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Psychiatric Morbidity in Psoriasis: Prevalence and Correlates in India

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Abstract

As a common dermatological disorder, psoriasis is well known to be associated with psychological morbidity. The database on this aspect from the developing countries is limited. In this prospective cross-sectional study 103 psoriasis outpatients were evaluated along with 55 healthy controls matched for sociodemographic profile and on attitude to appearance (ATT) scale. Duration, severity (Psoriasis Activity and Severity Index) and impact (IMPACT) of illness, and psychiatric morbidity (General Health Questionnaire) and diagnosis (International Classification of Diseases-10 Revision) were assessed. Psychiatric morbidity was identified in 25 subjects (prevalence rate of 24.27%). Twenty-three subjects had a depressive disorder including adjustment disorder (15 cases), depressive episode (7 cases) and dysthymia (1 case). Psychiatric morbidity was significantly correlated with dysfunction due to and impact of the illness. The study highlights the need to develop a cross-cultural database on psychosocial aspects and psychiatric morbidity associated with psoriasis (German J Psychiatry 2005; 8: 17-22).

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Introduction

Psoriasis, a chronic dermatological disorder, affects about 1% of the general population. Psychosocial stress has been implicated in its onset (al-Abadie et al, 1994; Fava et al, 1980; Swerlick et al, 1998) and exacerbation (al-Abadie et al, 1994; Fortune et al, 1997a; Gaston et al, 1987; Ginsburg, 1995). Also, its chronic disfiguring nature leads to psychological and social distress (Ginsburg, 1995; Gupta & Gupta, 1998; Harvima et al, 1996; Scharloo et al, 2000), resulting in impaired quality of life (Finlay & Cole, 1995; Fortune et al, 1997b; Gupta & Gupta 1995; Saley & Finlay, 1993), and psychiatric morbidity. Most of the data available on psychosocial dysfunction and psychiatric morbidity in psoriasis is of western origin. Only a few studies are available from the non-western countries including India (Attah Johnson & Mostaghimi, 1995; Bagadia et al, 1998; Bharath et al, 1997; Chaudhary et al, 1998; Deshpande et al, 1998; Pulimood et al, 1996).

The psychosocial milieu of the developing countries being different from that of the developed countries and with only a limited amount of psychosocial research on psoriasis being available from India, the present study was carried out as part of a prospective cross-sectional study of psychosocial profile of psoriasis and vitiligo patients in India (Mattoo et al, 2001). The objectives were to find in the treatment-seeking patients of psoriasis: 1. the prevalence of psychiatric morbidity, 2. the psychological and psychopathological profile and 3. the specified demographic, psychological, social and illness-related correlates of psychiatric morbidity.

Material and Methods

Setting

The study was carried out at the Postgraduate Institute of Medical Education and Research, Chandigarh, a tertiary care

referral hospital providing services to a major area of north India and catering to a population of approximately 40 million people. The study was carried out from March 1998 to September 1999.

Sample

The sample comprised two groups: 1. Patient group (N=103) comprised subjects attending the Psoriasis Clinic of the dermatology outpatient of the Institute. They were of either sex, aged at least 14 years, with diagnosed psoriasis, only on topical steroids, and not on methotrexate or systemic steroids. 2. Healthy control group (N=55) comprised subjects recruited from the attendants/relatives of the patients attending the dermatology outpatient (excluding specialty clinics for psoriasis, vitiligo and leprosy) of the Institute. They were group-matched with the patient group for sex and education, and were to be free from any major physical or psychiatric illness; the psychiatric morbidity being determined by administration of General Health Questionnaire-12 Item (GHQ-12) (Gautam et al, 1987; Goldberg, 1972; Jacob et al, 1997), as explained in the subsequent section. All the subjects were recruited based on an informed consent assuring confidentiality and freedom of choice of participation.

Assessment

A cross-sectional assessment of dermatological profile, and psychosocial and psychiatric aspects was made using the following instruments:

1. *Sociodemographic proforma:* A proforma, specially designed for this study, was used to record the relevant sociodemographic data.
2. *Clinical profile sheet:* A proforma specifically constructed for this study was used to get clinical details of psoriasis e.g. duration of illness, type of psoriasis etc.
3. *Psoriasis Area and Severity Index* (PASI) (Fredriksson & Pettersson, 1978): This scale was used to assess the skin area involved and the severity of the illness. Area coverage is for head, trunk, upper limbs and lower limbs corresponding to 10, 20, 30 and 40 % of the total body area respectively. Severity assessment is done along a 0-4 scale (0-no lesion, 4-severest possible lesion) for the three target symptoms of erythema, infiltration and desquamation. The total PASI score, ranging from 0.0 to 72.0 is obtained by adding the values of sum of severity ratings for the three target symptoms multiplied with numerical value of the areas involved and with the various percentages of the four body areas. Widely used in psoriasis research, PASI is considered an objective measure.
4. *General Health Questionnaire-12 items* (GHQ-12) (Goldberg, 1972): A screening instrument for assessing psychiatric morbidity, GHQ-12 has been validated in Indian population (Gautam et al, 1987; Jacob et al, 1997). For the present study the 12 items were taken from the Hindi translation of the 60-item GHQ that has been validated in India (Gautam et al, 1987). In the present study this Hindi version of the GHQ-12 was used after establishing its face validity and carrying out a reliability exercise with back translation on 5 psoriasis patients. Any person scoring $\geq$3 was defined as a case with psychiatric morbidity.
5. *Attitude to Appearance scale* (ATT) (Wessley & Lewis, 1989): This scale measures attitudes to appearance using semantic differentials based on the dysfunctional attitude scale of Beck (1976). In this 5-item yes/no response scale the possible scores range from 0 to 5, a higher score indicating a more perfectionist attitude.
6. *Impact of Skin Disease Scale* (IMPACT) (Wessley & Lewis, 1989): This scale measures the effect of skin disease on certain areas of the subject's life. In this 8-item two point scale the possible score ranges from 0 to 8. The scoring pattern is such that any change in behavior after onset of illness is scored as positive. In the present study the subjects were asked to rate change occurring since the onset of psoriasis.
7. *Dysfunction Analysis Questionnaire* (DAQ) (Pershad et al, 1985): Developed at our center, this questionnaire is designed to assess the dysfunction in terms of the current level of functioning in comparison with the level of functioning before any illness. In this 50-item 5-point questionnaire the possible score ranges from 50 to 250. The percentage dysfunction is assessed across five areas - social, vocational, personal, family and cognitive. This questionnaire, widely used in India on different clinical populations, has proven reliability and validity and, norms are available for the Indian population.
8. *Comprehensive Psychopathological Rating Scale* (CPRS) (Asberg et al, 1978): This scale assesses full range of psychopathology with a high degree of reliability. An explicit description of each of the 65 items is provided. The items are scored 0 to 3; each scale step being operationally defined based on intensity, frequency and duration of the symptoms. The CPRS has two subscales to assess the severity of depression and anxiety respectively: Montgomery Asberg Depression Rating Scale (MADRS) and Anxiety Severity Index (ASI), comprising 10 and 7 items each with maximum possible scores of 60 and 21 respectively.

Procedure

The patients of psoriasis meeting the inclusion criteria were administered all the above listed instruments (inclusion of consecutive patients was attempted but was not always possible). Assessment was carried out on the same day, over a maximum of three sessions. Initial recruitment, assessment and administration of instruments 1-3 were carried out by the consultant dermatologist (IK). Thereafter, the psychologist (RM) administered instruments 4-7. Those with GHQ score $\geq$ 3 were assessed using CPRS and were subjected to a detailed interview for determining presence of the psychiatric illness as per the International Classification of Diseases-10th Revision (ICD-10) (World Health Organization, 1992). This was completed by a consultant psychiatrist (NG). Con-

Table 1. Comparison of Psoriasis and Healthy Control Groups

Variable	Psoriasis Cases (N=103)	Healthy Controls (N=55)	X^2 / t value
Age in years (Mean±SD)	40.91±14.26	31.62± 9.57	4.871**
Sex (N):			
Male	76	35	1.767
Female	27	20	
Educational years (Mean ± SD)	9.83± 3.86	11.02± 3.72	1.89
Marital Status (N):			
Unmarried	18	20	7.0*
Married	85	35	
Religion(N):			
Hindu	83	38	2.64
Sikh	20	17	
Locality (N):			
Rural	48	25	0.019
Urban	55	30	
ATT Score (Mean±SD)	4.10± 0.71	4.01± 0.81	0.806

*p<0.05
**p<0.01

trols were administered instruments 1 and 4 by the psychologist (RM), after satisfying the inclusion criteria.

Statistical Analysis

Non-parametric variables were subjected to Pearson's Chi-square analysis while parametric variables were analyzed using Student's t-test. To meet objective three of the study, Spearman's correlation analysis was carried out for select variables.

Results

At the time of initial intake (informed consent and administration of instruments 1-7, as applicable) no subject refused to participate. The psoriasis patients (n = 103) and healthy control subjects (n=55) had a comparable profile on ATT scores and all socio-demographic variables except that the patient group was older (mean age 40.91 vs. 31.62 years) and more often married (85% vs. 67%) (Table 1).

The GHQ-12 assessment of the psoriasis group led to the generation of two subgroups: GHQ Negative (GHQ score $\leq$2, suggesting absence of psychiatric morbidity, N=78) and GHQ Positive (GHQ score $\geq$3, suggesting presence of psychiatric morbidity, N=25). This gave a prevalence rate of GHQ psychiatric morbidity at 24.27%.

The two sub-groups were comparable on socio-demographic and clinical parameters and ATT scores. However, the GHQ positive subgroup demonstrated significantly higher IMPACT and DAQ scores (Table 2).

The diagnostic assessment of the psychiatric morbidity as per the ICD-10 diagnostic criteria could be carried out in all but one GHQ positive cases (Table 3). This one case had refused to participate further pleading lack of time. For the rest of 24 cases, the mean±SD scores on CPRS were: Total CPRS - 19.74±11.09, MADRS - 23.95±9.43, and ASI - 4.61±3.53. (Table 3).

An attempt to determine the correlates of psychiatric morbidity in these 24 GHQ positive cases revealed that only the following correlations were significant (p<0.05): GHQ-CPRS and DAQ-IMPACT scores (Table 4).

Table 2. Comparison of the GHQ Positive and GHQ Negative cases on demographic and psychological parameters

Variable		GHQ Positive Cases (N=25)	GHQ Negative Cases (N=78)	X^2/t value
GHQ score (Mean±SD)		7.12±3.32	0.62±0.84	15.923**
Age in years (Mean±SD)		38.72±10.94	41.62±15.04	0.889
Sex (N):	Male	18	58	
	Female	7	20	0.05
Educational years	(Mean±SD)	8.56±4.06	10.23±3.73	1.908
Marital Status (N):	Unmarried	1	17	2.78
	Married	24	61	
Religion (N):	Hindu	21	62	3.01
	Sikh	4	16	
Locality (N):	Rural	12	36	0.04
	Urban	13	42	
Durationof illness in years (Mean±SD)		10.94±10.49	10.49±10.44	0.170
PASI score (Mean±SD)		9.05±11.40	7.06±10.73	0.768
ATT score (Mean±SD)		4.17±0.55	4.08±0.76	0.651
IMPACT score (Mean±SD)		3.60±1.98	1.78±1.91	4.104**
DAQ score (Mean±SD)		58.6±17.33	46.81±10.74	3.209**

**p<0.01

To establish the representative nature of the sample vis a vis the clinic population we compared the demographic and duration of illness profile of the psoriasis sample and the whole population of the psoriasis clinic seen during the study period (Table 5).

Table 3. Diagnostic Break-up of GHQ-Positive cases

Total Cases	25		
Cases Not Assessed		1	
Cases Assessed		24	
No Psychiatric Disorder			1
Psychiatric Disorder			23
Adjustment disorder			15
Depressive episode			7
Dysthymia			1

Table 4. Correlation Between the Scores of Various Psychopathological Variables in Diagnostically Assessed GHQ-Positive Cases (N=24)

Variable	Duration of illness	PASI score	GHQ	DAQ	ATT	IMPACT
GHQ	-0.187	0.143		0.211	-0.113	0.365
CPRS	0.126	-0.122	0.441*	0.314	-0.128	0.090
DAQ	-0.325	0.227	0.246		0.090	-0.081
ATT	-0.038	0.240	-0.124	0.073		0.012
IMPACT	-0.122	0.012	-0.187	0.407*	0.006	

Discussion

The psoriasis sample and the psoriasis clinic population in the study were similar on selected demographic and duration of illness profile. Thus, within the limitations of this similarity, the findings may be generalized to the clinical population of psoriasis but not to the subjects with psoriasis in the general population, as no relevant data for comparison is available in India.

The comparability of psoriasis and healthy control groups across ATT scores and all socio-demographic variables (except age and marital status), implies that psychiatric morbidity is not a simple function of these variables. The overrepresentation of married subjects in the psoriasis group is a logical outcome of higher age, ensuring more chances of getting married as per the cultural norms (Kulhara et al, 1998).

The GHQ assessed psychiatric morbidity of 24.27%, although lower compared to 47.6% of the GHQ assessed psychiatric morbidity reported for psoriasis outpatients at one center in India (Bharath et al, 1997), is comparable to most other studies reporting rates of 12.2%- 47.6% for outpatients of all dermatological disorders including psoriasis (Bagadia et al, 1998; Bharath et al, 1997; Hughes et al, 1983; Wessley & Lewis, 1989) and rates of 30%-33% for medico-surgical outpatients and inpatients respectively (Goldberg, 1986; Maguire et al, 1974).

The GHQ positive and negative groups differing only in that the GHQ positive group had higher IMPACT and DAQ scores implies that the psychiatric morbidity may be related to behaviour change and dysfunction but is not related to demographic and other clinical variables considered in the present study. Thus, the present study cannot add to the speculation on cause and effect relationship between behaviour change and dysfunction (Maguire et al, 1974), except that it did not find attitude to appearance contributing to psychopathology.

The 22.33% rate of ICD-10 diagnosable psychiatric disorder is on the lower side compared to that reported by other studies of 11% to 87% for psoriasis subjects and 8% to 70% for other dermatological disorders (Attah Johnson & Mostaghimi, 1995; Bharath et al, 1997; Deshpande et al, 1998; Pulimood et al, 1996; Weiss et al, 1992).

The comparatively lower rates of GHQ and ICD-10 diagnosed psychiatric morbidity in the present study could be either a true difference or arising out of psychiatric assessment related methodological differences.

The profile of psychiatric diagnoses obtained in the present study (65% adjustment disorder - depressed type, 30% depressive episode and 4% dysthymia) was in contrast to that of other studies reporting 50%-97% depressive disorders, and 15%-50% anxiety disorders on standardized psychiatric diagnosis in psoriasis outpatients (Attah Johnson & Mostaghimi, 1995; Bharath et al, 1997; Deshpande et al, 1998). This difference could be a reflection of the diagnostic system used i.e. ICD-10 (the present study), ICD-9 (Maguire et al, 1974) and DSM-III-R (American Psychiatric Association, 1987; Deshpande et al, 1998). Also, notably the present study did not record any anxiety disorder in the sample - a finding for which no explanation is available. Another important finding was the absence of any substance dependence disorder excluding tobacco. Previous studies have reported both an absence of substance dependence disorders (Attah Johnson & Mostaghimi, 1995; Bharath et al, 1997; Deshpande et al, 1998) as well as 18%-20% rate of alcohol dependence in subjects with psoriasis (Chaudhary et al, 1998; Morse et al, 1985). Also unlike some previous studies (Deshpande et al, 1998; Gupta & Gupta, 1995; Roengink & Roengink, 1978), the present study did not find any excess representation of females among the psychiatrically ill psoriasis subjects.

Table 5. Comparison of psoriasis clinic population and study sample

Variable	Psoriasis Clinic Population (N=318)	Psoriasis Study Sample (N=103)	X^2/t Value[a]
Age in years (Mean±SD)	42.31 ±14.30	40.91 ±14.26	0.81
Sex (N)			
Male	224	76	0.51
Female	94	27	
Locality (N)	182	55	
Urban	136	48	0.49
Rural			
Duration of illness in years (Mean ±SD)	11.53 ±11.54	10.64 ±10.14	0.75

[a] All values insignificant

This profile of neurotic-reactive-adjustment disorders with anxiety and depression predominating supports the hypotheses of worried well (Wessley & Lewis, 1989) or cognitive distortions underlying the psychiatric morbidity in dermatological patients (Beck, 1976). Accordingly, Wessley and Lewis (1989) argued that physicians and dermatologists should acquire skills for early identification and proper management of psychiatric morbidity. In addition, counseling, supportive psychotherapy, cognitive-behaviour therapy, group psychotherapy and low-dose antidepressants have been shown to alleviate such morbidity (Ginsburg, 1995; Papadopoulos et al, 1999; Picardi & Abeni, 2001; Sadock & Sadock, 2000; Seng & Nee, 1997). The previous literature has attributed higher psychopathology to female gender (Gupta & Gupta, 1995; Roengink & Roengink, 1978), younger age (Ginsburg & Link, 1989; Gupta & Gupta, 1995), severity of illness (Gupta & Gupta, 1998), and stress reactivity (Chaudhary et al, 1998; Gupta et al, 1989). In the present study only psychopathology measures (GHQ, CPRS) and behaviour change measures (IMPACT, DAQ) appeared to be correlated to each other. The other variables considered (duration of illness, severity and ATT) were not correlated. When considered along with the finding that GHQ positive and GHQ negative groups differed only on behavioural variables (IMPACT, DAQ), this profile of correlations implies that the present study has failed to identify any definite demographic or clinical correlates of psychopathology and psychiatric morbidity, other than dysfunction and impact of illness. Thus, the cause and effect relationship between environmental, personality, psychopathological and psychiatric variables as elucidated in research in the western countries, remains open to investigation in the context of the developing countries.

Being the first of its kind from India, despite its limitations (a tertiary care hospital based small outpatient sample, lack of measurement of other relevant variables like psoriasis specific stressors, coping, quality of life, etc.), non-use of a standardized interview for assessing psychiatric morbidity (leading to possible exclusion of comorbid disorders), exclusion of patients on psoralens (possibly leading to recording of a lower psychiatric morbidity), and a cross-sectional design, this study confirms the high prevalence of psychiatric morbidity and its correlates in patients with psoriasis, and highlights the need to develop a cross-cultural psychosocial database on psoriasis.

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