

Optimism as a predictor of health-related quality of life in psoriatics

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Postep Derm Alergol 2013; XXX, 2: 91–95

DOI: 10.5114/pdia.2013.34157

Abstract

Introduction: Psoriasis is a chronic and relapsing disease which significantly affects the quality of life and social functioning of the affected people. It is one of the so-called psychodermatological diseases, which means that there exists a psychological component in the image of the disease.

Aim: To examine the relationship between health-related quality of life (HRQoL) in psoriatics and selected demographic, medical and psychological (dispositional optimism) variables and to determine the predictors of HRQoL in the examined group.

Material and methods: The study consisted of 138 patients with the diagnosis of psoriasis vulgaris. Most respondents (125) had psoriasis on exposed parts of the body. Methods used: SKINDEX, Life Orientation Test, PASI.

Results: The gender does not differentiate patients in terms of HRQoL and optimism. Almost all of analyzed variables correlate with HRQoL and all examined variables explain the results variability for overall HRQoL but only optimism explains the highest percentage of the variability ($\beta = -0.35$).

Conclusions: The study demonstrated a very interesting relationship – the stronger optimism the better quality of life in psoriatics. So, a generalized expectation of positive life events is related to better assessment of HRQoL.

Key words: quality of life, optimism, psychodermatology, psoriasis.

Introduction

Psoriasis is a common multifactorial disease, in which genetic background plays an important role. It runs a chronic and relapsing course. The disease is one of the so-called psychodermatological diseases, which means that there exists a psychological component in the image of the disease [1-4]. The impact of psychological factors in the pathogenesis of psoriasis has been long recognized and already in the 1950s an established correlation between stress and psoriasis was postulated [5, 6]. Also O'Leary *et al.* [7] reported a strong belief in stress attributes as a causal factor in 61% of the examined psoriatic patients, however they did not find any association between the perceived stress and more objective measures of psoriasis severity.

Psoriasis is most often accompanied by mood disorders and has higher associations with psychiatric illness than other dermatologic conditions [8]. The prevalence of

depression is estimated to be approximately 57% and 5% of people treated for psoriasis attempt suicide [9-11].

As it is clear from several studies, psoriasis significantly affects the quality of life and social functioning of the affected people [9, 10, 12-14].

Health-related quality of life (HRQoL) reflects patients' evaluation of the impact of disease and treatment on their physical, psychological, and social functioning and well-being [15, 16]. Some studies indicate that the adverse impact of psoriasis upon the quality of life can result in chronic stress, which may, in turn, exacerbate some types of psoriasis [17]. In clinical practice, HRQoL is considered to be an aid for clinical decision making, monitoring the therapeutic process, communicating with the patient, and evaluating treatment outcome [18].

Adjustment to chronic disease is a combined process, which is determined by the characteristics of the diseases (clinical presentation, lesion severity, duration, prognosis),

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Received: 19.11.2012, **accepted:** 10.02.2013.

external factors (e.g. social support, life situation, attitude of the environment) and internal factors (e.g. temperament, personality, personal resources such as optimism, coping with stress strategies). The above-mentioned factors influence each other by creating different networks [19-22]. As Janković *et al.* [23] said *knowledge of mind-body-environment interactions can help to improve patients' skin conditions and, ultimately, their quality of life.*

Aim

The aim of this study was to examine the relationship between HRQoL in psoriatics and selected demographic, medical and psychological (dispositional optimism) variables. An attempt was also made to determine predictors of HRQoL in the examined group.

Material and methods

The study consisted of 138 patients with the diagnosis of psoriasis vulgaris. Most respondents (91.9%) presented

Table 1. Characteristics of patients with psoriasis

Examined variables	N	Percentage		
Sex				
Men	80	58		
Women	56	42		
Educational level				
Primary	33	24.3		
Vocational/secondary	95	69.8		
University degree	8	5.9		
Marital status				
Single	51	37.5		
Married	62	45.6		
Divorced	21	15.4		
Widowed	2	1.5		
Psoriasis family history				
Yes	64	47.1		
No	72	52.9		
Psoriasis on exposed parts of the body				
Yes	125	91.9		
No	11	8.1		
	M	SD	Min	Max
Psoriasis severity (PASI)	13.7	7.8	1.8	39.8
Disease duration [years]	15.3	11.9	1.0	50.0
Age	40.1	13.7	18.0	70.0

N – number of patients in the group, *M* – mean value, *SD* – standard deviation, *PASI* – Psoriasis Area and Severity Index

psoriasis on exposed parts of the body, i.e. the face, neck, head and hands. Mean age was 40.1 years (min. 18 years, max. 70 years, SD = 13.7), mean disease duration, calculated from the moment of the diagnosis to the study day was 15.3 years (min. 6 months, max. 50 years, SD = 11.9). The severity of psoriasis was measured by the Psoriasis Area and Severity Index (PASI) with an average of 13.7 (min. 1.8, max. 39.8; SD = 7.8). Only patients with psoriasis vulgaris and without any other serious chronic diseases took part in the study, which was approved by the Medical University of Lodz Bioethics Committee. The patients gave their informed consent to participate in the study. Detailed characteristics of the participants are presented in Table 1.

The study used following methods:

- SKINDEX-29 – is a three-dimensional, dermatology-specific HRQoL questionnaire tool [23, 24]. It is composed of 29 items assessing disease symptoms, emotions and social functioning. The questions refer to the previous 4-week period. The scores are given on a 5-point scale ranging from “never” to “all the time”. Higher scores indicate lower levels of quality of life.
- Life Orientation Test – LOT-R (Scheier, Carver, Bridges, as adapted to Polish conditions by Poprawa, Juczyński [25]) to measure dispositional optimism (defined as a generalized expectation of positive life events). Life Orientation Test contains 10 items, of which six constitute the diagnostic value. A patient fills the scale after reading the instruction, explaining the principles of assessment. Answers are marked on a 5-point scale. The overall result is the sum of the evaluation of six statements, including three positive and three negative ones. The distribution of the results after changing assessments covers the range from 0 to 24 points. The higher the scores the higher the level of optimism. Polish adaptation of *LOT-R* has good psychometric properties.
- PASI (Psoriasis Area and Severity Index) – scale to measure the severity of lesions in psoriasis [26] and allow its objective assessment.

Information was also collected on the basis of socio-demographic data of the examined group.

Statistical analysis

Statistical analysis was performed using the SPSS package for Windows (IBM SPSS Statistics 19). The distribution of the obtained results did not differ significantly from normal distribution. The Student's *t*-test (*t*), Pearson correlation and multiple regression analysis were employed. A *p* value below 0.05 was considered statistically significant.

Results

The first step of our analysis was to estimate the level of HRQoL and optimism experienced by men and women. But it turned out that gender does not differentiate respondents in terms of HRQoL and optimism (Table 2).

Table 2. Mean scores and standard deviations of health-related quality of life and optimism in relation to gender

Variables	Men (n = 80)		Women (n = 56)		Value of t	Value of p
	M	SD	M	SD		
Symptoms	19.25	5.96	19.94	5.32	-0.69	0.37
Emotions	31.05	9.76	31.15	9.49	-0.05	0.83
Functioning	34.91	11.42	34.67	11.31	0.11	0.95
Overall	85.31	23.24	85.67	24.22	-0.08	0.75
Optimism	25.83	5.79	24.94	6.44	0.84	0.37

M – mean, SD – standard deviation, t – Student t-test, p – significance level

Table 3. Correlation coefficient (Pearson's r) between health-related quality of life and analyzed variables

Variables	Symptoms	Emotions	Functioning	Overall
Optimism	-0.27*	-0.32*	-0.35*	-0.36*
Psoriasis severity (PASI)	0.30*	0.15	0.39*	0.32*
Disease duration	0.27*	-0.01	0.10	0.11
Age	0.34*	0.22*	0.29*	0.31*

*p < 0.05; PASI – Psoriasis Area and Severity Index

Table 4. Determinants of overall health-related quality of life

Variables	Value of β	β error	Value of B	B error	Value of t	Value of p
Optimism	-0.35	0.07	-1.40	0.29	-4.74	< 0.001
Age	0.29	0.08	0.50	0.15	3.35	< 0.001
Disease duration	-0.17	0.08	-0.35	0.17	-2.07	0.04
Psoriasis severity (PASI)	0.25	0.07	0.77	0.22	3.35	0.001
Absolute term			95.93	10.91	8.79	< 0.001

R = 0.53, R² = 0.28, F = (4.131) = 13.112, p < 0.000; R – regression analysis coefficient, R² – multiple regression analysis coefficient, β – β coefficient, B – B factor, B error – standard error of B, T – t-test value, p – statistical significance, F – value of F test, PASI – Psoriasis Area and Severity Index

In order to determine the relationship between the studied variables, Pearson's r-ratio was used (Table 3). In psoriatic patients almost all of analyzed variables correlate with HRQoL. Optimism correlates negatively with three SKINDEX domains and the overall score. It means that the stronger optimism the better evaluation of HRQoL (disease symptoms, emotions and social functioning). These relations are of moderate strength. Psoriasis severity correlates positively with reported symptoms, functioning and the overall score – the more severe skin condition the worse HRQoL. Disease duration correlates positively only with symptoms – the longer duration the worse psoriasis symptoms reported by the patients. Age correlates positively with all domains and the overall score.

The last stage of our analysis was to search for determinants of HRQoL. In this regard, stepwise multiple regression model was used (Table 4). In patients with psoriasis, all examined variables explain the variability in results

(28%) for overall HRQoL. Optimism explains the highest percentage of the variability ($\beta = -0.35$).

Discussion

Psoriasis significantly affects daily functioning, significantly reduces the quality of life and is the cause of many psychosocial problems [27-31]. Studies emphasize that dermatological patients define skin diseases as particularly burdensome, being a source of stress and anxiety, significantly reducing the quality of life [30, 32].

Our study demonstrated that gender did not differentiate patients with psoriasis in terms of HRQoL and optimism – both men and women declared comparable levels of the psychological variables. No relation between sex and quality of life was also confirmed by de Korte *et al.* [27]. It should be noted that there are studies showing that psoriasis is associated with significantly worse assessment of

functioning in women [24, 33-35]. As for study limitations our group of psoriatic patients differed in number between men and women.

Furthermore, our study demonstrated that almost all of analyzed variables correlated with HRQoL. It means that stronger optimism is connected with better subjective evaluation of quality of life (better subjective evaluation of lesion severity, lower intensity of negative emotions, fewer difficulties with everyday functioning and better relations with other people). Optimism can influence one's mood as so-called emotional background and being in a good mood favors development and maintenance of satisfaction and influences quality of life leading to its subjective increase [36, 37].

Psoriasis severity correlates positively with symptoms, functioning and the overall score. It seems to be understandable – the more severe skin condition the worse quality of life (like assessment of lesion severity and experiencing problems with social functioning). In the literature data, disease severity appeared to be associated with quality of life. Most of authors demonstrate such correlation [27, 35, 38-41], however the association was generally weak. Also, we found only one study without the mentioned relationship [42].

Moreover, literature data point out to the location of the lesions on visible parts of the body as having a strong influence on HRQoL [35, 38-41]. But, it is worth pointing out that the vast majority of our patients (91.9%) presented visible skin lesions. And regarding study limitations the studied group comprised only hospitalized patients who generally presented more severe disease than out-patients do.

Furthermore, disease duration correlates positively only with symptoms – the longer duration the worse psoriasis symptoms reported. Also age correlates positively with all domains and the overall score (older people experience more problems with physical, emotional and social functioning). On the contrary, some studies showed [43] that the older patients present greater negative emotion control. With age control of negative emotions seems to be more intense. On the contrary to the above study, our results suggested that adjusting to psoriasis later in life may be more difficult than at an earlier age, when a patient is young and has a lot of time to learn to deal with negative emotions.

Based on the above data, one can easily conclude that HRQoL is a complicated issue. It requires further interdisciplinary research investigating numerous medical and psychological aspects of psoriasis. It is worth taking into account that one's illness perception and dynamics of adaptation to psoriasis depend on the phase of the disease and experiencing both positive and negative emotions [44]. Nonetheless, the results of our study may form the basis for psychological intervention employment in psoriatic patients. They point out to usefulness of cognitive-behavioral techniques [45] in order to change psoriatic patients' beliefs and expectations (like dispositional optimism defined as generalized expectation of positive life events).

Changing beliefs and expectations, regardless of the disease severity and other medical variables, may exert a positive impact on the patients' HRQoL.

Acknowledgments

This study was supported by the National Research Grant No. NN 404 029 438.

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