Egyptian Dermatology Online Journal
Volume 10 Number 1

Impact of Some Common Chronic Dermatoses on Quality of Life of Egyptian patients in Delta Region

Iman Hamed El-Maadawy*, Amal Ahmad El-Ashmawy*, Abeer Abdel- Hakam Hodeib*and Gamal Ibrahim Shama** and Ghada Abd El-Baky El-Dosoky*

Egyptian Dermatology Online Journal 10 (1): 2, June 2014

* Dermatology and Venereology Department, Faculty of Medicine, Tanta University, Ministry of Health, Egypt.

** Psychiatry and Neurology Department, Faculty of Medicine, Tanta University, Ministry of Health, Egypt.

Corresponding Author: Dr. Amal A. El-Ashmawy
e-mail: Elashmawy2013@yahoo.com

Abstract

Background: Skin is the most visible organ which determines to a great extent our appearance and plays a major function in social communication and sexual attractiveness. Thus, the skin condition may have a considerable impact on the patient's well being. Regardless of the psychiatric morbidity, skin diseases can greatly affect the patient's quality of life (QOL). Thus, patient oriented QOL measures are particularly beneficial in chronic diseases as they assess how the diseases affect a person socially, psychologically and physically.

Objectives: The aim of this work was to determine the impact of some chronic dermatoses (acne vulgaris, psoriasis (Ps) and vitiligo) on QOL among the patients in the Delta region.

Patients and Methods: The current study comprised 120 patients who were classified into three groups; each group contained 40 patients, (group I acne vulgaris), (group II Ps) and (group III vitiligo). All these patients were subjected to: combined dermatological and psychological questionnaires to assess the QOL.

Results: ***(Group I)***: As regard Cardiff Acne Disability Index (CADI) score; the social relationships and psychological states problems showed statistically significant difference compared with the subjective assessment of the current acne severity. ***(Group II)***: As regard Psoriasis Disability Index (PDI) score; the psychological, daily activities and social relationships problems showed statistically significant difference compared with physical and work or school problems. ***(Group III):*** As regard Vitiligo Disability Index (VDI) score; the daily activities and social relationships problems showed statistically significant difference compared with feeling and symptoms, personal relationships and financial problems. In the current study, we found that the acne vulgaris as a disease has the worst QOL .

Conclusion: The dermatologists should understand the profound effect of these diseases on the QOL and should know the psychosocial and psychiatric consequences of the diseases.

Introduction

Acne vulgaris is the most common dermatological condition encountered in adolescents. It is a chronic inflammatory disorder of pilosebaceous unit . It commonly affects young people during the time when they are undergoing maximum social, physical and psychological changes. [1]. Acne is neither a life-threatening nor systemic disease, yet its associated morbidity can be devastating. [2,3]. It is typically present on facial skin, which is ready apparent to others[4]. Patients with acne frequently suffer from anxiety, depression, anger, problems in self confidence and family relationships[5,6] so acne have a great effect on the QOL of acne patients.

Psoriasis (Ps) is one of the most prevalent autoimmune skin diseases. Although the initial cause of Ps remains unclear, both environmental triggers and genetic predisposition play essential roles in the development of Ps. [7] In Ps, there are major psychological effects [8,9], and the stress associated with Ps seems to be related to the way in which the sufferer anticipates that others will react to their disease. [10] Severe Ps affects the ability of individuals to work or study; it affects sporting activities, especially where the skin is visible, as well as personal and sexual relationships [11],[12].

Vitiligo is usually not harmful medically, its emotional and psychological effects can be devastating. Regardless of a person's race and culture, white patches of vitiligo can affect emotional and psychological well-being and self-esteem, particularly if the condition develops on visible areas of the body[13]. Some people who have vitiligo feel embarrassed, ashamed, depressed, or worried about how others will react[14],[15]. A combined dermatological and psychological questionnaires will be used to assess the effect of acne, vitiligo, Ps on the QOL by focusing on aspects of functioning that are most affected by the disease and tend to be of greatest importance to patients

Aim of this work

The aim of this work was to determine the impact of some chronic dermatoses on quality of life among the patients in the Delta region.

Patients and Methods

Patients:

The current study comprised 120 patients who were selected from the Outpatients' Clinic of Dermatology and Venereology Department, Tanta University Hospitals from January 2011 to January 2012 after obtaining the approval of Research Ethics Committee of the hospital (code No:670/05/12) and informed written consent was obtained from each participant. The patients were classified into three groups; each group included 40 patients of different clinical varieties of acne vulgaris, Ps and vitiligo.

Inclusion criteria:

Both males and females and all age groups were included in this study, except in acne vulgaris group (middle adolescence, from age 14 to 16 years and late adolescence, from age 17 to 21 years old). Children were cooperative or with cooperation of their parents.

Exclusion criteria:

Patients who refused to sign the informed consent, any associated other skin or systemic diseases or history of psychiatric disorder, convulsion or head trauma.

Methods:

All the patients were subjected to complete history taking including age, gender, family history and occupation, thorough general examination and detailed dermatologic examination.

- Every patient was subjected to clinical score to evaluate the severity of the disease.

Group I :Acne severity in patients of the present study was classified as mild, moderate, or severe according to Hayashi grading, in 2008.[16]

Group II :Ps patients were classified as mild, moderate, or severe with the Ps area and severity index (PASI).[17], [18]

Group III :Vitiligo is classified as mild, moderate, or severe according to vitiligo area severity index (VASI). [19]

- All the patients were subjected to combined dermatological and psychological questionnaires to assess the QOL

Cardiff acne disability index: [20]

The patients in group I were subjected to the CADI which is a five-question scale designed to assess the disability caused by acne-question one or two address the psychological and social consequences of acne in general, question three targets to those with acne of the chest or back, question four enquires into the patient's psychological states and question five asks for patient's (subjective) assessment of current acne severity. The response to each question is scored from 1 to 4, the higher the score is, the greater the disability. **(Table 1)**

	Response
1.Did you feel aggressive or depressed because of your acne vulgaris?	Very much/ A lot/ A little/ Not at all.
2.Did you think that your acne interfere with your social life or your relationships with the other sex?	Very much/ A lot/ A little/ Not at all.
3. Did you avoid communal bathing or wearing swimming clothes because of your acne?	All the time/ Most of the time/ Other while/ Not at all.
4.How do feel about your affected skin?	Very depressed/ Usually interested/ Interested other while / I don't care.
5. Please, what do you think about your acne?	The worst thing/ The main problem / Simple problem / Not a problem.

Table 1: Cardiff acne disability index

Psoriasis disability index: [11]

The patients in group II were subjected to Ps disability index (PDI) designed by Finaly and Coles., 1995 [11], it is validated questionnaire covering six dimensions (symptoms and feelings, daily activities, leisure, work and school, personal relationships and treatment) that assess the overall impact of skin disorders and current treatments on the patient's functioning and well being. Each question has four possible responses, with lower scores representing a better QOL.

The PDI questionnaire was designed for use in adults, or with cooperation of parents in case of children. It is self-explanatory and can be handed over to the patient who is asked to fill it in without the need for a detailed explanation. It is usually completed in 3 or 4 min. The PDI is calculated by adding the score of each of the 15 questions, resulting in a maximum of 60 and a minimum of zero. The higher the score, the more the QOL is impaired. **(Table 2)**

Questions	**Response**
Symptoms and feelings	
1.How much has your Ps interfered with your carrying out work around the house or garden?	Very much/ A lot/ A little/ Not at all.
2.How often have you worn different types or colors of clothes because of your Ps?	Very much/ A lot/ A little/ Not at all.
3.How much more have you had to change or wash your clothes?	Very much/ A lot/ A little/ Not at all
4. How much of a problem has your Ps been at the hairdressers?	Very much/ A lot/ A little/ Not at all
5.How much has your Ps resulted in you having to take more baths than usual?	Very much/ A lot/ A little/ Not at all
6.How much has your Ps resulted in you having to take more baths than usual?	Very much/ A lot/ A little/ Not at all
Work or school if appropriate	
1.How much has your Ps made you lose time off work or school ?	Very much/ A lot/ A little/ Not at all
2.How much has your Ps prevented you from doing things at work or school?	Very much/ A lot/ A little/ Not at all
3.Has your career been affected by your Ps? e.g. promotion refused, lost a job, asked to change a job	Very much/ A lot/ A little/ Not at all
If not at work or school	
1.How much has your Ps stopped you carrying out your normal daily activities over the last four weeks?	Very much/ A lot/ A little/ Not at all
2.How much has your Ps altered the way in which you carry out your normal daily activities over the last four weeks?	Very much/ A lot/ A little/ Not at all

Personal relationships	
1.Has your Ps resulted in sexual difficulties?	Very much/ A lot/ A little/ Not at all
2. Has your Ps created problems with your partner or any of your close friends or relatives?	Very much/ A lot/ A little/ Not at all
3.How much has your Ps stopped you going out socially or to any special functions?	Very much/ A lot/ A little/ Not at all
4.Is your Ps making it difficult for you to do any sport?	Very much/ A lot/ A little/ Not at all
5.Have you been unable to use, criticized or stopped from using communal bathing or changing facilities?	Very much/ A lot/ A little/ Not at all
6.Has your Ps increase your smoking or drinking alcohol more than you would do normally?	Very much/ A lot/ A little/ Not at all
7.To what extent has your Ps or treatment made your home messy or untidy?	Very much/ A lot/ A little/ Not at all

Table 2:Psoriasis disability index

Vitiligo disability index: [21]

The patients in group III were subjected to Vitiligo disability index (VDI) developed under supervision of the authors .The questions were classified to 6 heading items: symptoms and feelings (question 1 and 2), daily activities (question 3 and 4), leisure (question 5 and 6), personal relationships (question 7 and 8), and treatment (question 9). Each question has four possible responses, with lower scores representing better QOL. The VDI questionnaire was designed for use in adults, or with cooperation of parents in case of children. It is self-explanatory and can be handed over to the patient who is asked to fill it in without the need for a detailed explanation. It is usually completed in 3 or 4 minutes. The VDI calculated by adding the score of each of the 9 questions, resulting in a maximum of 36 and a minimum of zero. The higher the score, the more the QOL is impaired. **(Table 3)**

1.Did you feel aggressive or depressed because of your vitiligo?	Very much/ A lot/ A little/ Not at all.
2.How do you feel about your affected skin?	Very depressed/ Usually interested/ Interested other while /I don't care.
3. How much your vitiligo prevented you from work or school?	Very much/ A lot/ A little/ Not at all.
4.How much has your vitiligo stopped you carrying out your normal daily activities?	Very much/ A lot/ A little/ Not at all.
5.How much has your vitiligo stopped you going out socially or to do any special functions?	Very much/ A lot/ A little/ Not at all.
6. Is your vitiligo making it difficult for you to do any sports?	Very much/ A lot/ A little/ Not at all.
7. Has your vitiligo resulted in sexual difficulties or difficulty in engagement?	Very much/ A lot/ A little/ Not at all.
8.Has your vitiligo created problems with your partner or any of your closed people?	Very much/ A lot/ A little/ Not at all.
9.How many your cessions of the disease and its psychological affects?	Very much/ A lot/ A little/ Not at all.

Table 3:Vitiligo disability index

As we live in Egypt and most of the patients don't know any other language except Arabic so that we use the Arabic translation of all Questionnaires under supervision of the authors.

Statistical analysis:

All data obtained were transferred to the statistical package for the social sciences version 15 (IBM Co., New York, USA) for analysis. Data were summarized using mean , standard deviation (mean± SD) using student's -t test .Comparison between groups were made by using X2 - test and Fisher exact test for quantitative variables Statistical significance was determined at a level of $p \leq 0.05$ and highly significance at a level of $p \leq 0.001$.

Results

Results of acne vulgaris patients (Group I):

The studied acne vulgaris patients included 14(35%) males and 26 (65%) females. Their ages ranged from 16 to 35 years with a mean ±SD of (20.55±4.11) years . As regard severity the acne vulgaris patients according to Hayashi grading, included 10 (25%) mild cases, 18 (45%) moderate cases and 12 (30%) severe cases with statistically non significant difference between acne vulgaris patients. As regard QOL total score the acne vulgaris patients included 8(20%) good QOL, 16 (40%) average QOL and 16 (40%) poor QOL with statistically non significant difference between acne vulgaris patients **(Table 4)**. As regard CADI score; the social relationships and psychological states problems showed statistically significant difference ($p<0.012$, 0.018 respectively) compared with subjective assessment of current acne severity **(Table 5)**. Regarding the relationship between CADI score and gender in acne vulgaris group; the female patients ranged from 10.0 to 19.0 with a mean ±SD of (14.769±2.682), the male patients ranged from 6.0 to 12.0 with a mean ±SD of (9.571±2.225) with statistically highly significant difference ($p<0.001$) **(Figure 1)**. Regarding the relationship between CADI score and severity of acne vulgaris group; the mild cases ranged from 8.00 to 14.00 with a mean ±SD of

(11.200±2.775), the moderate cases ranged from 9.00 to 18.00 with a mean ± SD of (11.444 ±2.963) and severe cases ranged from 6.00 to19.00 with a mean ± SD of (14.167±4.446) with statistically highly significant difference ($p<0.001$) **(Figure 1)**. Regarding the relationship between CADI score and age in acne vulgaris group; the good QOL patients ranged from 22.0 to 24.0 with a mean ±SD of (22.750±0.957), average QOL patients ranged from 16.0 to 35.0 with a mean ± SD of (20.250±6.135) and poor QOL ranged from 17.00 to 23.00 with a mean ± SD of (19.500± 1.927). There was no statistically significant difference **(Figure 2)**.

Acne vulgaris		N	%	Chi-square	
				X^2	P-value
Gender	Female	26	65	1.8	0.18
	Male	14	35		
Age/years	Range	16-35			
	Mean ± SD	20.45±4.11			
Severity (Hayashi score)	Mild	10	25	1.3	0.522
	Moderate	18	45		
	Severe	12	30		
QOL total score	Good	8	20	1.6	0.449
	Average	16	40		
	Poor	16	40		

Table 4: Distribution of acne vulgaris patients according to gender, age, severity and quality of life total score.

Items		Acne vulgaris					Chi-square	
		Not at all	A little	A lot	Very much	Total	X^2	P-value
Psychological states	N	4	18	12	6	40	6	0.112
Did you feel aggressive or depressed because of your acne vulgaris	%	10	45	30	15	100		
Social relationships	N	2	8	8	22	40	10.8	0.012*
Did you think that your acne interfere with your social life or your relation ships with the other gender	%	5	20	20	55	100		
Social relationships	N	12	8	16	4	40	4	0.261
Did you avoid communal bathing or wearing swimming clothes because of your acne	%	30	20	40	10	100		
Psychological states	N	2	4	16	18	40	10	0.018*
How do feel about your affected skin	%	5	10	40	45	100		
Subjective assessment of current acne severity	N	4	18	12	6	20	4	0.261
	%	10	45	30	15	100		

***P significant ≤ 0.05**

Table 5: Specific response of Cardiff acne disability index.

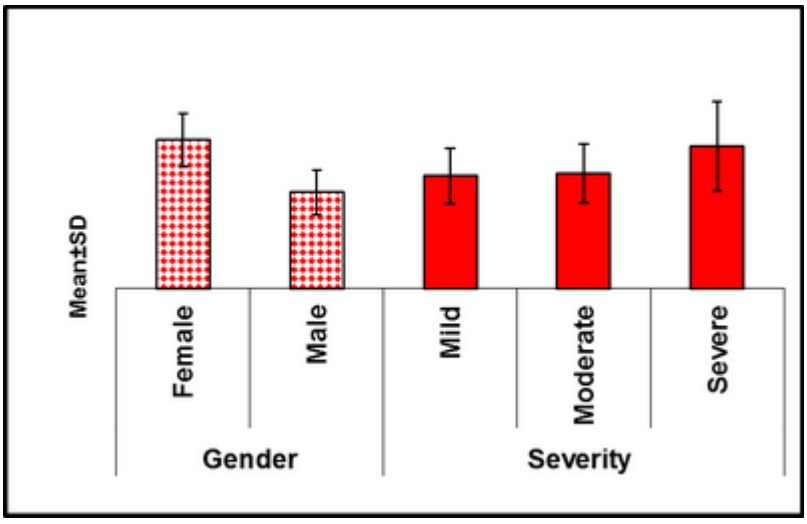

Fig 1: Relation between Cardiff acne disability index score with gender and severity [P-value<0.001* and <0.001* respectively]

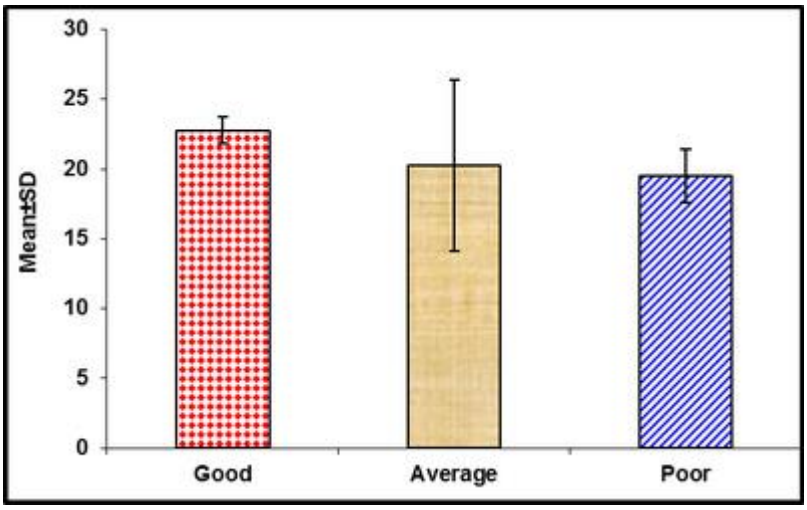

Fig 2: Relation between Cardiff acne disability index score and age [P-value 0.451]

Results of psoriasis patients (Group II):

The studied Ps patients included 12(30%) males and 28(70%) females. Their age ranged from 12 to 57 years with a mean ± SD of (30.50 ±11.36) years . As regard severity the Ps patients according to PASI score; included 8 (20%) mild cases, 22 (55%) moderate cases and 10 (25%) severe cases with statistically non significant difference between Ps patients . As regard QOL total score; the Ps patients included 6 (15%) good QOL, 28 (70%) average QOL and 6 (15%) poor QOL with statistically significant difference between Ps patients ($p<0.002$) **(Table 6)**.As regard PDI score; the psychological, daily activities and social relationships problems showed statistically significant difference compared with physical and work or school problems ($p<0.019$, 0.027, 0.001, 0.007 respectively) **(Table 7)**. Regarding the relationship between PDI score and gender in Ps group; the female patients ranged from 27.0 to 53.0 with a mean ± SD of (35.500 ± 6.970), the male patients ranged from 32.0 to 43.0 with a mean ± SD of (37.000 ± 3.795) with statistically non significant difference **(Figure 3)**. Regarding the relationship between PDI score and severity of Ps group; the mild case ranged from 28.00 to 40.00 with a mean ± SD of (30.750±2.315), the moderate case ranged from 27.0 to 39.00 with a mean ± SD of (31.727±4.052) and severe case ranged from 32.0 to 53.0 with a mean ±SD of (41.00±8.396) with statistically highly significant difference ($p<0.001$) **(Figure 3)** . Regarding the relationship between PDI score and age in Ps group; the good QOL patients ranged from 21.0 to 57.0 with a mean ± SD of (35.333±19.088), average QOL patients ranged from 15.0 to 48.0 with a mean ± SD of (29.786±9.862) and poor QOL ranged from 12.0 to 37.0 with a mean ± SD of (27.00±13.229) with statistically no significant difference (P-value 0.672) **(Figure 4)**.

Psoriasis		N	%	Chi-square	
				X^2	P-value
Gender	Female	28	70	4.3	0.116
	Male	12	30		
Age/ years	Range	21155			
	Mean ± SD	30.20±11.36			
Severity(PASI score)	Mild	8	20	3.2	0.074
	Moderate	22	55		
	Severe	10	25		
QOL total score	Good	6	15	12.1	0.002*
	Average	28	70		
	Poor	6	15		

***P significant< 0.005**

Table 6: Distribution of psoriasis group according to gender, age, severity and quality of life total score.

Items		Psoriasis					Chi-square	
		Not at all	A little	A lot	Very much	Total	X^2	P-value
Physical problems	N	14	12	14	0	40	0.1	0.951
	%	35	30	35	0	100		
Psychological problems How often have you worn different types or colors of clothes because of your psoriasis	N	14	14	10	2	40	4.8	0.187
	%	35	35	25	5	100		
Psychological problems How much more have you had to change or wash your clothes	N	6	4	22	8	40	10	0.019*
	%	15	10	55	20	100		
Psychological problems How much of a problem has your psoriasis been at the hairdressers	N	20	12	6	2	40	9.2	0.027*
	%	50	30	15	5	100		
Psychological problems How much has your psoriasis resulted in you having to take more baths than usual	N	0	0	22	18	40	0.2	0.655
	%	0	0	55	45	100		
Work or school problems How much has your psoriasis made you lose time off work or school over the last four weeks	N	12	14	10	4	40	2.8	0.423
	%	30	35	25	10	100		
Work or school problems How much has your psoriasis prevented you from doing things at work or school over the last four weeks	N	14	16	6	4	40	5.2	0.158
	%	35	40	15	10	100		
Daily activities problems How much has your psoriasis stopped you carrying out your normal daily activities over the last four weeks	N	34	4	0	2	40	24.1	<0.001*
	%	85	10	0	5	100		

Items		Psoriasis					Chi-square	
		Not at all	A little	A lot	Very much	Total	X^2	P-value
Daily activities problems	N	32	0	8	0	40	7.2	0.007*
How much has your psoriasis altered the way in which you carry out your normal daily activities	%	80	0	20	0	100		
Daily activities problems	N	0	2	6	32	40	19.9	<0.001*
Has your career been affected by your psoriasis?	%	0	5	15	80	100		
Personal relationships problems	N	14	10	10	6	40	1.6	0.659
Has your psoriasis resulted in sexual difficulties over the last four weeks	%	35	25	25	15	100		
Personal relationships problems	N	10	12	14	4	40	2.8	0.423
Has your psoriasis created problems with your partner or any of your close friends or relatives	%	25	30	35	10	100		
Social relationships problems	N	12	18	10	0	40	1.3	0.522
How much has your psoriasis stopped you going out socially or to any special functions	%	30	45	25	0	100		
Social relationships problems	N	16	16	8	0	40	1.6	0.449
Is your psoriasis making it difficult for you to do any sport	%	40	40	20	0	100		
Social relationships problems	N	34	6	0	0	40	9.8	0.002*
Have you been unable to use, criticized or stopped from using communal bathing or changing facilities	%	85	15	0	0	100		
Social relationships problems	N	20	4	6	10	40	7.6	0.055
Has your psoriasis resulted in you smoking or drinking alcohol more than you would do normally	%	50	10	15	25	100		
Social relationships problems	N	18	12	8	2	40	6.8	0.079
To what extent has your psoriasis or treatment made your home messy or untidy	%	45	30	20	5	100		

***P significant≤ 0.05 P highly significant≤0.001**

Table 7:Specific response to psoriasis disability index.

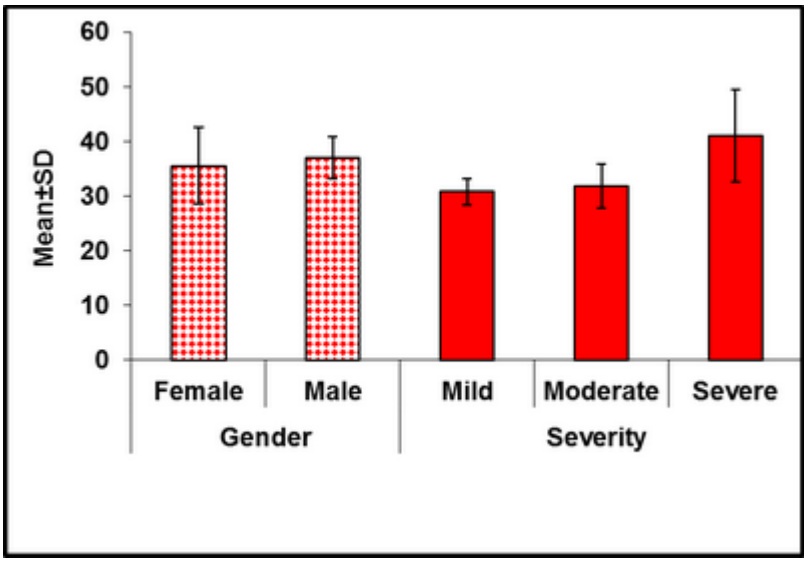

Fig 3: Relation between psoriasis disability index score with gender and severity [P-value 0.629 and<0.001 respectively]

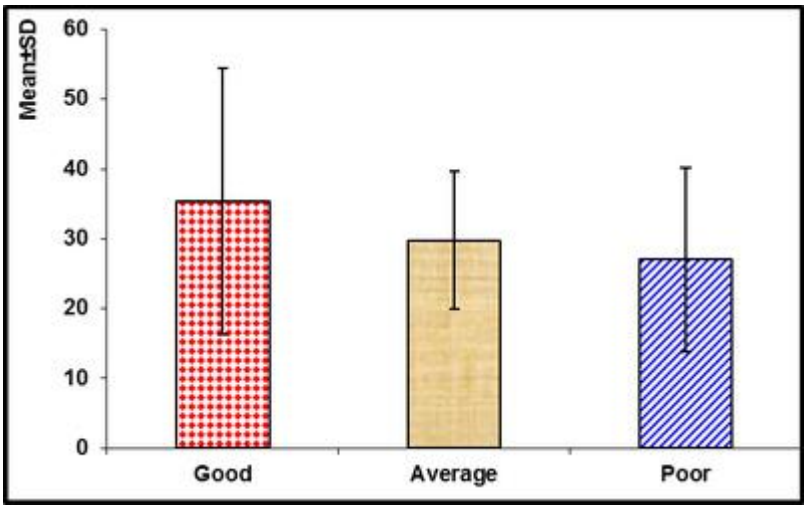

Fig 4: Relation between psoriasis disability index score and age [P-value 0.672]

Results of vitiligo patients (Group III):

The studied vitiligo patients included 12(30%) males and 28(70%) females. Their age ranged from 7 to 67 years with a mean ± SD of (21.65 ±15.43) years . As regard severity the vitiligo patients according to VASI score; included 24 (60%) mild cases and 16 (40%) severe cases with non statistically significant difference between vitiligo patients .As regard QOL total score; the vitiligo patients included 20(50%) good QOL, 8 (20%) average QOL and 12 (30%) poor QOL with no statistically significant difference between vitiligo patients . As regard the site of the vitiligo; the patients were classified in to 30 (75%) patients had the disease on the exposed area and 10 (25%)

patients had the disease on the covered area with statistically significant difference between the vitiligo patients (p< 0.002) **(Table 8)**.As regard VDI score; the daily activities and social relationships problems showed statistically significant difference (p<0.001, 0.011, 0.047, 0.002 respectively) compared with feeling and symptoms, personal relationships and financial problems. **(Table 9)**.Regarding the relationship between VDI score and gender in vitiligo group; the female patients ranged from10.0 to 30.0 with a mean ± SD of (21.429±7.920); the male patients ranged from11.0 to 25.0 with a mean ±SD of (16.500±5.244) with non statistically significant difference **(Figure 5)**.Regarding the relationship between VDI score and severity of vitiligo group; the mild case ranged from 12.0 to 30.0 with a mean ± SD of (18.67±6.92) and severe case ranged from 10.0 to 30.6 with a mean ± SD of (27.88±2.22) with statistically significant difference (p<0.038) **(Figure 5)**. Regarding the relationship between VDI score and age in vitiligo group; the good QOL patients ranged from 7.00 to 67.00 with a mean ± SD of (21.900±20.973), average QOL patients ranged from 7.00 to 23.00 with a mean ±SD of (15.750± 6.602) and poor QOL ranged from 19.00 to 34.00 with a mean ± SD of (25.167 ±6.676) with no statistically significant difference **(Figure 6)**. Regarding the relationship between VDI score and the site of the disease in vitiligo group; the patients with vitiligo in exposed area was classified to 2 (5%) good QOL, 6 (15%) average QOL and 22 (55%) poor QOL and the patients with vitiligo in covered area was classified to 6(15%) good QOL, 2 (5%) average QOL and 2(5%) poor QOL with statistically significant difference (p <0.028) **(Figure 7)**.

Vitiligo		**N**	**%**	**Chi-square**	
				X^2	**P-value**
Gender	Female	28	70	**6.4**	**0.011***
	Male	12	30		
Age/ years	Range	24654			
	Mean ± SD	21.65±15.43			
Severity	Mild	24	60	**0.8**	**0.371**
(VASI score)	Severe	16	40		
QOL	Good	20	50	**2.8**	**0.247**
total score	Average	8	20		
	Poor	12	30		
Site	Exposed	30	75	**10**	**0.002***
	Covered are	10	25		

***P significant ≤ 0.05**

Table 8: Distribution of vitiligo group according to gender, age, severity, quality of life total score and the site of vitiligo.

Item		Vitiligo					Chi-Square	
		Not at all	A little	A lot	Very much	Total	X^2	P-value
Feeling and symptom problems Did you feel aggressive or depressed because of your vitiligo?	N	6	14	8	12	40	2	0.572
	%	15	35	20	30	100		
Feeling and symptom problems How do feel about your affected skin?	N	4	12	12	12	40	2.4	0.494
	%	10	30	30	30	100		
Daily activity problems How much has your vitiligo prevented you from work or school?	N	24	2	12	2	40	16.4	<0.001*
	%	60	5	30	5	100		
Daily activity problems How much has your vitiligo stopped you carrying out your normal daily activities?	N	24	2	14	0	40	9.1	0.011*
	%	60	5	35	0	100		
Social relationship problems How much has your vitiligo stopped you going out socially or to any special functions?	N	22	4	14	0	40	6.1	0.047*
	%	55	10	35	0	100		
Social relationship problems Is your vitiligo making it difficult for you to do your sport?	N	34	6	0	0	40	9.8	0.002*
	%	85	15	0	0	100		
Personal relationship problems Has your vitiligo resulted in sexual difficulties , difficulty in engagement?	N	18	4	6	12	40	6	0.112
	%	45	10	15	30	100		
Personal relationship problems Has your vitiligo created problems with your partner or any of your closed friends?	N	10	6	12	12	40	1.2	0.753
	%	25	15	30	30	100		
Financial problems	N	0	10	18	12	40	1.3	0.522
	%					100		

Table 9: Specific response to vitiligo disability index

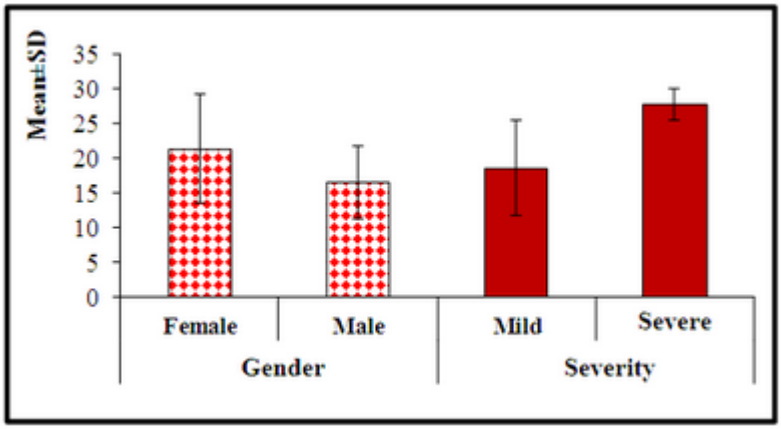

Fig 5: Relation between vitiligo disability index score with gender and severity [P value 0.182 and 0.038 respectively]

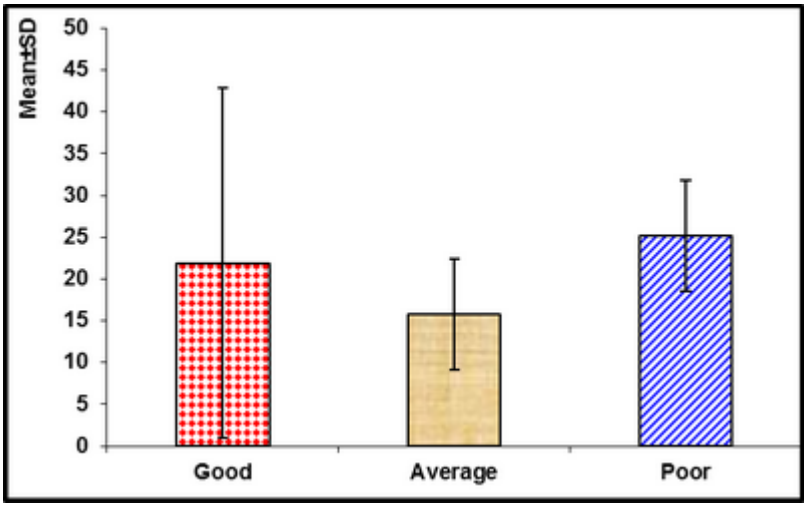

Fig 6: Relation between vitiligo disability index score and age [P value 0.662]

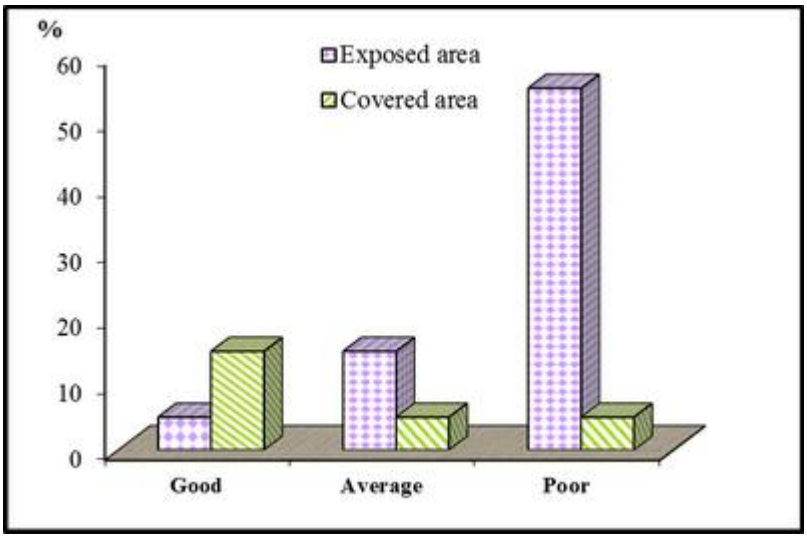

Fig 7: Relation between vitiligo disability index score and the site of the disease [P value 0.028]

As regard the QOL total score; the acne vulgaris patients included 8(20%) good QOL, 16 (40%) average QOL and 16 (40%) poor QOL, the Ps patients included 6 (15%) good QOL, 28 (70%) average QOL and 6 (15%) poor QOL and the vitiligo patients included 20(50%) good QOL, 8 (20%) average QOL and 12 (30%) poor QOL with statistically significant difference between three groups ($p<0.001$). **(Table 10)**.

Discussion

The QOL is generally measured using validated questionnaires. Several instruments have been designed for use in many different diseases, for skin disorders only, or for one particular disease such as acne. [22]

As regard QOL total score; the current study showed statistically non significant difference between acne vulgaris patients, similar results was recorded by Lauren et al., [23] . As regard CADI score; the current study showed that, the social relationships and psychological states problems showed statistically significant difference compared with subjective assessment of current acne severity. These results were in agreement with Pawin et al., [24]as regard CADI score they reported that; relationships with friends and psychological states problems showed statistically significant difference compared with subjective assessment of current acne severity.

In agreement with the present study, Hanisah et al., [25] showed that; the adolescents had particular difficulties in the areas of emotion (felt aggressive, frustrated), social interference/difficulties and psychological state disturbance. A study among teenage Scottish school children reported that 50% of pupils were emotionally affected by their acne,20 % of pupils were affected in their personal and social lives because of their acne and 10% avoided swimming and other sports because of embarrassment. [23]

Regarding the relationship between CADI score and gender; there was statistically highly significant difference. In accordance with pervious studies which found that girls generally experience more psychological morbidity than boys; this may be due to that female patients are more concerned about

their cosmetic appearance and beauty especially at adolescent and young age. [26], [27] On the other hand other studies showed that; there was no significant difference in mean CADI scores between both gender.; this may be attributed to the near equal concern about appearance in both gender. [23], [25]

Regarding the relationship between CADI score and severity of acne vulgaris group; the current study showed that, highly statistically significant difference between mild, moderate and severe cases. Also, many studies were in agreement with this finding [25,28-30], they demonstrated strong correlation between the total score of CADI score and acne severity; the impact on QOL increased with the facial acne severity. On the other hand, some studies have failed to show a strong association between acne severity and QOL. Hence, it is difficult to ascertain the extent of disability caused by a given severity of acne, as QOL is dependent on a host of correlating factors that are as yet poorly understood. [31,32]

Regarding the relationship between CADI score and age in acne vulgaris group; the present study showed that, there was no statistically significant difference. Similarly Matsuko et al.,[33] found that no correlation between age and QOL scores. But on the other hand, Lasek et al., [34] reported an inverse correlation between the age of patients with acne and their QOL.

As regard QOL total score; the current study showed statistically significant difference between Ps patients. Meanwhile, Rakhesh et al., [35] recorded the same result.

As regard PDI score the current study showed that; the psychological, daily activities and social relationships problems showed statistically significant difference compared with physical and work or school problems. A study done by Aghaei et al., [36] showed significant relation was seen between the mean PDI score and all the scales, except for the mean PDI and the work and school scale in females. Analysis of the PDI questionnaire done by another study (35) and showed that; questions related to difficulties in personal relationships and leisure activities showed statistically significant difference compared with the questions related to daily activities, employment and treatment-related difficulties. Another study done by Finaly et al., [37] showed that; the questions related to personal and social relationships showed statistically significant difference compared with the questions related to daily activities and treatment.

Regarding the relationship between PDI score and gender in Ps patients; the current study showed statistically non significant difference. A study done by Young et al., [38] was in agreement with the present study. In contrast, another previous study has shown women to be more likely than men to report impairment of QOL.[39] Regarding the relationship between PDI score and severity of Ps by PASI score; the current study showed that; statistically highly significant difference between mild, moderate and severe cases.These findings similar to the previous studies.[39,40]

In agreement with the current results; a study done by Rakhesh et al., [35] they observed highly significant correlation of the PASI score with all subdivisions of PDI except treatment-related activities. On the other hand, previous studies also found moderate correlation between PASI and PDI scores.[41],[42] At the contrary; other studies did not find any significant correlation between PASI and PDI scores. [10], [43]

Regarding the relationship between PDI score and age; the current study showed statistically non significant difference. On the other hand, a study done by Saleh et al., [40] reported that younger patients were more prone to have psychiatric morbidity and poor QOL. These results denote that un-established social life in younger patients makes them worry about their future resulting in more psychological distress and psychiatric morbidity.

As regard QOL total score the current study showed no statistically significant difference between vitiligo patients. Jalel et al., [44)]found that in their study more than 60 % of vitiligo patients had poor QOL.

As regard VDI score, the current study showed that; the daily activities and social relationships problems showed statistically significant difference compared with feeling and symptoms, personal relationships and financial problems. In agreement with the current study; a study done by Dolatshahi et al.,[45] showed that; the daily activities and social relationships problems showed statistically significant difference compared with feeling and symptoms, personal relationships and financial problems. On the other hand, previous studies reported that; feeling and symptoms, personal relationships showed statistically significant difference compared with the daily activities and social relationships problems. (46- 48)

Regarding the relationship between VDI score and gender in vitiligo group; the current study showed non statistically significant difference. These results in agreement with many studies; as they showed no statistically significant difference in relationship between VDI score and gender. [45-50] On the other hand, a study had done by Ongenae et al., 2004 [46] showed women to be more likely than men to report impairment of QOL. Regarding the relationship between VDI score and severity of vitiligo group; the current study showed that, statistically significant difference. The current study similar to the many previous studies. [40,45,46,47,51] On contrast, a study done by Parsad et al., 2003[49] showed that no statistically significant difference between VDI score and severity of vitiligo.

Regarding the relationship between VDI score and age in vitiligo group; the current study showed non statistically significant difference. Several studies also reported no statistically significant difference in relationship between VDI score and age [45,46,48,]. On contrast, other studies reported statistically significant difference [47], [49]. Similarly, Saleh et al..[40] showed that younger patients were more prone to have psychiatric morbidity and poor QOL with statistically significant difference. Regarding the relationship between VDI score and the site of the disease in vitiligo group; the current study showed statistically significant difference between VDI and visibility of vitiligo. In agreement with the current study; other studies found that the vitiligo patients with visible lesions were significantly higher in psychiatric morbidity compared to patients with non visible lesions[40], [46]. On the other hand Dolatshahi et al.[45] found that; no significant relation between VDI score and visibility of the disease.

In the current study, we found that the severity of the three diseases had significant relations to psychiatric morbidity because the disease severity profoundly affected our patients, gave them hopeless feeling that their skin condition will not improve especially with their bad life circumstances and low economic support for treatment. In the current study, we found that the acne vulgaris as a disease has the worst QOL compared with Ps and vitiligo. The presence of acne can negatively affect QOL, self-esteem, and mood in adolescents. Acne is associated with an increased incidence of anxiety, depression, and suicidal ideation. The presence of these and other comorbid psychological disorders should be considered in the treatment of acne patients when appropriate. Successful treatment of acne with isotretinoin qualitatively decreases depressive symptoms and improves QOL. [23] In addition to the effect of acne on the patient, family and social relationships may also be strained. Parents may worry about the short and long term repercussions of their child's appearance, such as being bullied at school or having permanent scarring from acne lesions. [52]

The study done by Saleh et al., [40] found that; Ps had the worst QOL compared to the vitiligo as the patients' burden from subjective symptoms such as physical disability, bleeding and pruritus is more than vitiligo. The impact of Ps on patients' physical, social and psychological functioning and health

related QOL has been well documented. Many patients report moderate to extreme feelings of anxiety, anger and depression, increasing severity of Ps appears to correlate closely with increased severity of depression and in turn, with higher frequency of suicidal ideation. [53] On the other hand, Jalel et al., [44] found that; vitiligo had the worst QOL compared to Ps, atopic dermatitis and alopecia areata. Vitiligo is an important skin disease having major impact on the QOL of patients suffering from vitiligo. The appearance of skin can condition an individual self-image, and any pathological alteration can have psychological consequences. Most patients of vitiligo report feelings of embarrassment, which can lead to a low self-esteem and social isolation.[44]

Suicidal ideation is a serious problem among sufferers of these disfiguring dermatological diseases. In a study by Gupta et al., [54] Ps patients had 9.7% prevalence of suicidal thoughts and 5.5% suicidal attempts, They found that a higher disease severity in Ps was associated with a higher prevalence of suicidal ideation. But as we live in the Islamic country and our patients totally confident that suicidal ideation religiously unacceptable so in our study no significant relation between dermatological disfigurement and suicidal ideation. The QOL in our vitiligo patients was worse compared to that of Belgian patients. This might be due to the lighter skin color of the Belgian patients that cause less cosmetic disfigurement and the better facilities for treatment compared to our patients. [55]

The field of dermatology can take credit for improving the quality of patients' lives. Many skin conditions affect patients in a multidimensional manner, ranging from emotional to social interactions, symptoms, and functional impairment. Skin condition, which has been shown to affect QOL to an extent similar to that seen in other chronic diseases such as cancer, arthritis, hypertension, heart disease, diabetes, and depression.

Conclusion

Acne vulgaris, psoriasis and vitiligo are commonly associated with psychiatric morbidity. The present study found a strong association between psychiatric morbidity and poorer QOL in the three disease groups. It is important for dermatologists to understand the profound effect of these diseases on the QOL and to know the psychosocial and psychiatric consequences of these diseases.

Recommendations

Psychiatric intervention is strongly recommended, especially during the early stages of the disease, because psychological consequences of these dermatological diseases were found to be more common in the acute stages of the disease. Educational programs aimed at increasing dermatologists' awareness of mental health issues and promoting the use of psychiatric screening questionnaires might help and increase recognition of psychiatric morbidity in patients with skin diseases such programs are strongly recommended. Further studies on the scope of psychopathology associated with these diseases in order to define and hence manage the specific psychiatric diseases that are more common in the patients. A mutual respectful collaboration between dermatological and mental health professionals might be of help for many patients. Dermatologists should listen carefully and with great sympathy to their patients, complain in order to detect early psychic disturbance that may influence the course of the disease and response to treatment.

References

1. Krowchuck DP. Managing acne in adolescent. Pediatr Clin North Am 2000 ; 47: 841-57.

2. Hull PR , D, Arcy C . Acne, depression and suicide. Dermatol Clin 2005 ; 23: 665-74.

3. Bowe WP, Leyden JJ, Crerand CE, et al . Body dysmorphic disorder symptoms among patients with acne vulgaris. J Am Acad Dermatol 2007 ; 57: 222-30.

4. Fried RG , Wechsler A. Psychological problems in the acne patient. Dermatol Ther 2006 ; 19: 237-40.

5. Koo JY . The psychological impact of acne: patient's perception. J Am Acad Dermatol 1995; 32: 26-30.

6. Smithard A, Glazebrook C , Williams HC .Acne prevalence, knowledge about acne and psychological morbidity in mid-adolescence: a community-based study. Br J Dermatol 2001 ; 154: 274-9.

7. Bowcock AM , Kruger JG. Getting under the skin: The immunogenetics of psoriasis. Nat Rev Immunol 2005; 5: 699-711.

8. Fried RG , Friedman S. Trivial or terrible? The psychosocial impact of psoriasis. Int J Dermatol 1995 ; 34: 101-5.

9. Wahl A. The impact of psoriasis on psychological life domains. Scand J Caring Sci 1997; 11:243-9.

10. Fortune DG , Main CJ. Quality of life in patients with psoriasis. Br J Dermatol 1997; 137: 755-60.

11. Finaly AY, Coles EC The effects of severe psoraisis on the quality of life of patients. Br J Dermatol 1995 ; 132: 236-44.

12. Feldman SR, Fleischer AB , Reboussin DM, et al. The economic impact of psoriasis increases with psoriasis severity. J Am Acad Dermatol 1997; 37:564-9.

13. Morgan M, McCreedy R , Simpson J . Dermatology quality of life scales. A measure of the impact of skin diseases. Br J Dermatol 1998 ; 136:202-6.

14. Anderson RT , Rajagopalan R. Development and validation of a quality of life instrument for cutaneous diseases. J Am Acad Dermatol 1999 ; 37:41-50.

15. Book O, Schmid-Ott G , Malewski P. Quality of life patients with facial laceration. Arch Dermatol 2006 ; 297: 433-8.

16. Hayashi N, Akamatsu H , Kawashima M .Establishment of grading criteria for acne severity. J Dermatol 2008; 35:255-60.

17. Fredriksson T , Pettersson U. Severe psoriasis- oral therapy with a new retinoid. Dermatology 1978; 157: 238-44.

18. Langley RGB, Krueger GG , Griffiths CEM . Psoriasis: epidemiology, clinical features, and quality of life. Ann Rheum Dis 2004 ; 64: 18- 23.

19. Hamzavi I, Jain H, McLean D, et al. Parametric modeling of narrowband UV-B photo-therapy for

vitiligo using a novel quantitative tool: the vitiligo area scoring index. Arch Dermatol 2004:; 140: 677-83.

20. Finlay AY. Dermatology patients: what do they really need ? Clin Exp Dermatol 2000 ; 25:444-50.

21. Kent G, Al'Abadie M. Psychologic effects of vitiligo: A critical incident analysis. J Am Acad Dermatol 1996; 35: 895-8

22. Chren MM, Lasek RJ, Quinn LM, et al . Skindex, a quality-of-life measure for patients with skin disease: Reliability, validity and responsiveness. J Invest Dermatol 1996; 107:707-13.

23. Lauren K D, Jenna L O , Steven R F .Acne in Adolescents: quality of life, self-esteem, mood, and psychological disorders. Dermatol Online J 2011; 17 : 1.

24. Pawin H, Chivot M, Beylot C, et al. Living with acne. A study of adolescents' personal experiences. Dermatology 2007 ; 215:308-14.

25. Hanisah A, Omar K, Shah SA. Prevalence of acne and its impact on the quality of life in school-aged adolescents in Malaysia. J Primary Health Care 2009 ; 1:20-5.

26. Jeong E D, Sun-Mi C, Sung-Il I, et al .Psychosocial aspects of acne vulgaris: a community-based study with Korean adolescents. Ann Dermatol 2009 ; 21: 125-9.

27. Cotterill JA ,Cunliffe WJ. Suicide in dermatological patients.Br J Dermatol 1997; 137:246-50.

28. Akyazı H, Baltacı D, Alpay K ,et al. Quality of life in adult patients with acne vulgaris before and after treatment. Dicle Med J 2011 ; 38: 282-8.

29. Walker N , Lewis-Jones MS .Quality of life and acne in Scottish adolescent schoolchildren: use of the children's dermatology life quality index (CDLQI) and the Cardiff acne disability index (CADI). J Eur Acad Dermatol Venereol 2006 ; 20: 45-50.

30. Fehnel SE, McLeod LD, Brandman J, et al. Responsiveness of the acne-specific quality of life questionnaire (Acne-QOL) to treatment for acne vulgaris in placebo-controlled clinical trials. Qual Life Res 2002 ; 11: 809-16.

31. Yazici K, Baz K, Yazici AE, et al. Disease-specific quality of life is associated with anxiety and depression in patients with acne. J Eur Acad Dermatol Venereol 2004; 18: 435-9.

32. Ilgen E , Derya A .There is no correlation between acne severity and AQOLS/DLQI scores. J Dermatol 2005 ; 32: 705-10.

33. Matsuoka Y, Yoneda K, Sadahira C, et al. Effects of skin care and makeup under instructions from dermatologists on the quality of life of female patients with acne vulgaris. J Dermatol 2006 ; 33:745-52.

34. Lasek RJ, Chren MM. Acne vulgaris and the quality of life of adult dermatology patients. Arch Dermatol 1998; 134:454-8.

35. Rakhesh S V, Mariette D , Ajith S. Quality of life in psoriasis: a study from south India. Indian J Dermatol 2008 ; 47: 600-6.

36. Aghaei S, Moradi A, Ardekani GS. Impact of psoriasis on quality of life in Iran. IJ DVL 2009; 57: 220.

37. Finlay AY . Quality of life measurement in dermatology: A practical guide. Br J Dermatol 1997 ; 136:305-14.

38. Young W L, Eun J Pa, Kwang H K, et al. Impact of psoriasis on quality of life: relationship between clinical response to therapy and change in health-related quality of life. Ann Dermatol 2010; 22: 389-96.

39. Zachariae R, Zachariae H, Blomqvist K, et al. Quality of life in 6497 Nordic patients with psoriasis. Br J Dermatol 2004 ; 146: 1006-16.

40. Saleh HM, Samar,Salem SAM, El-Sheshetawy RS. Comparative study of psychiatric morbidity and quality of life in psoriasis, vitiligo and alopecia areata. Egy Dermatol Online J 2008; 4: 2.

41. Gelfand JM, Feldman SR, Stern RS, et al. Determinants of quality of life in patients with psoriasis: a study from the US population. J Am Acad Dermatol 2004; 51:704-8.

42. Ashcroft DM, Li Wan PA, Williams HC et al. Quality of life measures in psoriasis: a critical appraisal of their quality. J Clin Pharm Ther 1998 ; 23:391-8.

43. Yang Y, Koh D, Khoo L, et al. The psoriasis disability index in Chinese patients: contribution of clinical and psychological variables. Int J Dermatol 2005 ; 44:925-9.

44. Jalel A, Soumaya GS, Hamdaoui MH. Dermatology life quality index scores in vitiligo: reliability and validity of the Tunisian version. Indian J Dermatol 2009; 45: 330-3.

45. Dolatshahi M, Ghazi P, Feizy V, et al. Life quality assessment among patients with vitiligo: comparison of married and single patients in Iran. Indian J Dermatol 2008; 74: 700.

46. Ongenae K, Van Geel, N, De Schepper S , et al. Management of vitiligo patients and attitude of dermatologists towards vitiligo. Eur J Dermatol 2004; 14: 177-81.

47. Kent G ,Al-Abadie MSK. Factors affecting responses on dermatology life quality index among vitiligo sufferers. Clin Exp Dermatol 1997 ; 21:330-3.

48. Aghaei S, Sodaifi M, Jafari P,et al. DLQI scores in vitiligo: reliability and validity of the Persian version. BMC Dermatol 2004; 4:8.

49. Parsad D, Dogra S , Kanwar AJ .Quality of life in patients with vitiligo. Health Quality Life Outcomes 2003; 1:58.

50. Alireza F, Navid B, Nader F, et al. What patients with vitiligo believe about their condition? Int J Dermatol 2004 ; 43: 811-4.

51. Osman AM, Elkordufani Y, Abdullah MA .The psychological impact of vitiligo in adult Sudanese

patients. Afr J Psych 2009 ; 12:284-86.

52. Hassan J, Grogan S, Clark-Carter D, et al. The individual health burden of

53. acne: appearance-related distress in male and female adolescents and adults with back, chest and facial acne. J Health Psychol 2009; 14:1105-8.

54. Loo WJ, Diba V, Chawla M , et al. Dermatology life quality index: influence of an illustrated version. Br J Dermatol 2003; 148:285-90.

55. Gupta MA, Gupta AK , Schork NJ. Suicidal ideation in psoriasis, Int J Dermatol 1993 ; 32: 188-90.

56. Ongenae K ,Van Geel N, De Schepper S ,et al. Effect of vitiligo on self-reported health-related quality of life. Br J Dermatol 2005 ; 152: 1165- 72.