diseases.[11-14] However, in the case of venous insufficiency, no history weas found in the Mexican population. Therefore, the aim of this study was to determine the association between knowledge of venous insufficiency and the degree of clinical severity of chronic venous insufficiency in women in a Family Medicine Unit of the IMSS in Mexico City.

Methods

Cross-sectional and analytical study, the sample was calculated using a finite sample formula with a 95% confidence interval (CI) in women diagnosed with chronic venous insufficiency, who attended a consultation at a family medicine unit of the IMSS in Mexico City, from April to June 2021. For this research, the male gender was excluded because this disease is more prevalent in women; the protocol was approved by the local health research and ethics committee.

After informed consent, the sociodemographic variables of age and level of schooling were collected. Subsequently, the instrument Chronic Venous Insufficiency Knowledge was applied, which consists of five real cases, problematized, according to three indicators regarding this disease: clarification of risk behaviors, recognition of complications of the condition, and selection of measures for self-care. Each case has three questions with four possible answer options: correct (adds 2 points), moderately correct (adds 1 point), incorrect (subtracts one point) and the option of not knowing, which does not subtract or add points. The final version of the instrument underwent content validation by six experts in the clinical area and in the construction and validation of patient instruments. Subsequently, a pre-sampling test was performed on a group of Mexican patients with clinical data on chronic venous insufficiency in a primary-care level unit, with which the number of responses expected by chance was estimated using the Pérez-Padilla and Viniegra test,[15] and scores were established for three levels of knowledge: low (8 to 15 points), intermediate (16 to 23 points) and high (24 to 30 points). For the purposes of this instrument, a patient who obtains a score equal to or less than 7 points does not denote any knowledge of the disease.[10]

Subsequently, a semi-partition of the instrument was performed, and the Mann Whitney U test was applied to establish homogeneity between the two halves of the instrument, obtaining a p=0.16. Finally, the internal consistency of the instrument was calculated, using Cronbach's alpha test (0.7).

To determine disease severity, the VCSS was used, which has a Kappa index of 0.63 and has been validated as a global venous screening instrument. It evaluates the presence or absence of ten clinical characteristics: pain, varicose veins, venous edema, hyperpigmentation, inflammation, induration, number of active ulcers, duration of the active ulcer, size of the active ulcer, and compressive therapy; this instrument does not consider the time of evolution of the symptomatology. The VCSS topics are evaluated separately, and each can be placed in the following categories: absent, mild, moderate and severe.[6,16] Four of the clinical characteristics (pain, venous edema, duration of active ulcer and compressive therapy) were obtained by questioning and the remaining six were obtained by physical examination.

In order to establish a possible correlation between clinical severity and degree of knowledge, inferential statistics (Spearman's rho coefficient) were used using SPSS v. 22. For the demographic variables of age and level of schooling, as well as for the qualitative variables level of knowledge and severity of the disease (application of the VCSS scale), frequencies and percentages were used.

Results

From a total of 280 participants, the most frequent age range was 50 to 60 years (67%), followed by 58 with an age range between 40 and 49 years (20%); and 37 between 30 and 39 years (13%).

In terms of level of education, 116 women reported junior-high school completed (42%), 84 reported elementary completed (30%), 71 had completed high school (25%), and 9 of the participants had a bachelor's degree or higher (3%).

When assessing knowledge, 68% were at a low level of knowledge (190), 27% had a medium level of knowledge (75), and 15 of the participants were at a high level of knowledge (5%).

As for the evaluation of the severity of the disease, the two predominant symptoms were mild skin pigmentation (68%), and moderate venous edema (58%), see Table 1.

When analyzing the relationship between knowledge and the topics of disease severity, a higher correlation between knowledge and pain, and venous edema was found. The Spearman correlation coefficients obtained (negative and bilateral) indicate that as the knowledge variable increases, the clinical manifestations decrease and vice versa, see Table 2.

Table 1. Disease Severity Assessment

Symptom	Absent	Mild	Moderate	Severe
Pain	4 (2%)	101 (36%)	152 (54%)	23 (8%)
Varicose veins	0 (0%)	83 (30%)	154 (55%)	43 (15%)
Venous edema	0 (0%)	98 (35%)	162 (58%)	20 (7%)
Skin pigmentation	0 (0%)	190 (68%)	88 (31%)	2 (1%)
Swelling	240 (86%)	35 (12%)	5 (2%)	0 (0%)
Induration	214 (77%)	57 (20%)	9 (3%)	0 (0%)
Number of healed ulcers	255(91%)	25 (9%)	0 (0%)	0 (0%)
Duration of active ulcer	255 (91%)	23 (8%)	2 (1%)	0 (0%)
Size of active ulcer	255 (91%)	24 (8%)	1 (1%)	0 (0%)
Compressive therapy	168 (60%)	99 (35%)	13 (5%)	0 (0%)

Table 2. Correlation Between VCSS Parameters and CVI Level of Knowledge

VCSS	Level of Knowledge (rs)
Pain	-0.611 (p<0.000)
Varicose veins	-0.450 (p<0.000)
Venous edema	-0.648 (p<0.000)
Skin pigmentation	-0.464 (p<0.000)
Swelling	-0.249 (p<0.000)
Induration	-0.379 (p<0.000)
Number of healed ulcers	-0.207 (p<0.001)
Duration of active ulcer	-0.197 (p<0.001)
Size of active ulcer	-0.221 (p<0.000)
Compressive therapy	-0.241 (P<0.000)

Spearman Correlation: 1= perfect correlation; 0.80-0.99= strong correlation; 0.60-0.79= significant correlation; 0.40-0.59= moderate correlation; 0.20-0.39= weak correlation; 0.00-0.19= very weak correlation

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Discussion

Currently, there are no studies on the relationship between the CVI knowledge and its relationship with the severity of the disease in our setting. The closest experiences are found in the study of other chronic diseases, such as diabetes mellitus. In this sense, the results of the present study are similar to those reported by López et al.,[17] who carried out an investigation in which they evaluated the knowledge of diabetes and nutrition, finding that 70% of the patients had only a basic knowledge of their disease. In agreement with the above, Okai et al.[18] conducted a similar study to establish the level of knowledge of patients with hypertension, in which 73% of those surveyed had a low level of knowledge.

When analyzing the presence of CVI signs and symptoms, the most frequent in this study were skin pigmentation, venous edema, and the presence of varicose veins. These results are very close to those obtained by Mallick et al.,[19] who found the presence of varicose veins and skin pigmentation as frequent symptoms, followed by venous edema. On the other hand, the results of Radhakrishnan et al.[20] coincide with the present study, but only with regard to pigmentation as a frequent clinical finding in patients with CVI. These differences could be related to some variants of the population selected in the other studies, such as age or including both genders in the selected sample.

Within the severity of chronic venous insufficiency disease, Mallick et al.[19] reported that the most severe presentation was related to the presence of varicose veins; this result is similar to that found in this study. This may be explained by the fact that this clinical feature is frequently considered by patients as a cosmetic problem and not as part of the disease, and that initially it does not limit their activities, compared to other clinical manifestations.

When analyzing the severity of symptoms in relation to knowledge, it was found that there is a correlation between theoretical knowledge and the severity of the clinical presentation. This is in agreement with other research on chronic diseases, as in the case of Bukhsh et al.,[11] who found an association between knowledge of type 2 diabetes and glycemic control (p <0.001). This is

also close to that observed by Olowe et al,[12] who found an association between knowledge and arterial hypertension control (p 0.000). Similarly, the study by López et al.[13] recognized the relationship between knowledge and glycemic control. Comparing these results with the chronic disease progression, Vera et al.[14] found that there is a relationship between knowledge and progression of chronic kidney disease (p=0.000). Therefore, it is evident that the knowledge of patients with chronic diseases is essential, since it provides resources to have greater control of their own disease.[8]

The strength of the present study lies in the fact that it was carried out with patients in a primary care unit, where most chronic diseases are diagnosed and, therefore, it is possible to prevent and treat their complications in a timely manner. Among the limitations is the fact that the time of evolution of the disease was not considered as a variable of interest, which could have led to variations in the severity topics obtained with the VCSS assessment.

Conclusion

The results of the present investigation reflect the relationship between knowledge of chronic venous insufficiency and its control, which, at the primary care level, is one of the most frequently diagnosed chronic diseases. These results show the need to create educational interventions for patients with this disease, in order to make people responsible for their own health, delay the progress of the disease and, thus, achieve a better quality of life.

Authors' Contribution.

L R-E: development, writing, survey application, data analysis, discussion of results; H M-B: conceptualization, writing, data analysis; Y D-R: writing, discussion of results. All authors approve the publication of this paper.

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Conflicts of interest

The authors declare having no conflicts of interest.

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