A perspective study of cutaneous manifestations in primary psychiatric disorders in a tertiary care hospital

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ABSTRACT

Background: Cutaneous disorders are frequently seen in psychiatric patients. This may be attributed to the common ectodermal origin of skin and neurons. There is a paucity of data on cutaneous comorbidity in primary psychiatric disorders.

Aims: The aim of this study is to determine the pattern of cutaneous manifestations in patients with primary psychiatric disorders.

Settings and Design: This was a hospital-based observational study.

Subjects and Methods: A total of 210 patients suffering from various psychiatric disorders along with associated skin disease were recruited. Patients with an age <18 years and with history of substance abuse were excluded from this study.

Statistical Analysis: IBM SPSS Statistics, version 22 (IBM Corp, Armonk, NY, USA) was used for the statistical analysis.

Results: A total of 314 cutaneous manifestations were observed in the psychiatric patients recruited in this study. Among the patients surveyed, 88 patients were male (41.9%) and the remaining 122 patients (58.1%) were female. Primary psychiatric conditions observed were schizophrenia (25.7%), major depressive disorder (23.8%), bipolar mood disorder (23.3%), and psychosis not otherwise specified (11.9%). A majority (63.06%) of the cutaneous manifestations were noninfective dermatoses, and the rest (36.94%) were infective dermatoses. Fungal skin infections and eczema were seen in 33.8% and 24.8% of the cases, respectively. Seborrheic dermatitis (16.2%) was the most common eczema encountered. Nearly 75.2% of cases were found to have an insight into their skin problems. The common medical comorbidities seen in our patients were diabetes mellitus and hypertension.

Conclusions: In our study, cutaneous manifestations were quite common in primary psychiatric disorders. A collaborative approach, between psychiatry and dermatology, should be an integral part of management in such cases.

Key words: Bipolar mood disorders, dermatophytosis, insight, schizophrenia, seborrheic dermatitis

INTRODUCTION

Cutaneous disorders are commonly seen in psychiatric patients. This may be because of common ectodermal origin of both skin and the neurons. This can also explain the stress, anxiety, and depression associated with some skin disorders. Due to the fact that, it responds to emotional stimuli and acts as an outlet for anger, fear, shame, and anxiety, skin occupies a special place in psychiatry.[1] While...
psychiatry is more focused on the “internal” invisible disease, dermatology focuses on the “external” visible disease. In chronic psychiatric inpatients, the prevalence of skin disorders following physical examination was found to be 77%.[3] There is a paucity of data on cutaneous morbidity in patients with primary psychiatric disorders. It is imperative that dermatologists recognize the psychiatric component of these disorders for managing them effectively. Hence, this study was conducted to determine the pattern of cutaneous manifestations in patients with primary psychiatric disorders.

**SUBJECTS AND METHODS**

This prospective study was done on 210 patients with psychiatric disorder and having associated skin disease. Patients were recruited from outpatient/inpatient departments of Justice K S Hegde Charitable Hospital, Deralakatte, Mangalore. A qualified psychiatrist first evaluated the patients for primary psychiatric disorders and a trained dermatologist assessed cutaneous manifestations in them. Exclusion criteria included were age <18 years, substance abuse, and sexually transmitted disorders. Informed consent was taken from each patient. A careful general and systemic examination was also done. Relevant investigations were done including scraping for fungus/scabies and biopsy when required. Patients with cutaneous disease were treated accordingly. All the relevant data were entered in a prestructured proforma. Data analysis was done using IBM SPSS Statistics, version 22 (IBM Corp, Armonk, NY, USA). Pearson’s correlation and Chi-square test were done to check correlation and association of skin lesions.

**RESULTS**

A total of 210 patients with psychiatric disorder and having skin disease were recruited for the study. A total of 314 cutaneous manifestations were observed. Among the patients surveyed, 88 patients were male (41.9%) and the remaining 122 patients (58.1%) were female, giving a male:female ratio of 0.72:1. Among the patients, 122 patients were married (58.1%), 78 patients were unmarried (37.2%) while 5 patients (2.4%) each were divorced and widowed, respectively. The majority of cases were seen in the category of the third to fifth decades of life. Highest incidence of dermatoses was seen in the third decade of life in both the sexes. Sixty-eight patients (32.4%) recruited in this study were housewives, followed by 53 (25.2%) patients, who were unemployed. Among the patients considered in this study, 58 (27.6%) had comorbid conditions such as diabetes, hypertension, and bronchial asthma. The demographic profile of the patients recruited in the study is given in Table 1.

Various primary psychiatric and psychogenic disorders observed in our study are given in Table 2. In our study, 51.4% of the patients had an insight about the psychiatric disorder, and 75.2% of the patients had an insight about the skin disorder.

| Table 1: Demographic characteristics of patients |
|-----------------------------------------------|
| **Frequency (%)**                             |
| Sex                                           |
| Female                                       | 122 (58.1) |
| Male                                         | 88 (41.9)  |
| Occupation                                    |
| Business                                     | 6 (2.9)    |
| Housewives                                   | 68 (32.4)  |
| Others                                       | 1 (0.5)    |
| Professional                                 | 9 (4.3)    |
| Student                                      | 11 (5.2)   |
| Skilled laborer                               | 23 (11.0)  |
| Unemployed                                   | 53 (25.2)  |
| Unskilled laborer                             | 39 (18.6)  |
| Addictions                                   |
| Present                                      | 13 (6.2)   |
| Absent                                       | 197 (93.8) |
| Comorbid illnesses                           |
| Nil                                          | 152 (72.4) |
| Bronchial asthma                             | 6 (2.9)    |
| DM                                           | 17 (8.1)   |
| DM+HTN                                       | 4 (2.0)    |
| DM+HTN+IHD                                   | 1 (0.5)    |
| Epilepsy                                     | 6 (2.9)    |
| HTN                                          | 8 (3.8)    |
| HTN + DM + thyroid abnormalities             | 1 (0.5)    |
| HTN+irritable bowel disease + benign prostatic hypertrophy | 1 (0.5) |
| IHD                                          | 2 (1.0)    |
| IHD + DM + HTN + chronic obstructive pulmonary disease | 1 (0.5) |
| Mitral regurgitation                         | 1 (0.5)    |
| Thyroid abnormalities                        | 5 (2.4)    |
| Tuberculosis                                 | 1 (0.5)    |
| Marital status                               |
| Divorced                                     | 5 (2.4)    |
| Married                                      | 122 (58.1) |
| Unmarried                                    | 78 (37.2)  |
| Widow                                        | 5 (2.4)    |

DM – Diabetes mellitus; HTN – Hypertension; IHD – Ischemic heart disease

| Table 2: Psychiatric diagnosis and psychogenic skin disorder |
|-------------------------------------------------------------|
| **Frequency (%)**                                           |
| Psychiatric diagnosis                                       |
| Generalized anxiety disorder                                 | 21 (10.0) |
| Bipolar mood disorder                                       | 49 (23.3) |
| Major depressive disorder                                   | 50 (23.8) |
| Mixed anxiety depressive disorder                            | 6 (2.9)   |
| Obsessive-compulsive disorder                               | 5 (2.4)   |
| Psychosis not otherwise specified                            | 25 (11.9) |
| Schizophrenia                                               | 54 (25.7) |
| Psychogenic skin disorder                                   |
| Nil                                                         | 200 (95.2) |
| Body dysmorphic disorder                                    | 1 (0.5)   |
| Delusion of parasitosis                                     | 2 (1.0)   |
| Gender Identity disorder                                    | 1 (0.5)   |
| Neurotic excoriations                                       | 5 (2.4)   |
| Trichotillomania                                            | 1 (0.5)   |
Among the cutaneous manifestations seen in the study, 63.06% were noninfective dermatoses and the rest (36.94%) were infective dermatoses. They are shown in Tables 3 and 4, respectively.

**DISCUSSION**

In our study, a large number of patients were found to be unemployed (25.2%). Unemployment could be largely due to their psychiatric illness, adding financial burden on the family, and hindering the long-term treatment required for their illnesses. Unemployment, on the other hand, can also lead to conditions such as psychological stress, anxiety, and depression which are known to trigger or exacerbate numerous skin disorders. The number of unmarried individuals (37.2%), in this study, was substantial, as the majority of the patients included in the study belonged to the age group of 18–50 years, an age group considered marriageable in our society. Another 4.8% of the patients were single because either they were divorced or widow/widower. The absence of support from a spouse could be a factor for the prevalence of skin disorders in these patients. There seems to be a relationship between health status and marital status of individuals, with marriage having a positive role in reducing the mortality and morbidity rates. Seyhan et al. also found a similar incidence of psychocutaneous disorders in divorcees and widow/widowers.

Wide variations in the prevalence of infective dermatosis from 9.22% to 68.66% have been reported in primary psychiatric disorders. The relatively high prevalence of infectious dermatosis (36.94%) noted in our study could be attributed to poor self-care, noncompliance to treatment, humid climate, increased sweating, use of synthetic clothing, and lack of insight. Pityriasis versicolor (17.6%) and dermatophyte infections (13.5%) formed the majority of fungal infections (33.8%) in our study. Parasitic infestations seen were scabies (1.9%) and pediculosis capitis (5.7%). Bacterial and viral infections were seen less frequently. Mookhoek et al. reported the prevalence of fungal infections to be 35% among the patients surveyed by them. Kuruvila et al. also reported a high prevalence of fungal infections (47.33%) among psychiatric patients in their study.

### Table 3: Noninfective dermatoses

| Psychiatric diagnosis | Generalized anxiety disorder (%) | Bipolar mood disorder (%) | Major depressive disorder (%) | Mixed anxiety-depressive disorder (%) | Obsessive-compulsive disorder (%) | Psychosis not otherwise specified (%) | Schizophrenia (%) | Total (%) | P  |
|-----------------------|---------------------------------|--------------------------|-------------------------------|--------------------------------------|-----------------------------------|---------------------------------------|------------------|-----------|----|
| Papulo squamous        | 3 (14.3)                        | 0                        | 3 (6.0)                       | 0                                    | 0                                 | 1 (4.0)                              | 2 (3.7)          | 9 (4.3)   | 0.22 (NS) |
| Eczema                 | 6 (28.6)                        | 13 (26.5)                | 14 (28.0)                     | 3 (50.0)                             | 0                                 | 5 (20.0)                             | 11 (20.4)        | 52 (24.8) | 0.58 (NS) |
| Drug reaction          | 0                               | 2 (4.1)                  | 1 (2.0)                       | 0                                    | 0                                 | 1 (4.0)                              | 0                | 4 (1.9)   | 0.61 (NS) |
| Acne and acneiform eruptions | 2 (9.5)                        | 11 (22.4)                | 5 (10.0)                      | 1 (16.7)                             | 2 (40.0)                          | 4 (16.0)                             | 3 (5.6)          | 28 (13.3) | 0.08 (NS) |
| Pigmentary disorders   | 4 (19.0)                        | 6 (12.2)                 | 7 (14.0)                      | 0                                    | 1 (20.0)                          | 5 (20.0)                             | 9 (16.7)         | 32 (15.2) | 0.89 (NS) |
| Pruritic disorders     | 1 (4.8)                         | 2 (4.1)                  | 2 (4.0)                       | 0                                    | 1 (20.0)                          | 0                                    | 2 (3.7)          | 8 (3.8)   | 0.56 (NS) |
| Disorders of hair      | 0                               | 2 (4.1)                  | 1 (2.0)                       | 0                                    | 0                                 | 0                                    | 2 (3.7)          | 5 (2.4)   | 0.95 (NS) |
| Others                 | 7 (33.3)                        | 10 (20.4)                | 16 (32.0)                     | 3 (50.0)                             | 0                                 | 9 (36.0)                             | 15 (27.8)        | 60 (28.6) | 0.41 (NS) |

Others included seborrheic keratosis, pruritic disorders, nevi, ichthyosis and keloid. NS – Not significant. *p<0.05 is considered significant.

### Table 4: Infections/infestations

| Infections/infestations | Generalized anxiety disorder (%) | Bipolar mood disorder (%) | Major depressive disorder (%) | Mixed anxiety-depressive disorder (%) | Obsessive-compulsive disorder (%) | Psychosis not otherwise specified (%) | Schizophrenia (%) | Total (%) | P  |
|-------------------------|---------------------------------|--------------------------|-------------------------------|--------------------------------------|-----------------------------------|---------------------------------------|------------------|-----------|----|
| Fungal                  | 7 (33.3)                        | 21 (42.9)                | 12 (24.0)                     | 2 (33.3)                             | 2 (40.0)                          | 8 (32.0)                             | 19 (35.2)        | 71 (33.8) | 0.64 (NS) |
| Parasitic               | 0                               | 2 (4.1)                  | 1 (16.7)                      | 0                                    | 0                                 | 2 (8.0)                              | 13 (24.1)        | 18 (8.6)  | <0.001* |
| Bacterial               | 0                               | 6 (12.2)                 | 5 (10.0)                      | 0                                    | 1 (20.0)                          | 0                                    | 5 (9.3)          | 17 (8.1)  | 0.28 (NS) |
| Viral                   | 1 (4.8)                         | 4 (8.2)                  | 1 (2.0)                       | 1 (16.7)                             | 1 (20.0)                          | 0                                    | 2 (3.7)          | 10 (4.8)  | 0.16 (NS) |

NS – Not significant. *p<0.05 is considered significant.
Seborrheic dermatitis (16.2%) was the most common type of eczema observed. It has been classified under psychophysiologic disorders and is known to exacerbate due to psychologic stress. Psychiatric drugs such as chlorpromazine and lithium are also known to cause seborrheic dermatitis-like condition, which can be difficult to distinguish from the classic type. Atopic dermatitis, another psychophysiologic disorder, was seen in 1% of the patients in our study. Lichen simplex chronicus is one of the dermatoses known to be aggravated or perpetuated by self-induced trauma, was seen in 0.5% of the patients.

Psoriasis was the most common papulosquamous disorder noted in 3.4% of our study participants followed by lichen planus (0.5%). In a study by Mookhoek et al., psoriasis was observed in 2.2% of the patients in their study group. Han et al. found that psoriatic patients have increased levels of anxiety, depression, bipolar mood disorder, and delirium as compared to the control group. They also report feeling of helplessness, embarrassment, and self-consciousness. They can have vicious cycle of despair due to the adverse emotional effect resulting from severe disease and physical pain, which are usually undermined by others. The primary psychiatric conditions diagnosed in our psoriasis patients were anxiety, bipolar mood disorder, schizophrenia, and psychosis. None of the patients were treated with lithium which is known to aggravate psoriasis and make it resistant to conventional treatment. Other skin lesions reported that the following lithium administration are acne or acneiform eruptions, seborrheic dermatitis, maculopapular eruptions, and alopecia. These effects correlate directly with the dose of lithium and therapeutic range of serum lithium.

Acne and acneiform eruptions were observed in 13.3% of patients. Majority of these patients had depression and bipolar mood disorder. This observation can be explained by the fact that acne and acneiform eruptions are known to occur as side effects of various psychotropic drugs such as antidepressants, selective serotonin reuptake inhibitors, and benzodiazepines.

The prevalence of pruritic disorders such as urticaria and papular urticaria was seen in 1.9% each in our patients. The most frequent diagnosis of the primary psychiatric condition in our patients were depression and hypomania. Gupta et al. reported a positive correlation between pruritus and depression. They also observed that clinically depressed patients have a low threshold for pruritus.

Adverse drug reactions were noted in four of our patients (1.9%). The offending drugs were mirtazapine (antidepressant), quetiapine (antipsychotic), and phenytoin (antiepileptic). The cutaneous reactions noted in our study varied from drug rash to toxic epidermal necrolysis. Mirtazapine was the culprit drug for toxic epidermal necrolysis. The patient recovered following treatment with oral cyclosporine A and supportive therapy.

In our study, majority (75.2%) were found to have insight into their skin problems. More than half of these patients (41.4%) visited our dermatology outpatient department for their problems. Of the patients seeking dermatological treatment, women (24.28%) outnumbered their male counterparts (17.14%). Kuruvila et al. and Seyhan et al. also found that women came forward with skin complaints more often than men.

In our study, 11.1% patients had diabetes mellitus. Dickey et al. observed diabetes in 7.36% of their patients.

CONCLUSIONS
Our observations necessitate cooperation between dermatologist and psychiatrist, for recognition, and treatment of cutaneous disorders in primary psychiatric disorders, which in turn will have a positive effect on quality of life of these patients.

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Conflicts of interest
There are no conflicts of interest.

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