

Functioning and quality of life of patients with leg ulcers treated at dermatology wards

Grażyna Bączyk¹, Dorota Talarska², Agnieszka Zawirska³, Agata Bryl³, Zygmunt Adamski³

¹Laboratory of Nursing Practice, Faculty of Health Sciences, Poznan University of Medical Sciences, Poland

Head: Grażyna Bączyk MA, PhD

²Laboratory of Social Nursing, Faculty of Health Sciences, Poznan University of Medical Sciences, Poland

Head: Dorota Talarska MA, PhD

³Institute of Medical Mycology and Dermatology, Poznan University of Medical Sciences, Poland

Head: Prof. Zygmunt Adamski MD, PhD

Post Dermatol Alergol 2011; XXVIII, 3: 191–196

Abstract

Introduction: Crural ulcers occur in 17-20% of adults and are directly related to age – they rarely occur before the age of 60. With duration exceeding 9 months in over 50% of cases and a high relapse rate (more than 2 in 3 cases) they pose a major therapeutic and social problem. The cause of this disease is not only venous insufficiency, but also disorders of arteries, diabetes or even rheumatoid arthritis. All these elements make the therapy more complicated, which pushes up its costs. Chronic crural ulcers are often a cause of psychological discomfort, which may lead to depression and further exacerbate social isolation of patients suffering from this disease.

Aim: The aim of this study is to demonstrate the association between quality of life and severity of the disease as well as patient self-care, mobility and social activity. The aforementioned aspects may be modified by properly planned patient care; hence the importance of validation of the influence of different factors on patients' quality of life. To assess the functioning of living and quality of life of patients with leg ulcers.

Material and methods: The study group consisted of patients diagnosed with chronic leg ulcer, according to the CEAP (Clinical, Etiologic, Anatomic, Pathophysiologic) classification adopted by the American Venous and International Society of Vascular Surgery in 1994. The research was conducted in the Department of Dermatology of Poznan Regional Hospital (in- and outpatient clinics). The examined group consisted of 85 patients suffering from leg ulcers or varicose veins. The group consisted of 85 patients (51% women). The average age was 63.97 ± 12.76 . Patients were given a questionnaire with questions divided into two sections. The demographic section contained questions regarding age, gender, education, place of living, marital status, offspring, and cohabitants. The second part included clinical data concerning patient's history, symptoms and diagnostics. Clinical information was used to assess the degree of venous insufficiency severity according to different classifications: clinical, aetiological, anatomical, and pathophysiological. Patients with crural ulcers also completed the CIVIQ questionnaire.

Conclusions: Chronic Venous Insufficiency Questionnaire is a questionnaire for measuring quality of life. It consists of 20 questions in 4 areas: physical, psychological, social and pain. Research on the evaluation of the functioning and quality of life of patients with leg ulcers in patients treated at dermatology wards showed very poor functioning and poor quality of life of patients.

Key words: leg ulcers, quality of life, functioning, Chronic Venous Insufficiency Questionnaire.

Introduction

Leg ulcers can be observed in 17-20% of the Polish population. The ratio of identified changes in women and men is 2 : 1 – 3 : 1. It is directly related to age and it rarely occurs before the age of 60. In over 50% of incidents ulcers remain for more than 9 months and over 2/3 are

observed to relapse [1, 2]. Thus, leg ulcers are a serious problem, both therapeutic and social.

Skin ulceration is conditioned by genetic predisposition, factors connected with style of life and living conditions. Leg ulcers are often caused by various circulation disorders and sometimes precede other symptoms of a given disease.

Address for correspondence: Grażyna Bączyk MA, PhD, Laboratory of Nursing Practice, Faculty of Health Sciences, Poznan University of Medical Sciences, 11 Smoluchowskiego, 60-179 Poznan, Poland, tel. +48 61 655 92 61, fax +48 61 655 92 66, e-mail: gbaczyc@ump.edu.pl

Tab. 1. Clinical and demographic characteristics of patients

Patients	<i>N</i> = 85
Mean age [years], SD	63.97 ±12.76
Women [%]	51
Age [years] (% of patients)	
31-44	7.1
45-55	18.8
56-64	20.0
65-70	12.8
71-80	25.9
81-86	8.2
≥ 87	1.2
Education (% of patients):	
Primary	50.6
Secondary	36.5
Higher	12.9
Marital status (% of patients):	
Single	48.2
Married	51.8
Residence [%]:	
Separate (carer not present at home)	41.2
Together (care provided/carers present at home)	55.3
Ulcers occurrence [%]:	
In mother	72
In father	24.5
Clinical classification:	
Unhealed ulcers	100
Etiological classification:	21
Inborn	29
Primary (idiopathic)	50
Secondary (traumatic, post-thrombotic)	91
Severe symptoms occurrence:	
Pain	89
Swelling	78
Venous claudication	19.3
Skin discoloration	80.7
Hypodermis inflammation	28
Pathophysiological classification:	
Venous insufficiency or reflux	62.4
Reflux	33.2
Insufficiency	28.5
No diagnosis	7.5
Anatomical classification:	
Superficial venous system	100

About 90% of all ulcers are venous leg ulcers – in many cases they are triggered by varicose veins. The cause can also be cardiovascular diseases, diabetes or rheumatoid arthritis [3]. Venous ulcers are diagnosed much more often than arterial ulcers (about 5%). Another 5% are ulcers of a different type. Ulcerous changes provoke psychological discomfort, including depression, which leads to social isolation.

Much clinicians' attention focused on this disorder stems from the widespread occurrence of the disease and high cost of treatment often exacerbated by incompetent ulcer nursing and improper life style. However, proper care requires not only good knowledge of clinical data but also e.g. knowledge about locomotion abilities, financial conditions, family relations, a given disease entity, ability to apply a dressing or assess observed changes and select appropriate intervention. Leg ulcers are a dermatological complaint but they also influence bio-psycho-social functioning of the patient.

According to Martinson and Wilkening [4] quality of life is connected to the way patients function in their natural and social environment. That is why social relations of individuals are equally important as their financial condition [5]. Aspects to be taken into consideration when assessing the effects of treatment are not only elimination of disease symptoms but also bio-psycho-social functioning of patients, their ability to take care of themselves and to play social roles.

The notion of quality of life is an important measure of patients' state of health. It covers various meanings. According to the World Health Organization quality of life is a personal, individual perception of one's own life status in a cultural context, the system of values an individual lives by and with relation to self-assigned aims, expectations, patterns and anxieties, the degree of dependence on others, social relations and environmental factors [6].

Quality of life depends on the state of health – health-related quality of life (HRQOL) is a narrower notion than general quality of life that is about patient's assessment of the actual level of functioning and satisfaction in relation to the individual situation, and depends on the actual state of health [6]. According to Ryglewicz and Kuran [7] and De Walden-Gatuszko [8], HRQOL can be described as assessment of one's own life situation during the disease and treatment period taken into consideration as an especially important factor.

Bańka [9] stresses that happiness, wellness and quality of life are results of individual development, i.e. the offspring of the process of constructing standards to compare information available in time on one hand and the product of the process (spread in time) of constructing judgments about life, judgments that are mental representations of life and regulators of the process of incoming information.

Quality of life assessment is usually based on analysis: physical functioning, psychological functioning, social functioning and life satisfaction. The foundation of proper care is to prepare a patient for self-care, bearing in mind factors related to ulcers such as age, co-morbidities, and loneliness. An individually planned educational process for each patient is required. Tasks of high importance for health care of aged people with leg ulcers are: minimizing functionality loss, sustaining the ability to perform basic life activities, and protecting against quality of life worsening.

Aim

The aim of the work was to assess functioning and quality of life of patients with leg ulcers. The following research questions were put forward:

1. What is the clinical state of patients as measured by the Chronic Venous Insufficiency Questionnaire scale?
2. How do patients function and what is their quality of life in specific domains of the Chronic Venous Insufficiency Questionnaire scale?
3. Do social-demographic factors influence the assessment of functioning and quality of life?

Material and methods

The study group comprised patients diagnosed with chronic leg ulcers according to the CEAP (Clinical, Etiologic, Anatomic, Pathophysiologic) classification introduced by the American Venous Society and the International Society of Vascular Surgery in 1994 [10].

The research was conducted on patients of dermatological wards in J. Struś Hospital in Poznan, Regional Hospital in Juraszów Street in Poznan and Perzyny Regional Hospital in Kalisz. There were 85 patients in the group (51% were women). The mean age of patients was 63.97 ± 12.76 years. All patients with chronic leg ulcers and without co-morbidity that could influence the quality of life assessment considerably were qualified to take part in the research. The research was conducted during the first days of patients' stay in hospital. In each case a written agreement to carry out a questionnaire was obtained.

Clinical condition was assessed with anamnesis and physical examination that allowed classification of the degree of venous insufficiency: clinical, aetiological, anatomical and pathophysiological classification. Moreover, occurrence and intensity of symptoms were

assessed. Clinical symptoms were assessed with a score scale: patients with no symptoms got 0 points, patients with moderate symptoms got 1 point, and for symptoms such as pain, swelling, venous intermittent claudication, skin discoloration, or hypodermis inflammation the patient got 2 points.

The Polish version of the Chronic Venous Insufficiency Questionnaire (CIVIQ) scale [11] was used to assess functioning and quality of life of patients with leg ulcers. The CIVIQ scale has 20 questions that describe functioning and quality of life of patients – their physical activity, mobility, well-being and social activity. The first part of the CIVIQ scale is composed of questions about clinical assessment of patients. The scale also evaluates how the patient functions when affected by complaints specific to leg ulcers: swelling, heavy legs, pain, problems with moving around and sleep disorders. The higher the score the better the functioning and life quality. The score range was from 0 to 100 points.

Statistical analysis

To describe average features of the study group and variables the following descriptive statistics were used: the mean, median, standard deviation and percentage ratio. Student's *t*-test for independent variables was used to assess differences between groups and the results were tested with the non-parametric Mann-Whitney *U* test. The statistical significance level for this study was $p < 0.05$.

Results

Demographic and clinical characteristics of patients are presented in Table 1. Table 2 shows clinical symptoms according to the CIVIQ scale in women and in men. Clinical symptoms intensity was average. Although there was no significant difference between clinical symptoms intensity in women and in men, in the domain limitations in functioning and sleep disorders higher scores were found in men.

Assessment of functioning and life quality of patients was very low. The lowest average scores and bad assessment of functioning and life quality at the same time were obtained by patients, both women and men, in the domain of social activity, and next in the domain of mobility, well-being and physical activity. Gender of patients did not influence the assessment of functioning and life quality (Tab. 3). To find out whether age influences the

Tab. 2. Clinical symptoms by gender according to Chronic Venous Insufficiency Questionnaire

Clinical symptoms	Women (<i>n</i> = 43), mean \pm SD	Men (<i>n</i> = 42), mean \pm SD	Z	Value of <i>p</i>
Pain, presence of swelling, heavy legs	43.21 \pm 16.3	42.79 \pm 16.7	-0.08	0.93
Limitations in functioning (difficulty moving)	41.84 \pm 21.5	44.19 \pm 18.2	-0.0465	0.64
Sleep disorders	42.4 \pm 19.8	43.62 \pm 15.9	-0.24	0.81

Tab. 3. Functioning and quality of life of patients with leg ulcers by gender according to Chronic Venous Insufficiency Questionnaire

Domains of CIVIQ	Women (n = 43), mean ± SD	Men (n = 42), mean ± SD	t	df	Value of p
Physical activity	27.88 ±8.62	24.81 ±10.34	1.49	83	0.14
Mobility	18.6 ±1.81	19 ±1.69	-1.03	73.4	0.30
Well-being	25.86 ±6.4	24.97 ±9.09	0.52	83	0.61
Social activity	14.62 ±1.23	14.47 ±1.27	0.56	83	0.58

Tab. 4. Functioning and quality of life of patients with leg ulcers depending on age according to Chronic Venous Insufficiency Questionnaire

Domains of CIVIQ	Age groups (N = 85)	Mean ± SD	F	Value of p
Physical activity	31-44	23.83 ±10	1.6	0.17
	45-55	24.12 ±10.6		
	56-64	25.52 ±10.12		
	65-70	27.75 ±8.44		
	71-80	25.04 ±9.26		
	≥ 81	34.85 ±4.87		
Mobility	31-44	19.66 ±1.21	3.84	0.004*
	45-55	19.31 ±1.70		
	56-64	18.76 ±1.48		
	65-70	19.81 ±1.61		
	71-80	18.01 ±1.91		
	≥ 81	17.57 ±1.61		
Well-being	31-44	30 ±13.29	1.31	0.27
	45-55	23.43 ±7.20		
	56-64	26.52 ±9.24		
	65-70	26.31 ±6.59		
	71-80	25.13 ±6.57		
	≥ 81	20.57 ±1.71		
Social activity	31-44	14.16 ±1.47	1.84	0.113
	45-55	14.06 ±1.06		
	56-64	14.52 ±1.32		
	65-70	15.01 ±1.26		
	71-80	14.95 ±1.29		
	≥ 81	14.00 ±1.12		

* p < 0.05

assessment of functioning and quality of life, patients were divided into 6 age groups (Tab. 4).

Significant statistical differences in the assessment of functioning and quality of life were found in the domain of mobility between the oldest age group and the remaining ones. Significant statistical differences were also found in the mobility domain between single and married patients (Tab. 5). No significant difference, on the other hand, was found between assessment of functioning and quality of life of patients living with other people and patients living alone (Tab. 6). Assessment of the influence of education on functioning differed statistically significantly in the well-being domain between patients with primary and higher education. Patients with primary education functioned worse in the well-being domain. However, in the domain of social activity patients with primary education assessed their functioning and quality of life as better than did patients with secondary and higher education (Tab. 7).

Discussion

There have been no studies conducted in Poland, apart from those carried out in cooperation with pharmaceutical firms, on quality of life of patients with leg ulcers using a specific scale to assess functioning and quality of life of such patients. The frequency of occurrence of lesions and consequences stemming from the disease process, especially social isolation and developing depression, make it necessary to assess the life situation of these patients [12]. Hence, the aim of this research was to try to assess quality of life of patients with leg ulcers hospitalized within the Greater Poland region. Research has shown that patients suffer from significantly lowered functional and social activity, and bad well-being and lowered quality of life. Szewczyk *et al.* [13] reached the conclusion (based on research conducted in 2005) that over 80% of patients with chronic leg ulcers gave up developing their own interests, limited the frequency of social meetings and striking up new relations, and chose to spend their free time in the security of their own home because of their complaint. What is more, pain connected with ulcers in patients with chronic disease causes insomnia, tiredness, exhaustion and lack of ener-

Tab. 5. Functioning and quality of life of patients with leg ulcers depending on marital status according to Chronic Venous Insufficiency Questionnaire

Domains of CIVIQ	Married patients (n = 44), mean ± SD	Single patients (n = 41), mean ± SD	t	df	Value of p
Physical activity	26.14 ±8.67	26.3 ±10.51	0.08	82	0.94
Mobility	19.36 ±1.73	18.25 ±1.58	-3.07	82	0.003*
Well-being	26.48 ±8.74	23.97 ±6.36	-1.49	82	0.14
Social activity	14.4 ±1.1	14.73 ±1.35	-3.07	82	0.23

*p < 0.05

Tab. 6. Functioning and quality of life of patients with leg ulcers according to Chronic Venous Insufficiency Questionnaire scale depending on residence (separate or together)

Domains of CIVIQ	Patients living without a carer (n = 34), mean ± SD	Patients living together (n = 47), mean ± SD	t	df	Value of p
Physical activity	27.74 ±10.48	24.95 ±8.87	1.29	79	0.2
Mobility	19.0 ±1.66	18.7 ±1.77	0.77	79	0.45
Well-being	26.06 ±6.18	26.0 ±8.7	-1.17	79	0.24
Social activity	14.61 ±1.18	14.55 ±1.29	0.23	79	0.82

Tab. 7. Functioning and quality of life of patients with leg ulcers according to Chronic Venous Insufficiency Questionnaire scale depending on education

Domains of CIVIQ	Patients with primary education (n = 42), mean ± SD	Patients with secondary education (n = 31), mean ± SD	Patients with higher education (n = 11), mean ± SD	Value of p
Physical activity	25.57 ±9.39	26.51 ±10.48	27.81 ±7.64	0.77
Mobility	18.81 ±1.94	18.7 ±1.48	19.0 ±1.73	0.87
Well-being	23.74 ±6.49	24.42 ±6.56	33.63 ±10.4	0.00*
Social activity	14.93 ±1.26	14.41 ±1.05	13.63 ±1.21	0.00*

*p < 0.05

gy, which often provokes depression. Similar findings, that support our results, can be found in the work of Jawień *et al.* [14]. They assessed functioning and bio-psycho-social limitations in patients with severe venous insufficiency of the leg. They observed that the group of patients they studied often suffered from depression, risk of falls and malnutrition. The main conclusion was that patients with leg ulcers are at higher risk of impaired social, emotional and physical (activity) functioning. In the western research Yamada and de Gouveia Santos [15], who used the Ferrans and Powers Quality of Life Index Questionnaire (QLI), found that patients with leg ulcers lived a good life, especially when it comes to family and the spiritual domain. The quality of life assessment is hugely influenced by religion and state of health, especially the ability to move around. They listed the following factors influencing bio-psycho-social problems of patients: pain, mobility limitation, depression, lowered well-being, sleep disorders, psycho-social suffering, difficulties with hygien-

ic body maintenance, social isolation, and difficulties with taking up professional activity.

Pieper *et al.* [16] studied psycho-social adjustment, coping and quality of life of patients with leg ulcers. The research showed that domains such as environment and psycho-social disorders correlate with data obtained from a questionnaire that studied psycho-social adjustment of patients. Low quality of life is connected with problems at home, problems with walking and lowered well-being. Life quality evaluation and quality of life of patients with leg ulcers can help work out individual therapeutic programmes. This may serve as a valuable indicator when planning treatment, nursing care and environmental rehabilitation.

Conclusions

1. The study on evaluation of functioning and quality of life of patients with leg ulcers treated at dermatologi-

cal wards showed hindered functioning and bad quality of life of patients. Mean scores that were used to describe the level of functioning and quality of life were within the range from 14.47 for the social activity domain to 27.88 for physical functioning. The severest limitations (stemming from bad clinical state) in the domain of functional health concerned activities such as performing housework, washing, shopping, and moving around. Limitations in the psychological domain were related to the feeling of being lonely and worrying.

2. Age and marital status of patients had an influence on limitations in functioning and evaluation of quality of life. Significant statistical differences were detected in functioning and quality of life evaluation in the domain of mobility between the oldest age group and the other groups, and between married patients and single patients.

References

1. Zapalski S, Krasiński Z, Oszkiniś G. Epidemiologia chorób żył. In: Ambulatoryjne leczenie chorób żył kończyn dolnych. Zapalski S, Oszkiniś G (eds.). Via Medica, Gdańsk 2001.
2. Rutherford RB, Padeberg FT Jr. Venous severity scoring: an adjunct it to venous assessment. *J Vasc Surg* 2000; 31: 1307-12.
3. Silny W, Prokop J. Owrzodzenia goleni jako problem dermatologiczny. In: Ambulatoryjne leczenie chorób żył kończyn dolnych. Zapalski S, Oszkiniś G (eds.). Via Medica, Gdańsk 2001.
4. Martinson OB, Wilkening EA. Predicting overall life satisfaction: the role of life cycle and social psychological antecedents. *Soc Indic Res* 1984; 14: 99-108.
5. Spilker B. Introduction. In: Quality of life and pharmacoeconomics in clinical trials. Lippincott-Raven, Philadelphia 1996; 1-10.
6. WHO. QOL: position paper from the World Health Organization. *Coc Sci Med* 1995; 41.
7. Ryglewicz D, Kuran W. Jakość życia i oczekiwania terapeutyczne chorych na padaczkę. *Epileptologia* 2003; 11: 171-8.
8. De Walden-Gatuszko K. Ocena jakości życia uwarunkowana stanem zdrowia. In: Jakość życia w chorobie nowotworowej. Meyza J (ed.). Centrum Onkologii, Warszawa 1997; 73-81.
9. Bańka A. Psychologia jakości życia. SPA, Poznań 2005.
10. Gliński W. Postępowanie diagnostyczne, terapeutyczne i profilaktyka żylakowatych owrzodzeń podudzi. Konsensus Polskiego Towarzystwa Dermatologicznego. *Dermatologia* 2000; 5.
11. Launois R, Reboul-Marty J, Henry B. Construction and validation of a quality of life questionnaire in chronic lower limb venous insufficiency (CIVIQ). *Qual Life Res* 1996; 5: 539-54.
12. Jaracz K, Wołowicka L, Bączyk G. Sytuacja życiowa i sprawność funkcjonalna osób w starszym wieku z zaburzeniami sprawności lokomocyjnej. *Gerontol Pol* 2001; 9: 26-30.
13. Szewczyk MT, Jawień A, Cierzniańska K, et al. Ocena sprawności funkcjonalnej chorych z przewlekłą niewydolnością żylną i owrzodzeniem goleni. *Post Dermatol Alergol* 2005; XXII: 265-270.
14. Jawień A, Szewczyk MT, Kędziora-Kornatowska K, et al. Functional and biopsychosocial restrictions among patients with a venous ulcer. *Arch Med Sci* 2006; 1: 36-41.
15. Yamada BF, Conceicao de Gouveia Santos L. Quality of life of individuals with chronic venous ulcers. *Health Manag Publ* 2005; 17: 178-89.
16. Pieper B, Szczepaniak K, Templin T. Psychosocial adjustment, coping, and quality of life in persons with venous ulcers and history of intravenous drug use. *J Wound Ostomy Continence Nurs* 2000; 27: 227-37.