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Quality of Life in Patients with Skin Diseases on Exposed Parts -A Study in Two Teaching Hospitals

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ABSTRACT

Introduction: Skin diseases on exposed parts can have detrimental effect on the quality of life of individuals in our society**.** This study was conducted to determine the impact of skin diseases of exposed parts of the body on quality of life (QOL) using Dermatology Life Quality Index (DLQI) in patients attending the two tertiary care hospitals of Lahore. **Material & methods:** A cross-sectional study was carried out at the Outpatient Department of Dermatology, Shaikh Zayed and Services Hospitals, Lahore from January 1to March 31, 2017. A total of 370 patients suffering from skin diseases on exposed parts, with age 16 years or above were conveniently enrolled after taking written informed consent on a purposely developed consent form. Filled DLQI questionnaires were scored on a scale from 0-3 for each of ten items. The data were analyzed after compiling the results using SPSS version 21. The higher the DLQI score, the poorer was the QOL. **Results:** Out of 370 patients, there were 155 (41.9%) males and 215 (58.1%) females. Mean age of the patients was 28.98±10.49 years. There were 204 (55.1%) unmarried while 166 (44.9%) married individuals. The mean DLQI score was 13.02±5.77. The association between DLQI score and age was found to be insignificant while impairment of QOL was greater in females ($p = 0.042$). DLQI score was found to be significantly higher in married individuals ($p=0.041$). The association of DLQI score with disease duration ($p=0.001$) and different skin diseases ($p<0.001$) was highly significant. The extremely large effect on QOL was seen in patients of psoriasis followed by hirsutism, melasma, vitiligo, acne and eczema. **Conclusion:** Most of skin diseases on exposed parts cause 'very large effect' on patients' quality of life. The gender, marital status and duration of disease are significantly affecting the QOL. There is variable effect of different types of skin diseases on QOL

Key words: Quality of life, DLQI, Skin diseases, Exposed parts.

INTRODUCTION

There is a high prevalence of skin diseases worldwide.[1] These diseases range from simple acne to some serious disorders like erythroderma and paraneoplastic pemphigus.[2,3] There is a difference in the occurrence of various skin diseases in different countries owing to different geographical location, weather pattern, genetics, living standards and social practices.[1-3] The morbidity rate due to various skin diseases is significantly higher than the mortality caused by them.[3,4] It has been found that the influence of various skin diseases is more than the cardiac diseases on psychological health of the patients.[5]

Quality of life (QOL) is a multidimensional term. It is defined as a person's ability to perform the daily activities appropriately and to fulfill his or her major role in life properly.[6,7] Everything from basic physical & mental health to education, employment and economic status are included while describing the quality of life of a person. Several indices in the form of questionnaires are available to measure the extent of disability caused by skin diseases. In order

to determine the impact of skin diseases on exposed parts of the body on QOL, DLQI questionnaire was used in many studies.[6,8,9] It is a simple and valid ten item questionnaire used to determine the level of impact of various skin diseases on a person's life.[8,9,10] The questions asked cover information related to the symptoms, feelings, influence on everyday work and leisure activities, relationships and the problems faced in the treatment. Undergraduate students including medical students can use the DLQI in their research projects without seeking permission, provided that the projects are not externally funded, for example by a pharmaceutical company.[11]

To probe into the hypothesis that any skin lesion on exposed parts of the body can affect the quality of life, the present study was planned to see the extent of effect of these diseases on an individual's life. The measurement of quality of life can help in improving patient care in many ways e.g. it can indicate the need for supportive or psychological intervention and for making health care policy.

MATERIALS AND METHODS

It was a cross-sectional study. The study was carried out at the Outpatient Department of Dermatology, Shaikh Zayed and Services Hospitals, Lahore from January 1 to March 31, 2017 after taking proper administrative permission. The sample size of 370 cases was calculated with 95% confidence level and 5% margin of error (Raosoft Calculator) while non probability convenience sampling technique (time convenience) was employed. A written informed consent was taken from each patient. The consent of patients who were less than 18 years of age had been taken from their parents. Three hundred and seventy patients of both sex with age ≥16 years, having skin disease on exposed parts, who could themselves fill the questionnaire in Urdu version, were enrolled. The medical history and clinical assessment of these patients was taken under supervision of skin consultants. Demographic characteristics like name, age, marital status, address, duration of disease were recorded. Patients diagnosed of having systemic diseases causing similar presentations on exposed parts e.g. many systemic diseases can cause pigmentation and hypertrichosis had been excluded. Patients with scar marks on exposed parts were also excluded from our study.

All the patients were instructed to fill a DLQI questionnaire (Table-1) that included ten questions covering six different domains of QOL e.g. symptoms and feelings (Q1, 2), daily activities(Q3, 4), leisure activities (Q5, 6), work and schooling (Q7), personal relationships (Q8, 9) and treatment of disease (Q10). The response for each question could be 0=not at all, 1=a little, 2=a lot and 3=very much. Total score ranged from 0-30. The higher the score, the poorer was quality of life. Filled DLQI questionnaires were then scored on a scale from 0-3 for each of ten items. The DLQI scores were interpreted according to a scale as 0-1= no effect at all on patient's life, 2-5= small effect, 6-10= moderate effect, 11-20= very large effect and 21-30= extremely large effect.[11,12]

Ethical and technical committee for undergraduate research at Department of Public Health and Community Medicine granted approval keeping in view the principles of Helsinki's Declaration.

Statistical analysis

The data was entered into SPSS version 21 for analysis. Study variables included age, sex and DLQI scores. Descriptive statistics were used. For quantitative variables like age and DLQI scores, mean and standard deviation were calculated. For qualitative variables like gender, frequencies and percentages were calculated. The results were analyzed using non-parametric Mann-Whitney U-test and Kruskal-Wallis test as the data was skewed. P value < 0.05 was taken to be statistically significant.

RESULTS

A total of 370 patients both males & females with a skin disease on exposed parts, diagnosed clinically by consultants of Dermatology Departments, were enrolled in the study. The demographic data is shown in Table-2. There were 155 (41.9%) males and 215 (58.1%) female patients. Mean age of patients was 28.98±10.49 years with a range of 16 to 70. Two hundred and four (55.1%) were unmarried while one hundred and sixty six (44.9%) were married. Minimum duration of disease was 1 week and maximum 20 years whereas the mean duration was 1.16±1.05 year. The skin diseases noted in our patients are shown in table 4. The Miscellaneous (others) group contains urticaria in 9, warts in 9, nevi in 2, scabies in 3 while freckles, folliculitis and furuncle in 1 patient each. DLQI score varied from minimum 1 to maximum 27 in our study shown in

histogram (Figure-1). Mean DLQI score of total sample size was 13.02±5.77. The effect of various skin diseases on QOL is shown in Table-3. The impairment of QOL was greater in females than males and it was irrespective of severity of skin disease as shown in Figure-2. The difference in DLQI scores between genders was statistically significant *(P value 0.042)*. The association between DLQI score and age of patients was found to be insignificant *(P value 0.514)*. Mean DLQI score was found to be significantly associated with the duration of the disease *(P value 0.001)*. In unmarried 204 patients, there was no effect on QOL in one (0.5%) patient, small effect in 21 (10.3%), moderate effect in 57 (27.94%), very large effect in 111 (54.4%) and extremely large effect in 14 (6.86%) patients. In 166 married patients, there was small effect on QOL in 7 (4.22%) patients, moderate effect in 51 (30.72%), very large effect in 77 (46.39%), and extremely large effect in 31 (18.67%) patients. The association of marital status with DLQI score was significant *(P value 0.04)*. There was higher DLQI score in psoriasis followed by hirsutism, melasma, vitiligo, acne, eczema etc. (Table-3). The relationship between DLQI scores and different skin diseases was also found to be significant *(P value 0.000)*. Mean DLQI score for each of ten questions revealed highest score for Q2, reflective of patient's feelings followed by Q10 showing problems faced in treatment, Q8 related to personal relationship and Q1 related with the disease symptoms

DISCUSSION

Health-related QOL refers to an individual's perception about his/her physical and psychosocial well-being. The skin disease can cause disturbance in daily life activities, occupation, leisure activities, self-esteem and interpersonal relationships. These disorders affect the way a person sees himself and the way he is seen by others. DLQI scoring system describes the effect on patient's life.[13] Mean age of the patients in our study was 28.98±10.49 years with a range of 16-70 which is comparable with the study of Ghajarzadeh et al.[14] This is in contrast to the study by Ejaz et al.[15] which may be due to short sample size in that study. Mean DLQI score in our study was 13.02±5.77 which is higher than the scores noted in the study by Ejaz et al.[15] where mean DLQI scores were 10.02±4.09. This difference may be explained because of larger sample size, more number of females and lesser mean age of the patients in present study. Our study results showed that patients in the younger age group (16-25 years) had a higher DLQI score with poorer quality of life as compared to age group (26-35 years) who in turn had higher score than the age group (>35 years), suggesting that skin diseases are more traumatizing to younger age group than the older one. However, the relation between DLQI score and age was insignificant.

In our study, there were 155 males and 215 female patients. Mean DLQI score is higher in females than the males showing that the impairment of QOL was greater in females than males. This is in contrast to the study by Ejaz et al.[15] and can be attributed to the larger number of female patients in our study. Moreover, females are more conscious to any skin lesion on exposed parts. It was also noted that the higher DLQI score in females was irrespective of severity of skin disease which correlates well with the statement that even mild skin disease can significantly affect the perception of quality of life.[13] In our study, 166 (44.9%) patients were married and 204 (55.1%) patients were unmarried. It was noted that married individuals had a poorer quality of life than the unmarried group. Duration of disease was also asked from the patients. Mean duration of disease in this study was 1.16±1.05 years. Mean DLQI score was found to be significantly associated with the duration of the disease which is similar to the study by Ejaz et al.[15]

There was higher DLQI score in patients of psoriasis followed by hirsutism, melasma, vitiligo, acne and eczema respectively which is similar to the study by Ghajarzadeh et al.[14] In the present study, mean DLQI scores were highest for domain of feelings, followed by problems faced during treatment, personal relationships and symptoms of disease. High disruption of feelings and personal relationships are in accordance with the studies by Rahnama et al. and Baig et al.[6,16]

The study results indicate a need for counseling and supportive or psychological intervention to improve the QOL in these miserable patients. To emphasize the importance of QOL assessment in patients with skin diseases, further similar studies should be carried out preferably with larger study population and duration period of study to document the magnitude of problem.

1	Over the last week, how itchy, sore, painful or stinging has your skin been?
2	Over the last week, how embarrassed or self-conscious have you been because of your skin?
3	Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?
4	Over the last week, how much has your skin influenced the clothes you wear?
5	Over the last week, how much has your skin affected any social or leisure activities?
6	Over the last week, how much has your skin made it difficult for you to do any sport?
7	Over the last week, has your skin prevented you from working or studying? If "No", over the last week how much has your skin been a problem at work or studying?
8	Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?
9	Over the last week, how much has your skin caused any sexual difficulties?
10	Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?

Each question was scored: very much=3, a lot=2, a little=1, and not at all=0

Table: 1 Dermatology life quality index (questionnaire)

Variables		Acne	Eczema	Hirsutism	Alopecia	Fungal Infection	Vitiligo	Melasma	Psoriasis	Others
Age	16-25	95 (81.2%)	7 (20.6%)	7 (29.2%)	9 (47.4%)	27 (45.0%)	8 (53.3%)	11 (19.0%)	4 (23.5%)	12 (46.2%)
	26-35	18 (15.4%)	9 (26.5%)	14 (58.3%)	6 (31.6%)	12 (20.0%)	4 (26.7%)	35 (60.3%)	7 (41.2%)	9 (34.6%)
	>35	4 (3.4%)	18 (52.9%)	3 (12.5%)	4 (21.0%)	21 (35.0%)	3 (20.0%)	12(20.7%)	6 (35.3%)	5 (19.2%)
Gender	Male	52 (44.4%)	21 (61.8%)	0 (0.0%)	11 (57.9%)	32 (53.3%)	4 (26.7%)	11 (19.0%)	14 (82.4%)	10 (38.5%)
	Female	65 (55.6%)	13 (38.2%)	24 (100%)	8 (42.1%)	28 (46.7%)	11 (73.3%)	47 (81.0%)	3 (17.6%)	16 (61.5%)
Marital Status	Unmarried	101 (86.3%)	8 (23.5%)	6 (25.0%)	10 (52.6%)	30 (50.0%)	9 (60.0%)	18 (31.0%)	7 (41.2%)	15 (57.7%)
	Married	16 (13.7%)	26 (76.5%)	18 (75.0%)	9 (47.4%)	30 (50.0%)	6 (40.0%)	40 (69.0%)	10 (58.8%)	11 (42.3%)
Locality	Urban	112 (95.7%)	31 (91.2%)	22 (91.7%)	18 (94.7%)	51 (85.0%)	12 (80.0%)	53 (91.4%)	13 (76.5%)	23 (88.5%)
	Rural	5 (4.3%)	3 (8.8%)	2 (8.3%)	1 (5.3%)	9 (15.0%)	3 (20.0%)	5 (8.6%)	4 (23.5%)	3 (11.5%)

Table: 2 Demographic distribution of skin diseases

Skin disease	Effect on the patient's QOL					Total
	No effect	Small Effect	Moderate effect	Very large effect	Extremely large effect	
Acne	1 (0.85%)	13 (11.11%)	37 (31.62%)	62 (53.00%)	4 (3.42%)	117
Eczema	0 (0.00%)	0 (0.00%)	13 (38.24%)	18 (52.94%)	3 (8.82%)	34
Hirsutism	0 (0.00%)	0 (0.00%)	1 (4.17%)	12 (50.00%)	11 (45.83%)	24
Alopecia	0 (0.00%)	0 (0.00%)	9 (47.37%)	8 (42.10%)	2 (10.53%)	19
Fungal Infection	0 (0.00%)	4 (6.67%)	19 (31.67%)	37 (61.66%)	0 (0.00%)	60
Vitiligo	0 (0.00%)	0 (0.00%)	1 (6.67%)	9 (60.00%)	5 (33.33%)	15
Melasma	0 (0.00%)	3 (5.17%)	18 (31.03%)	30 (51.72%)	7 (12.07%)	58
Psoriasis	0 (0.00%)	0 (0.00%)	2 (11.76%)	3 (17.65%)	12 (70.59%)	17
Others	0 (0.00%)	8 (30.77%)	8 (30.77%)	9 (34.61%)	1 (3.85%)	26
Total	1 (0.27%)	28 (7.57%)	108 (29.19%)	188 (50.81%)	45 (12.16%)	370

Table: 3 Skin disease from which patient is suffering. Effect on the patient's QOL

Disease	Percentage
Acne	31.6
Eczema	9.2
Hirsutism	6.5
Alopecia	5.1
Fungal infection	16.2
Vitiligo	4.1
Melasma	15.7
Psoriasis	4.6
Others	7

Table 4: Spectrum of skin diseases

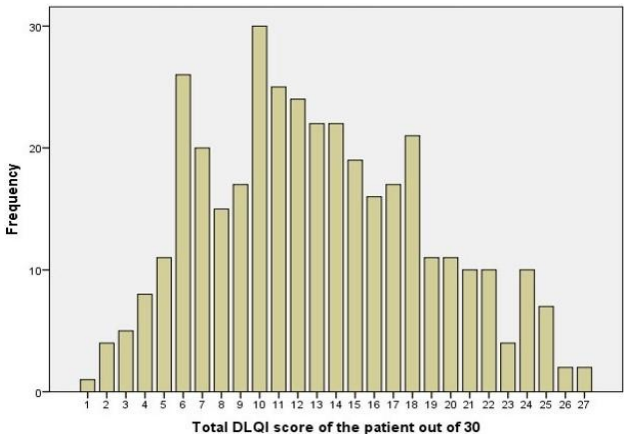

Figure 1: Histogram of QOL Scores

CONCLUSION

Skin diseases on exposed parts have a very large effect on patients' quality of life which may vary from mild to severe handicap. Impairment of QOL is greater in females and married individuals. The longer duration of disease leads to poor QOL. Different types of skin diseases affect the QOL to a different extent. There is marked negative impact on personality and interpersonal relationships in patients with skin diseases.

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