PUBLIC HEALTH

QUALITY OF LIFE IN PATIENTS WITH VITILIGO IN NORTH MACEDONIA

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Abstract

Vitiligo is an acquired depigmentation deficit with a high prevalence, ranging from 0.5% to 7.8%. The aim of the study was to measure the quality of life (QL) of patients with vitiligo, expressed through the Dermatological Quality of Life Index (DLQI). Materials and methods: This cross-sectional study was realized in a period of 1 year. Two questionnaires were used in the study. The first questionnaire contains data from the DLQI, designed for use in adults over 16 years of age, taken from the Cardiff University in the UK. The second questionnaire contains demographic and clinical characteristics of patients (age, gender, place of residence, marital status, education), activity, comorbid diseases and BMI, age at onset, site of onset of lesions, duration of disease, family history, type, activity, natural course, body mass index (BMI) and therapy. Results: Among 71 subjects included in the study, the total score of the DLQI ranged from 0 to 28 (from a maximum of 30 points), and the average was 11.70 ± 5.7. Female patients had greater QL impairment (total mean value of 8.03) than men (5.99); there was a statistically significant difference between both sexes (P = 0.019). The total score of QL in terms of symptoms related to the condition in the six domains strongly affected QL of 45.1% of patients. The QL was significantly worse in the studied group of 16-30 years (13.85 ± 5.3) compared to the population of 51-60 and over 60 years (6.75 ± 5.7, and 7.0 ± 2.3). As the age of patients advanced, the QL improved. Subjects with higher education had a higher score (14.41 ± 6.6; p=0.001). Conclusion: Female patients with vitiligo have impaired QL in comparison to male. With age, the QL in patients with vitiligo improves. Patients with a lower degree of education have a better QL.

ЈАВНО ЗДРАВЈЕ

КВАЛИТЕТ НА ЖИВОТ НА ПАЦИЕНТИ СО ВИТИЛИГО ВО СЕВЕРНА МАКЕДОНИЈА

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Извадок

Витилиго е стекнат дефицит на депигментација со висока преваленција, која се движи од 0,5% до 7,8%. Целта на студијата беше да се измери квалитетот на живот (КЖ) кај пациенти со витилиго, изразен преку Дерматолошкиот индекс на квалитет на животот (ДИКЖ). Материјали и методи: Оваа студија на пресек беше реализирана во временски интервал од 1 година. Во студијата беа користени два прашалника. Првиот прашалник содржи податоци од ДИКЖ, дизајниран за употреба кај возрасни лица, постари од 16 години, преземен од Универзитетот Кардиф во Велика Британија. Вториот прашалник содржи демографски и клинички карактеристики (возраст, пол, место на живеење, брачен статус, образование), активност, коморбидни заболувања и БМИ, возраст на почетокот, место на појава на лезии, времетраење на болеста, семејна историја, тип, активност, природен тек, БМИ и терапија. Резултати: Кај 71 испитаник вклучени во студијата, вкупниот скор за ДИКЖ се движеше во опсег од 0 до 28 (од максимални 30 поени), а просечно изнесуваше 11,7 ± 5,7. Женските пациенти имаа поголемо оштетување на КЖ (вкупна средна вредност од 8,03) од мажите (5,99); постои статистички значајна разлика помеѓу резултатите за двата пола (P = 0,019). Вкупниот скор за квалитетот на животот од аспект на симптомите поврзани со состојбата на кожата кај пациентите со витилиго, во шесте домени, силно го афектираа квалитет на животот на 45,1% од нив. Квалитетот на животот беше значајно полош кај испитуваната група од 16 до 30 години (13,85 ± 5,3) во споредба со популацијата од 51 до 60 и над 60 години (6,75 ± 5,7, и 7,0 ± 2,3) во поглед на дневните активности и слободни активности и тераписки третман. Со напредување на возраста на пациентите со витилиго, се подобрува квалитетот на животот. Испитаниците со повисоко образование имаа повисок ДИКЖ скор (14,41 ± 6,6; p = 0,001). Заклучок: Женските пациенти имаат полош КЖ во споредба со машките. Со возраста, КЖ кај пациенти со витилиго се подобрува. Пациентите со понизок степен на образование имаат подобар КЖ.

Introduction

Quality of life (QL) is defined by the WHO (World Health Organization) as the perception of individuals about their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns1.This definition reflects the view that quality of life is a multidimensional index that refers to a subjective evaluation that is embedded in a cultural, social and environmental context.[1]

Vitiligo is an acquired de-pigmentary disease characterized by white macules on the skin, mucous membranes and hair due to the selective destruction of melanocytes.[2]

According to the definition of Vitiligo European Working Group, vitiligo vulgaris is an acquired chronic pigmentation disorder characterized by white macules, often symmetrically distributed, which usually increase in size over time, corresponding to a significant loss of function of epidermal and sometimes hair folliclesmelanocytes.[3] Following the classic morphology of vitiligo, the lesions are discrete, uniformly milky-white macules of round, oval, or irregular shape ranging in size from millimeters to many centimeters, surrounded by normal or hyperpigmented skin. The disease is asymptomatic, but in some cases itching or a burning sensation may occur. Although vitiligo does not cause direct physical impairment, it is commonly believed that it can produce an important psychosocial burden. Several authors report that patients with vitiligo suffer from poor body image, low self-esteem and that they experience a high level of disability from their skin disease.[3-6] Vitiligo patients feel distressed and stigmatized by their condition, especially in relation to social activities. It is also believed that exposing the body causes anxiety and embarrassment, and may have a negative effect on sexual relationships.

The aim of the study was to measure the quality of life (QL) of patients with vitiligo, expressed through the Dermatological Quality of Life Index (DLQI).

Materials and methods

This research was the first in North Macedonia that measured the quality of life inpatients with vitiligo. This cross-sectional study was conducted in a period of one year (2021) . Two questionnaires were used: the Dermatology Quality of Life Questionnaire from the Cardiff University, UK with consent obtained from Prof. Finlay *et al.*, translated in Macedonian language, and the second questionnaire which contained questions about demographic characteristics and disease activity.[3] All subjects/patients who met the selection criteria were included in the study. DLQI questionare includes 10 items about apatient’s feelings and many aspects of the illness that occurred in the last 7 days. Questions include “vitiligo symptoms” (itching, pain, irritation), “feelings” (shame, anxiety and anger), “everyday activities” (shopping and activities in the home), “type of clothing”, “social or leisure activities”, “physical exercises", "educational activities", "sexual activities", "interpersonal relations" (with husband/s, friends, relatives) and 'treatment opportunities'. Each item is scored on a scale from four points (3 = a lot, 2 = moderately, 1 = a little, 0 = not at all). The total score of DLQI was calculated by summing the score of each of the 10 questions assessed and interpreted: as no impairment of quality of life (0–1), minor damage (2–5), moderate damage (6–10), severe damage (11–20), or a serioussevere impairment (21–30). In the second questionnaire, the data was filled out by the researcher of the Department of dermatology in "Remedika" Private General Hospital after a clinical examination of the patient and includes data on age, sex, place of residence, education, marital status, Fitzpatrick skin type, comorbid diseases (hyperlipidemia, diabetes mellitus type 1, hyperthyroidism, hypothyroidism, pernicious anemia, alopecia areata, ophthalmic abnormalities), familial history of the disease, use of alcohol, cigarettes, BMI. Data related to vitiligo include age at onset, family history of vitiligo, therapeutic history (with or without therapy), type of vitiligo (non-segmental, segmental and unclassified), vitiligo activity (in years), the natural flow (stable, unstable and with regression) and percentage of occupation of body surface. The localization and type of the disease were diagnosed with standard physical examination and using Wood's light. The percentage of skin area involved was calculated using the rule of nine undertaken fromthe Vitiligo European Task Force (VETF).[4]

Statistical analysis

Data analysis was performed using the statistical programs Statistics 7.1 for Windows and SPSS Statistics 23.0. The quality of life in patients with vitiligo were analyzed with Dermatological Quality of Life Index, where by the internal consistency between the answers to the 10 questions was assessed by making Reliability Statistics - Cronbach's Alpha / Total score / Average score.

Results

A total of 71 patients with vitiligo were included in the study, of which 38 (53.5%) were male and 33 (46.5%) female patients. Demographic data and patient characteristics are presented in Table 1. Patients were aged 16 to 30 and 31 to 40 years, 27 (38%) and 23 (32.4%) patients, consequently. According to place of residence, majority of patients - 48 (67.6%) were from urban areas. Unmarried were 35 (49.3%) patients, the same number of patients were married, and one patient was a widow. Body mass index usually ranged from 25 to 29.9 kg/m^2, that is, most of the subjectswere overweight. Ten (12.7%) patients were obese, with values of the index higher than 30 kg/m^2. Forty patients (56.3%) declared themselves as active cigarette smokers. Among them, 6 patients (8.45 %) smoked more than 20 cigarettes per day. Subjects mostly consumed less than one glass of alcohol per week – 45 patients (63.4%).

Table 1. Characteristics of recruited patients

Patients' characteristics	n (%)
Gender	
Male	38 (53.5 %)
Female	33 (46.4 %)
Age/years	
16 – 30	27 (38 %)
31 – 40	23 (32.3 %)
41 – 50	11 (15.4 %)
51 – 60	4 (5.6 %)
> 60	6 (8.4 %)
Place of residence	
Village	23 (32.3 %)
Urban/city	48 (67.6 %)
Marital status	
Unmarried	35 (49.2 %)
Married	35 (49.2 %)
Widow	1 (1.4 %)
BMI kg/m^2	
18.6 – 24.9	28 (39.4 %)
25 –29.9	34 (47.8 %)
30 – 34.9	4 (5.6 %)
35 – 39.9	3 (4.2 %)
> 40	2 (2.8 %)
Smoking (cigarettes /daily)	
Never	31 (43.6 %)
1 – 5	13 (18.3 %)
6 – 10	12 (16.9 %)
11 – 20	9 (12.6 %)
> 20	6 (8.4 %)
Consuming alcohol	
consume less than one glass of alcohol per week	45 (63.38 %)
1 – 3 glass of alcohol	24 (33.80 %)
4 glass of alcohol	2 (2.82 %)

More than half of the subjects, 42 patients (59.1%), had a positive family history of vitiligo. Anamnestic data presented that the appearance of vitiligo was at the ages of 16 and 30, 21 patients (29.6%). In 19 patients (26.8%) the disease first appeared at the age between11 and 15 years. By the age of five, the disease was diagnosed in 11 patients (15.5%). Itching as a symptom of the disease appeared in 27 (38%)patients. Positive Kebner phenomenon, i.e., appearance of vitiligo in places of previous skin trauma was registered in 42 patients (59.15 %). In this study, patients had the most common 4 types of vitiligo: non-segmental, rofacial, mixed type, non-segmental focal, and segmental focal type, found in 15 patients (21.1%), 14 (19.7%), 13 (18.3%), and 10 (14.1%) patients, respectively. In more than half of the subjects, that is, in 41 (57.75%) patients the disease was stable, and did not spread over the last year.

The total score of DLQI ranged from 0 to 28 (out of a maximum of 30 points), and the average was11.70 ± 5.7 (Table 2).

Table 2. Mean DLQI scores of the sample according to different heading items and rates of answers

	mean ± SD	min–max	95 % CI
Symptoms and feelings	2.75 ± 1.4	0 – 6	1.2 – 1.7
Daily activities	2.51 ± 1.4	0 – 6	1.2 – 1.7
Leisure	2.13 ± 1.5	0 – 6	1.3 – 1.8
Work and school	1.14 ± 1.3	0 – 4	1.1 – 1.5
Personal relationship	2.04 ± 1.7	0 – 6	1.5 – 2.1
Treatment	1.15 ± 0.98	0 – 3	0.8 – 1.2
Total	11.70 ± 5.7	0 – 28	4.9 – 6.9

Table 3. DLQI score according to Hongbo *et al.*[5]

	n (%)
0–1 no effects on patients’ lives	3 (4.22%)
2–5 small effects	6 (8.45%)
6–10 moderate	24 (33.8 %)
11–20 very large	32 (45.07 %)
21–30 extremely large	6 (8.45 %)

Discussion

Skin diseases affect different aspects of patients' lives and how successful treatment may improve patients' quality of life (QL). The number of publications on QL in dermatology has been constantly growing each year over the last 20 years.

The total DLQI in all subjects with vitiligo in our study was 11.70 ± 5.72. Among male subjects, the score was 10.34 + 5.7, and 13.27 + 5.4 in the group of female patients with vitiligo. The difference between both groups was 2.93, which was statistically significant. The significance was evident in performing daily activities. In the present study, the DLQI mean score was statistically higher in female patients than in male. The greater impairment of QL in females affected by vitiligo is under debate.

If we compare the research data published from 1996 to 2012, the mean scores of the DLQI for vitiligo across the world ranged from 1.82 to 15, and the overall mean was 8.2, indicating a moderate effect of the QL. In fact, some studies showed a higher DLQI mean score in female patients.[7-25]

Ongenae *et al.* noted that women were more embarrassed and self-conscious about the disease, more impaired in their daily routine and more influenced in their choice of clothing than men.[9,10,30,31] In our study, the age of the studied group of patients with vitiligo had a significant statistical impact on the quality of life. The quality of life was significantly worse in the study group of 16–30 years compared to the population of 51–60 and over 60 years in terms of symptoms, daily activities and leisure activities and treatment. With advancing age, the quality of life of vitiligo patients improved.

In the present study, the DLQI mean score was statistically higher in female patients than in male. The greater impairment of QL in females affected by vitiligo is under debate. In fact, some studies showed a higher DLQI mean score in female patients in a selected sample. In contrast, several authors pointed out the same impairment of QL between sexes. The mean scores of the DLQI across the world ranged from 1.82 to 15, and the overall mean was 8.2, indicating a moderate effect of the QL.

Identical results to ours were presented in the study by Budania *et al.*, with an average score of 11.52, as well as in the study by Sahni *et al.*, with an average score of 11.42, and Parsad with an average score of 10.70.[26-29]

Compared to other dermatological diseases, the QL in patients with vitiligo in our study was the same as in patients with psoriasis. In the literature, patients with psoriasis had more impaired disease-related quality of life than vitiligo and alopecia areata patients.[31-33] In a study performed by Ongenae *et al.*, patients with vitiligo were compared to psoriasis patients. They found a mean DLQI score of vitiligo that was lower than the score obtained for psoriasis.

The QL in patients with vitiligo was significantly worse compared to melasma and significantly better compared to psoriasis.[33]

Conclusion

This research was the first in North Macedonia that measured the quality of life in patients with vitiligo. The goal was to detect patients who were at risk of poor quality of life and to identify the variables that could predict this QL impairment. Also, this study aimed to provide an additional and significant boost in the development and improvement of quality standards in the support of vitiligo patients.

Patients in our study showed a moderate limitation of QL, comparable to that of other chronic skin diseases. Limitations of this study include a small study sample, as well as possible selection bias as participating patients were recruited from the Dermatology center in the “Remedika”General Hospital, Skopje N. Macedonia.

Further multi-centric studies are needed to validate the results. Females were shown to be more affected by vitiligo in all dimensions of the scale.

It should be emphasized that efforts of the management should focus on psychosocial and economic factors, especially in females, in addition to therapeutic efforts and hence better QL and treatment outcomes.

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