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FACIAL DERMATOSES: THE INFLUENCE OF EXPECTATIONS - QUALITY OF LIFE BEFORE AND AFTER TREATMENT.

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ABSTRACT The self-esteem and body image alongside with the functional status are closely connected with patients' quality of life (QoL). The aim of the study is to assess the impact of some facial skin disorders on QoL. A secondary point was to evaluate the effect of the treatment on Heath related quality of life (HRQoL).

Materials and Methods: The presented monocentric, prospective study includes 52 out-patients, with facial dermatoses (FD) (rosacea, melasma and facial scars). For the evaluation of QoL Dermatological Life Quality Index (DLQI) questionnaire was applied at the beginning and end of the treatment.

Results: The DLQI score for FD before treatment was 11.83 ± 1.546 (median 11.00; IQR 8.00-16.00) and after treatment 8.86±2.55 (median 9.00; IQR 6.00-13.00). There were no correlation between severity of FD and the degree of their improvement and QoL. For patients with high expectation QoL before and after treatment show minor impairment. Therefore FD affect the QoL of the patients mostly psychologically.

Conclusion: The self-esteem and body image have negative influence on patients' wellbeing

KEYWORDS : Quality of life. Psychosocial aspect of skin disease, Dermatology Life Quality Index, Melasma, Rosacea

INTRODUCTION

Facial Dermatoses (FD) are extremely common and often, to be only cosmetic. In most of the cases they are painless or benign but particularly stressful as they are easily visible and can seriously affect confidence and quality of life [1].In the classification of psychodermatological disorders acne and rosacea (R) are in the group of psychophysiological disorders [2]. Other common FD- melasma (M) has an important influence on the impact on life quality [3].

For the purpose of the study, the QoL-definition of World Health Organization (WHO) is accepted as a theoretical frame: "Quality of life is defined as individuals' perceptions of 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 concerns. It is a broad-ranging concept affected in a complex way by the persons' physical health, psychological state, and level of independence, social relationships and their relationship to salient features of their environment [4].

MATERIAS AND METHODS

The aim is to assess the impact of psychosocial status on QoL of patients with facial skin disorders, analyzing the answers to a standardized dermatology-specific quality of life instrument- DLQI before and after treatment. The study was conducted among 52 female out-patients with FD at a mean age 37±4.35years; range 22-56 years, who visited the dermatology unit at "Medea" Esthetical Medical Center in Varna, within the period of October 2015 and April 2016. The following inclusion criteria were applied: skin conditions including changes in pigmentation and /or vascularity localized on the face, neck and neckline without underling systemic disease. Individuals with psychiatric disorders and/or those using antidepressants have been excluded. The diagnosis was based on clinical observation and patient's history data. The distribution of patients according the included FD is shown in Table 1.

Table1. The distribution of patients according the included FD

Melasma (M)	Rosacea (R)	Facial scars (FS)
22(42.32%)	18(34.61%)	12(23.07%)

The severity of FD was evaluated before and at the end of the treatment.

The severity of melasma was evaluated by Melasma Area and Severity Index (MASI) [5].The face was divided into four areas (A) - forehead (30%), right malar region (30%), left malar region (30%), and chin (10%). The hyperpigmentation in each of them was assessed and achieved a numerical value: 1 <10%; 2= 10–29%; 3= 30–49%; 4=50–69%; 5= 70–89%; and 6=90–100%. Also darkness (D) and homogeneity (H) were evaluated and scaled from 0 to 4.Fanally to calculate the MASI score, the sum of the severity rating for D and H was multiplied by the numerical value of the involved area (A); the maximum score was 48 and the minimum 0.

The severity of rosacea was evaluated by the distribution of primary signs and symptoms. The inflammatory facial lesions (pustules and papules), intensity of facial erythema and telangiectasia were clinically scored as absent, mild, moderate, or severe (0-3).The secondary features (burning, plaques, dry appearance, edema , ocular manifestation, peripheral location and phymatous changes) were graded as absent or present[6].

Qualitative scarring grading system was used to evaluate the severity of facial scars. Levels of disease correspond to the grates of scarring as follows: macular =1; mild =2; moderate =3 and severe =4 [7].

Subjective evaluation was performed. Patients were asked to make a self-assessment of their FD using the four point scale (minimal visibility =0, mild =1 moderate = 2 or severe =3) and also to evaluate the expectation from treatment by numbering the improvement from 0 (no improvement) to 3 (excellent result).

Results were interpreted as follow: no changes =0; mild =1, moderate=2 and excellent =3.

The informed written consent was obtained from each of the participants.

To evaluate the influence of psychosocial aspects of skin disease on patients' QoL the DLQI was applied. DLQI was the first dermatology-specific QoL instrument developed in 1994. DLQI comprises 10 items, giving a sum score ranging between 0 and 30.Ten questions (Q1 to Q10) concerning symptoms, embarrassment, shopping/daily activities, clothes, and social/leisure. This validated questionnaire has been used in over 40 different skin conditions in over 80 countries and is available in over 90 languages. Its use has been described in over 1000 publications including many multinational studies. The DLQI is the most frequently used instrument in studies of randomized controlled trials in dermatology. High DLQI scores imply low QoL [8].

Individual DLQI-instrument were provided to the patients at the beginning and after finishing the treatment procedures. Every patient was given an oral instructions on how to fill the questionnaire. The patients were asked to fill in the questionnaires at home twice – before and after the treatment.

The statistical analysis was performed with SPSS v.21.0 for Windows. Hypotheses were tested using χ^2-criteria (for the descriptive profile data). Logistic regression analysis has been used to examine the independent effects of the explanatory variables on DLQI. Construct validity was tested by factor analysis. Reliability of the instrument was assessed by average inter-item correlation and Cronbach`s alpha. Results with $p<0.001$ were interpreted as statistically significant

RESULTS

The study was conducted among 52 female out-patients with FD at a mean age 37±4.35years; (range 22-56 years). MASI score for melasma

patients was 9.704±4.89 (range 2.0-21.6) before the treatment and 3.168±319 (range 1.4-7.2) at the end. The distribution of patients according the objective and subjective severity scores for all FD is shown in Table 2.

Table 2. The distribution according to the severity of the FD.

FD	Lesions almost equivalent to surrounding normal skin or with minimal changes		Mild, slightly changes in comparison to surrounding normal skin		Moderate, moderately changes in comparison to surrounding normal skin		Severe, Markedly differ than surrounding normal skin.	
	0		1		2		3	
	objective	subjective	objective	subjective	objective	subjective	objective	subjective
M*	5/22.72%	0/0	9/40.90%	11/50.00%	7/31.81%	8/36.36%	1/4.54%	3/13.63%
R	4/22,23%	0/0	6/33.33%	4/22.23%	6/33.33%	8/44.44%	2/11.11%	6/33.33%
FS	4/33.33%	0/0	3/25.0%	4/33.33%	3/25.0%	5/41.67%	2/16.67%	3/25.0%
Total	13/25.0%	0/0	18/34.61%	19/36.54%	16/30,77%	21/40.38%	5/9.62%	12/23.08

*for melasma evaluation according to Melasma Severity Scale [9].

The DLQI score for FD before the treatment was 11.83 ± 1.546 (median 11.00; IQR 8.00-16.00) and 8.86±2.55 (median 9.00; IQR 6.00-13.00) at the end (Table3).

Table 3. Distribution according to DLQI- score before and after treatment

Range of score	% R		% M		% FS		% FD TOTAL	
	before	after	before	after	before	after	before	after
0-1	0	0	0	0	0	0	0	0
2-5	0	0	0	0	0	0	0	0
6-10	38.88%	66,66%	45.45%	54.54%	33.33%	41.66%	39,22%	54,28%
11-20	61,12%	33,34%	54.55%	45,45%	66,67%	58.34%	60,78%	45,72%
21-30	0	0	0	0	0	0	0	0
total	100	100	100	100	100	100	100	100

The patients with FD scores are significantly high for Q2 (embarrassment) (p<0.002), Q5 (free time, leisure) (p<0.001) and Q8 (relationships) (p<0.001).These scores remain to be the highest and at the end of the treatment. Scores for the DLQI are given in Tables 4.

Table 4. Scores of the answers of the 10 Questions

Question	Before the treatment			After the treatment		
	median	range	p-value	median	range	p-value
Q1	0.00	0.00-0.00	<0.001	0.00	0.00-0.00	<0.001
Q2	3.00	1.00-3.00	<0.002	2.00	1.00-2.00	<0.001
Q3	1.00	100-2.00	<0.001	1.00	100-2.00	<0.001
Q4	0.00	0.00-1.00	0.146	0.00	0.00-1.00	0.132
Q5	3.00	2.00-3.00	<0.001	2.00	1.00-3.00	<0.002
Q6	1.00	0.00-1.00	<0.001	1.00	0.00-1.00	<0.001
Q7	1.00	0.00-2.00	<0.001	0.00	0.00-1.00	<0.001
Q8	2.00	0.00-3.00	<0.001	2.00	0.00-2.00	<0.001
Q9	1.00	0.00-2.00	<0.003	1.00	0.00-2.00	<0.002
Q10	1.00	0.00-1.00	<0.001	1.00	0.00-1.00	<0.001

Scores for the six domains of DLQI were compared also. DLQI scores were significantly low for all domains except domain1 (symptoms and feelings) (median3.00; range0.00-3.00) (p<0.001) domain3 (leisure) (median 3.00; range 2.00-4.00) (p<0.001) and domain5 (personal relationship) (median 3.00; range3.00-5.00) (p<0.001). Distribution of patients score according to DLQI domains is shown on Table 5.

Table 5. Distribution of six domains

Domain	Before the treatment		After the treatment		p-value
	median	range	median	range	
Symptoms and feelings	3.00	0.00-3.00	2.00	1.00-3.00	< 0,001
Daily activities	1.00	0.00-2.00	1.00	0.00-2.00	<0,001
Leisure	3.00	2.00-4.00	2.00	1.00-3.00	<0,001
Work/School	0.00	1.00-2.00	0.00	0.00-1.00	<0,001
Personal relationship	3.00	3.00-5.00	2.00	2.00-4.00	<0,001
Treatment	1.00	0.00-2.00	1.00	0.00-1.00	<0,001

Results show no correlation between the improvement of FD and QoL of patients. The correlation of melasma patients is shown in Figure1. Furthermore there were significant opposite feedback between the patients' expectation from treatment and impact on QoL. Highest expectation show lower improvement in QoL. (Figure 2). In 5 patients (9.61%) with the improvement from stage 3 to stage 1 there were no changes in QoL and in 2 patients (3.84%) with the improvement from stage 2 to stage1 QoL deteriorated. All of them were with great expectations.

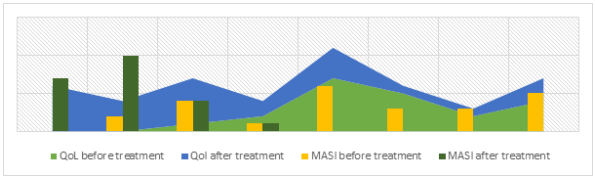

Figure 1. The distribution of melasma patients according to QoL and MASI score before and after treatment

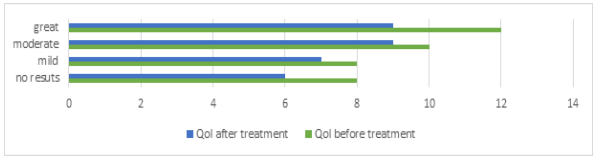

Figure2. Correlation between patients' expectations and improvement of QoL

DISSCUSSION

Safizade et al (2010) reported that FD had very large effect on patient's QoL [10]. Authors conducted a study involving 200 patients with melasma. The obtained data show the mean score of DLQI 6.90±4.48 [10]**.** At the same time Raafia Ali et al (2013) reported DLQI score 17.08±5.22 in a study of 100 patients with melasma [11]. Boehncke WH et al (2002) reported that mean DLQI score dropped significantly from 9.2 to 5.5 (p = 0.0009) in patients with FD after the use of decorative cosmetics [12]. Peuvrel et al. (2012) in a study of various FD in patients in France published DLQI score 11.03±4.13 for patients with rosacea and DLQI score 18.09±2.13 for patients with scars. [13].Our results show the DLQI score for FD 11.83 ± 1.546 which correlates more with data reported by Raafia Ali et al [11] and Peuvrel et al. [13]. This could be attributed to the fact that patients in presented study are enrolled from specialized esthetic center for treating facial problems. The most adversely affected domain of QoL in presented study was the feelings of patients related to embarrassment and self-consciousness demonstrated by the highest mean DLQI score for Q2 (median 3.00; range1.00-3.00) (p<0.002) and domein1 (median 4.00; range 1.00-5.00) (p<0.001).The next highly affected domain was personal relationships of patients forcing them to avoid social interactions with close friends, relatives or partner. Comparable to our study, emotional well-being was reported to be one of the most adversely affected life domains due to FD, by Balkrishnan et al [14].

An understanding the influence of psychological aspect of skin diseases on QoL is closely connected with the efficacy of their treatment [15]. More or less visible painful or itching symptoms affect patients' social life, their daily work and their personal relationships [16]. Many authors point out that disfiguring skin diseases have a significant impact on a patient's QoL, namely the relationship to others, self-image and self-esteem [15, 17]. All this give us grounds to discuss the influence of psychosocial status on QoL of patients with facial skin disorders. Salman et al. (2016) underlined that vitiligo and acne vulgaris have negative effect on physical appearance, difficult social relationships and cause social anxiety [17]. In a study included 74 patients with FD they found DLQI score for vitiligo 5.6 ± 5.1 and DLQI score for acne 6.4 ± 6.2 without correlation between psychiatric scale scores and disease severity [17]. Balieva F et al. (2016) conducted a study aiming to review psychological comorbidity among Norwegian dermatological outpatients. They reported any anxiety in patients with acne, rosacea and other facial conditions to be 25, 8% and any depression 8.1% (the highest rates was reported for psoriasis 38.9%) [18]. Furthermore Al-Harbi (2013) reported 54.5% depression in investigation of 308 vitiligo patients [19]. Mufaddel et al. (2014) found significantly higher rates of anxiety disorders in patients with vitiligo (45.8%) and psoriasis (42.1%) [20].

Results obtained in the recent study show no correlation between the improvement of FD and QoL of patients. Furthermore there were opposite feedback between the patients' expectation from treatment and impact on QoL. Highest expectation show lower improvement in QoL. These findings alongside with the data of the other authors give us the reason to confirm the statement that QoL in patients with FD is mostly related to the psychological factors.

This is the first study in Bulgaria, which aims to assess the impact of psychosocial status on QoL of patients with FD, analyzing the answers to DLQI. Many studies investigating QoL of patients with FD have been found in literature [10-14] but we do not found a comparative study investigating the correlation between the patients' expectations, levels of improvement and QoL.

CONCLUSION

QoL is a patient outcome measure, which gives essential information to the physician regarding patient's physical, mental and social functioning. FD are not life threatening but seriously affect the QoL of the patients. Therefore, a study of their self-reported health status alongside with the clinical investigation is a necessary precondition for successful therapeutic results. The psychological aspect of FD has negative influence on patients' wellbeing.

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