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ORIGINAL ARTICLE

Psychiatric Morbidity and Quality of Life in Patients suffering from Psoriasis in a Tertiary Care Hospital

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ABSTRACT

Introduction: Psoriasis is an inflammatory skin disease, which may be persistent, disfiguring, and stigmatizing. The disease is frequent, with prevalence estimates ranging from 0.3 to 2.5%. It is characterized by thick, red, scaly lesion that may appear on any part of the body. Psoriasis is associated with significant psychological and psychiatric morbidity, experience of stigmatization, and decreased health-related quality of life (QOL).

Aims and Objectives: The aims of this study were to estimate psychiatric morbidity and QOL in patients with psoriasis and to study the specified demographic, psychological, social, and illness-related correlates of psychiatric morbidity and QOL.

Materials and methods: The study group consisted of 100 consecutive patients suffering from psoriasis and healthy controls. The assessment was done using General Health Questionnaire 12 items (GHQ-12), Psoriasis Area and Severity Index (PASI) scale, Hospital Anxiety and Depression Scale (HADS), and the World Health Organization Quality of Life BREF scale (WHOQOL-BREF). Patients were also subjected to clinical psychiatric examination. Only those subjects who scored ≥3 on GHQ-12 scale were administered HADS and WHOQOL-BREF.

Results: This study revealed statistically significant association between number of relapses and depression score and between severity of skin lesions (PASI score) and depressive score.

Keywords: Psoriasis, Psychiatric morbidity, Quality of life.

Conclusion: 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.

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INTRODUCTION

Human beings always remain concerned about their external physical appearance, which is directly related to the health of the skin, so if any illness causes the normal appearance of the skin to change, it causes distress to the individual. Psoriasis is a chronic, disfiguring, non-contagious inflammatory skin disease and is frequent, with prevalence estimates ranging from 0.3 to 2.5%.[1,2] In India, the prevalence of psoriasis varies from 0.44 to 2.8%, while the incidence of psoriasis among total skin patients ranged between 0.44 and 2.2%, with an overall incidence of 1.02%. It is twice more common in males compared with females, and most of the patients are in their third or fourth decade at the time of presentation[3,4] Psoriasis is associated with significant psychological and psychiatric morbidity, experience of stigmatization,[5,6] and decreased health-related quality of life (QOL).[6,7]

All the above highlights are needed to understand the various demographic, psychological, social, and illness-related correlates of psychiatric morbidity in cases of psoriasis and helping them to improve their overall QOL.

Although there is extensive Western literature available on the subject, due to the different psychosocial situation of the developing countries from that of the developed countries and limited research of the present subject in India,[8,9] a need was felt for the present study.

MATERIALS AND METHODS

This cross-sectional, case control, clinic-based study was carried out at Rohilkhand Medical College & Hospital, Bareilly, India, from November 2014 to October 2015. The study was approved by the institutional ethics committee. The study group comprised 100 consecutive patients suffering from psoriasis and fulfilling inclusion and exclusion criteria. The healthy control group was randomly selected. The study and control group was matched for various demographic factors. Informed consent was obtained. Both the groups were subjected to detailed interview covering sociodemographic information, previous psychiatric and medical history, recent symptoms, and general medical status. The study groups suffering from psoriasis meeting the inclusion criteria were administered clinical profile sheet specially constructed for this study to get clinical details of psoriasis. The severity and the extent of skin lesions of psoriasis were assessed by Psoriasis

Area and Severity Index (PASI) scale. The General Health Questionnaire 12 items (GHQ-12) scale was administered to all the subjects in the study and healthy control group. All the subjects who scored ≥3 on GHQ-12 were given Hospital Anxiety and Depression Scale (HADS) and World Health Organization Quality of Life BREF (WHOQOL-BREF) scale. Statistical analysis of the data was done using Statistical Package for the Social Sciences version 22.0 using independent t-test and chi-square test.

RESULTS

The mean age in psoriasis group is 42.52 ± 12.48 years, while in the control group the mean age was 40.54 ± 12.56 years. The majority of participants were male, married, and Hindu in both the groups.

Significantly more (p-value = 0.000) number of patients suffering from psoriasis had psychiatric disturbances (i.e., GHQ ≥ 3) in comparison to healthy controls (30 *vs* 6%). Among participants with psychiatric disturbances (i.e., GHQ ≥ 3), more patients suffering from psoriasis had anxiety score and depressive score above 8 (i.e., more severe psychiatric disturbances), while most of the controls had a score of <7. In this group (participants with GHQ ≥ 3), 26.67% of the psoriasis cases had QOL score below 80, while none of the healthy controls had QOL score below 80, indicating the more perceived impairment of QOL by the psoriasis cases.

Among all the mentioned demographic variables, only gender profile showed a significant result. Significantly more (p-value = 0.0290) male patients suffering from psoriasis had psychiatric disturbances (i.e., GHQ ≥ 3) (Table 1).

The clinical variables like duration of psoriasis illness, the number of relapses, and severity of skin lesion (PASI score) were not found to be associated significantly with GHQ cut-off score in cases of psoriasis. However, a greater number of relapses (>5) appear to be more commonly associated with psychiatric morbidity (56.7 to 42.9%). Also, patients with higher PASI score (>10) are more likely to have psychopathology (26.7 *vs* 17.1%) .

Of the above variables, number of relapse and severity of skin lesion (PASI score) were significantly related to depression score. Apart from these two statistically significant correlations, few important trends were observed though they were not statistically significant. Adult and middle age people experience more anxiety in comparison to adolescent and old age people. Analysis of gender profile revealed that males generally scored higher in QOL scale (23.3 *vs* 10%). Maximum number of patients with pathological anxiety, depression, and poor QOL were those who have an illness with duration from 1 to 5 years. More severe skin lesions were associated with higher anxiety scores and a poorer perceived QOL. Maximum number of cases with anxiety, depression, and poor QOL were found in those who have suffered five or more relapses (36.6, 23.3, and 30% respectively); however, the number of relapses was only significantly associated with depression score as discussed earlier (Table 2).

Table 1: Association of sociodemographic variables, clinical variables of psoriasis with psychiatric morbidity

Variables		*GHQ ≥ 3*	*GHQ < 3*	*Table value*	*p-value*
Mean age in years		*42.52 ± 12.48*	*40.54 ± 12.56*	*t = 1.1183*	*0.2648*
Sex	Male	20 (66.6%)	60 (85.7%)	χ^2 = 4.762	0.0290
	Female	10 (33.4%)	10 (14.3%)		
Marital status	Unmarried	5 (20%)	5 (7.7%)	χ^2 = 2.116	0.1457
	Married	25 (80%)	65 (92.3%)		
Religion	Hindu	22 (73.3%)	58 (82.8%)	χ^2 = 2.143	0.5432
	Muslim	3 (10%)	7 (10%)		
	Sikh	2 (6.7%)	2 (2.9%)		
	Christian	3 (10%)	3 (4.3%)		
Duration of illness (years)	<1	2 (6.7%)	12 (17.1%)	χ^2 = 4.789	0.1879
	1–5	16 (53.3%)	32 (45.71%)		
	5–10	9 (30%)	12 (17.1%)		
	>10	3 (10%)	14 (20%)		
Number of relapses	<2	7 (23.3%)	25 (35.7%)	χ^2 = 1.878	0.391
	2–5	6 (20%)	15 (21.4%)		
	>5	17 (56.7%)	30 (42.9%)		
PASI score	<2	5 (16.6%)	23 (32.9%)	χ^2 = 3.098	0.2124
	2–10	17 (56.7%)	35 (50%)		
	>10	8 (26.7%)	12 (17.1%)		

Table 2: Correlation of age, sex, and illness variables with anxiety score, depressive score, and QOL score in cases of psoriasis with psychiatric morbidity

		Anxiety score			*Depression score*			*QOL*		
Variable		*≤7*	*8–10*	*≥11*	*≤7*	*8–10*	*≥11*	*<80*	*80–90*	*90–100*
Age (years)	<20	1 (3.3%)	1 (3.3%)	0	2 (6.7%)	0	0	0	2 (6.7%)	0
	20–35	4 (13.3%)	2 (6.7%)	1 (3.3%)	5 (16.7%)	0	2 (6.7%)	3 (10%)	2 (6.7%)	2 (6.7%)
	36–50	3 (10%)	6 (20%)	1 (3.3%)	6 (20%)	4 (13.3%)	0	2 (6.7%)	3 (10%)	5 (16.7%)
	>50	4 (13.3%)	7 (23.3%)	0	7 (23.3%)	4 (13.3%)	0	3 (10%)	5 (16.7%)	3 (10%)
		χ^2 = 3.438, p-value = 0.752			χ^2 = 10.466, p-value = 0.1063			χ^2 = 5.419, p-value = 0.4913		
Gender	Male	6 (20%)	12 (40%)	2 (6.7%)	14 (46.7%)	4 (13.3%)	2 (6.7%)	4 (13.3%)	9 (30%)	7 (23.3%)
	Female	6 (20%)	4 (13.3%)	0	6 (20%)	4 (13.3%)	0	4 (13.3%)	3 (10%)	3 (10%)
		χ^2 = 3.00, p-value = 0.2231			χ^2 = 2.10, p-value = 0.3499			χ^2 = 1.425, p-value = 0.4904		
Duration of illness (years)	<1	1 (3.3%)	1 (3.3%)	0	2 (6.7%)	0	0	0	2 (6.7%)	0
	1–5	7 (23.3%)	8 (26.7%)	1 (3.3%)	11 (36.7%)	3 (10%)	2 (6.7%)	5 (16.7%)	5 (16.7%)	6 (20%)
	5–10	4 (13.3%)	4 (13.3%)	1 (3.3%)	7 (23.3%)	2 (6.7%)	0	3 (10%)	5 (16.7%)	1 (3.3%)
	>10	0	3 (10%)	0	0	3 (10%)	0	0	0	3 (10%)
		χ^2 = 0.398, p-value = 0.9826			χ^2 = 11.28, p-value = 0.0799			χ^2 = 11.543, p-value = 0.0729		
No of relapse	<2	4 (13.3%)	3 (10%)	0	5 (16.7%)	0	1 (3.3%)	1 (3.3%)	4 (13.3%)	2 (6.7%)
	2–5	2 (6.7%)	3 (10%)	1 (3.3%)	5 (16.7%)	2 (6.7%)	0	3 (10%)	3 (10%)	0
	>5	6 (20%)	10 (33.3%)	1 (3.3%)	10 (33.3%)	7 (23.3%)	0	4 (13.3%)	5 (16.7%)	8 (26.7%)
		χ^2 = 2.310, p-value = 0.6789			χ^2 = 9.943, p-value = 0.04139			χ^2 = 5.839, p-value = 0.2114		
PASI score	<2	3 (10%)	3 (10%)	0	4 (13.3%)	0	2 (6.7%)	0	4 (13.3%)	2 (6.7%)
	2–10	9 (30%)	7 (23.3%)	2 (6.7%)	13 (43.3%)	5 (16.7%)	0	8 (26.7%)	4 (13.3%)	6 (20%)
	>10	0	6 (20%)	0	3 (10%)	3 (10%)	0	0	4 (13.3%)	2 (6.7%)
		χ^2 = 7.50, p-value = 0.1117			χ^2 = 11.167, p-value = 0.0247			χ^2 = 8.889, p-value = 0.06396		
Visibility of lesion	Unexposed	5 (16.7%)	9 (30%)	0	8 (26.7%)	6 (20%)	0	4 (13.3%)	5 (16.7%)	5 (16.7%)
	Exposed	7 (23.3%)	7 (23.3%)	2 (6.7%)	12 (40%)	2 (6.7%)	2 (6.7%)	4 (13.3%)	7 (23.3%)	5 (16.7%)
		χ^2 = 2.461, p-value = 0.2921			χ^2 = 4.688, p-value = 0.0959			χ^2 = 0.201, p-value = 0.9043		

Table 3: Correlation between QOL and anxiety score and depressive score

QOL Score		*<80*	*80–90*	*90–100*	
Anxiety score (HADS)	≤7	5 (16.7)	3 (10%)	4 (13.3%)	χ^2 = 5.344, p-value = 0.2537
	8–10	2 (6.7%)	9 (30%)	5 (16.7)	
	≥11	1 (3.3%)	0	1 (3.3)	
Depressive score (HADS)	≤7	8 (26.7%)	8 (26.7%)	4 (13.3%)	χ^2 = 12.15, p-value = 0.01627
	8–10	0	2 (6.7%)	6 (20%)	
	≥11	0	2 (6.7%)	0	

The study found no statistically significant association between anxiety score and QOL score. However, the correlation between depressive score and QOL score was found to be statistically significant (Table 3).

DISCUSSION

In the present study, psoriasis cases and healthy control subjects were similar on selected sociodemographic variables. The mean age of patients with psoriasis is 42.52 ± 12.48 and healthy controls was 40.54 ± 12.56, which is not statistically significant. This result was similar to the study conducted by Kouris et al[10], in which also, there was no statistically significant difference between patients and controls as regards age. The overrepresentation of married subjects in the psoriasis group and control group (90 *vs* 85%) is a logical outcome of higher age, ensuring more chances of getting married as per the cultural norms. As expected, the majority of the cases and controls were Hindus (80 *vs* 82%) followed by Muslims (10 *vs* 8%), indicating the prevailing communities in the catchment area of the institute where this study was performed.

Significantly more number of psoriasis cases had psychological disturbance (i.e., GHQ score ≥3) in comparison to healthy controls (30 *vs* 6%), implying that psoriasis cases experienced more psychological stress in comparison to the general population. This result was in concordance with the study conducted by Mattoo et al[11], which showed 24.27% patients suffering from psoriasis had a psychological disturbance. This finding is also similar to the finding of Wessely and Lewis,[12] Bharath

et al[8], and Hughes et al[13] with reporting rates of 12.2 to 47.6% for outpatients of all dermatological disorders including psoriasis.

The severity of anxiety and depressive symptoms experienced by psoriasis patient with GHQ score ≥3 was more, though not significant, in comparison to the controls with GHQ score ≥3. This implied that there is more psychological distress in cases of psoriasis in comparison to the general population. Similarly, healthy control group with GHQ score ≥3 enjoyed a better QOL in comparison to psoriasis patients with GHQ score ≥3. Despite the fact that depression and anxiety did not differ significantly between patients with psoriasis and healthy controls, it is noteworthy that 33.3 and 60% of the psoriatic patients scored above the cut-off score in the HADS-D and HADS-A subscale respectively, a finding, i.e., consistent with the study conducted by Korkoliakou et al,[14] which suggests that psychological morbidity is a clinically important concern in patients with psoriasis. This result was also supported by another study conducted by Golpour et al.[15]

The lower scores on QOL scale by cases of psoriasis compared with that of healthy controls may be due to their perceived lesions, social stigma, lack of social support, and disturbing activities of daily living due to the skin. This finding is supported by a similar study conducted by Bhosle et al[16] in which there was a negative impact on patient's health-related QOL.

On the correlation of GHQ score with various demographic variables in cases of psoriasis, females seem to be significantly more vulnerable to develop psychological disturbances. Similar gender predisposition to psychological disturbances was also found in a study by Mattoo et al.[11] Greater female preponderance toward psychiatric morbidity might be due to the fact that psoriasis causes visible skin changes, and females seem to invest more in their personal appearance than males.

This study did not reveal any statistically significant association of duration of illness with GHQ score. However, analysis of the present study suggests that patients with 1 to 10 years of duration of illness had psychopathology (83.4 *vs* 62.9%). This finding was in relation to the finding by Mattoo et al[11] where there was no significant association between duration of illness and the two GHQ groups, and in other study by Mehta and Malhotra[17] where also duration with psychiatric comorbidity in psoriasis vulgaris patients revealed that there was no correlation between duration and psychiatric comorbidity in psoriasis vulgaris patients. This noncorrelation may be on account of the fact that in case of psoriasis with duration of illness more than 10 years, patients have accepted the disease and its chronic, relapsing nature. Since they have experienced acute phases in the past and know that they do respond to medication, they are not overly concerned.

Analysis showed no statistically significant association between numbers of relapses with GHQ score. However, in cases of psoriasis with more than five relapses, a higher percentage of patients scored ≥3 on GHQ scale (56.7 *vs* 42.9%). This might be explained by the fact that more relapses are associated with more worries about the illness, resulting in decrease in the overall health of the patient leading to psychiatric morbidity.

No significant association of severity of psoriasis skin lesion (PASI score) and GHQ score was found. However, there was a trend of higher percentage of patients with more severe skin lesions scoring ≥3 on GHQ scale (26.7 *vs* 17.1%). A similar finding was also observed by Mehta and Malhotra[17] in which there was no correlation between PASI scores and psoriasis vulgaris and psychiatric comorbidity. Sharma et al[18] also observed a similar pattern. Thus, it can be concluded that the psychiatric morbidity is not just related to the severity of disease, but many other factors might also be involved in the causation of psychiatric disorders in patients with psoriasis.

Analysis of the present study did not reveal any statistically significant association between age and anxiety score in cases of psoriasis with psychiatric disturbances (GHQ score ≥3). However, anxiety levels appear to be higher in the age group 20 to 50 years, probably because they are yet to become habituated to the disease. Similarly, there was no statistically significant correlation between age and depressive score in cases of psoriasis with GHQ ≥3. These results were supported by the study conducted by Tee et al[19] where also there was no significant corelation between anxiety and depression scores on HADS and the age of the patients. In the present study, on the correlation between age and QOL score in cases of psoriasis with GHQ ≥3, no significant relationship was found. This result was in concordance with the result of Kouris et al[10] where no correlation was documented between age and QOL. However, this finding was in contrast to the study conducted by Gupta and Gupta[20] in which psoriasis had a greater impact on the QOL of patients in the 18- to 45-year age range and affected the socialization of both sexes equally. Analysis of the present study revealed that cases in age group more than 50 years perceived poorer QOL, and this may be due to poor social support and other stressors associated with this age group.

The study on corelation between genders with anxiety score, depressive score, and QOL score in cases of psoriasis showed nonsignificant results. Though nonsignificant, males of the study group had more anxiety, more depression, and faced a poorer QOL. This result was in concordance with the results of the study by Mattoo

et al[11] which also did not find any excess representation of females among the psychiatrically ill psoriasis subjects, and Gupta and Gupta[20] which found that there were no significant gender differences in the impact of psoriasis on socialization. Age showed no significant association with anxiety and depression.[21] However, a study by Fortune et al[22] showed that female patients appear to be more susceptible to depression than male patients.

Although there was no statistically significant association of duration of illness with anxiety score, depression score, or QOL score in psoriasis cases with GHQ score ≥3, more anxiety and perceived impairment of QOL was experienced by patients with duration of illness of 1 to 5 years. This could be because of their experience of quite a number of relapses, their knowledge of nature of the illness, and poorer adaptation of living with the illness. This finding was in relation to the finding of Tee et al[22] where there was no significant correlation seen between anxiety and depression scores *vs* duration of psoriasis. A study by Lakshmy et al[21] showed a significant association between severity and duration of psoriasis and psychological distress (Perceived Stress Scale score). Several studies are currently being undertaken by research teams worldwide to further investigate the neuropsychological basis of this association.[23]

Studies found statistically significant association between number of relapses and depression score, but there was no significant association between anxiety and QOL score in psoriasis cases with GHQ score ≥3; however, it is evident that cases with more than five relapses experienced more anxiety and depression with poorer QOL perception when compared with those with less number of relapses. Though a limited number of studies assessed the relation of anxiety, depression, and QOL in psoriasis, one study[24] mentioned that frequent relapses cause increased anxiety and depression in psoriasis patients. Relapses warrant use of more toxic medication with more side effects and often need hospitalization that affects the social and occupational life of the patient.

This study revealed a statistically significant association between severity of skin lesions (PASI score) and depressive score, which can be explained by the fact that the extent of lesion in body-associated erythema, scaling, and infiltration causes heightened concern in patients about their physical appearance and disability, which might lead to social embarrassment. They might also be concerned about the outcome of illness, use of more toxic drugs, and hospital admissions in the course of illness. This finding was supported by a study conducted by Lakshmy et al,[21] Devrimci-Qzguven et al,[25] Akay et al,[26] which found a direct corelation between the severity of psoriasis with the depressive score. This study did not demonstrate statistically significant association of severity of skin lesions (PASI score) with anxiety score and QOL score in psoriasis cases with GHQ score ≥3, even though a trend of more anxiety and poorer QOL in cases with severe skin lesions was evident. This result was supported by the finding of Fortune et al[27] in which the magnitude of anxiety was not influenced by the severity of psoriasis. In a study by Lakshmy et al,[21] the proportion of patients reporting their QOL as poor to very poor on WHOQOL was higher in patients with psoriasis. More prevalence of anxiety, depression, and a poor QOL in patients with psoriasis could be due to cosmetic awareness which has increased, and people today are more concerned about their look and appearance. Competition and the stresses of day-to-day life make psoriasis patients feel inferior and less competent as compared with the normal population.

In the present study, there was no statistically significant association between the visibility of skin lesions and anxiety score, depressive score, and QOL score in cases of psoriasis. Although nonsignificant, the cases with more visible skin lesions in the exposed areas had a poorer QOL when compared with the cases with lesions predominantly on unexposed areas of the body. This finding was also supported by the study done by Ginsburg and Link[28] in which it was stated that patients may feel humiliated when they need to expose their bodies. Though the results of the study were nonsignificant, stigma related to the disease may lead to anxiety and depression, feeling of rejection, and feeling of being flawed; sensitivity to others' attitudes, guilt, and shame may result in a poor QOL experienced by the psoriasis patients.

On corelation between severity of anxiety and depressive score with QOL score, only depressive score was found to be statistically significant. This could be the result of impaired socio-occupational functioning and disturbed biodrives. In a study by Lakshmy et al,[21] QOL was significantly worse in patients with psoriasis with comorbid depression. However, in the same study, the high anxiety scores were also associated with a poor QOL. High levels of depression and anxiety in psoriasis patients may show a need for psychiatric assessment and measures to improve their QOL.

CONCLUSION

Psoriasis markedly worsens the global well-being of patients, who experience an impairment of their QOL and higher levels of anxiety and depression. Analysis of different demographic and clinical variables can provide an important early guide in a patient prone to develop psychiatric morbidities and likely to have a poorer QOL. We are of the opinion that a liaison between dermatologists and psychiatrists in the treatment of psoriasis would be of great help for the patients.

LIMITATIONS

Patients in the study were mainly from the hospital and were taking treatment for psoriasis. Therefore, results cannot be generalized to the whole community and patients not taking any treatment. The sample size was relatively small and, therefore, statistically significant association between the psychological distress and various illness-related variables could not be established. Any other ongoing stressor along with psoriasis could have been a confounding factor.

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