

# Aspects that Influence in the Quality of Life of People with Venous Ulcer

ORIGINAL

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## Abstract

**Background:** Some studies claim that the presence of venous ulcers (VU) negatively impacts the quality of life (QOL) of people affected and it is a major public health problem. Healthcare of these people are complex and requires planning and involvement of the multidisciplinary team that knows the profile and demands of this population.

**Objective:** To identify associations between socioeconomic, clinical and health aspects and quality of life (QOL) of people with venous ulcers (VU), through the Charing Cross Venous Ulcer (CCVUQ).

**Methods:** This is a cross-sectional study, conducted in mix and family health units in Natal (42 units), Rio Grande do Norte, Brazil (N=101). Were applied two instruments: a structured form on sociodemographic, clinical, and health, and the translated and validated CCVUQ in Brazil. A descriptive statistics and Mann-Whitney test, p-value <0.05 was used for analysis.

**Results:** There was statistically significant association and indicative of worse QOL between total score with the place of origin of the north zone and pain presence; an emotional state with age until 59 years old and venous ulcer time less or equal to one year; aesthetics with age until 59 years old.

**Conclusion:** These results demonstrate that age, origin, presence of pain, injury time and sleep interfere with the person's QOL with VU. The research of sociodemographic, clinical and health factors is important to planning multidisciplinary actions because they can influence the person's QOL with VU.

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## Introduction

Due to changes in the epidemiological profile of morbidity and mortality of the population, the concept of health has also undergone transformations and consequently has to be measured by the quality of life (QOL), a more complex construct than individual health status [1].

The QOL is a widely researched topic and interest of different sectors of society, and in health, it influences the desirable therapeutic decisions to achieve the well-being of the patient [2]. It is a multidimensional and abstract construct that involves personal, cultural, social, economic and religious aspects [2, 3], which corresponds to the conception of the person on the positioning achieved before their goals, expectations, standards and concerns within a nexus of culture and values [4].

In this dynamic, studies claim that the presence of venous ulcers (VU) negatively impacts the QOL of people affected [5, 6, 7, 8] and it is a major public health problem [3, 9] because, having such injury, every aspect of life are affected, bringing general limitations [6].

Being a multidimensional concept, the measurement of QOL is through some variables, which aim to achieve reliable measurements and therefore, the instruments for this purpose can be generic or specific [5, 10]. Generic instruments that measure QOL related to health do not assess the specific characteristics of chronic diseases and therefore, those more specific can help the recognition of individual demands contributing to the treatment [7].

There is the Charing Cross Venous Ulcer Questionnaire (CCVUQ) among the instruments to measure the QOL as a specific questionnaire and, according to the authors, it is more suitable for use in people with VU [1, 5]. This is a questionnaire adapted culturally to Brazil, which allows obtaining reliable measurements and providing an assessment of interventions and the impact of chronic VU on aspects of QOL [10]. It has good psychometric properties, it is sensitive and requires the short time

of application [1, 5, 10], and it is useful to identify areas negatively impacted on the QOL of people with VU and contribute to the planning of a more appropriate and targeted assistance.

An integrative literature review [5] studied the impact of chronic injury in health-related QOL, measured by various instruments, and highlighted the pain, reflecting the social aspects and the daily activities of the individual.

Another integrative review [6], which explored the factors impacting the QOL of these people, reaffirmed the negative implications of injury, and concluded that it is necessary to consider them in care, to be managed effectively, with constant re-evaluation, so care is not focused just on wound healing.

However, both the above studies do not denote how this kind of injury and the social, medical and health characteristics are associated with the QOL of Brazilian people assisted and monitored under the Primary Health Care (APS) and inserted in the Family Health Strategy. Because it is a chronic situation, this medical condition is mostly treated in APS, except in cases of complications. Thus, it is necessary to know the profile and clinical characteristics and health of people with VU and its influence in the fields of health-related QOL.

Healthcare of a person with VU is complex [3,8] and requires planning and involvement of the multidisciplinary team that knows the profile and demands of this population [11], to intervene in QOL [5, 6]. However, it is up to the professional nurse recognize the importance of this construct in the research and systematization of individualized and holistic care within the multidisciplinary team [3, 12].

Given this context, this study aimed to identify associations between socioeconomic, clinical and health aspects and the quality of life of people with venous ulcers, as measured by CCVUQ.

## Method

Descriptive and quantitative study carried out in primary health care (APS) of the city of Natal, Rio Grande do Norte (RN), Brazil. Data collection took place from February to April and from August to September 2014. It was conducted in 42 health units, of which 37 were from the Family Health Strategy (ESF) and five were mixed units.

The population consisted of all people with UV registered in these health services and who met the following inclusion criteria: be 18 years old, to have VU active at the time of collection, to be registered to the unit and to have verbal communication skills. Due to having different etiological factors and symptomatology of venous lesions, the people of ulcers with mixed origins were excluded. At the end of the data collection process, 101 individuals agreed to participate.

Nurses and nursing students previously trained, perform data collection, with the application of two instruments: a structured form on sociodemographic, clinical, and health, and the translated and validated CCVUQ in Brazil [10]. Interviews were conducted in health facilities or at home, with duration of about 20 minutes.

This instrument generates a total score and is divided into four areas: social interaction, domestic activities, aesthetic and emotional state. Both the total score and the concerning areas range from zero to 100, of which the higher the score, the worse the QOL [10].

The social interaction domain consists of questions related to how the ulcer stop meeting friends, traveling, practicing hobbies, use public transportation, walking difficulties and if the person judges carrying out his activities more slowly. The domain domestic activities consist of questions on activities like cooking, cleaning the house, shopping and taking care of the yard, and if he performs activities more slowly.

The aesthetic domain includes questions about concerns with the secretion of the wound and the

fear not healing and about the sadness on the appearance of the injury and sees it as a problem. The emotional state domain concerns about fatigue with treatment, feeling depressed and concerns with the ulcer, personal relationships and the fear of not healing.

The CCVUQ was elaborated to measure the QOL of people with VU from the SF-36 domains. The initial version showed good reliability, good sensitivity and high correlation with all eight domains of the SF-36 ( $r = 0.55$ ;  $p < 0.001$ ) [13].

The social interaction domain of CCVUQ had the strongest correlation to the physical aspect domains ( $r = -0.698$ ), general health ( $r = -0.633$ ) and social aspects ( $r = -0.677$ ) of the SF-36. The domain domestic activities correlated with the domains functional capacity ( $r = -0.567$ ), general health ( $r = -0.577$ ) and social aspects ( $r = -0.593$ ). The aesthetic domain correlated strongly with emotional aspects ( $r = -0.425$ ), social aspects ( $r = -0.493$ ) and physical aspects ( $r = -0.405$ ). The emotional state domain had a strong correlation with social aspects ( $r = -0.646$ ), emotional aspects ( $r = -0.523$ ) and mental health aspects ( $r = -0.561$ ). Correlations were negative because the scales receive reverse score [13].

Items related to sociodemographic, clinical and health characteristics were obtained through the application of a form prepared and previously applied in another study for people with VU [14].

The sociodemographic, clinical and health characteristics had dichotomous variables. Regarding the sociodemographic data, there were included: age, gender, marital status, education, origin, profession/occupation and per capita income. The origin variable was dichotomized among residents of the North zones 1 and 2 and East, West and South areas, by geographical proximity and socio-demographic similarities of the population [15]. Only the City Hall of Natal divides the north into two districts because of its great extent.

For health conditions, diabetes mellitus, hypertension, sleep, alcohol consumption and smoking

were studied. Among the clinical conditions, there are VU time, recurrence, pain presence (yes or no) and pain intensity (mild, moderate or severe).

Data were tabulated in Microsoft Excel® and exported to SPSS statistical software, version 20.0 for descriptive and inferential analysis. The Mann-Whitney test was performed to identify possible associations between the total score and each domain variables of sociodemographic characteristics, health clinics and people with VU. In all crosses,  $\alpha=0.05$  was adopted as statistical significance level. The associated variables were described as the mean, standard deviation and minimum and maximum values.

This study followed the ethical and legal principles governing research on human beings in the resolution 466/12 the Ethics Committee in Research of the Federal University of Rio Grande do Norte (CAAE No 07556312.0.0000.5537) approved it [16].

## Results

Concerning the sociodemographic variables, presented in **Table 1** about age, 62 (61.4%) had greater or equal age to 60 years old; 67 (66.3%) were female; 64 (63.4%) had a partner (a); 86 (85.1%) had completed primary education; 60 (59.4%) proceeded from North zones 1 and 2; 76 (75.2%) had no profession/occupation; 73 (72.3%) received up to one minimum wage per capita, R\$ 724.00 or USD 241.10 in 2014.

About health, 24.8% and 44.6% of the population, respectively, had diabetes or hypertension, 12.9% had consumed alcohol, 14.9% of smokers and 57.4% slept six hours or more per day.

More than half of the surveyed (51.5%) had a lower or equal VU time to one year, the presence of relapses (68.3%) and pain (87.1%) rated as moderate to severe (76.2%).

The 101 participants had average QOL total score of 52.1 with a standard deviation of 16.6 (minimum

**Table 1.** Description of the socioeconomic and health characteristics of people with venous ulcers. (N=101).

Variables		N	%
Health characteristics	Diabetes mellitus		
	Absent	76	75.2
	Present	25	24.8
	Hypertension		
	Absent	56	55.4
	Present	45	44.6
	Sleep		
	≤ 6 hours	43	42.6
	> 6 hours	58	57.4
	Alcohol consumption		
	Absent	88	87.1
	Present	13	12.9
Clinical characteristics	Smoking		
	Absent	86	85.1
	Present	15	14.9
	VU* time		
	≤ 1 year	52	51.5
	> 1 year	49	48.5
	Recurrence		
	Absent	32	31.7
	Present	69	68.3
	Pain		
Absent	13	12.9	
Present	88	87.1	
Intensity of pain			
Absent or mild	24	23.8	
Moderate or severe	77	76.2	
Total	101	100.0	

\*: Venous Ulcer (VU)

= 19.8; maximum = 90.1). Before the association analyzes of socioeconomic, clinical and health variables of the person with VU with each domain of CCVUQ, statistically significant association was identified between emotional and aesthetics state with age ( $p=0.012$  and  $p=0.015$ , respectively); social interaction and the origin ( $p=0.013$ ); social interaction and presence of pain ( $p=0.003$ ); emotional state

**Table 2.** Association between the CCVUQ domains and total score with sociodemographic, health and clinical aspects of people with venous ulcer.

Characterization	CCVUQ* domains				Total
	Domestic Activities	Social Interaction	Emotional state	Aesthetic	
Socioeconomic					
Age group	0.287	0.167	0.012	0.015	0.295
Gender	0.461	0.829	0.622	0.928	0.779
Marital Status	0.675	0.709	0.544	0.544	0.617
Education	0.425	0.640	0.242	0.332	0.311
Origin	0.582	0.013	0.967	0.566	0.226
Profission/occupation	0.529	0.931	0.361	0.838	0.813
Income per capita	0.212	0.149	0.776	0.567	0.108
Health					
Diabetes mellitus	0.337	0.609	0.537	0.335	0.950
Hypertension	0.248	0.463	0.748	0.592	0.753
Sleep	0.217	0.080	0.116	0.194	0.016
Alcohol consumption	0.206	0.100	0.210	0.605	0.769
Smoking	0.300	0.061	0.103	0.958	0.745
Clinical					
VU** time	0.175	0.836	0.008	0.122	0.115
Recurrence	0.209	0.354	0.607	0.942	0.564
Presence of pain	0.085	0.003	0.269	0.078	0.008
Intensity of pain	0.465	0.079	0.664	0.369	0.111

\*: Charing Cross Venous Ulcer Questionnaire (CCVUQ)/ \*\*Venous Ulcer (VU)/ Mann-Whitney test

and VU ( $p=0.008$ ); total score and sleep ( $p=0.016$ ); and total score and intensity of pain ( $p=0.008$ ), as shown in **Table 2**.

**Table 3** shows descriptively variables that showed statistical significance, given in **Table 1**.

When considering that the higher the score, the worse the QOL of the person with VU, it was ob-

served that the social interaction domain was worse among people coming from the north areas 1 and 2 and those with present pain.

Concerning the emotional state, QOL was worse among people aged up to 59 years old and with VU time equal or greater than one year. The aesthetic domain was worse also for people up to 59 years

**Table3.** Descriptive statistics of socioeconomic, health and clinics variables associated with the total score and each domain of people with venous ulcer.

CCVUQ* domains	Variables	Minimum	Maximum	Average (SD)	p-value***
Social interaction	Origin				
	North 1 and 2	18.0	86.3	52.5 (21.1)	0.013
	South, West and East	18.7	86.3	42.4 (20.6)	
	Pain				
	Absent	18.0	61.0	40.2 (11.9)	0.003
	Present	18.7	86.3	55.3 (21.6)	

CCVUQ* domains	Variables	Minimum	Maximum	Average (SD)	p-value***
Emocional state	Age group				
	< 59 years old	20.7	100.0	74.0 (26.9)	0.012
	≥ 60 years old	20.7	100.0	57.9 (23.7)	
	VU** time				
	< 1 year	20.7	100.0	57.3 (24.9)	0.008
≥ 1 year	20.7	100.0	71.3 (24.8)		
Aesthetic	Age group				
	< 59 years old	20.7	100.0	73.5 (25.8)	0.015
	≥ 60 years	20.7	96.7	58.4 (21.6)	
	Total score				
	< 6 hours	20.3	90.1	62.8 (18.2)	0.016
> 6 hours	19.8	79.1	52.1 (14.2)		
Total score	Pain				
	Absent	19.8	70.4	48.6 (14.0)	0.008
	Present	20.3	90.1	57.3 (16.2)	

\*: Charing Cross Venous Ulcer Questionnaire (CCVUQ)/ \*\*: Venous Ulcer (VU)/ \*\*\*: Mann-Whitney test.

old. The total score was worse among people who sleep six hours a day and experience pain as a symptom.

## Discussion

The socio-demographic characteristics of the participants were similar to the found in other studies [18, 19]. It is known that the age is a factor that increases the incidence and prevalence of VU due to changes caused by aging [5, 9]. Thus, the nurse should be careful monitoring their elderly patients, especially for vascular and skin disorders.

The low level of education and the absence of an occupation also are part of the profile of the sample and is common among people with VU [10]. The low level of education may be related to the ignorance of their medical condition, which makes self-care and evolution of injury [19]. In this situation, the nurse should use health education to provide the necessary knowledge to individuals appropriately to the level of understanding, so that they can contribute to their treatment.

The low level of education associated with the lack of occupation, income below of a minimum wage and origin of parts of the city socioeconomically weak (North 1 and 2), point to a related sociodemographic profile related to the worst living conditions that can negatively impact on QOL of this population, as noted in the significant association between the social interaction and origin domain ( $p=0.013$ ), with a mean score of 52.5 (SD 21.1) for residents of the North zones 1 and 2. This sociodemographic disadvantage profile is also common in other studies of this injury [17, 18].

The interest in the origin of the sample was due precisely to the socio-demographic differences and living conditions between the North zones 1 and 2, and East, West and South, being the North the most disadvantaged one. [15]

The VU presence causes impairment and physical limitations that lead to restrictions on mobility and daily life [6], which can make people less productive economically. Although 75.2% of the subjects do not have profession/occupation, there was no significant difference in the statistical point of view

between the domain domestic activities with any variable evaluated.

It is noteworthy that the retired people or people who receive sickness salary and did not exercise were considered without profession/occupation. The presence of the lesion was, in many cases, leading to absence from work for medical expertise. Moreover, the high number of retirees was related to the large quantity of elderly in the population studied.

For the study population, the sociodemographic variables of gender, marital status, education, profession/occupation and income per capita were not significantly associated with any of the QOL domains studied. On the other hand, there are studies that found a significant association between QOL and marital status, measured by the Cardiff Wound Impact Schedule (CWIS). The domains associated were well-being, physical symptoms and daily life, social life and general QOL [3].

Despite not having statistical significant in this study, for such sociodemographic variables, specific interventions become necessary to consider the characteristics of this population and overall assessment of the person with venous ulcers, to improve the quality of life and health promotion.

Regarding the pain, this was significantly associated with social interaction domain and the total score, with the lowest scores among the subjects with this pain. This is the main symptom that affects the QOL of people with VU [5, 17], with a negative impact on mobility, social and emotional aspects and mental health [5]. Nevertheless, the variable intensity of pain was not significantly associated with QOL and their domains.

On the other hand, the perception of QOL is influenced emotionally by the subjective experience of the individual with everyday events. Among people with VU, self-image changes occur that influence social and emotional life, causing a feeling of worthlessness, and hence, a worse evaluation [17].

In a study evaluating the influence of the clinical classification of chronic venous disease and QOL [17], it was observed that the same classification may not have the same meaning for different people because, as discussed above, the perception of this construct depends on emotional factors. However, the diagnosis disease time negatively influences this notion [17].

Regarding the health variables, sleep was significantly associated with the total score of CCVUQ ( $p=0.016$ ), with the worst average (62.8) among those who sleep less than six hours a day, demonstrating the importance of good sleep quality in the QOL of these individuals. The sleep pattern is another aspect that commonly influences the QOL of people with VU, and it is usually associated with chronic pain [5]. The investigation of the sleep pattern should be investigated in nursing consultation to improving QOL.

The variables diabetes mellitus, hypertension, alcohol consumption and smoking were not significantly associated with QOL domains studied. The concentration of non-alcoholic and non-smokers in the population may have influenced the results of the associations. It is emphasized that these four factors above, although not significant to QOL of respondents, they reverberate negatively on the health status of individuals.

Recurrences and injury time are important characteristics for the individual's well-being. Despite the high incidence of recurrence found in the research [18] and present in almost 70.0% of the study population, there was no significant association with this CCVUQ.

However, VU time showed a statistically significant difference in the emotional state, with the worst score among subjects with higher VU time or equal to one year. Thus, living for many years with the injury without significant improvements can lead to damage to the emotional health of individuals, and it is important to join efforts for effective and decisive treatment.

It is important to remember that the quality of life instrument (CCVUQ) contains no item corresponding to this relationship with recurrent lesions, focusing on nuisance or change that the current active VU brings to the subject. This factor cannot be related to the significance of variable recurrence associated with QOL, for those who had worse scores on the instrument, they did not consider the history of previous ulcers.

The time of lesion greater than one year is often found in other studies [12, 18] with an impact on healing, which, in turn, is influenced by local and systemic factors and changes together with the aging process exacerbating these factors [18].

There are still few studies published in the literature using CCVUQ. However, a study found that the responsiveness of QOL assessment tool identified that the difference between participants with healed ulcer not healed ulcer in 12 weeks was significantly different for all areas of CCVUQ. However, for the Short Form Health Survey, it was significant in only three of the eight domains and the Euro Quality of life was no significant different [20].

A comparative study of types of compression, held in Hong Kong, CCVUQ was used [21]. After 12 weeks of follow-up, significant improvement in QOL among people who used a short bandage, multilayer, and also in the control group without compression therapy. After 24 weeks, the improvement in QOL was significant only for the intervention groups [21].

Thus, it is clear that this study contributes to bringing different aspects of association with the quality of life assessed by the instrument. Thus, it is seen that it is important to consider the many aspects that can influence the health of the person with VU in decision-making to nurse interventions [11], enabling better research, ranging from expected results and valuing the comprehensive care of the individual and promotion of their QOL.

This study has limitations of its design and, being a cross-sectional study; the authors were limited

to describe observations made in just a moment of data collection, making it impossible to analyze trends and eliminate confounding variables related to the time of collection data. Also, the discussion of the results presented limitations due to the diversity of tools used in other studies to assess the quality of life.

Associations and correlations identified may be a result of compliance effect or Hawthorne, which occurs when the participant responds differently that when held, just because they are participating in a survey. Also, the subjectivity that permeates issues related to the QOL with people with VU could not be unveiled because it is a quantitative study with validated instrument usage data collection.

People with VU were mostly women, elderly, with a partner, unemployed, low income and education, and coming from the Northern zones 1 and 2. They had QOL average higher than the median range (50), they did not have diabetes and hypertension, were not drinkers or smokers and used to sleep more than six hours daily. Regarding VU, they reported to live with the wound for a year or less and in pain.

By applying the CCVUQ to evaluate the QOL of people with VU, there was a significant difference in the statistical point of view between the fields and the variables emotional state with age and VU time, social interaction with origin and pain, aesthetics with age and total score with sleep and pain.

These results demonstrate that age, origin, presence of pain, injury time and sleep interfere with the person's QOL with VU. In this perspective, the multidisciplinary teams and especially nursing can direct the actions of health promotion and prevention of disease and/or its complications through the management of these sociodemographic, clinical and health aspects, considering characteristics and specificities of this population.

Given these results, nurses and other health professionals can direct their actions to the health of the elderly, pain control activities, sleep manage-



ment and acceleration of the healing process, to promote the quality of life of people with VU and to reduce the VU time. Also, they can fight with the social entities for better living conditions for those living in marginalized areas of the cities.

It is necessary to conduct further studies with longitudinal design and use of qualitative approaches because in this way, the limitations highlighted in this research could be circumvented and results more robust and full conclusions could be obtained contributing to the production of scientific knowledge in the area.

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