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Letter to the Editor – Study Letter

Psychiatric comorbidities in patients with prurigo nodularis – A cross-sectional study from a tertiary care center in South India

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Dear Editor,

The association between skin and the nervous system is related to their common embryonic origin, the ectoderm of fetus. They remain closely interconnected and interactive throughout the life.[1] The neural receptors in the skin are the largest sense organ of the body and are key to skin protection and health.[2] Pruritus or itch is one of the most common symptoms of dermatological disorders. Mind and pruritus are intertwined in a complex manner.[3]

Depression is a chronic or recurrent affective disorder usually associated with a physical morbidity. Depressive disorders are present in almost 30%–50% of dermatological patients.[4,5] Major depressive disorder (MDD) is characterized by one or more major depressive episodes lasting at least 2 weeks characterized by depressive mood (almost whole day or nearly every day) and markedly decreased pleasure, or interest in all or almost all activities.[6] Depending on the severity and number of symptoms, depression can be divided into mild, moderate, and severe.[7]

According to American psychological association "Anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure." People with anxiety usually avoid certain situations that cause worry to them. They have recurrent intrusive thoughts or concerns and they experience physical symptoms such as sweating, trembling, dizziness, or palpitation.[8] Occasional anxiety is an unavoidable part of life, but anxiety disorders include more a than transient worry or fear. The symptoms interfere with daily activities of life such as school, work, and relationships. There are different types of anxiety disorders including generalized anxiety disorder, panic disorder, and various phobias.[8]

Dissociative disorders are characterized by lack of normal integration of thoughts, feelings, and experiences into the stream of consciousness and memory. It occurs on a continuum ranging from minor normative dissociations to psychiatric conditions.[9] These symptoms increase with severity of dissociation.[8] Itching is an important cutaneous symptom in dissociation.[9,10]

Prurigo nodularis (PN) and lichen simplex chronicus (LSC) are chronic psychogenic pruritic disorders characterized by intense pruritus, which may be intensified or perpetuated by emotional factors and are associated with intrinsic factors, such as local cytokine releases, neuropeptide changes, and inflammatory cell infiltrates.[11] Patients with PN and LSC have a high frequency of psychiatric morbidity, deranged sleep patterns, mood disturbances, anxiety, and depression which, in turn, exacerbate the itching.[12-14] Pruritus itself can significantly impair the quality of life and sleep.[15]

In this cross-sectional study, we assessed the psychiatric comorbidities of depression, anxiety, and dissociative experiences in patients with PN. The study was conducted in the outpatient dermatology department of a tertiary referral center after getting ethics committee approval. 60 consecutive patients with a clinical diagnosis of PN diagnosed (by a qualified dermatologist) and were of the age group between 13 and 70 years were included in the study. Patients with other medical illnesses, mental retardation, and other severe cognitive dysfunction interfering with the formal assessment were excluded from the study. Individual study participant gave written informed consent. Study period was 10 months, starting from May 2016 to February 2017. A pre-set questionnaire was used to collect socio-demographic parameters and dermatological features of the patients. Psychiatric morbidity was assessed by the following tools:

1. Mini international neuropsychiatric interview (MINI): It is a short, structured diagnostic interview developed in 1990 to explore the occurrence of major axis I psychiatric disorders and has high validity and reliability scores.[16]
2. The patient health questionnaire 9 (PHQ-9) is a nine-item depression module from the primary care evaluation of mental disorders corresponding to the diagnostic and statistical manual of mental disorder 4th edition major depressive criteria.[17]
3. The dissociative experiences scale (DES) is a tool used extensively to screen for dissociative symptoms.[18]

Vernacular (Malayalam) version of MINI, PHQ-9, and DES was administered in all patients and the scores were recorded. Illiterate patients who cannot read and respond by themselves, completed the proforma with the help of the investigator. The collected data were analyzed by frequency and percentage.

The results of 60 patients with PN were analyzed [Table 1, Figures 1 and 2]. The mean age was 37.9 years. 42 (70%) patients were females. Majority of the patients were married (36, 60%). 46 (76.7%) had secondary school education. Majority of the patients belonged to below poverty line.[19] 43 (71.7%) patients were from rural areas. 42 (70%) patients were from nuclear families. 26 (43.3%) were house wives and 17 (28.3%) were students. All patients had multiple lesions. Their size varied from few millimeters to many centimeters. Thirty (50%) patients had lesion of size 0.5–1 cm, 26 (43.3%) had lesions of size 1–1.5 cm, and 4 (6.7%) had lesions of size 1.5–2 cm. The most common affected area was lower limb followed by upper limb. 14 (23.3%) patients were on psychotropics for different psychiatric comorbidities. Out of these, 7 (11.6%) had lesions of size 1–1.5 cm. However, the rest had lesions of lesser size (0.5–1 cm). The mean duration of the illness was 6 months. No significant correlation was seen between the size of the lesion and the duration of the illness (correlation coefficient $r = 0.213$). Among the patients, 20 (33.3 %) were having some psychiatric comorbidity [Table 2]. Of this, 9 (9/60, 15%) had MDD, 6 (6/10, 10%) had history of MDD, 1 (1/60, 1.7%) had generalized anxiety disorder (GAD), and 1 (1/60, 1.7%) had social phobia. Three patients (3/60, 5%) had dysthymia. 40 (40/60, 66.7%) were without any psychiatric comorbidities. Mean PHQ-9 value was 2.75 and mean DES score was 1.09.

Table 1: Socio-demographic details of prurigo nodularis patients.

S. No.	Socio-demographic details	Frequency (Percentage)
1	Sex	
	Male	18 (30)
	Female	42 (70)
2	Marital status	
	Single	19 (31.7)
	Married	36 (60)
	Widow	4 (6.7)
	Separated	1 (1.7)
	Living together	0
3	Education	
	Not formally educated	2 (3.3)
	Below 10th standards	46 (76.7)
	11 and 12th standards	8 (13.3)
	Degree and higher	4 (6.7)
4	Occupation	
	Unemployed	8 (13.3)
	House wife	26 (43.3)
	Unskilled	3 (5)
	Semiskilled	3 (5)
	Skilled	3 (5)
	Student	17 (28.3)
5	Socioeconomic status	
	Above poverty line	17 (28.3)
	Below poverty line	43 (71.7)
6	Residence	
	Rural	40 (66.7)
	Urban	20 (33.3)
7	Type of family	
	Nuclear	42 (70)
	Joint	9 (15)
	Extended	9 (15)

In the present study, we observed that the mean age of the PN patients was 37.9 years. This finding was comparable to the previous studies.[20,21] The female preponderance noted by us was discordant to certain studies that reported an equal distribution in both sexes.[22] The most common affected area was lower and upper limbs. This was consistent with the observation of Rowland-Payne *et al.*[23] Our study could not find a significant relationship between the size of the lesion, extent of the lesion, and the duration of the illness. The lesions were more common in married females of poor socio-economic status, belonging to rural areas. Whether there is an actual relationship between the extent of PN and the socio-economic status or it is a reflection of the profile of

Table 2: Psychiatric comorbidity in patients with prurigo nodularis.

Psychiatric comorbidity (MINI)	Frequency (%) *n* = 60 (100%)
Generalized anxiety disorder	1 (1.7)
MDD	9 (15)
Past history of MDD	6 (10)
Social phobia	1 (1.7)
*None	40 (66.7)

MINI: Mini international neuropsychiatric interview, MDD: Major depressive disorder. *Three patients had dysthymia that cannot be assessed by MINI.

Figure 1: Prurigo nodularis in an old lady.

Figure 2: Prurigo nodularis in a young man.

the population seeking treatment in a government institution needs analysis in multicenter studies.

The psychiatric comorbidity noted in one-third of our study participants was higher than the same documented in the general population of the country (56/1000 population); but was comparable to the findings of the previous studies on PN.[13,24-28] Literature states depression as the most common psychiatric disorder associated with PN followed by anxiety disorder.[23] Our study also showed depression and anxiety as the common psychiatric comorbidities. Rowland-Payne *et al.* observed that 50% of patients had depression, anxiety, and other psychiatric disorders out of which 33% needed treatment.[23] Schneider *et al.* revealed a higher prevalence of alexithymia, somatization symptoms, hypochondriasis, anxiety, and depression.[21] Study by Konuk *et al.* observed higher frequency of psychiatric symptoms in LSC patients.[12] Contrary to the literature, none of our patients had dissociative experiences.[19] Dysthymia noted in three patients could not be assessed with MINI which was consistent with current knowledge.[29]

Single center study design and small sample size were the limitations.

Our findings suggest that one-third of the PN patients had some level of psychiatric comorbidity. MDD was the most common, followed by GAD and social phobia. This study could not find a relationship between dissociative experiences and PN. We suggest that a holistic approach may be required in the management of PN.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

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