STUDY OF PSYCHIATRIC DISORDERS IN PATIENTS WITH PSORIASIS ATTENDING OUTPATIENT DEPARTMENT IN A TERTIARY HOSPITAL

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ABSTRACT

The neuro-immuno-cutaneous endocrine model explains the mind-body connection. This model explains how many inflammatory dermatoses are triggered or exacerbated by stress factors. These conditions are called psychophysiological skin diseases. Psoriasis is a common psychophysiological skin disease. It affects 2-4% of the population worldwide and involves multiple systems in the body. The rates of psychiatric comorbidities are high in psoriasis, but still, they are not given due attention which leads to an increase in morbidity and mortality in the long run. This study intends to uncover the psychiatric comorbidities in psoriasis patients. In this study, the prevalence of psychiatric disorders was investigated among 104 patients with psoriasis. Following rating scales were used; Hamilton rating scales for depression and anxiety, Presumptive stressful life event scale, Beck scale for suicidal ideation, and Dermatology life quality index. The prevalence of psychiatric disorders in Psoriasis patients was found to be 66.35%. Among the psychiatric disorders, 29.8 % were dependent on substances, 18.27% were found to be suffering from depression,15.38 % with anxiety disorder and 2.88 % with psychotic disorders. Psoriasis has a high prevalence of psychiatric morbidity.

KEYWORDS

Psoriasis, Psychiatric Disorders, Stress, Quality of Life

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INTRODUCTION

Psychodermatology or psychocutaneous medicine focuses on the relationship between psychiatry and dermatology, which deals with the study of the influence of psychosocial stress in the exacerbation and chronicity of skin illness.[1] Both physical agents and psychosocial stress factors are linked with the natural history of several skin diseases, psoriasis being one of them.

Psoriasis is a chronic inflammatory autoimmune disorder that is associated with both genetic and environmental factors. It affects 2-4% of the population worldwide and involves multiple systems in the body.[2]

The etiopathogenesis of psoriasis-psychological stress relationship includes peripheral nervous system pathways, Hypothalamic Pituitary Adrenal (HPA) axis, Sympathetic-adrenal-medullary (SAM) system, and immune mediated pathways. Most studies of the neuroendocrine response to stress in psoriasis have demonstrated a blunted HPA axis cortisol response and a heightened sympathetic response to a stressor.[2] Stress is a trigger and an exacerbating factor in the pathogenesis of psoriasis.[3]

In the last few decades, studies have pointed out the various mental disorders associated with psoriasis.[4] Even though the rates of psychiatric comorbidities are high in patients with psoriasis, scant attention is paid to psychiatric comorbidities that affects the patients.[5] Associated psychiatric comorbidity is likely to be caused by the complex interplay of stress, physical discomfort, and possible disfiguration inherent to psoriasis as well as an emotional response to the condition mediated by the patient's personality, emotional/cognitive state, and other social factors.[6] Other contributory factors might be a heightened proinflammatory state associated with psoriasis as well as the patient's emotional reaction to the effects of psoriasis on the quality of life.[2] If they are not taken care of, these comorbidities have a bearing on treatment improvement of primary dermatologic condition, including psoriasis as well.[7]

The main aim of this study was to evaluate the psychiatric disorders in patients with psoriasis. The relationship between stress and psoriasis, and the quality of life among psoriasis patients was also studied.

MATERIALS AND METHODS

This was a cross-sectional, descriptive study done in a tertiary care hospital of Kathmandu from April 14, 2019 to April 12, 2020. Ethical clearance was taken from the IRC of Nepal Medical College.

All diagnosed cases of psoriasis were included in the study. Those patients excluded were as follows:

1. Patients who refused to give consent
2. Past history of independent psychiatric illness
3. Very severe form of psoriasis (Pustular psoriasis, psoriatic arthritis)
4. Patients known to have other skin diseases before the onset of psoriasis
5. Oral steroid use

All patients diagnosed with psoriasis in the Dermatology department were referred to the Psychiatry department. Clinical (socio-demographic details) profile was recorded in a pretested proforma. Psychiatric diagnosis was determined by using ICD-10 DCR.[8] Scales like Hamilton Rating Scale for Depression (HAM-D),[9] Hamilton Anxiety Rating Scale (HAM-A),[10] Dermatology Life Quality Index (DLQI),[11] Beck Scale for Suicidal Ideation (BSSI),[12] and PSLE[13] were applied to assess the respective domains. A total of 104 patients with psoriasis were included in the study. Data was entered in MS Excel. Statistical analysis was done by SPSS 16. T-test and Chi-square test were applied to determine the association, where p-value less than 0.05 was considered statistically significant.

RESULTS

This was a cross-sectional study where 104 patients with psoriasis were assessed for psychiatric disorders. The age of patients ranged from 5 years to 87 years with a mean of 40.91(SD+/- 14.76) years (Table 1).

The prevalence of Psychiatric disorders in our study was 66.35%. The commonest psychiatric diagnosis was substance dependence (29.8%), followed by depression (18.3%), anxiety disorders (15.4%), and psychotic disorders (2.9%). Among the patients diagnosed with psychiatric disorders; 10.6% reported suicidal ideations (Table 2).

In 59.6% of patients, stressful life events preceded the onset of psoriasis. Among them, 72.6% of the patients had an undesirable life event prior to psoriasis. In 37.5% of patients, psoriasis had a very large effect on the Quality Of Life (QOL), while in 20.2% of patients it had an extremely large effect on QOL (Table 3).

Table 1: Distribution of respondents on the basis of socio-demographic variables (n=104)

Characteristics	Category	n (%)
1. Sex	Male	70 (67.30)
	Female	34 (32.69)
2. Age	≤30	22 (21.10)
	31-40	9 (37.50)
	41-50	22 (21.25)
	51-60	8 (7.69)
	>60	13 (12.50)
3. Education	Illiterate	32 (30.77)
	Under SLC	13 (12.50)
	SLC	18 (17.31)
	Intermediate	14 (13.46)
	Bachelors	18 (17.31)
	Masters	9 (8.65)
4. Marital status	Single	12 (11.54)
	Married	89 (85.58)
	Widow	2 (1.92)
	Separated	1 (0.96)
5. Occupation	Retired	2 (1.92)
	Unemployed	19 (18.27)
	Labour	8 (7.69)
	Semiskilled	41 (39.42)
	Skilled	34 (32.69)
6. Religion	Hindu	83 (79.81)
	Muslim	2 (1.92)
	Buddhist	19 (18.27)
7. Address	Inside KTM	38 (36.54)
	Outside KTM	66 (63.46)
8.SES	Low	46 (44.23)
	Middle	56 (53.85)
	Upper	2 (1.92)
9. Family	Nuclear	37 (35.58)
	Joint	67 (64.42)
10. Past Med hx	present	61 (58.65)
	absent	43 (41.35)
11. SI/SP	Yes	10 (9.62)
	No	94 (90.38)
12. Self harm	Yes	5 (4.81)
	No	99 (95.19)
13. Family h/o psy illness	Yes	16 (15.38)
	No	88 (84.62)
14. Sleep problems	Yes	40 (38.46)
	No	64 (61.54)
15. Course of illness	continuous	37 (35.58)
	episodic	67 (64.42)
16. Attitude towards Illness	neutral	27 (25.96)
	pessimistic	21 (20.19)
	optimistic	56 (53.85)

Table 2: Distribution of respondents on the basis of ICD-10 DCR diagnosis

ICD-10 DIAGNOSTIC CRITERIA	n (%)
Mental and behavioral disorder due to psychoactive substance use:	
Alcohol dependence	14 (13.46)
Nicotine depndence	16 (15.38)
Polysubstance dependence	01 (0.96)
Total	31 (29.80)
Schizophrenia, schizotypal and delusional disorders:	
ATPD	01 (0.96)
Psychosis NOS	02 (1.92)
Total	03 (2.88)
Depressive episode:	
Mild without somatic symptoms	02 (1.92)
Mild with somatic symptoms	01 (0.96)
Moderate without somatic symptoms	04 (3.85)
Moderate with somatic symptoms	05 (4.81)
Severe without psychotic symptoms	06 (5.77)
Severe with psychotic symptoms	01 (0.96)
Total	19 (18.27)
Neurotic stress related somatoform disorders:	
Generalized Anxiety Disorder	01 (0.96)
Adjustment Disorder	04 (3.85)
OCD	01 (0.96)
Social phobia	01 (0.96)
Mixed depression anxiety	01 (0.96)
Anxiety NOS	08 (7.69)
Total	16 (15.38)
Total illness detected	69 (66.35)
No illness detected	35 (33.65)
Total number of patients	104 (100)

The majority of patients with psoriasis diagnosed with psychiatric disorders were in the age group 31-40 years (33.3%) with a male preponderance (71.0%). The male to female ratio was 2.06:1. The majority of them were married (85.5%) and illiterate (34.8%). Around 35.0% had skilled and semi-skilled jobs, whereas 75.4% of them were Hindu by religion. Half of the participants resided outside Kathmandu valley, 52.2% belonged to the middle class, and 58.0% had a joint family. Around 72.0% had a past medical history and 18.8% had a family history of psychiatric illness. One fourth of the patients having psychiatric illness reported suicidal ideations and 53.6% reported sleep problems. Episodic illness was seen in 66.7% while 17.4% had a pessimistic attitude towards their illness. The psychiatric disorders had a statistically significant association with sleep problems and the age of the patient (Table 4).

Table 3: Distribution of respondents on the basis of Rating scales

Scales	n (%)
HAM-D (n=104)	
Normal	82 (78.85)
Mild	7 (6.73.00)
Moderate	6 (5.77)
Severe	7 (6.73)
Very severe	2 (1.92)
Total	104 (100.00)
HAM-A (n=104)	
Normal	88 (84.60)
Mild	10 (9.60)
Mild to moderate	5 (4.80)
Moderate to severe	1 (0.96)
Total	104 (100)
BSSI(n=104)	
Nil	93 (89.40)
Low intent	7 (6.70)
Medium intent	4 (3.90)
High intent	0 (0.00)
Total	104 (100)
DLQI (n=104)	
No effect on pt's life	5 (4.81)
Mild effect on pt's life	15 (14.42)
Moderate effect on pt's life	24 (23.08)
Very large effect on pt's life	39 (37.50)
Extremely large effect on pt's life	21 (20.19)
Total	104 (100)
PSLES (n=62)	
Desirable	2 (3.23)
Undesirable	45 (72.58)
Ambiguous	15 (24.19)
Total	62 (100)

In 27.5% of patients, psoriasis with the comorbid psychiatric disorder had an extremely large effect on QOL as compared to 20.2% of patients diagnosed only with psoriasis (Table 5).

DISCUSSION

A large number of studies have reported an increased prevalence of psychiatric morbidity in patients suffering from psoriasis. The mean age of the patients in our context was 40.91±14.76 years.Seventy cases were male and 34 cases female patients. Females are less treatment seekers than males thus visit the hospital less frequently. This could be the reason that female enrollment was lesser in our study. This is similar to a study done by Sarkar *et al*.[14]

The prevalence of mental disorders in psoriasis varies worldwide. In our study, the prevalence of psychiatric disorders in psoriasis patients was 66.3%. This resonates with the systematic review of the literature, where prevalence was in the range of 24-90%.[15] Most studies worldwide report prevalence that falls within the above range. Similarly, Indian studies reported psychiatric morbidity ranging from 32.3-84.0%.[16] Other studies reporting similar results were Parafianowicz *et al*[17] who noted point prevalence of 62.5% and Manjunath *et al*[18] reporting 70.0% psoriasis patients with psychiatric comorbidity.

In our study, amongst the psychiatric disorders, substance dependence had the highest prevalence followed by depression and anxiety. In our study, 29.8% were diagnosed with substance dependence. Studies have provided an insight into substance related disorders in 24.8% patients with psoriasis, which is almost similar to our findings.[15]

Nicotine dependence was seen in 15.4% followed by alcohol dependence in 13.4% of patients and polysubstance dependence in 1.0% in our study. Abedini *et al*[19] reported nicotine

Table 4: Relationship between psychiatric disorders according to ICD-10 DCR and different variables(n=69)

Socio-demographic variables		ADS	NDS	Polysubst	Dep	Anxiety	Psychosis	n	%	p value
Sex	Male	11	14	1	13	9	1	49	71.01	0.820
	Female	3	2		6	7	2	20	29.99	
	Total	14	16	1	19	16	3	69	100	
Age*	=<30	3	6	1	3	3	-	16	23.18	0.000
	31-40	7	4	-	4	6	2	23	33.33	
	41-50	2	2	-	5	4	1	14	20.29	
	51-60	1	2	-	2	-	-	5	7.2	
	>60	1	2	-	5	3	-	11	15.94	
	Total	14	16	1	19	16	3	69	100	
Education	Illiterate	4	4		9	6	1	24	34.78	0.183
	<SLC	2	4		2	1		9	13.04	
	SLC	6	5		3	2		16	23.19	
	XII	1	1	1	1	3		7	10.14	
	Bachelor	1	2		3	3		9	13.04	
	Masters				1	1	2	4	5.80	
	Total	14	16	1	19	16	3	69	100	
Marital status	Single	1	2	1	1	2	1	8	11.59	0.857
	Married	13	14		17	13	2	59	85.51	
	Widow					1		1	1.45	
	Separated				1			1	1.45	
	Total	14	16	1	19	16	3	69	100	
Occupation	Retired	1			1			2	2.90	0.985
	unemploy	2	3	1	2	5		13	18.84	
	Labour	1	2		1	1	1	6	8.70	
	Semi skilled	5	5		9	5		24	34.78	
	Skilled	5	6		6	5	2	24	34.78	
	Total	14	16	1	19	16	3	69	100	
Religion	Hindu	10	13		15	12	2	52	75.36	0.983
	Muslim				1			1	1.45	
	Buddhist	4	3	1	3	4	1	16	23.19	
	Total	14	16	1	19	16	3	69	100	
Address	Inside KTM	5	8		8	10	3	34	49.28	0.646
	Outside KTM	9	8	1	11	6		35	50.72	
	Total	14	16	1	19	16	3	69	100	
SES	low	8	10		6	7	1	32	46.38	0.961
	middle	6	6	1	13	9	1	36	52.17	
	upper						1	1	1.45	
	Total	14	16	1	19	16	3	69	100	
Family	Nuclear	4	9		9	6	1	29	42.03	0.981
	Joint	10	7	1	10	10	2	40	57.97	
	Total	14	16	1	19	16	3	69	100	
Past Medical hx	present	12	12		15	10	1	50	72.46	0.765
	absent	2	4	1	4	6	2	19	27.54	
	Total	14	16	1	19	16	3	69	100	
SI/SP	present	1	4		9	2	1	17	24.64	0.676
	absent	13	12	1	10	14	2	52	75.36	
	Total	14	16	1	19	16	3	69	100	
Family h/o Psy illness	Yes	2	1	1	6	3		13	18.84	0.634
	No	12	15		13	13	3	56	81.16	
	Total	14	16	1	19	16	3	69	100	
Sleep * problem	Yes	7			16	12	2	37	53.62	0.002
	No	7	16	1	3	4	1	32	46.38	
	Total	14	16	1	19	16	3	69	100	
Course of illness	continue	4	6		5	7	1	23	33.33	0.998
	episodic	10	10	1	14	9	2	46	66.67	
	Total	14	16	1	19	16	3	69	100	
Attitude	Neutral	9	7	1	5	3	2	27	39.13	0.750
	pessimisti		3		4	5		12	17.39	
	optimistic	5	6		10	8	1	30	43.48	
	Total	14	16	1	19	16	3	69	100	

*p<0.05 statistically significant

Table 5: Relationship between psychiatric disorders according to ICD-10 DCR and DLQI

DLQI	Psychiatric dx	%	No sychiatric dx	%	Total	%	p-value
No effect on pt's life	1	1.45	4	11.43	5	4.81	
Mild effect on pt's life	12	17.39	3	8.57	25	14.42	
Moderate effect on pt's life	15	21.74	9	25.71	24	23.08	0.144
Very large effect on pt's life	22	31.88	17	48.57	39	37.50	
Extremely large effect on pt's life	19	27.54	2	5.71	21	20.19	
Total	69	100.00	35	100.00	104	100.00	
%	66.35		33.65				*p<.05

dependence in 19.2% of patients diagnosed with psoriasis, which is similar to our results. 41.0% patients reported to be smoking according Zink *et al*[20] and 68% in a study by Pompili *et al.*[21] The differences in results could be due to the different populations with different cultural practices.

Svanstrom *et al* reported 17-30% of patients with plaque psoriasis had alcohol use disorders.[22] This is similar to a study reported by Mahajan *et al.* [23] Other studies showed alcoholism in 12-18% psoriasis patient.[6,24,25] Our study also reported similar findings.

Depression is also a common comorbid disorder with a prevalence of around 19-60% in different studies.[5,6,25-29] In our study, depression was reported in 18.3% of patients, which is similar to the above-mentioned study. In our study, mild depression was seen in 2.9% patients, moderate depression in 8.7%, and severe depression in 6.7%. Kumar *et al*,[26] in their study, identified 68.0% with mild, 18.0% with moderate, and 4.0% with severe depression. Disfigurement, stigmatization, high scores on pruritis, and pain are considered the contributory factors to depression.

Suicidal ideations are found in around 2-11% patients, mostly in the context of depressed mood and anhedonia[18,24,21,30] Similar finding was reported in our study where 10.6% reported suicidal intent, which was low in 6.7% and medium in 3.9% of patients. None of the patients reported high intent or suicidal attempts.

Psoriasis may lead to anxiety and vice versa. The prevalence of anxiety disorders in patients with psoriasis, based on the systematic review of studies, was found to range from 7 to 48.0%[31] Other studies also report a prevalence within this range.[6,7,17,18,26,32,33] Anxiety disorders were identified in 15.4% in our study which is similar to the above findings.

Anxiety disorders have been reported in various studies where, adjustment disorders range from 15-62%.[6,18] In our study, 3.8% were diagnosed with adjustment disorders, which is similar to a study reported from Himachal Pradesh,[34] where 2.4% of patients were diagnosed with adjustment disorders. Generalized Anxiety Disorder (GAD) was reported to be 9-13% in various studies.[6,29] Kashyap *et al*[34] reported 2.4% patients with GAD. Only 1.0% of cases of GAD were diagnosed in this study. Mixed anxiety depression was reported 13.7% by Biljan *et al*,[6] which is diagnosed in 1.0% of patients in this study. Obssessive Compulsive Disorder (OCD) and Social phobia were seen in 1.0% each in this study. Social phobia was reported to be seen in 1.6% of patients by Kashyap *et al.*[34] The difference in results could be due to the different populations under study, different methods of reporting used, or under-reporting of symptoms by the patients.

In this study, Anxiety NOS was reported in 7.7% of patients; the highest among the different anxiety disorders. Amongst patients diagnosed with anxiety, 9.6% had mild, 4.8% mild to moderate, and 1.0% severe anxiety symptoms.

Kumar *et al*[26] reported 52.0% of patients with mild, 36.0% with mild to moderate, and 12.0% with moderate to severe anxiety.

Various studies have shown the evidence of a relationship between psychotic symptoms and psoriasis, which has been reported to range from 2-35%.[16,21-4] Similar to these studies, psychosis was diagnosed in 2.9% of patients in our study.

Sleep impairment in psoriasis could be due to pruritis, pain, or low mood.[35] A study by Gupta *et al*[36] stated sleep disruption in 5.9-44.8% of patients. Findings resonate with our study, where 38.5% of patients had sleep problems

Psoriasis is a common psychophysiological skin disease with a major impact on patient's QOL. It was reported that patients with psoriasis suffer from similar deterioration in health related QOL as patients with cancer and CV disease.[4] Seventy-nine percent of patients stated that psoriaisis had a negative impact on their QOL.[25] In our study, 95.2% of patients reported psoriasis affected their QOL. Among them, in 20.2% patients, psoriasis had an extremely large effect on patient's QOL, and in 37.5% of patients, a very large effect on QOL respectively. A study from Jammu,[37] stated that 24.3% of patients with psoriasis had a very large effect on the QOL, and 4.0% had an extremely large effect on QOL.

Singh *et al*,[28] in their study, reported that the mean scores across each heading of DLQI and total were significantly more in the group with comorbid psychiatric disorders. In our study, in 27.5% of psoriasis patients with the comorbid psychiatric disorder had an extremely large effect on patient's life as compared to 20.2% patients diagnosed only with psoriasis, though the results are not statistically significant.

Patients with psoriasis have reported more stressful life events in comparison to control. Stressful life events are both a cause and aggravating factor for psoriasis.[21] In >50% patients, psychological stress exacerbates psoriasis.[2] Very high rates of stressful life events (43-73.6%) have been reported to be preceding the onset of illness in various studies.[21,25,38,39] In our study, 59.6% of the patients reported stressful events before the onset of illness. Among them, 72.6% stated undesirable life events preceding the illness. A similar findings noted in another study[21] in which 73.6% of patients had a negative life event 12 months before the onset of symptoms.

In Conclusion, this study showed that psoriasis patients have a high degree of psychiatric disorders. Therefore, psychiatric consultation of all psoriasis patients is highly recommended.

Limitations: Patients with pre-existing psychiatric disorders are also at a high risk of psoriasis, which couldn't be included here. This was only a cross sectional study, hence not representative of the population.

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