Applied Research Quality Life (2014) 9:863–870
DOI 10.1007/s11482-013-9273-3

Quality of Life and Optimism in Patients with Morphea

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Received: 13 June 2013 / Accepted: 23 October 2013 / Published online: 10 November 2013

Abstract Despite extensive knowledge about quality of life of people suffering from dermatological diseases, data on patients with morphea are scarce. The aim of our study was to compare the quality of life of healthy controls and morphea patients, as well as to determine the correlation of this variable with the level of dispositional optimism. The study included 47 patients with morphea and 47 healthy controls, matched for gender and age. Cantril's Ladder and Life Orientation Test-Revised were used to assess the levels of life satisfaction and dispositional optimism, respectively. LoSSI was used for the objective assessment. The anticipated level of life quality and the level of dispositional optimism were statistically significantly lower in morphea patients (p=0.032 and p=0.014, respectively) when compared to controls. There were no differences in the assessment of current (p=0.168) and past (p=0.318) levels of life quality. Also, we proved that type of morphea did not differentiate the current (p=0.175), past (p=0.620) and future (p=0.356) assessment of the quality of life. In the group of morphea patients there was a statistically significant correlation between the level of dispositional optimism and current (p=0.002, r=0.43), as well as anticipated (p<0.001, r=0.57) levels of life quality. Current level of life quality of healthy controls and morphea patients is comparable, whereas the latter anticipate their future life situation to be significantly worse than the former. Higher level of life satisfaction correlates with higher level of optimism.

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Keywords Quality of life · Morphea · Dispositional optimism · Cantril's Ladder

Introduction

Sclerodermatous diseases are characterized by hardening of the skin resulting from fibrosis of the skin and subcutaneous tissue, occurring in the course of not fully understood pathogenetic processes (Peterson et al. 1995; Kreuter et al. 2009; Gupta and Fiorentino 2007). The group of sclerodermatous diseases includes systemic sclerosis, morphea (localized scleroderma, scleroderma circumscripta), as well as numerous sclerodermatous-like diseases such as premature aging syndromes, sclerodermatous graft-versus-host disease, porphyria cutanea tarda and others (Peterson et al. 1995; Kreuter et al. 2009; Gupta and Fiorentino 2007).

Unlike systemic sclerosis, morphea essentially affects the skin. In cases of reported involvement of the internal organs, it is either subclinical or the symptoms are discrete (Peterson et al. 1995; Kreuter et al. 2009; Gupta and Fiorentino 2007; Christen-Zaech et al. 2008). No negative correlation between morphea and life expectancy of patients has been reported (Peterson et al. 1997). The symptoms are limited mostly to single patches of hardened skin, located most often on the torso, like in case of plaque morphea (morphea en plaques—MEP), but they may also involve larger areas of the skin, like in the case of generalized morphea (GM). A more unique type of the disease, linear morphea (LM), is found usually on the extremities or the face and may lead to considerable deformities such as hemiatrophy of the face, alopecia, dermatogenic contractures and/or shortening of the extremities. Movement limitation and contractures are also found in the course of deep morphea (DM) (Peterson et al. 1995; Kreuter et al. 2009; Gupta and Fiorentino 2007; Christen-Zaech et al. 2008; Dehen et al. 1994; Bergler-Czop et al. 2005). However, after approximately 2–6 years, the hardening of the skin shows a marked tendency to soften (Peterson et al. 1997; Marzano et al. 2003). Nevertheless, the changes in the affected places such as atrophy, discolouration or depigmentation are permanent in nature. Contractures, most often related to LM, do not show any regressive tendencies (Peterson et al. 1995). Sometimes, after the time of remission or stabilization, the disease becomes active (Christen-Zaech et al. 2008; Peterson et al. 1997; Marzano et al. 2003).

Undoubtedly, morphea patients experience various problems and symptoms, resulting in dissatisfaction with life and its quality.

The term 'quality of life' is used in numerous contexts and perceived as a feature of character, attitude, emotional state or response to stimuli. It is associated with the satisfaction of needs, positive attitude to life or with the level of life satisfaction (Dziurowicz-Kozłowska 2002). Despite extensive data about the quality of life of dermatological patients, relatively little is known about people suffering from morphea. Thus, the aim of our study was to compare the quality of life of healthy controls and morphea patients, as well as to determine the correlation of this variable with the level of dispositional optimism.

According to Schier, dispositional optimism constitutes a part of personality that manifests itself in a general expectation of positive events (Poprawa and Juszczyński 2001). Countless investigations proved that it promotes physical and psychological wellbeing, success in life and stress immunity (Poprawa and Juszczyński 2001). In

challenging situations pessimists experience distress, whereas optimists attempt to see the positive aspects of the events (Schier and Carver 1992; Carver et al. 2010; Seligman 1998; Liney and Joseph 2004). Therefore, dispositional optimism is regarded as a valuable personal asset.

Methods

Subjects

The research was conducted between September 2011 and October 2012. The Bioethics Committee of the Poznań University of Medical Sciences approved of the study (approval No. 25/10). The study included 94 participants: 47 morphea patients of the Dermatology Clinic, Poznań University of Medical Sciences, and 47 healthy volunteers. Purposive sampling technique was used to assign patients to the study and control groups. First, morphea patients free of any psychological disorders and other chronic diseases were examined. The diagnosis was based on the clinical criteria and confirmed with a histology test. The control group was established by matching each subject with a healthy control of the same gender and similar age (+/−2 years). The study group, mean age 42 years (min. 18, max. 72), comprised of 47 people: 30 females and 17 males. 26.6 % of the subjects were diagnosed with MEP (16 F and 9 M), 11.7 % with GM (4 F and 7 M), 10.6 % with LM (9 F and 1 M), and 1.1 % with DM (1 F).

Assessment of the Level of Life Quality

Cantril's Ladder is widely used to assess the levels of life quality, life satisfaction or the so-called positive health (Mazur et al. 2009; Currie et al. 2004). This popular tool is a component of a set of questionnaires used in international studies on Health Behavior in School-aged Children (HBSC) (Mazur et al. 2009; Currie et al. 2004, 2008). Cantril's Ladder is a visual self-anchoring scale, graphically presented as a ladder with numbered rungs. The subjects are required to mark on which rung they currently are in their lives, knowing that the first rung (bottom of the ladder) is the worst and the ninth rung (top of the ladder) is the best kind of life they might have. In cases when an 11-rung ladder is used (scale 0–10), rungs from the sixth upwards signify considerable satisfaction with life, whereas people who are dissatisfied usually score below that level (Mazur et al. 2009). If a 9-point scale is used, level 5 is considered to be the cut off point. After assessing the current life situation, the study participants were asked to describe their life situation 5 years ago and in 5 years time.

Assessment of the Level of Dispositional Optimism

Life Orientation Test-Revised (LOT-R) is comprised of 10 statements 4 of which are filler items (Poprawa and Juszczyński 2001). The subjects are instructed to determine to what extent they agree with the given statements and to mark their answers on a 5-point scale. The test score ranges from 0 to 24 points. The higher the score, the higher the level of dispositional optimism of the respondent.

Evaluation of Morphea Severity

The index of the extent, severity and activity of the skin changes in morphea (Localized Scleroderma Severity Index—LoSSI) was developed by Arkachaisri and Pino (2008). It is an observational scale, allowing for the assessment of the extent of the changes, erythema, hardening of the skin and the activity of the plaques in 14 anatomic sites. The abovementioned parameters are assessed with the use of a 4-point scale (0-3) and then summed up. The obtained results range from 0 to 168 points. The higher the index, the more severe the disease (Arkachaisri and Pino 2008).

Statistical Analysis

All statistical analyses were performed using statistical program SPSS (SPSS Inc., Chicago, Ill, USA). Kolmogorow-Smirnov z-test was used for the assessment of the normal distribution of the analyzed variables, whereas t-Student, U-Mann–Whitney and Kruskal-Wallis tests were used for the evaluation of the significance of the statistical difference between the groups. R-Spearman rank correlation coefficient was used to determine the correlation between the variables.

Results

Mean duration of disease in the study group was 6 years (+/−9), although 68 % of the patients were affected by the disease for no longer than 5 years. Mean values of the

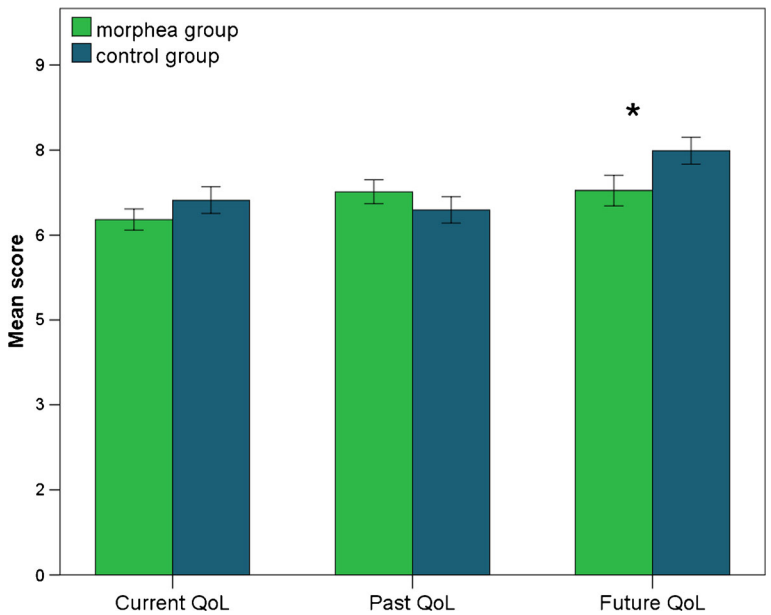

Fig. 1 Comparison of the quality of life of morphea patients and healthy controls

current, past and anticipated quality of life were 6.28 (*SD*=1.28), 6.77 (*SD*=1.43) and 6.79 (*SD*=1.84), respectively. In the control group, mean values of the current, past and anticipated quality of life were 6.62 (*SD*=1.60), 6.45 (*SD*=1.60) and 7.49 (*SD*=1.64), respectively. Mean values of dispositional optimism in the study and the control groups were 16.02 (*SD*=4.13) and 18.06 (*SD*=4.45), respectively. As presented in Fig. 1, the assessment of the anticipated life situation and the level of dispositional optimism are statistically significantly lower in the group of morphea patients (p=0.032 and p=0.023, respectively). No statistically significant differences between the subjective evaluation of the current and the past level of life quality (p=0.168 and p=0.318) were detected.

Statistical analysis revealed that gender does not differentiate the assessment of the past and current quality of life level (p=0.667 and p=0.077, respectively), as well as the level of dispositional optimism (p=0.225) in the study group. However, statistically significant differences were found with regard to the anticipated life situation (p=0.014). Female morphea patients evaluated their future quality of life lower than the male morphea patients. No gender-related differences were found in controls.

Further statistical analysis of the results (Kruskal-Wallis test) showed that type of morphea did not differentiate the current, past and future evaluation of life quality: p=0.175, p=0.620 and p=0.356, respectively (Fig. 2). It should be noted, that due to its size (1 person) subgroup of patients with DM was excluded from statistical analysis.

Mean value of LoSSI for 47 patients was 9.38 (*SD*=9.60). The objective assessment of morphea did not correlate with any of the investigated psychological factors.

However, statistically significant relation between the level of dispositional optimism and the current (p=0.002, r=0.43) and the anticipated (p<0.001, r=0.57) levels of life quality was observed in morphea patients. Similar correlations were found in the control group (p=0.02, r=0.38 and p=0.02, r=0.34, respectively).

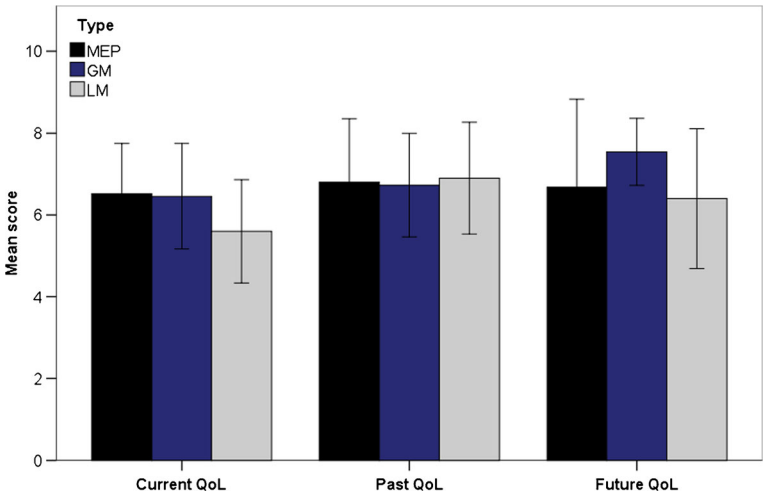

Fig. 2 Comparison of the quality of life of morphea patients depending on the type of the disease

Discussion

The obtained results allow us to conclude that evaluations of the current and past levels of life quality in morphea patients and healthy controls are similar, whereas the struggle with the disease significantly influences the assessment of the anticipated future. The study revealed that morphea patients evaluate their life situation in 5 years time lower than healthy controls.

On one hand, the absence of differences between the disease-affected people and healthy controls regarding the assessment of the past and current level of life quality may seem surprising. However, bad health does not have to be synonymous with poor quality of life. Some patients are able to effectively adapt to the situation of the disease and achieve their goals. It is noteworthy that Cantril's Ladder is a much broader construct than Health-Related Quality of Life (HRQoL). The latter is defined as subjectively assessed influence of the disease and the therapy on the perception of the quality of life (Bączyk et al. 2011; Świnoga et al. 2012), whereas, according to the WHO recommendations, the general term of 'life quality' ought to include physical and mental state, social relations, environment, religion, beliefs and opinions (Michalak et al. 2009). Such understanding implies superiority of the quality of life in relation to the concept of health. Perhaps that is why our results did not reveal any differences in the assessment of the level of life quality depending on the type of the morphea. We anticipated the patients with more serious course of the disease to have lower life satisfaction than patients with a less severe type of morphea. The absence of differences may have its source in a relatively small number of patients in the subgroups with various subtypes of morphea.

It is noteworthy that, despite a relatively high evaluation of the current life quality, similar to the healthy controls, morphea patients are more careful when anticipating their future (in 5 years time) life situation. Most probably such uncertainty of the future is typical of many patients with chronic diseases. It also seems safe to assume that lower level of the anticipated quality of life is the result of the general attitude to life. This study has shown that morphea patients have a lower level of optimism than healthy people. However, in the light of the obtained results, it is not possible to conclusively determine whether a lower level of optimism in disease-affected people is the consequence of the difficulty to foresee the course of the disease or rather the cause of careful predictions about the life situation in 5 years time, or both.

This study also indicates that there is no correlation between the clinical assessment of morphea severity and the quality of life. Literature offers reports about extensive research on the quality of life of people with dermatological diseases that did not confirm such findings (Wahl et al. 1998; Szramka-Pawlak et al. 2013b) but also about numerous studies that did confirm the presence of the correlation (Vardy et al. 2002; Reich and Griffiths 2008). Thus, the issue remains unresolved, as in our previous studies we proved that severity of morphea lowers the quality of life in the aspect of psycho-social functioning (Szramka-Pawlak et al. 2013a). The difference between our previous and current investigation was that our former study used a tool measuring the HRQoL. Therefore, in the light of the abovementioned studies (Wahl et al. 1998; Vardy et al. 2002; Reich and Griffiths 2008; Szramka-Pawlak et al. 2013a, b), it seems safe to conclude that the assessment of the clinical severity of the disease is connected with HRQoL and not with the general evaluation of life quality. That supports not only the previously mentioned

differences between both constructs, but also subjectivity and multifactorial nature of the general evaluation of life quality as a important psychological variable.

Our study also found that gender did not differentiate the assessment of the past and the current quality of life. Only female patients suffering from morphea anticipated a lower, when compared to males, level of life quality in the future, what supports our earlier findings about lower level of life quality in case of females, especially regarding emotional functioning (Szramka-Pawlak et al. 2013a). Literature data on this issue are inconclusive and divergent. Some results indicate there are no differences between genders regarding subjective well-being (Zalewska et al. 2003; Gupta and Gupta 1995; Fortune et al. 1997), whereas other investigations report contrary results (Klein et al. 2011; Steuden and Janowski 2001). It is important to emphasize that the cited works (Zalewska et al. 2003; Gupta and Gupta 1995; Fortune et al. 1997; Klein et al. 2011; Steuden and Janowski 2001) explored the quality of life in people suffering from dermatological diseases other than morphea. Thus, more extensive research is necessary in order to evaluate the phenomenon and its causes.

The results of our study also indicate that there is a statistically significant correlation between dispositional optimism and the current and anticipated assessment of life quality. The finding is true of morphea patients as well as healthy controls. It is in agreement with the claims of other investigation teams that optimism is generally an important correlate of life quality and satisfaction (Schier and Carver 1992; Carver et al. 2010; Seligman 1998; Liney and Joseph 2004; Mannix et al. 2009).

Since optimism manifests itself in the general expectation of good outcome, its connection with the quality of life, satisfaction and anticipated future seems clear. It is therefore important to learn optimism and optimistic attitude to life (Carver et al. 2010; Seligman 1998; Liney and Joseph 2004), as these healing factors may be particularly valuable assets in the fight with dermatological diseases.

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