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Psychosocial Impact and Quality of Life among Adult Egyptian Patients with Psoriasis

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Abstract

Background: Psoriasis is common, chronic disease of the skin. The disease has psychosocial impact and associated with impairments in Quality of Life (QOL).

Aim of the study: It was to define the psychosocial impact of psoriasis and to determine QOL of the psoriasis patients.

Patients and methods: This study was conducted on 100 adult patients with psoriasis, attending Dermatology Clinic, Al-Hussein University Hospital and an equal number of normal adults as controls. An analytic, case-control, clinic based study design was selected to conduct this research. An interviewing form and Middle Sex Hospital Questionnaire were used to survey psychosocial impact of the disease and psychiatric symptoms. Dermatology life quality index was used to assess disease impact on the patients' QOL.

Results: The most common statistically significant impact was the interference with daily activities (59.0%). This was higher in patients with severe disease (96.2%) and with disease affected visible areas of the body (70.6%). The depression was the commonest psychiatric symptom (27.0%); 46.2% and 35.3% in patients with severe disease and with disease affected visible areas of the body, respectively. QOL was poor in 73.0% of the patients; the most common affected QOL mean domains scores were symptoms and feelings (15.8 ± 5.4), personal relationships (14.6 ± 5.2), and daily activities (14.4 ± 4.9). All QOL mean domain scores were statistically significantly higher in patients with disease affected visible areas of the body and with severe disease.

Conclusions and recommendations: Psoriasis has a great effect on the patients' QOL. It disrupting psychosocial aspects and interfering with symptoms and feelings, daily activities, etc. The highest mean domain was symptoms and feelings (15.8) and the lowest mean was treatment (13.6). It could be recommended that more researches should be carried out on big number of patients in Egypt and on different clinical types to understand the impact of this disease.

Keywords: Psoriasis; Adults; Impact; Psychosocial; Familial; Care; QOL

Introduction

There is a common misperception that skin diseases are somehow less serious than other medical illnesses. This can be attributed to the fact that skin disorders are often chronic but not life-threatening, so the perceived impact on the patient is more likely to be minimized in the minds of health professionals, policy makers, and the general public [1]. Itching and pain interfere with periods of rest and sleeping [2]. Further, there is a link between severe psoriasis and an increased risk of early death [3]. Although, much of the world's population finds psoriasis is a trivial matter requiring little understanding or sympathy [2].

In absence of the complete cure, aim of treatment is to minimize the extent and severity of disease and to reduce its impact on patients' quality of life (QOL) [4]. The strongest impact of psoriasis on patients' QOL is frequency of exacerbations [5]. Psoriasis treatment adds substantial costs to the health care system [6]. Moreover, psychological stress [7] and a vicious circle may ensue following deterioration of the disease [8].

The ability to assess the impact of skin disease on patient is important in order to understand and meet what patient really needs [9]. But, there is a controversy about the definition of QOL and whether it can be meaningfully assessed [10]. Reasons for why health related (HR) QOL measurement may be helpful include; clinical therapeutic and health service researches, research into psychological aspects of dermatology and patient behavior, political/resource allocation and informing clinical decisions [11].

It is evident that psoriasis can have a profound impact on the affected person's QOL, which extends beyond the physical symptoms experienced by the patient. Psoriasis, as well as the therapies necessary to control it, can influence many different spheres of a patient's life; including career, finances, work, leisure activities, emotions, personal relationships, fatigue, and physical intimacy. The subsequent effects on a patient's social and mental health can be dramatic [1,12-17]. Indeed, psoriasis does have a major impact on QOL, arising from both physical [14,16,18] and emotional [14,18] aspects of the disease. Also, the psychosocial effects of psoriasis are just as important as the physical effects in contributing to overall patient morbidity [1]. Moreover, patients may suffer from experiences of stigmatization, which related to psoriasis [19,20]. This of itself contributes to everyday disability leading to depression and suicidal ideation in >5.0% of patients [21].

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Psoriasis patients exhibited impairment in psoriasis-related QOL [22]. Large disease area extent is the strongest indicator for impaired QOL [23]. Psoriasis patient perceive themselves to have poorer health and an overall lower QOL than the general population [24]. They are also known to have a degree of morbidity, which is just as severe as that faced by patients with other chronic illnesses [1]. Its effect on QOL is comparable to other major dieases such as cancer, arthritis, hypertension, heart diseases [25], asthma, and diabetes [26].

Approximately half of psoriasis patients report strong feelings of anger, frustration, self-consciousness and embarrassment. Contributing to feelings of shame and isolation, psoriasis patient experienced social discrimination and humiliation as refusal of service, admittance to the gym, to the pool, etc [27]. Detecting and treating anxiety is an integral part of dermatological management, leading to better QOL and less use of resources. Management should include effective communication, information given, reassurance and behavioral therapy before prescribe anxiolytic drugs [11]. Depression is common in psoriasis patients especially the severe disease. Psoriasis, particularly if affected important body image areas as the face and hand, may produce a severe reactive depression. Also, affection of body image, self-esteem and confidence may cause secondary depression [11]. So, psoriasis patients are more likely to be depressed [28-31]. Moreover, depression with suicidal ideation is common in psoriasis patients [21,32]. Also, it is possible that having severe disease leads to poor life quality, which in turn leads to a degree of depression [11].

Aim of the Study

The aim of the present study is to determine the psychosocial impact of psoriasis on patients and their families and to define QOL of these patients.

Patients and Methods

Study design

An analytic, case-control, clinic-based study design was chosen to perform this research.

Administrative design

Required approvals to conduct the study in the hospital were obtained before starting the field work.

Study setting and patients

One hundred patients with current clinical diagnosis of psoriasis attending Dermatology Clinic, Al-Hussein University Hospital and an equal number of normal adults as controls (relatives to other patients attending the clinic and free from chronic diseases) were enrolled in this study. Both the psoriasis patients and controls were matched in age and gender; their ages were 20-64 year.

Study tools

i. A specially designed comprehensive interviewing form contains data relevant to the topic of study was used.

ii. Middle Sex Hospital Questionnaire was applied to all participants. The questionnaire was divided into subscales covering different psychiatric symptoms, which including anxiety and depression. Response to each item is scored 2, 1 or 0. A score of ≥ 9 in any subscale indicate the subject is suffering from psychiatric symptoms [33].

iii. Severity of psoriasis was determined by Body Surface Area (BSA) of the patient that could be covered by palm of his/her hand as in our previous study [34] according to Gelfand et al. [13] and Feldman et al. [35].

iv. Dermatology life quality index (DLQI) [36] was used in this study to assess the impact of psoriasis on patients' QOL. The aim of this questionnaire is to measure how much the skin problem has affected patient's life over the last week. We used a validated Arabic (Egyptian language) version of the DLQI (available at: http://sites.cardiff.ac.uk/dermatology/quality-of-life/dermatology-quality-of-life-index-dlqi/). The questionnaire is consisting of 10 questions, each one is answered either "very much" (score 3), "a lot" (score 2), "a little" (score 1) or "not at all" (score 0). A fifth choice "not relevant", included in some questions (3-10), is also scored as 0. The maximum DLQI score is 30 (indicating highest possible impairment of QOL) and the minimum is 0 (indicating lowest possible impairment of QOL). Then the ten items in the DLQI categorized into six domains, which relate to different aspects of a person's QOL; symptoms and feeling (questions 1 and 2), daily activities (questions 3 and 4), leisure (questions 5 and 6), work or school (question 7), personal relationship (questions 8 and 9) and treatment (question 10) [8].

Ethical consideration

The study was approved by Ethics Committee. The purpose of the study and procedures were explained to the patients and controls. Consents of both of them were given before starting the field work and confidentiality and security were guaranteed.

Statistical analysis

The mean ± standard deviation (SD) was used to represent quantitative data of DLQI. The Analysis of Variance (ANOVA) and t-students tests were used to find out the significance of difference between means. Frequency and percents were used to represent qualitative data, while chi-square (χ^2), Yates χ^2 and Fisher Exact (FE) tests were used to find out the significance of difference between groups. The significance level was adjusted at the P-value <0.05.

Results

As regard distribution of psoriasis patients and controls according to the psychosocial impact of disease (Table 1), we reported that 49.0% of the patients have psychiatric symptoms. In details, 27.0% and 22.0% of the patients have depression and anxiety, respectively. Regarding interference of psoriasis with patients' personal feelings, personal relationships, daily activities, school/work, and leisure and/or sport were 24.0%, 53.0%, 59.0%, 26.0%, and 39.0% of the patients, respectively. Meanwhile, stigma feeling and suicidal ideation were found in 43.0% and 11.0% of the patients, respectively. All previously mentioned figures differed statistically significant from controls' figures. Regarding familial impacts of psoriasis, the disease interfered with 14.0% of other family members' work. Also, stress was found in 26.0% of the patients' families. As regard family disturbances, 49.0% of the patients' families have disturbances. In details, 27.0% and 22.0% of the patients' families have social and economic disturbances, respectively. Previously mentioned figures differed statistically significant from controls' figures except for economic disturbance. Regarding source of medical care, 60.0% and 9.0% of the patients have outpatient clinic and emergency room (ER) care, respectively. As respect type of therapy, 92.0% and 8.0% of the patients used specific therapy, and specific and psychiatric therapy, respectively. Also, 20.0% of the patients have therapy adverse reaction. Lastly, 66.0% of the patients have no compliance with treatment. Previously mentioned figures differed statistically insignificant from controls' figures except that for ER visits, therapy adverse reaction, and no therapy compliance.

Table 1: Distribution of psoriasis patients and controls according to the patient and familial impact and medical care.

Patient and familial impact and medical care	Patients (n=100)		Controls (n=100)		Yates *χ^2	P-Value
	No.	%	No.	%		
Psychosocial impact on the patients						
Presence of psychiatric symptoms:						
Yes:	49	49.0	12	12.0	30.57	0.0000
Depressive symptoms	27	27.0	6	6.0	14.52	0.0001
Anxiety symptoms	22	22.0	6	6.0	9.34	0.002
Interference with personal feelings: Yes	24	24.0	9	9.0	7.11	0.0076
Interference with personal relationships: Yes	53	53.0	13	13.0	34.40	0.0000
Interference with daily activities: Yes	59	59.0	17	17.0	35.67	0.0000
Interference with school/work: Yes	26	26.0	11	11.0	6.50	0.0107
Interference with leisure/sport: Yes	39	39.0	11	11.0	19.44	0.0000
Presence of stigma feeling: Yes	43	43.0	6	6.0	35.03	0.0000
Suicidal ideation: Yes	11	11.0	2	2.0	5.27	0.0217
Familial impact						
Interfere with other family member's work: Yes	14	14.0	4	4.0	4.95	0.0261
Stress: Yes	26	26.0	8	8.0	10.24	0.0013
Family disturbances:						
Yes:	49	49.0	23	23.0	13.56	0.0002
Social	27	27.0	12	12.0	6.24	0.0124
Economic	22	22.0	11	11.0	3.63	0.0567
Medical care and therapy						
Source of medical care (mainly):						
Private	31	31.0	23	23.0		
Public:	69	69.0	77	77.0	1.24	0.264
Outpatient clinic	60	60.0	54	54.0	0.51	0.475
Emergency room	9	9.0	23	23.0	6.29	0.0121
Type of the therapy:						
Specific dermatologic only	92	92.0	97	97.0		
Specific dermatologic and sychiatric	8	8.0	3	3.0	1.54	0.2147
Therapy adverse reaction: Yes	20	20.0	6	6.0	7.47	0.006
Compliance with therapy: No	66	66.0	26	26.0	30.62	0.0000

**χ^2: Chi-square

As regard distribution of psoriasis patients' severity by patient and familial impact, and medical care and therapy (Table 2), 88.5% of the patients with severe disease have psychiatric symptoms. In details, 46.2% and 42.3% of the the have depression and anxiety, respectively. Also, the disease interfered with personal feelings, personal relationships, daily activities, school/work, and leisure and/or sport in 46.2%, 88.5%, 96.2%, 46.2%, and 61.5% of the patients with severe disease, respectively. Further, 61.5% and 26.9% of the patients with severe disease have stigma feeling and suicidal ideation, respectively. The differences between the three forms of the disease were statistically significant, except for suicidal ideation. Regarding familial impact of psoriasis, 23.1% of the patients with severe disease, the disease interfered with other family member's work. Also, 46.2% of the patients with severe disease, their families have stress. Further, 73.1% of the patients with severe disease their families have disturbances. In details, 34.6% and 38.5% of the patients have social and economic disturbances,

Table 2: Distribution of psoriasis patients' severity by the patient and familial impact and medical care.

Patient and familial impact and medical care	Psoriasis severity (n=100)						*χ^2	P-Value
	Mild (n=36=36.0%)		Moderate (n=38=38.0%)		Severe (n=26=26.0%)			
	No.	%	No.	%	No.	%		
Psychosocial impact on the patients								
Presence of psychiatric symptoms:								
Yes:	9	25.0	17	44.7	23	88.5	24.77	0.0000
Depression	5	13.9	10	26.3	12	46.2	7.98	0.018
Anxiety	4	11.1	7	18.4	11	42.3	9.02	0.011
Interfere with personal feelings: Yes	3	8.3	9	23.7	12	46.2	11.84	0.002
Interfere with personal relations: Yes	11	30.6	19	50.0	23	88.5	20.54	0.0000
Interfere with daily activeties: Yes	12	33.3	22	59.5	25	96.2	24.66	0.0000
Interfere with school/work: Yes	5	13.9	9	23.7	12	46.2	8.339	0.015
Interfere with leisure/sport: Yes	9	25.0	14	36.8	16	61.5	8.59	0.013
Presence of stigma feeling: Yes	11	30.6	16	42.1	16	61.5	5.93	0.051
Suicidal ideation: Yes	1	2.8	3	7.9	7	26.9	9.59	0.0008
Familial impact								
Interfere with other family member's work: Yes	3	8.3	5	13.2	6	23.1	2.76	0.251
Stress: Yes	5	13.9	9	23.7	12	46.2	8.33	0.015
Family disturbances:								
Yes:	12	33.3	18	47.4	19	73.1	9.60	0.0008
Social	8	22.2	10	26.3	9	34.6	1.19	0.551
Economic	4	11.1	8	21.1	10	38.5	6.61	0.036
Medical care and therapy								
Source of medical care:								
Private	9	25.0	14	36.8	8	30.8		
Public:	27	75.0	24	63.2	18	69.2	1.21	0.545
Outpatient clinic	25	69.4	19	50.0	15	57.7	2.91	0.232
Emergency room	2	5.6	5	13.2	3	11.5	1.28	0.527
Type of the therapy:								
Specific dermatologic only	34	94.4	35	92.1	21	80.8		
Specific dermatologic and psychiatric	2	5.6	3	7.9	5	19.2	3.43	0.179
Therapy adverse reaction: Yes	5	13.9	8	21.1	7	26.9	1.645	0.439
Therapy compliance: No	16	44.4	26	68.4	24	92.3	15.57	0.00004

*χ^2= Chi-square

respectively. Differences regarding familial impact between the three forms of disease were statistically significant, except for interference with other family member's work and social disturbance. As respect source of medical care, 30.8% and 69.2% of the patients with severe disease, have private and public sources of medical care respectively. In details, 57.7% and 11.5% of the patients have mainly outpatient clinic and ER care respectively. As regard type of therapy, 80.8% and 19.2% of the patients with severe disease have specific and psychiatric therapy respectively. Regarding therapy adverse reactions and therapy compliance, 26.9% and 92.3% of the patients with severe disease have adverse reactions and no therapy compliance. All differences regarding source of medical care between the three forms of psoriasis were statistically insignificant except for no therapy compliance.

Table 3: Distribution of psoriasis patients with disease affected-and not affected visible areas of the body according to the patient and familial impact and medical care.

Patient and familial impact and medical care	Psoriasis patients (n=100)				-Yates **χ^2 -***FE	P-Value
	Affected visible areas of body* (n=68)		Not affected visible areas of body* (n=32)			
	No.	%	No.	%		
Psychosocial impact on the patients						
Presence of psychiatric symptoms:						
Yes:	44	64.7	5	15.6	19.6	0.0000
Depression	24	35.3	3	9.4	6.16	0.0130
Anxiety	20	29.4	2	6.2	5.52	0.018
Interfere with personal feelings:						
Yes	21	30.9	3	9.4	4.40	0.0358
Interfere with personal relations:						
Yes	43	63.2	10	31.3	7.70	0.0055
Interfere with daily activeties:						
Yes	48	70.6	11	34.4	10.35	0.0012
Interfere with school/work:						
Yes	23	33.8	3	9.4	5.55	0.0184
Interfere with leisure/sport:						
Yes	34	50.0	5	15.6	9.41	0.0024
Presence of stigma feeling:						
Yes	36	52.9	7	21.9	7.35	0.0067
Suicidal ideation:						
Yes	9	13.2	2	6.3	FE***	0.3302
Familial impact						
Interfere with other family member's work:						
Yes	10	14.7	4	12.5	FE***	1.0000
Sstress:						
Yes	22	32.4	4	12.5	3.49	0.0619
Family disturbances:						
Yes:	34	50.0	15	46.9	0.01	0.9384
Social	21	30.9	6	18.8	1.07	0.3014
Economic	13	19.1	9	28.1	0.57	0.449
Medical care and therapy						
Source of medical care:						
Private	22	32.4	9	28.1		
Public:	46	67.6	23	71.9	0.04	0.845
Outpatient clinic	39	57.4	19	59.4	0.0	0.979
Emergency room	7	10.3	4	12.5	FE***	0.741
Type of the therapy:						
Specific dermatologic only	61	89.7	31	96.9		
Specific dermatologic and psychiatric	7	10.3	1	3.1	FE***	0.4304
Therapy adverse reaction:						
Yes	15	22.1	5	15.6	0.23	0.629
Therapy compliance:						
No	40	58.8	26	81.3	3.93	0.0474

*Visible areas of the body= Face, hand, arm, scalp, etc.
FE***= Fisher Exact. **χ^2= Chi-square.

As respect distribution of psoriasis patients with disease affected- and not affected visible areas of the body according to the patient and familial impacts and medical care (Table 3), 68.0% of the patients have disease affected visible areas of the body as face, scalp, hand, etc. Also, 64.7% and 15.6% of psoriasis patients with disease affected- and not affected visible areas of the body, respectively have psychiatric symptoms. In details, 35.3% and 9.4% of the patients, respectively have depression. Further, the disease have interfered with personal feelings, personal relationships, daily activities, school/work, and leisure and/or sport in the patients with disease affected (30.9%, 63.2%, 70.6%, 33.8%, and 50.0%) and not affected (9.4%, 31.3%, 34.4%, 9.4%, and 15.6%) visible areas of the body. Simultaneously, 52.9%, 21.9% of the patients have stigma feeling. We noticed statistically significant differences regarding previously mentioned variables. At the same time, 14.7% and 12.5% of the patients with disease affected- and not affected visible areas of the body, respectively have interfered with other families members' work. As respect source of medical care, 67.6% and 71.9% of the patients with disease affected- and not affected visible areas of the body, respectively their source of medical care is public sector. While, 32.4% and 28.1% of the patients their mainly source is the private sector. Lastly, 58.8% and 81.3% of the patients with disease affected- and not affected visible areas of the body have no therapy compliance with a statistically significant difference.

As regard distribution of psoriasis patients with disease affected- and not affected visible areas of the body and controls according to the psychosocial impact on patients (Table 4), we cleared that the differences between all items of the psychosocial impact on patients among the three studied groups were statistically significant. Meanwhile, the differences between all items of familial impacts among the three studied groups were statistically significant except that of economic disturbances. As respect source of medical care, the differences between all items of medical care among the three studied groups were statistically insignificant except that of therapy adverse reactions and economic disturbances.

As regard mean domain scores of DLQI among psoriasis patients (Table 5), we reported the disease have affected QOL among 73.0% of the patients. In details, the mean domain scores of symptoms and feelings, personal relationships, daily activities, work or school, leisure, and treatment are 15.8 ± 5.4, 14.6 ± 5.2, 14.4 ± 4.9, 14.1 ± 4.6, 13.9 ± 4.3, and 13.6 ± 4.1; respectively. So, the highest mean was symptoms and feelings (15.8 ± 5.4) and the lowest mean was treatment (13.6 ± 4.1). As respect mean domain scores of DLQI among psoriasis patients with disease affected- and not affected visible areas of the body (Table 6), they are 12.8 ± 4.3, 16.9 ± 5.7; 12.7 ± 4.2, 15.8 ± 5.4; 12.1 ± 4.1, 15.7 ± 5.2; 11.9 ± 3.8, 14.9 ± 4.8; 11.8 ± 3.7, 14.5 ± 4.6; and 11.6 ± 4.3, 14.4 ± 4.3; respectively with statistically significant differences. Regarding mean domain scores of DLQI among psoriasis patients according to disease severity (Table 7), 12.4 ± 3.9, 15.2 ± 5.2, 18.3 ± 6.1; 12.3 ± 3.7, 15.1 ± 5.1, 17.9 ± 5.8; 11.7 ± 4.3, 14.8 ± 4.6, 17.6 ± 5.7; 11.5 ± 3.6, 14.3 ± 4.4, 17.3 ± 5.4; 11.2 ± 3.6, 14.1 ± 4.3, 17.1 ± 5.2; and 10.9 ± 3.2, 13.2 ± 4.1, 16.8 ± 5.1; respectively with statistically significant differences.

Discussion

Psoriasis is a common, chronic disease of the skin [14,37]. The disease affects up to 3.0% of the population [38]. Psoriasis affects patients socially, emotionally, and professionally [32]. In this study we try to investigate psychosocial impact of the disease on Egyptian patients and disease impact on their QOL.

Table 4: Distribution of psoriasis patients (with disease affected-and not affected visible areas of the body) and controls according to the patient and familial impact and medical care.

Patient and familial impact and medical care	Psoriasis patients (n=100)				Controls (n=100)		**χ²	P-Value
	Affected visible areas of body* (n=68=68%)		Not affected visible areas of body* (n=32=32%)					
	No.	%	No.	%	No.	%		
Psychosocial impact on the patients								
Presence of psychiatric symptoms: Yes:	44	64.7	5	15.6	12	12.0	57.02	0.000
Depression	24	35.3	3	9.4	6	6.0	26.615	0.000
Anxiety	20	29.4	2	6.2	6	6.0	20.327	0.000003
Interfere with personal feelings: Yes	21	30.9	3	9.4	9	9.0	15.471	0.00004
Interfere with personal relations: Yes	43	63.2	10	31.3	13	13.0	46.25	0.0000
Interfere with daily activeties: Yes	48	70.6	11	34.4	17	17.0	49.54	0.0000
Interfere with school/work: Yes	23	33.8	3	9.4	11	11.0	16.08	0.00003
Interfere with leisure/sport: Yes	34	50.0	5	15.6	11	11.0	34.62	0.0000
Presence of stigma feeling: Yes	36	52.9	7	21.9	6	6.0	48.35	0.0000
Suicidal ideation: Yes	9	13.2	2	6.3	2	2.0	8.411	0.014
Familial impact								
Interfere with other family member's work: Yes	10	14.7	4	12.5	4	4.0	6.234	0.044
Stress: Yes	22	32.4	4	12.5	8	8.0	17.56	0.00001
Family disturbances: Yes:	34	50.0	15	46.9	23	23.0	14.76	0.00006
Social	21	30.9	6	18.8	12	12.0	9.2	0.01
Economic	13	19.1	9	28.1	11	11.0	5.67	0.058
Medical care and therapy								
Source of medical care: Private	22	32.4	9	28.1	23	23.0		
Public:	46	67.6	23	71.9	77	77.0	1.82	0.402
Outpatient clinic	39	57.4	19	59.4	54	54.0	0.361	0.834
Emergency room	7	10.3	4	12.5	23	23.0	5.178	0.07
Type of the therapy: Specific dermatologic only	61	89.7	31	96.9	97	97.0		
Specific dermatologic and psychiatric	7	10.3	1	3.1	3	3.0	4.55	0.102
Therapy adverse reaction: Yes	15	22.1	5	15.6	6	6.0	9.46	0.0008
Therapy compliance: No	40	58.8	26	81.3	26	26.0	36.61	0.0000

*Visible areas of the body= Face, hand, arm, scalp, etc. **χ²= Chi-square test

Table 5: Mean domain scores of dermatology life quality index (DLQI) among psoriasis patients

DLQI domains	Psoriasis patients (n=100) Total DLQI >0: 73.0%
	Mean ± SD
Symptoms and feelings	15.8 ± 5.4
Personal relationships	14.6 ± 5.2
Daily activities	14.4 ± 4.9
Work or school	14.1 ± 4.6
Leisure	13.9 ± 4.3
Treatment	13.6 ± 4.1

Table 6: Mean domain scores of dermatology life quality index (DLQI) among psoriasis patients with and without disease affected visible areas of body.

DLQI domains	Psoriasis patients (n=100)		**t-value	P-value
	Psoriasis not affected visible areas of body* (n=32)	Psoriasis affected visible areas of body (n=68)		
	Mean ± SD	Mean ± SD		
Symptoms and feelings	12.8 ± 4.3	16.9 ± 5.7	-3.991	0.000
Personal relationships	12.7 ± 4.2	15.8 ± 5.4	-3.131	0.0012
Daily activities	12.1 ± 4.1	15.7 ± 5.2	-3.747	0.0001
Work or school	11.9 ± 3.8	14.9 ± 4.8	-3.375	0.0005
Leisure	11.8 ± 3.7	14.5 ± 4.6	-3.141	0.0012
Treatment	11.6 ± 3.4	14.4 ± 4.3	-3.403	0.0005

*Visible areas of the body= Face, hand, arm, scalp, back of the neck, or foot.
**t= t-student test

Table 7: Mean domain scores of dermatology life quality index (DLQI) among psoriasis patients according to disease severity.

DLQI domains	Psoriasis patients' severity (n=100)			*ANOVA (F-value)	P- value
	Mild (n=36)	Moderate (n=38)	Severe (n=26)		
	Mean ± SD	Mean ± SD	Mean ± SD		
Symptoms and feelings	12.4 ± 3.9	15.2 ± 5.2	18.3 ± 6.1	10.397	0.000008
Personal relation-ships	12.3 ± 3.7	15.1 ± 5.1	17.9 ± 5.8	10.162	0.0001
Daily activities	11.7 ± 4.3	14.8 ± 4.6	17.6 ± 5.7	11.566	0.000003
Work or school	11.5 ± 3.6	14.3 ± 4.4	17.3 ± 5.4	13.052	0.000001
Leisure	11.2 ± 3.6	14.1 ± 4.3	17.1 ± 5.2	14.167	0.000
Treatment	10.9 ± 3.2	13.2 ± 4.1	16.8 ± 5.1	15.652	0.000

*ANOVA= Analysis of variance

Psoriasis causes a high level of emotional distress [39]. Reports have identified significant comorbidity between psoriasis and other life-threatening diseases as diabetes, hypertension, heart disease, depression, etc. Further, the associated diseases are more likely to occur in psoriasis patients than in general population [40]. We cleared 49.0% of our patients have psychiatric symptoms. This figure is close to NPF [27]; they reported 52.0% of their psoriasis patients clinically had significant psychiatric symptoms and are likely to receive a psychiatric diagnosis. The prevalence of any psychiatric disorder was 19.23% with the self-rated instrument and 45.19% with the clinician rated instrument [17]. In this study depression is the most common symptom (27.0%). Depressive disorders were the most common group of diagnoses [17]. Our result is in accordance with Choi and Koo [1], Griffiths and Richards [7], Cotterill and Finlay [11], De Korte et al. [12], Singh et al. [17], and Kimball et al. [40]. In the developing world people suffering from psoriasis are often ostracized because they are presumed to have AIDs, leprosy or syphilis, and this discrimination can cause severe psychological trauma [2]. So, psoriasis patients are more likely to be depressed [28-31,40]. Also, our result regarding anxiety is consistent with House and Stark [41]; they reported anxiety is more common in patients with chronic medical problems as psoriasis than in those without. Further, Choi and Koo [1] noticed a significant percent of their psoriasis patients had anxiety, depression and anger, not only during flares, but also during remission. Further, stress has an important role in onset and exacerbation of psoriasis [37]. Furthermore, 73.0% of the patients cleared they feel angry or frustrated with regard to their disease [32]. Also, Fried et al. [42] reported that about 50.0% of subjects were found to be anxious and depressed about having diagnosis of psoriasis. Regarding interference of psoriasis with patients' personal feelings, our result was in accordance with De Korte et al. [12]. Also, Wahl et al. [18] and Richards et al. [19] showed that psoriasis patients harbor feelings of shame, embarrassment and lack of confidence because of their illness. Also, 68.0% of the patients feel embarrassed with regard to their disease [32]. As respect psoriasis interfering with patients' personal relationships, psoriasis causes a high level of relationship disturbance [12,39]. Our result was in accordance with Gupta et al. [29] and De Korte et al. [12]. Further, Fried et al. [42] cleared that the patients suffered from social withdrawal. While, Ginsberg and Link [43] found that 19.0% of their patients had experienced instances of gross social rejection, so they tended to avoid inter-personal situation. As regard interference with daily activities, psoriasis causes a high level of physical impairment [12,39]. Our result is expected as a good bulk of patients suffered from social withdrawal and social rejection. Wahl et al. [44] stated that psoriasis patients experienced more problems with ordinary daily activities resulting from emotional problems such as depression and anxiety. As respect interference with school/work, psoriasis causes a high level of work interference [12,39]. Sixty percent of the patients were working, which is equal to the rate of employment of the general population. Further, of those who are not working, >25.0% reported that this was due wholly or in part to their psoriasis and/or psoriatic arthritis [32]. Also, Ginsberg and Link [43] showed that social rejection and feelings of stigmatization were strongly correlated with disturbed work in psoriasis patients. Also, Wahl et al. [44] cleared psoriasis patients experienced more problems with work resulting from emotional problems as depression and anxiety. Meanwhile, school absenteeism and delayed academic achievement often results because of psychological and emotional problems and seeking medical care. Further, 63.0% of the patients said disease impacts their overall emotional well-being [32]. As regard interference with leisure and/or sport, psoriasis causes a high level of disruption in play and leisure activities [12,39]. Further, 56.0% of the patients said psoriasis interferes with their capacity to enjoy life [32]. Moreover, Ginsberg and Link [43] stated social rejection and feelings of stigmatization in psoriasis patients tended them to avoid gym, swimming pool and public places. As regard stigma feeling, psoriasis patients feel stigmatized by the condition are well established [19]. Regarding suicidal ideation, studies have identified links between psoriasis and depression and suicidal ideation [32]. Further, depression with suicidal ideation is common (>5.0%) in psoriasis patients and this might be contributes to stigma feeling [21]. Also, Gupta et al. [29] found 9.7% prevalence of a death wish and 5.5% prevalence of active suicidal ideation in psoriasis patients. Further, the death wish and suicidal ideation were associated with higher depression scores and higher patient self-ratings of psoriasis severity. Moreover, a survey revealed that 10.0% of the patients being treated in UK dermatology units are so distressed by their condition that they consider suicide [45].

Patients with psoriasis are known to have a degree of morbidity, which is just as severe as that faced by patients with other chronic illnesses [1]. The effects of the disease are comparable to that of other major conditions as cancer, asthma, arthritis, heart diseases, and diabetes [25]. Further, psoriasis markedly worsens the global well-being of patients and their cohabitants, who experienced an impairment of their QOL and higher levels of anxiety and depression [46]. So, care of psoriasis is stressful [47]. Psoriasis can have major effects on disrupting family, and social life and relations. Also, the direct financial costs, time missed from work and lost wages are important [48]. The financial burden to the patient and family includes the cost of care, the time needed to care for psoriasis, interference with work, a decrease in QOL, and money matters [1]. Many studies suggested that ER is an inappropriate place to treat most chronic non-life-threatening conditions [49]. So, the use of ER for treatment of psoriasis is neither desirable nor optimal for the patient, hospital, or society. Also, we cleared 8.0% usage of psychiatric therapy for psoriasis. The low percent usage of psychiatric therapy for psoriasis despite the high prevalence (49.0%) of psychiatric symptoms in patients is an alarming point. Such a point is the product of a value system that assigns more importance to the physical sequelae of disease and tends to overlook the psychosocial aspects of the disease experience [1]. In case of psoriasis, physicians frequently underestimate the degree of psychological and social morbidity associated with it [50]. Psoriasis sufferers are cognizant of this and feel that people, including doctors, underestimate the overall impact the disease has on their lives [51]. Further, we noticed therapy adverse reaction in 21.0% of patients. This is expected as psoriasis associated with arthritis in 32.0% of these patients [34], and might be associated with physical and psychosocial impact and poor QOL. So, therapies necessary to control psoriasis can influence many different spheres of a patient's life [1,13-15]. Also, treatment may be associated with risk of adverse events [52]. Lastly, we observed 66.0% of patients had no compliance with treatment. Chronic disease patient may have been shown to exhibit poor treatment compliance and inadequate control of symptoms [47]. While 40% of patients were highly satisfied with the information and care from their dermatologist, available treatment options were less satisfactory, over 70% reporting only low to moderate satisfaction [53]. Also, depression is a well-known risk factor for non-compliance with treatment, depressed patient is 3 times more likely to be non-compliant than non-depressed one [54]. Also, impaired QOL has been shown to lead to poor treatment compliance [55].

Severity of psoriasis is a composite of physical and psychological factors [56]. We cleared 82.1% of the patients with severe disease have psychiatric symptoms. Significant higher proportion of patients achieving complete psoriasis clearance reported no effect on HRQOL compared to that not achieving complete psoriasis clearance [57]. Also, patients with severe psoriasis had higher rates of psychosocial disabilities [13,38]. Further, these patients experienced episodes where "people made a conscious effort not to touch them"; such episodes were correlated with higher rates of psychological morbidity [29]. The patients considered physical appearance of their skin to be the worst aspect of having psoriasis [58]. There tends to be a strong correlation between disease severity and the psychosocial impact of the disease [59]. So, these results are accepted as it is sure that having severe disease leads to poor life quality, which in turn leads to a degree of depression and a sense of giving up [11]. Also, patients with severe psoriasis had experienced instances of social rejection, so they tended to avoid inter-personal situation and to avoid gym, swimming pool, and public places.

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As a sequel work disturbance, also, occurs [43]. The severity of the disease appears to affect participation in the work force. Severe disease significantly cause work impairment [26]. Among patients with severe and very severe disease who are not working, 32% and 47%, respectively cleared this was due wholly or partly to their disease [32]. Also, school disturbance often results because of physician visits, poor sleep and sedation from medications, and distractions from physical discomfort. Further, 57.1% of the patients with severe disease had stigma feeling. Psoriasis patients harbor feelings of stigma because of their disease [18,19]; this feeling might be increase with increase disease severity. Also, 17.9% of the patients with severe disease had suicidal ideation. Suicidal ideation is common in patients with psoriasis [21]. Regarding familial impact of the disease, especially the severe form, it is possible that having more severe psoriasis may create economic obstacles for patients and their families. Alternatively, patients with fewer economic resources may have less access to treatment resulting in more disease [13,32,35]. Further, patients with severe psoriasis were not satisfied with treatment and seeking care from multiple physicians [13,38]. However, Kimball et al. [60] suggested social stigmatization, high stress levels, physical limitations, depression, employment problems, and other psychosocial co-morbidities experienced by patients with psoriasis are not always proportional to or predicted by measurements of disease severity such as BSA involvement or plaque severity.

We observed 68.0% of the patients have disease affected visible areas of the body as face and hand. Our result is higher than McKenna et al. [61] figure's (3.86%); this may be due to higher prevalence of risk factors in Egypt as stress, smoking, and exposure to sun [34]. Further, NPF [32] reported 65.0% of the patients cleared psoriasis makes their appearance unsightly, 54.0% showed psoriasis is disfiguring, and 41.0% stated they change their choice of clothing to conceal psoriasis. While, Altunay et al**.** [62] showed it seems that the visibility of psoriatic lesions and the cosmetic concerns in the patients do not result in a more severely impaired QOL in patients with mild disease. These patients tried touch avoidance; they were significantly more likely to have worse QOL (as measured by DLQI), and more likely to have depression [63]. Further, 64.7% and 15.6% of the patients with disease affected- and not affected visible areas of the body, respectively had psychiatric symptoms. This is logic as a patient with disease of the visible areas of the body (hands/face) may have greater psychiatric symptoms compared with a patient with disease of the same area on a less utilized area of the body. Indeed, it is the physical aspects of the disease that lead to the psychosocial difficulties encountered by the patient [1]. Again, patients considered physical appearance of their skin is the worst aspect of psoriasis [58], so, objective clinical severity is not always associated in a linear fashion with a patient's subjective distress as might be expected [64]. In details, 25.3% and 9.4% of patients with disease affected- and not affected visible areas of the body, respectively had depression. The patients with disease affected visible areas of the body experienced severe episodes, which correlated with higher rates of psychological morbidity [29]. Also, as the patients harbor feelings of shame, embarrassment, and lack of confidence because of their illness [19,18], these feelings might be increase in patients with disease affecting visible areas of the body. Further, the patients suffered from social withdrawal and had experienced instances of gross social rejection [42,43]. Moreover, social withdrawal and rejection and personal feelings are common in these patients and they experienced more problems with ordinary daily activities resulting from emotional problems and physical appearance of their skin [18,44,58]. Also, social rejection and feelings of stigmatization were correlated with disturbed work experience [43,44]. Further, delayed academic achievement often results because of school missed. Peers and teachers acceptance may be affected by the appearance of the patient and concerns about infectivity. Also, the patient's participation in sports may be limited. This result is expected and accepted as it is possible that having disease affecting visible areas of the body may leads to poor life quality, which in turn leads to a degree of depression and a sense of giving up [11]. Social rejection and feelings of stigmatization in the patients tended them to avoid gym, swimming pool and public places [43]. Further, as mentioned previously "patients with psoriasis feel stigmatized by the condition" [19]. Also, it has been shown that care of psoriasis is stressful [47]. Again, as mentioned before, psoriasis can have a major effect on disrupting family and social relations, finance and may disrupt family life [1,25]. These effects might be more common in patients with disease affecting visible areas of the body. These patients were more used of private care sector and this might be attributed, as they thought, to that they had a great problem and need more time, attention, and care. Further, ER is inappropriate to treat chronic diseases and the use of ER for treatment of psoriasis is neither desirable nor optimal [49]. Patients with disease affected visible areas of the body used psychiatric therapy 3 times more than patients with disease not affected visible areas of the body. So, therapies necessary to control psychiatric symptoms can influence many different spheres of a patient's life [1,14,15]. Also, treatment might be associated with adverse events [51].

Regarding the DLQI mean domain scores of psoriasis patients, 73.0% of them have poor QOL. The greatest impact was on activities of daily living, especially affecting clothing choice, bathing, and sporting activities. Overall, 77.0% of patients replied psoriasis was a problem or a significant problem [2]. Impairment in QOL was found to be predictive of any psychiatric disorder and depressive disorders [17]. Also, data reveal the deep impact of psoriasis on the emotional and social lives of the patients. It is clear that psoriasis has significant impact on QOL of them [32]. Psoriasis patients exhibited impairment in psoriasis-related QOL [65]. Further, severe psoriasis is associated with lower levels of QOL [12,32]. Patients with severe psoriasis were not satisfied with their treatment. So, these patients had poor QOL [13,38]. The most important factor related to QOL was extent of skin involvement with psoriasis [13,65]. A reported decrement in physical and mental functioning that is comparable to that reported by patients with arthritis [25]. Psychosocial aspects associated with psoriasis are extended. Psoriasis causes a high level of emotional distress, relationship disturbance, physical impairment, work interference and disruption in play and leisure activities. So, it has greatest effects on the patient's QOL [15,16,39]. Also, we showed that symptoms and feelings have the highest (15.8 ± 5.4) mean score on the patients' QOL domains. Our result was consistent with Katugampola et al. [8]**,** Rapp et al. [25]**,** Ramsey and O'Regan [58]**,** and Koo [59]. As respect personal relationships, it has the second highest (14.6 ± 5.2) mean score. Also, daily activities come after with a mean score of 14.4 ± 4.9. These results were in accordance with Rapp and Feldman [39].

Conclusions and Recommendations

Psoriasis is an important skin disease. The psychosocial impact of psoriasis on the patients and their families is important. The psychosocial items interact and influence one another in reciprocal ways to create an overall clinical picture. Also, psoriasis has a great effect on the patients' QOL; disrupting psychosocial aspects and interfering with symptoms and feelings, personal relationships, daily activities, school/work, etc. The highest symptoms and feelings mean domain was symptoms and feelings (15.8 ± 5.4) and the lowest mean was treatment (13.6 ± 4.1). So, it could be recommended that more researches should be carried out on big number of patients in different areas in Egypt, on different clinical types to understand the impact of the disease, and different epidemiological variables should be considered.

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