Print ISSN: 2321-6379
Online ISSN: 2321-595X
DOI: 10.17354/ijss/2017/277

Original Article

A Study of Psychiatric Morbidity Among Patients with Early-onset Psoriasis

Anupama Roshan Sivanesan[1], Samuel Jeyaraj Daniel[2]

[1]Assistant Professor, Department of Psychiatry, Government Medical College, Omandurar Government Estate, Chennai, Tamil Nadu, India, [2]Assistant Professor, Department of Dermatology, Madras Medical College and Rajiv Gandhi Government General Hospital, Chennai, Tamil Nadu, India

Abstract

Introduction: Psoriasis is a chronic inflammatory skin condition which leads to cosmetic disfigurement. This leads to shame and stigmatization, more so in patients with onset <20 years along with significant psychosocial burden, poor body image, and low self-esteem.

Purpose: To study the relationship between severity of psoriasis and psychiatric morbidity, the relationship between age of onset and severity of psychiatric morbidity, the severity of psychiatric symptoms compared with the site of psoriasis, and to assess the quality of life (QOL) using the dermatological life quality index.

Materials and Methods: A total of 50 consecutive, consenting patients attending the psoriasis clinic, were included into our study group. 50 consenting age-, sex-, and education-matched normal people were taken as controls. psoriasis area severity index (PASI) was administered by the dermatologist. Then, general health questionnaire was administered to screen for psychiatric symptoms. The patients who scored positively were assessed for anxiety, depression, and suicidal ideation using Hamilton depression rating (HAM-A), HAM-D, and Beck's suicide inventory. Stress was assessed by Holmes and Rahe life stress inventory and self-esteem by Rosenberg self-esteem scale.

Results: Psoriasis patients were found to have increased anxiety (40%), increased depression (36%), and increased suicidal ideation (32%) when compared with controls. 60% had reduced self-esteem. Self-esteem was affected more (77%) than patients with onset after 20 years. The QOL was equally affected in both age groups. PASI scores were found to be statistically significantly (P < 0. 001) associated with an increase in severity of anxiety and depression.

Conclusion: Psychiatric comorbidity is greater among patients with psoriasis. Anxiety, depression, and suicidal tendencies are significantly higher in early-onset psoriasis. Poor QOL and low self-esteem are significantly more among patients with psoriasis. Clinicians caring for patients will be doing a greater service by paying attention to these invisible burdens, such as anxiety and depression.

Key words: Anxiety, Depression, Early onset, Psoriasis area severity index, Suicidal ideation

INTRODUCTION

Psoriasis is a chronic disfiguring inflammatory and proliferative skin condition in which both genetic and environmental factors play a critical role. Many environmental factors such as stress, sunlight, infections, trauma, endocrinological factors, drugs, alcohol, and smoking have been linked to psoriasis and have been implicated in the initiation of disease pattern and exacerbation of pre-existing disease.[1] Psoriasis is made worse by psychological distress in 30-40% of patients. More than 60% of patients believe that stress was a principal factor in the cause of their psoriasis and that this was unrelated to psoriasis area severity index (PASI).[2] Farber and Nall[3] determined that in about 40% of patients, there was occurrence of psoriasis and in 37% patients, it worsened following stress. Psoriasis patients often feel stigmatized by their disease and are often rejected and humiliated by others.[4] These feelings of social rejection and stigma were associated with disrupted work experience, psychiatric

Access this article online

www.ijss-sn.com

Month of Submission : 04-2017
Month of Peer Review : 05-2017
Month of Acceptance : 06-2017
Month of Publishing : 06-2017

Corresponding Author: Dr. Samuel Jeyaraj Daniel, 24/46, Aspiran Garden, Kilpauk, Chennai-600010, Tamil Nadu, India. Phone: +91-9884469375. E-mail: drsjdaniel@gmail.com

help-seeking, and alcohol consumption.[5] Early-onset psoriasis (psoriasis with onset <40 years) has been associated with more severe and recurrent course. Early-onset psoriasis is also more frequently associated with psychosocial factors such as stress and alcohol consumption.[6]

Recently, psychological intervention has also proved to be a valuable adjunct to normal dermatological treatment, resulting in early improvement in majority of patients by Coopre *et al*.[7] Since there are not many studies supporting this observation, more prospective clinico-epidemiological studies using appropriate psychometric instruments for assessing the quality of life (QOL) are required for better understanding of disease burden. The purpose of this study was to assess the QOL and psychiatric morbidity of patients, including suicidal ideation and the role of stress on psoriasis, and to provide an early psychological intervention in adjunct to dermatological treatment for good outcome.

Purpose

Primary objective

To study the psychiatric comorbidity in patients with early-onset psoriasis as compared with normal control groups

Secondary objectives

1. To study the relationship between severity of psoriasis and psychiatric morbidity.
2. To study the relationship between age of onset and severity of psychiatric morbidity.
3. To study the severity of psychiatric symptoms compared with the site of psoriasis.
4. To study the relationship between the sociodemographic profile and psychiatric morbidity.

MATERIALS AND METHODS

This was a case-control study conducted in the outpatient clinic of the Department of Dermatology, Madras Medical College, Chennai, a tertiary care hospital in Tamil Nadu. The period of study was from September 2013 to November 2013. This study was approved by the Institutional Ethical Committee. All participants (both patients and control group) gave informed consent for participation in written form. For those who were illiterate, consent form was read to them and they were requested to put their thumb impression if they consent for participation. The inclusion criteria were psoriasis vulgaris patients confirmed by a dermatologist, age of onset psoriasis <40 years, and age of patient at presentation <60 years. The exclusion criteria were age of onset of psoriasis >40 years, patients who have comorbid physical complaints, patients who have severe mental illness, mental retardation, and are uncooperative, and patients who do not have a diagnosis of psoriasis confirmed by a dermatologist.

A total of 50 consecutive, consenting patients attending the psoriasis clinic, Rajiv Gandhi Government Hospital were included into our study group. 50 consenting age-, sex-, and education-matched normal people were taken as controls. PASI was administered by the dermatologist. The study population was administered the semi-structured pro forma. Then, general health questionnaire (GHQ) was administered to screen for psychiatric symptoms. The patients who scored positively were assessed for anxiety, depression, and suicidal ideation using Hamilton depression rating (HAM-A), HAM-D, and Beck's suicide inventory. Stress was assessed by Holmes and Rahe life stress inventory and self-esteem by Rosenberg self-esteem scale. Dermatology life quality index (DLQI) measured the QOL. Chi-square test and correlation analysis were used using the SPSS software.

RESULTS

Out of the sample of 100, taken for our study, 36% ($n = 17$) of patients (cases) fell into the age group of 25-35 years. Out of this, 48% ($n = 24$) were male and 52% ($n = 26$) were female. 36% ($n = 18$) were homemakers and 22% ($n = 11$) were laborers. 64% ($n = 32$) were married and 50% of the patients had completed at least high school. Most of the patients hailed from an upper-lower socioeconomic status (34%, $n = 17$) and 86% ($n = 43$) followed Hinduism. 64% ($n = 32$) of the patients declared that they did not abuse any substance. 36% of study population had onset of psoriasis at an early age (Table 1).

Hamilton anxiety rating scale is a commonly used scale which measures the severity of a patient's anxiety on the basis of 14 parameters. It was developed by Hamilton in the year 1959. The parameters included are anxious mood, fears, tension, insomnia, somatic complaints, and behavior at the time of interview. In addition to being a diagnostic tool, it is helpful to document the results of pharmaco-psychotherapy. Each question is scored from 0 to 4. A score of 0-17 indicates mild anxiety, 18-25 indicates mild to moderate, and 26-30 means moderate to severe. Total

Table 1: Distribution of age among cases and controls

Age (years)	Group		Total *n* (%)
	Case	Control	
	n (%)	*n* (%)	
<18	6 (12.0)	3 (6.0)	9 (9.0)
18-25	5 (10.0)	8 (16.0)	13 (13.0)
25-35	17 (34.0)	19 (38.0)	36 (36.0)
35-45	13 (26.0)	14 (28.0)	27 (27.0)
>45	9 (18.0)	6 (12.0)	15 (15.0)
Total	50 (100.0)	50 (100.0)	100 (100.0)

scores above 30 are severe anxiety and such scores are very rare. In our study, patients scored significantly ($P = 0.006$) higher than controls on HAM-A scale. 42% ($n = 21$) of patients had mild anxiety and 22% ($n = 42$) had moderate anxiety as compared to 40% ($n = 20$) and 4% ($n = 2$) of controls, respectively (Table 2).

Hamilton rating scale for depression is a 17-item questionnaire, which provides an indication of depression and also guides to assess recovery. It was published originally by Max Hamilton in 1960.[8] The questionnaire rates the severity of their depression by probing their mood, feelings of guilt, agitation, insomnia, anxiety, suicidal ideation, somatic symptoms, and weight loss. It contains 17 items to be rated. Each item is scored on a 3-point or 5-point scale. Depending on each item, the total score is then compared to the corresponding descriptor. A score of 0-7 is normal. 10-13 indicates mild depression, 14-17 means mild to moderate, and >17 moderate-to-severe depression. Estimated assessment time is 20 min. In our study, 36% of psoriasis patients ($n = 18$) fulfilled the criteria for moderate depression and 10% ($n = 5$) for very severe depression. This was significantly ($P < 0.001$) higher than the control groups where 16% ($n = 8$) had moderate depression and none had very severe depression (Table 3).

DLQI is a self-reported questionnaire which measures the QOL in the past week. It has ten items. First 2 items cover symptoms and feelings. 3rd and 4th items measure daily activities. Leisure is measured by items 5 and 6, problems in work and school indicated by item 7, and personal relationships by items 8-10 scores treatment-related issues. Each item is scored on a 4-point scale, higher scores indicating greater impairment in the QOL. The maximum score is 30 and minimum score 0. Scale is attached in the annexure. The DLQI is useful for adults in patients over age 16. In our study, psoriasis was observed to have a significantly larger ($P < 0.001$) effect on the QOL. DLQI scores revealed that psoriasis had very large effect on 26% ($n = 13$) of patients and extremely large effect on 18% ($n = 9$) of patients. There was no effect on 46% ($n = 23$) and 42% ($n = 21$) of the control group (Table 4).

Beck's suicide intent scale was developed by Beck *et al.* in 1979. It is a questionnaire administered by an interviewer, containing 21 items. It measures a patient's current intensity of a particular behavior and plans to commit suicide on that day of the interview. Each item has 3 options graded from 0 to 2. Total score ranges from 0 to 38. The Beck's suicide intent scale comprises five screening items. 3 items evaluated the wish to live or die and two items, the desire to attempt suicide. 14 additional items are administered if any respondent reports a desire to commit suicide. In our study, "desire to be dead" was expressed by 32% ($n = 16$) of psoriatic patients. This was significantly ($P < 0.001$) higher than control group (4%, $n = 2$) (Table 5).

Rosenberg self-esteem questionnaire is a scale devised for estimating the self-esteem of a patient. It was devised by Rosenberg in the year 1965.[9] It is a 10-item scale that measures global self-worth by measuring both positive and

Table 2: Anxiety scores among cases and controls

HAM-A score	Group		Total *n* (%)	*P*-value
	Case	Control		
	n (%)	*n* (%)		
No anxiety	16 (32.0)	28 (56.0)	44 (44.0)	0.006
Mild	21 (42.0)	20 (40.0)	41 (41.0)	
Moderate	11 (22.0)	2 (4.0)	13 (13.0)	
Severe	2 (4.0)	0 (0.0)	2 (2.0)	
Total	50 (100.0)	50 (100.0)	100 (100.0)	

HAM-A: Hamilton anxiety rating scale

Table 3: Depression scores among cases and controls

HAM-D score	Group		Total *n* (%)	*P*-value
	Case	Control		
	n (%)	*n* (%)		
No depression	8 (16.0)	28 (56.0)	36 (36.0)	<0.001
Mild	12 (24.0)	12 (24.0)	24 (24.0)	
Moderate	18 (36.0)	8 (16.0)	26 (26.0)	
Severe	7 (14.0)	2 (4.0)	9 (9.0)	
Very severe	5 (10.0)	0 (0.0)	5 (5.0)	
Total	50 (100.0)	50 (100.0)	100 (100.0)	

HAM-D: Hamilton depression rating scale

Table 4: Distribution of DLQI among cases and controls

DLQI score	Group		Total *n* (%)	*P*-value
	Case	Control		
	n (%)	*n* (%)		
No effect	4 (8.0)	23 (46.0)	27 (27.0)	<0.001
Small	10 (20.0)	21 (42.0)	31 (31.0)	
Moderate	14 (28.0)	6 (12.0)	20 (20.0)	
Very large	13 (26.0)	0 (0)	13 (13.0)	
Extremely large	9 (18.0)	0 (0)	9 (9.0)	
Total	50 (100.0)	50 (100.0)	100 (100.0)	

DLQI: Dermatological life quality index

Table 5: Suicidal ideations among cases and controls

Beck's suicide inventory	Group		Total *n* (%)	*P*-value
	Case	Control		
	n (%)	*n* (%)		
No	34 (68.0)	48 (96.0)	82 (82.0)	<0.001
Yes	16 (32.0)	2 (4.0)	18 (18.0)	
Total	50 (100.0)	50 (100.0)	100 (100.0)	

negative feelings about self. All items are answered using a 4-point Likert scale format ranging from strongly agree to strongly disagree. Items 2, 5, 6, 8, and 9 are reversely scored. Higher scores indicate higher self-esteem. In our study, with respect to self-esteem, 60% ($n = 30$) of patients had a poor self-esteem, which is significantly higher ($P < 0.001$) than control groups. Only 26% ($n = 13$) of control groups had lowered self-esteem (Table 6).

Holmes and Rahe stress scale was developed by the psychiatrists Thomas Holmes and Richard Rahe by examination of records of over 5000 medical patients to find out whether stressful events might cause illness.[10] It comprises 43 life events. These are based on relative scores. Here, the number of life changing units that apply to events in the previous 1 year is calculated and the final score would be given, which indicates a rough estimates of how stress affects health. This scale is applicable to adults. In our study, Holmes and Rahe stress scale scores indicated that 54% ($n = 27$) had moderate stress which was significantly ($P < 0.001$) higher than control groups where only 10% ($n = 5$) had moderate stress (Table 7).

GHQ was devised by Goldberg and has been translated in 38 languages, thus standing a testimony for its validity and reliability. It is a screening tool to detect those at risk or those who are having psychiatric illnesses, such as anxiety, depression, or somatic symptoms. It is available in different versions such as 12, 28, 30, or 60 items. Each item is scored from 0 to 3 for 4 responses such as not at all, no more than usual, rather more than usual, and much more than usual. In for the version containing 12 items, caseness threshold is 3. In our study on GHQ, there was a significant ($P = 0.043$) increase in psychiatric symptoms with increase in PASI score (Table 8).

Table 6: Self-esteem among cases and controls

Rosenberg self-esteem scale	Group		Total *n* (%)	*P*-value
	Case	Control		
	n (%)	*n* (%)		
<15	30 (60.0)	13 (26.0)	43 (43.0)	<0.001
15-25	20 (40.0)	37 (74.0)	57 (57.0)	
Total	50 (100.0)	50 (100.0)	100 (100.0)	

Table 7: Stress among cases and controls

Stress	Group		Total *n* (%)	*P*-value
	Case	Control		
	n (%)	*n* (%)		
Mild	18 (36.0)	41 (82.0)	59 (59.0)	<0.001
Moderate	27 (54.0)	5 (10.0)	32 (32.0)	
Severe	5 (10.0)	4 (8.0)	9 (9.0)	
Total	50 (100.0)	50 (100.0)	100 (100.0)	

PASI is the most commonly used measures of psoriasis severity. For computing PASI scores, the four main areas assessed are the head corresponding to 10%, trunk corresponding to 20%, upper extremities corresponding to 30%, and lower extremities corresponding to 40% of total body surface area. The maximum score is 72. Studies also show an inverse relationship between psoriasis and QOL. In our study, an increase in PASI scores was found to be significantly ($P < 0.001$) associated with an increase in the severity of anxiety. Of the individuals who had a PASI of more than five, 33.3% ($n = 5$) had mild anxiety, 46.7% ($n = 7$) had moderate anxiety as measured on the HAM-A (Table 9). Increase in PASI was also found to be significantly associated with the severity of depression ($P < 0.001$) on the HAM-D scale. About 30% of patients ($n = 3$) who had mild depression had PASI score <3. 48% ($n = 12$) of patients who had moderate depression fell into the group to 3-5. Out of the patients who had PASI >5, 33% ($n = 5$) has severe depression (Table 10). High PASI score was associated with significant number of individuals

Table 8: GHQ versus PASI

GHQ score	PASI score			Total *n* (%)	*P*-value
	<3	3-5	>5		
	n (%)	*n* (%)	*n* (%)		
11-12	4 (40.0)	5 (20.0)	0 (0.0)	9 (18.0)	0.043
>15	6 (60.0)	17 (68.0)	14 (93.3)	37 (74.0)	
>20	0 (0.0)	3 (12.0)	1 (6.7)	4 (8.0)	
Total	10 (100.0)	25 (100.0)	15 (100.0)	50 (100.0)	

GHQ: General Health Questionnaire, PASI: Psoriasis area severity index

Table 9: HAM-A versus PASI

HAM-A score	PASI score			Total *n* (%)	*P*-value
	<3	3-5	>5		
	n (%)	*n* (%)	*n* (%)		
No anxiety	6 (60.0)	9 (36.0)	1 (6.7)	16 (32.0)	<0.001
Mild	4 (40.0)	12 (48.0)	5 (33.3)	21 (42.0)	
Moderate	0 (0.0)	4 (16.0)	7 (46.7)	11 (22.0)	
Severe	0 (0.0)	0 (0.0)	2 (13.3)	2 (4.0)	
Total	10 (100.0)	25 (100.0)	15 (100.0)	50 (100.0)	

HAM-A: Hamilton anxiety rating scale, PASI: Psoriasis area severity index

Table 10: HAM-D versus PASI

HAM-D score	PASI score			Total *n* (%)	*P*-value
	<3	3-5	>5		
	n (%)	*n* (%)	*n* (%)		
No depression	5 (50.0)	3 (12.0)	0 (0.0)	8 (16.0)	<0.001
Mild	3 (30.0)	8 (32.0)	1 (6.7)	12 (24.0)	
Moderate	1 (10.0)	12 (48.0)	5 (33.3)	18 (36.0)	
Severe	1 (10.0)	1 (4.0)	5 (33.3)	7 (14.0)	
Very severe	0 (0.0)	1 (4.0)	4 (26.7)	5 (10.0)	
Total	10 (100.0)	25 (100.0)	15 (100.0)	50 (100.0)	

HAM-A: Hamilton anxiety rating scale, PASI: Psoriasis area severity index

(P = 0.008) having suicidal ideation (53.3%, n = 8). Of the patients who scored between 3 and 5 on PASI, 52% (n = 13) had low esteem. There was a significant increase in the severity of psoriasis (P = 0.009) as the stress increased. About 52% (n = 13) of patients who had moderate stress felt into PASI score of 3-5 and 66.7% (n = 1) had PASI score of more than 5. In our study, relationship between stress and number of relapses revealed that stress was not significantly related to the number of relapses (P = 0.662).

The relationship between severity of anxiety and age of onset showed individuals who had psoriasis onset at <20 years had significant levels of (P = 0.067) moderate anxiety (n = 7, 38.9%) and severe anxiety (5.6%, n = 1) compared to those with onset between 20 and 40 years.

In our study, the relationship between DLQI versus age of onset, DLQI was affected in the same way in both <20 years of age and >20 years of age (P = 0.198). Self-esteem was found to be significantly (P = 0. 04) poor in 77.8% (n = 14) patients whose age of onset was <20 years, compared to 50% (n = 16) in patients whose age of onset was after 20 years of age.

When screened with GHQ, psoriatic patients scored significantly (P = 0.014) more than controls. 74% of patients (n = 37) scored more than 15 on GHQ when compared to 56% (n = 56) of normal controls. Distribution of GHQ scores among cases and controls showed that the psoriatic patients scored significantly (P = 0.014) more than controls. 74% of patients (n = 37) scored more than 15 on GHQ when compared to 56% (n = 56) of normal controls. Severity of depression among the two age groups revealed that there was no significant difference (P = 0.387) in the severity of depression among the two groups of patients (<20 and >20 years).

Although relationship between anxiety and educational status was not statistically significant (P = 0.078), there was a clear trend of patients with less educational qualification (high school) qualifying for mild (n = 23, 51%) and moderate anxiety (n = 3, 60%). In our study, the relationship between the anxiety and socioeconomic status, 24% of upper-lower socioeconomic status (n = 11) qualified for mild anxiety and 60% (n = 3) of patients who qualified for severe anxiety belonged to the lower-middle-class group. The relationship between depression and socioeconomic status showed that 36% of patients (n = 9) of patients who had moderate depression belonged to the lower middle-class group, though this was not statistically significant (P = 0.068).

The relationship between stress and education status revealed 40% of patients (n = 15) with moderate anxiety and 100% of patients (n = 9) who had severe depression belonged to the high school category. This was statistically significant (P = 0.001). The relationship between stress and socioeconomic status showed that the patients belonging to the lower-middle-class group scored significantly (P = 0.001) high for stress, 47.2% (n = 25) having mild stress, 37.8% (n = 14) moderate stress, and 33.3% (n = 3) severe stress.

DISCUSSION

The primary aim of this study was to assess the psychiatric comorbidity in individuals with psoriasis. It is a well-known fact that psoriasis is a chronic, disfiguring, and often stigmatizing dermatological condition. The course of this illness is often punctuated by remissions or exacerbations. The course of psoriasis has been closely related to the individual's psychological status. Increased levels of stress, anxiety, and depression are a cause for exacerbation or precipitation of psoriasis. On the other hand, severity of psoriasis determines the levels of stress, anxiety, and depression experienced by the patient. Therefore, early recognition and management of psychiatric morbidity are very important for better dermatological management of psoriasis. In an effort to better understand the psychiatric morbidity experienced by patients with psoriasis with early onset (<40 years) and matched healthy controls, we undertook this study.

About 52% of our study populations were female. This is contrary to Indian studies, which have shown a higher prevalence in males by Kaur *et al.*[11] One possible reason for this difference could be the fact that more women, most of them homemakers, seek dermatological services so as to gain societal and familial acceptance. Only two of our patients revealed a family history, which is contrary to the solid scientific evidence base for genetic inheritance of psoriasis by Gudjonsson *et al.*[12] This could possibly reflect the reluctance of our patients to part with intimate details about their family and also their perceptions about this stigmatizing disease.

In an interesting observation, 32% of the married individuals had consistently low PASI scores. Thus, married individuals have less severe form of psoriasis. Our observation of milder psoriasis in married individuals encourages us to speculate whether marital status has a possible etiopathological role to play in psoriasis.

This study has revealed that individuals with psoriasis had higher levels of anxiety, depression, and poorer QOL (as measured by the DLQI), than the matched controls. This anxiety, depression, and stress were associated with lower

socioeconomic status and less education. Stress was also found to be increased in homemakers though it was not the same with other psychiatric morbidities. Devrimci-Ozguven *et al.*[13] had reported no significant difference between patients with psoriasis and control due to a small sample size. Several other studies, Richard *et al.*,[14] however, have reported higher levels of anxiety and depression among individuals with psoriasis.

Previous studies by Kotruljai *et al.*,[15] reported that individuals with late-onset psoriasis (>40 years) had greater levels of psychological distress, probably representing a greater challenge for the self-confidence of the patients. In this study, we attempted to replicate the above findings by deciding to compare individuals with onset of psoriasis <20 years and those with onset above 20 years.

Individuals with psoriasis onset <20 years, were found to have greater levels of depression and significantly poorer self-esteem as measured on Rosenberg self-esteem scale. The cosmetic disfigurement and changes in self-image produced by the illness from a very young age are contributing factors for these findings. Studies by Fortune *et al.*[2] have reported that individuals who develop psoriasis at a young age have poor self-confidence, self-image, and greater levels of depression. Individuals with psoriasis onset <20 years of age were more anxious than persons with psoriasis onset >20 years. However, this difference, though not statistically significant, showed a trend toward higher levels of moderate anxiety among the younger group of patients. Surprisingly, these two groups did not differ much on DLQI. Thus, despite having higher levels of anxiety, depression, and lower self-esteem, patients with younger age of onset of psoriasis revealed greater levels of resilience in living with the illness. Another possible speculative explanation for the finding could be that younger individuals are more likely to have integrated the physical changes into their self-image and thereby displaying a greater level of endurance in withstanding the illness.

In the GHQ, all the patients achieved scores which were significantly higher compared to controls. Patients who achieved scores >15 and >20 also scored higher on PASI scale. Individuals with PASI scores between 3-5 and >5 scored significantly higher ($P = 0.043$) on the GHQ. This finding coincides with that of the study done by Lena *et al.*[16]

Patients with psoriasis had significantly higher anxiety and depression when compared with matched controls. They also had poorer self-esteem, poor QOL, and higher suicidal ideation. These were statistically significant between the two groups. The above findings coincide with the studies done by Gupta *et al.*[17] and Akay *et al.*[18]

Other studies investigating the relationship between PLQI and QOL in psoriasis have found a poor correlation.[2,8] Studies by Gupta *et al.*[16] and Neimer *et al.*[19] have also found that depression is related to the visibility of psoriatic plaques and the presence of pruritus. In our study, most of the patients had multiple psoriatic lesions on the exposed parts of the body. In spite of this, our patients clearly expressed that their illness did not affect either their social or occupational spheres of life.

An increase in PASI scores significantly correlated with an increase in the numbers of patients experiencing stress. Individuals with PASI scores between three and five and scores >5 mostly expressed difficulties in social and occupational areas. Stress in these patients was related to "reduction in number of get-togethers," "change in acceptance by others," and loss of job on the Holmes and Rahe scale. All these patients perceived stress to be a precipitating factor for their illness. Individuals with more relapses (>5) were found to have higher stress than those with lesser than five relapses. However, this difference was not statistically significant. Interestingly, all individuals with more than five relapses had scored >5 on PASI. These observations clearly underscore the importance of early psychiatric intervention to achieve better dermatological outcomes. Lena *et al.*[12] had hypothesized that individuals with late-onset psoriasis had a greater susceptibility to exogenous factors. This study is not in concordance with the above hypothesis.

CONCLUSION

Psychiatric comorbidity is greater among patients with psoriasis. Anxiety, depression, and suicidal tendencies are significantly higher in early-onset psoriasis. Poor QOL, low self-esteem, and also significantly more among patients with psoriasis. Clinicians caring for patients with psoriasis will be doing a greater service by paying attention to these invisible burdens, such as anxiety and depression. Improving patient's psychological well-being lessens disease burden and increases the QOL. The results of this study should be confirmed by larger, well-defined future studies.

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How to cite this article: Sivanesan AR, Daniel SJ. A Study of Psychiatric Morbidity Among Patients with Early-onset Psoriasis. Int J Sci Stud 2017;5(3):108-114.

Source of Support: Nil, **Conflict of Interest:** None declared.