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The Impact of Rosacea on Quality of Life in the Moroccan Population: Effects of Demographic and Clinical Characteristics

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Abstract

Introduction: Rosacea is a chronic inflammatory dermatosis mainly involving facial skin, which greatly affect the quality of life (QoL) of patients. Therefore, the aim of the present study was to investigate the quality of life in Morocan patients with rosacea using the DLQI.

Methods: A prospective study was conducted on patients admitted to our dermatology department. We included 70 patients with rosacea. Data collected from medical records included: age, Sex, marital status, disease duration and rosacea severity; the impact of rosacea on quality of life was performed by using the Dermatology Life Quality Index (DLQI).

Results: A total of 70 patients with rosacea were included. 71.4% were women and 28.6% were men. Their mean age was 39 ± 10.6 years. Most of our patients were married (82.9%). For rosacea severity, 34.3% of the patients had mild rosacea, 40% moderate rosacea, 20% severe rosacea and 5.7% very severe rosacea. The mean total DLQI scores were 7.97 ± 5.76 and was related to patients' age, sex, marital status, disease duration and rosacea severity.

Conclusion: Rosacea maybe has a greater significant impact on patient's QoL. And the impact of QoL tend to deteriorate significantly with patient's young age, female gender, and celebratory status, as well as by the short duration and increasing disease severity.

Keywords: ***Rosacea; Dermatology life quality index; Quality of life; Severity***

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1. Abbreviations

DLQI: Dermatology Life Quality Index; QoL: Quality of life; IGA: Investigator's Global Assessment

2. Introduction

Rosacea is a chronic recurrent inflammatory disease affecting facial skin. The global prevalence of rosacea is 5.46% [1]. Since rosacea appears predominantly in highly visible areas of the facial region, it can affect the patient's cosmetic appearance and affect patient's social and occupational interactions. This in turn has a negative impact on the patient's quality of life and mental health [2]. Dermatology Life Quality Index (DLQI) was the first dermatology specific QoL and was the most widely used [3,4], and is recommended by the Rosacea Consensus to assess the patient's burden and refer for psychological consultation of rosacea patients [5].

This is a survey study investigated the QoL in Morocco rosacea patients using the DLQI.

3. Materials and Methods

We prospectively conducted a study between May 2021 and December 2022 at the Mohammed V Military Hospital in Rabat, Morocco. We included in this study all the patients aged 16 years or over with confirmed diagnoses of rosacea. Patients with other concurrent facial skin diseases such as acne, eczema, seborrheic dermatitis and systemic lupus erythematosus or neuropsychiatric diseases such as anxiety disorder and depressive disorder were excluded.

Data were collected using a questionnaire filled in by a dermatologist including socio-demographic data (age, sex, marital status) and clinical data according to rosacea phenotypes (flushing, persistent erythema, papules and pustules, telangiectasias, phymatous changes, oedema, dryness, burning sensation and stinging sensation).

Moreover, our study collected disease duration. The severity was measured using Investigator's Global Assessment (IGA) [6]. The impact of rosacea on QoL was performed by using the Dermatology Life Quality Index (DLQI). DLQI in Arabic dialect version was used (FIG. 1), which contains 10 questions covering six aspects of life including symptoms, feelings, daily activities, leisure time, work/school, personal relationships and treatment. Total score ranges from 0 to 30. The score can be divided into five grades: 0-1 (no effect), 2-5 (small effect), 6-10 (moderate effect), 10-20 (very large effect), 20-30 (extremely large effect) [4,5].

Statistical analysis was performed with JAMOVI. The results were presented as follows: mean ± SD. Descriptive statistics were performed; Student's t-test and ANOVA were used as statistical tests to compare between variables, and $p<0.05$ was considered a statistically significant difference.

استبيان DLQI (مؤشر جودة الحياة للأمراض الجلدية)

خلال السبعة أيام الماضية	لا على الإطلاق 0=	قليلا 1=	كثيرا 2=	بشكل هائل 3=	غير معني
1.هل تعاني من حكة أو ألم أو حرق في جلدك؟					
2.هل شعرت بالحرج أو الشعور بالعجز تجاه مشكلة بشرتك؟					
هل جعلت مشكلة بشرتك من الصعب عليك الذهاب للتسوق أو الاعتناء بمنزلك أو حديقتك؟					
4.هل أثرت حالة بشرتك على اختيارك للملابس التي ترتديها؟					
5.هل أثرت مشكلة بشرتك على نشاطك مع الآخرين أو هواياتك؟					
6.هل وجدت صعوبة في ممارسة الرياضة بسبب حالة بشرتك؟					
7.هل تمنعك مشكلة بشرتك تمامًا من العمل أو الدراسة؟ لا = 0 ؛ نعم = 3 إذا كانت الإجابة "لا"، هل مشكلة بشرتك أثرت على عملك أو دراستك؟				-	
هل مشكلة بشرتك جعلت من الصعب عليك التواصل مع شريك حياتك أو أصدقائك أو عائلتك؟					
9.هل جعلت حالة بشرتك حياتك الجنسية صعبة؟					
هل تسبب العلاج الذي تستخدمه لبشرتك في مشاكل مثل أخذ الكثير من وقتك أو إحداث فوضى في منزلك؟					

يرجى التأكد من أنك أجبت على كل سؤال، شكرا لك.

FIG. 1. **DLQI (Dermatology Life Quality Index) questionnaire in Arabic dialect version.**

4. Results

A total of 70 patients with rosacea were included in our study. The mean age was 39 ± 10.6 years. The mean ages of the female and male patients were 37.48 ± 10.99 and 42.7 ± 8.55 years, respectively. Rosacea most frequently occurred in the age group between 31 and 50 (31-40: 37.1%, n=26; 41-50: 28.6%, n=20). The onset was rarely reported under the age of 30 (20%, n=14) and above 60 years (14.3%, n=10). Among the seventy cases, 71.4% (50 patients) were women and 28.6% (20 patients) were men, with a female-to-male ratio of 2.5. 58 of our patients (82.9%) were married and 12 patients (17.7%) were single. For rosacea severity, 34.3% (24 patients) had mild rosacea, 40% (28 patients) moderate rosacea, 20% (14 patients) severe rosacea and 5.7% (4 patients) very severe rosacea. The mean duration of the disease was 49.3 ± 37.4 months. In 50 patients (71.4%), the disease duration was more than 3 years, and in 20 patients (28.6%) it was less than 3 years (TABLE 1). The mean total DLQI scores were 7.97 ± 5.76 (range 0-23). The most of our patients (54.3%; n=38) had a mild to moderate impairment of quality of life (DLQI score of 2 to 10), 16 patients (22.9%) a severe impairment of quality of life (DLQI score of 11 to 20), 4 patients (5.7%) a very severe impairment of quality of life (DLQI score of 21 to 30). However, 12 patients (17.1%) had no effect on quality of life (DLQI score of 0-1) (TABLE 1).

Females rated a significantly higher DLQI score (P=0 .005). For the different age groups, we observed the most severe quality of life impairment in patients aged ≤ 30 years, which was significantly different from patients aged 31-40, 41-50 and over 50 years (P<0.001). Patients with a shorter length of disease onset (<3 years) had higher scores compared with those who had a longer length of disease onset (≥ 3 years). We observed the strongest quality of life limitation in single patients (DLQI 13.50 ± 5.14) with the difference being significant to married patients (DLQI 6.83 ± 5.22 ; P<0.001). We found that the most severe impairment in quality of life occurred in patients with very severe rosacea (DLQI 16.50 ± 7.51), which was significantly

different from patients with severe (DLQI 12.57 ± 5.32), moderate (DLQI 7.07 ± 4.17) and mild rosacea (DLQI 4.92 ± 4.40) (P=0.003) (TABLE 2).

TABLE 1. **Demographic and clinical characteristics of patients.**

Characteristics	value (n=70)
Age (years), mean ± SD	39 ± 10.6
Age (years):	
≤ 30	14 (20%)
31-40	26 (37.1%)
41-50	20 (28.6%)
>50	10 (14.3%)
Sex:	
Male	20 (28.6%)
Female	50 (71.4%)
Marital status:	
Single	12 (17.1%)
Married	58 (82.9%)
Disease duration (months), mean ± SD (range):	49.3 ± 37.4
Disease duration (years):	
<3	20 (28.6%)
≥ 3	50 (71.4%)
Rosacea severity: (IGA)	
Mild	24 (34.3%)
Moderate	28 (40%)
Severe	14 (20%)
Very severe	4 (5.7%)
DLQI Mean ± SD	7.97 ± 5.76
The DLQI score grades:	
Grade 1 (0 - 1)	12 (17.1%)
Grade 2 (2 - 5)	20 (28.6%)
Grade 3 (6 - 10)	18 (25.7%)
Grade 4 (11- 20)	16 (22.9%)
Grade 5 (21 - 30)	4 (5.7%)

TABLE 2. **DLQI Scores According to Sociodemographic Characteristics and Clinical Characteristics.**

	DLQI Mean ± SD	P-value
Age (years):		
≤ 30	13.31 ± 4.63	<0 .001
31-40	8.52 ± 5.87	
41-50	6.11 ± 4.07	
>50	2.44 ± 2.46	
Sex:		
Male	5.00 ± 4.30	0 .005
Female	9.16 ± 5.87	
Marital status :		
Single	13.50 ± 5.14	<0 .001
Married	6.83 ± 5.22	
Disease duration (years):		
<3	12.70 ± 6.04	<0 .001
≥ 3	6.08 ± 4.44	
Rosacea severity:		
Mild	4.92 ± 4.40	0 .003
Moderate	7.07 ± 4.17	

Severe Very severe	12.57 ± 5.32 16.50 ± 7.51	

5. Discussion

Rosacea is a chronic inflammatory skin disorder that mainly affects centrofacial areas, impairs the patients' quality of life. The impact of rosacea on quality of life is generally comparable to that in other chronic dermatoses [7,8]. Rosacea affected quality of life of patients to a moderate degree in our study, which is comparable to previous reports [8-13]. whereas the impairment of quality of life was severe in recent Chinese studies [7,14].

The patients aged ≤ 30 years rated their quality of life worse than all other age groups. Quality of life gradually increased with patients' age and the duration of the disease displaying that especially the young population perceives intense limitation of their quality of life by rosacea symptoms whereas older patients experience a better quality of life, which was confirmed by several studies that showed that younger patients were more likely to have higher DLQI scores [7,10,11,15]. Based on our study, women were more likely to suffer greater impairment in quality of life. This finding was consistent with the published researches conducted by Huang et al [7], Aksoy et al [9] and Beikert et al [11].

As rosacea is a chronic disease, patients with long disease duration may be forced to fit this situation, and the impaired quality of life may be restored or turn to be tolerable. In the current study, we observed that patients with shorter disease duration had more severe impairment on quality of life, which is consistent with the results from other studies [7,10,11].

Concerning a correlation of the severity with the grade of quality of life (QoL). From our findings, the degree of QoL affected were statistically positively correlated with the severity of rosacea. And of note, we found that the more severe the disease, the greater its impact on QoL. Some studies also concluded the negative impact on QoL appeared to be associated with disease severity [14,16], that limitation of QoL was higher in patients with a higher extent of facial involvement [11]. Whereas some publications have reported that the subjective symptoms (burning, stinging, dry sensation and pruritus) were associated more closely with the limitation of QoL than the common objective signs of rosacea [7,9,17]. Moreover, Differences in QoL impact between different skin subtypes of rosacea were found in a study, with patients with the papulopustular persistent, and phymatous rosacea subtypes likely to carry the greatest QoL burden [18].

No significant difference was observed in marital status in the literature series. however, our study found that single rosacea patients had higher DLQI scores than married patients.

6. Conclusion

The impact of rosacea on patients' lives is moderate (assessed using the DLQI) and is significantly affected by the patient's young age, female gender and celebratory status, as well as by the short duration and severity of rosacea. Therefore, quality of life impact of rosacea must be considered for therapeutic decision-making.

7. Conflict of Interest

None.

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