

Assessment of health-related quality of life among outpatients with chronic venous insufficiency of the lower extremities at the Senior Officer Outpatient Clinic - 108 Military Central Hospital

Mai Thi Xuan My*, Luong Hai Dang, Le Van Hao,
Nguyen Thi Hanh, Nguyen Van Hien, Le Thi Hai Yen

108 Military Central Hospital

Summary

Objective: This study aimed to assess the health-related quality of life (HRQoL) of patients diagnosed with chronic venous insufficiency (CVI) of the lower extremities attending the Senior Officer Medical Examination Department. **Subject and method:** We conducted a prospective, descriptive, cross-sectional study involving 115 patients diagnosed with CVI. HRQoL was evaluated using the pre-designed Chronic Venous Insufficiency Questionnaire (CIVIQ-14). **Result:** The patients' psychological domain showed the most significant impairment, with a mean score of 2.32 ± 3.9 . Patients receiving pharmacological treatment exhibited better HRQoL compared to those not receiving medication (33.12 ± 5.45 vs. 25.34 ± 8.12 , OR 5.78 (3.12 - 9.79), $p < 0.05$). Those wearing compression stockings reported lower HRQoL than those not using them (23.52 ± 7.16 vs. 30.6 ± 6.45 , OR: 2.12 (1.78 - 5.73), $p < 0.05$). **Conclusion:** The HRQoL of patients with CVI is predominantly affected by psychological factors. Moreover, adherence to compression therapy is associated with a decrease in HRQoL, highlighting the need for enhanced patient education regarding the importance of treatment compliance.

Keywords: Chronic venous insufficiency, Quality of life, CIVIQ-14.

I. BACKGROUND

Chronic venous insufficiency (CVI) of the lower extremities is characterized by the dysfunction of the venous system due to valve incompetence or venous dilation. This condition is prevalent in Europe, particularly in developed nations, affecting an estimated 5-30% of the population and consuming 2% of healthcare budgets. Although CVI is not life-threatening, it significantly impacts patients' quality of life (QoL) and incurs substantial diagnostic and treatment costs.

Identified risk factors for CVI include advanced age, female gender, obesity, pregnancy, prolonged standing, sedentary lifestyle, and family history. If left untreated, CVI symptoms can progressively worsen, leading to irreversible changes.

In Vietnam, with economic growth and changing lifestyles, the prevalence of CVI is increasing, particularly among younger populations. Research on QoL in this patient group is limited, especially concerning military personnel with non-surgical cases. This study aims to provide a comprehensive assessment of patients with CVI, offering insights to improve nursing care and overall patient health.

Our objective is to evaluate the QoL of patients with chronic venous insufficiency of the lower

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Correspondence to: mymyhtc@gmail.com

108 Military Central Hospital

extremities at the Senior Officer Outpatient Department.

II. SUBJECT AND METHOD

Study Population

This study included 115 outpatients diagnosed with chronic venous insufficiency of the lower extremities at the Senior Officer Outpatient Clinic between December 2023 and May 2024.

Study Design:

We conducted a prospective, descriptive, cross-sectional study.

Inclusion Criteria:

Participants were included if they had a diagnosis of chronic venous insufficiency based on clinical evaluation using the CEAP (Clinical, Etiological, Anatomical, and Pathophysiological) classification (2004) and confirmed by Doppler ultrasound of the lower extremity veins. A diagnosis of CVI was established when reflux times exceeded 500ms in the great saphenous or deep leg veins, or exceeded 1000ms in the femoral and popliteal veins.

Exclusion Criteria:

Patients with congenital vascular malformations, arteriovenous fistulas following trauma, lower limb amputations, lymphedema, diabetic ulcers, prior sclerotherapy, or surgical interventions for CVI were excluded. Additionally, patients who declined to participate were also excluded.

Quality of Life Assessment:

Quality of life Assessment according to the CIVQ-14 scale is a validated quality of life assessment tool consisting of 14 interview questions covering 3 domains of "pain", "physical", "mental" first created

by Professor Launois and colleagues and applied in France in 1996, has been accepted and used effectively as a global measure of cardiovascular disease ⁷. Currently, this set of questions has been translated into 24 different languages and is popular in 28 countries ⁸. This scale has been officially localized and allowed for use since 2013. Assessment: Pain from questions 1-3, each answer from 1-5 points (no impact to very impact); Physical from questions 4-8 each answer from 1-5 points (no impact to unable to perform actions), Mental from questions 9-14, each answer from 1-5 points (no mood to always have) mood).

Statistical Analysis:

Data were analyzed using SPSS version 20.0, Single-variable analysis, calculation of odds ratio OR, comparison of incidence differences between the disease group and the control group using chi-square test to determine the relationship between risk and disease (p).

Ethical considerations:

This study adhered to the ethical standards of the Declaration of Helsinki and participation was voluntary, with participants informed of their right to withdraw at any time without affecting their care. Written informed consent was obtained prior to participation.

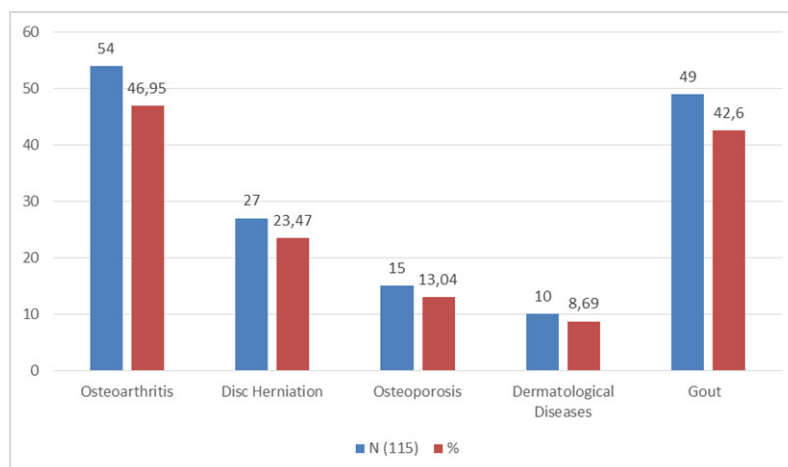
All personal information was anonymized and securely stored, accessible only to the research team. The data were used solely for research purposes. The study posed minimal risk to participants, involving non-invasive assessments, with no direct benefits to participants but contributing to better management of chronic venous insufficiency.

III. RESULTS

Table 1. Demographic Characteristics

Characteristic		Mean±SD
Age (Years)		63.2 ± 9.8 (47-82)
Gender	Male (n,%)	81 (70.4 %)
	Female(n,%)	34 (29.6%)
BMI (kg/m ²)		21.7±2.3

The mean age of participants was 63.2 years, indicating an older cohort typical for chronic venous insufficiency (CVI). Male participants made up the majority, at 70.4%, which contrasts with the typically higher prevalence of CVI in females.



Graph 1. Comorbidities manifesting in the lower extremities of the study subjects

The most prevalent comorbidity was osteoarthritis (46.95%), followed by gout (42.6%) and intervertebral disc herniation (23.47%).

Table 2. The compliance rate of patients with chronic venous insufficiency to prescribed internal treatment

Treatment Method	N (115)	%
Daily Medication		
Yes	98	85.21
No	17	14.79
Wearing Compression Stockings Daily (≥ 8 hours/day)		
Yes	45	39.13
No	70	60.87

The rate of patients adhering to recommended compression stockings is notably low, at only 39.13%. Conversely, the adherence rate for prescribed medications is significantly higher, at 85.21%.

Table 3: Quality of Life (QoL) Scores Among Patients with Chronic Venous Insufficiency

- *Quality of Life Scores:*

QoL Aspect	Mean $\pm$ SD
Pain	1.7 $\pm$ 2.4
Physical	1.97 $\pm$ 2.6
Psychological	2.32 $\pm$ 3.9
Total	25.7 $\pm$ 7.3

Psychological well-being was the most affected domain, with a mean score of 23.2, reflecting significant mental health challenges among CVI patients. The overall QoL score was 25.7, indicating a moderate to severe impact on daily life

Tab 4. Characteristics of quality of life of the study group with treatment compliance.

	Quality of life	OR 95%CI	p
Daily medication			
no	33.12 ± 5.45	5.78	< 0.05
yes	25.34 ± 8.12	(3.12 - 9.79)	
Wearing Compression Stockings Daily (≥ 8 hrs/day)			
no	23.52 ± 7.16	2.12	< 0.05
yes	30.6 ± 6.45	(1.78 - 5.73)	

There was an impact on the quality of life of the group taking medication and the group not taking medication with OR 5.78 (3.12 - 9.79), $p < 0.05$, the group wearing socks and the group not wearing socks had an OR : 2.12 (1.78 - 5.73), $p < 0.05$.

IV. DISCUSSION

Chronic venous insufficiency (CVI) is a long-term condition with various pharmacological and interventional treatments; however, it still often causes patient anxiety and impacts their long-term quality of life (QoL). In our survey conducted at Ward C1-2, the average patient age was 63.2 ± 9.8 years, with ages ranging from 47 to 82, predominantly male (70.4%). None of the patients were classified as obese, with a mean BMI of 21.7 ± 2.3 . This demographic profile differs from other studies¹ due to the unique focus on senior military personnel, mostly male and over the age of 45.

In this study, we focused on comorbid conditions with symptoms affecting the lower extremities, as these can exacerbate patient discomfort and impact quality of life (QoL). Key conditions included osteoarthritis (46.95%), herniated disc (23.47%), osteoporosis (13.04%), and gout (42.6%). Due to regular comprehensive check-ups at the Senior Officer Clinic, these chronic conditions were frequently identified, particularly among older patients.

The adherence rate to oral medication treatment was very high, at 85.21%, which can be attributed to the fact that the study participants were senior officers with a high level of education,

and the patients received their medication monthly, in full. However, adherence to compression stocking therapy was low, at only 39.13%. Our study's findings are similar to those of Võ Lê Thu, where adherence to compression stocking use was 40.9%².

Patients who adhered to their oral medication had better quality of life scores compared to those who did not take the medication, with scores of 33.12 ± 5.45 vs. 25.34 ± 8.12 , respectively, OR: 2.12 (1.78 - 5.73), $p < 0.05$. Interestingly, patients using compression stockings had lower quality of life scores compared to those not using them, with scores of 23.52 ± 7.16 vs. 30.6 ± 6.45 , respectively, OR: 2.12 (1.78 - 5.73), $p < 0.05$. This could be due to the discomfort caused by wearing compression stockings, which can be attributed to various factors such as weather, allergies, improper fit, or the quality of the stockings. Additionally, healthcare providers may not have adequately explained the importance of compression stockings for the prevention and treatment of venous insufficiency.

Regarding the quality of life (QoL) of our study group, we found that it was primarily affected by psychological factors, resulting in a negative impact on the patients' QoL, with a score of 2.32 ± 3.9 points. This highlights the need for healthcare providers in the department to pay more attention to counseling patients, helping them understand their condition, take responsibility for their self-care, adopt lifestyle changes, adhere to treatment, and reduce unnecessary anxieties that can negatively impact their quality of life.

V. CONCLUSION

The quality of life in patients with chronic venous insufficiency is primarily reduced due to psychological factors. Furthermore, the quality of life in the group using compression stockings was lower compared to the group not using them. Therefore, it is essential to enhance the counseling role of healthcare providers and improve patients' understanding of their condition and treatment methods.

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