Psychiatric Morbidity in Psoriasis and Vitiligo in Two Tertiary Hospitals in Bangladesh

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Abstract:

Background: Many of the established skin diseases give rise to psychiatric disorders notably psoriasis and vitiligo. In Bangladesh, no study has yet been reported on psychiatric morbidity among psoriasis and vitiligo patients. **Objectives:** The objective of the study was to see the psychiatric morbidities in two chronic skin diseases, psoriasis and vitiligo, in Bangladesh. **Methods:** This was a cross sectional, analytical and comparative study. It was conducted to see whether psychiatric morbidity was higher among patients with psoriasis than that of vitiligo. Specific types of psychiatric disorders were identified by consultant psychiatrist assigned as per criteria of (Diagnostic and Statistical Manual for Mental and Behavioural Disorders-Fourth Edition)DSM-IV among 50 patients with psoriasis and same number of patients with vitiligo and were compared. Study places were the Departments of Dermatology and Venereology, Bangabandhu Sheikh Mujib Medical University (BSMMU) and Dhaka Medical College Hospital (DMCH) in Dhaka city. **Results:** Among the two dermatological conditions, psychiatric disorders were found 25 (50%) in psoriatic patients and 12 (24%) that in vitiligo patients. The proportion of major depressive disorders (MDD) was higher among psoriasis patients 15(30.0%) compared to vitiligo patients 04(8.0%). However, no statistical difference was found between two groups of patients in terms of anxiety disorders (8% in psoriasis and 12% in vitiligo patients). In patients with psoriasis, MDD was found highest (30.0%) followed by anxiety disorders (8.0%), adjustment disorder (4.0%) and somatoform disorder not otherwise specified (2.0%). Whereas, among the vitiligo patients, anxiety disorder was found highest (12.0%) followed by MDD (8.0%). The Present study showed significant association of psychiatric morbidities in these two dermatological diseases (psoriasis and vitiligo) with the variables of the study population. **Conclusion:** It has been found in Bangladesh that the psychiatric morbidity is higher among the patients with psoriasis than vitiligo.

Key words: Psoriasis, Vitiligo, Psychiatric morbidity

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Introduction:

A healthy normal skin is essential for a person's physical and mental wellbeing[1]. Psoriasis is a chronic and recurrent inflammatory skin disease with various morphologic skin lesions[2]. People with moderate to severe psoriasis have a poor self-image that stems from fear of public rejection and psychosexual concerns. Psychological distress can lead to significant depression and social isolation [3].

Vitiligo is an acquired skin disease with white patches surrounded by a normal or a hyperpigmented border[2]. Females are disproportionately represented among patients seeking care though it equally affects male and female[4]. Patients with vitiligo can experience emotional distress, particularly if it is in visible areas of the body[5]. Similarly social stigma attached with vitiligo is known to produce deep psychological trauma[6].

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Representative studies in India and elsewhere reported that the prevalence rate of psychiatric disorders among psoriasis ranged from 24.27% to 53.3% and that of vitiligo ranged from 16.22% to 28.78% [6,7,8,9,].

In another study conducted by Devrimci et al in Turkey on 50 patients with psoriasis found that psoriatic patients had an average score on Beck Depression Inventory (BDI) of 16.96, compared with 5.48 among 50 healthy controls[10]. Therefore, we can conclude that patients with psoriasis and vitiligo have definite psychiatric morbidity.

The exact prevalence of psychiatric disorders among psoriasis and vitiligo in our country is not known. So far as we know, there is only one study conducted by Karim et al. for assessment of depression in psoriasis, Parkinson's disease, stroke and cancer patients in a tertiary care teaching hospital in Bangladesh. According to that study 33.3% of psoriatic patients had depressive episodes and

6.7% showed depression as symptom after the onset of psoriasis. From empirical observations in tertiary hospitals, it seems that substantial proportion of patients of psoriasis and vitiligo have psychiatric disorders[11]. It is expected the findings of present study would explore the pattern and extent of psychiatric disorders among the two groups of patients in Bangladesh.

Methods:

This is a cross sectional, analytical and comparative study. The study was carried out from January 2005 to December 2005 in the Out-Patient Departments (OPD) of Dermatology & Venereology of BSMMU and DMCH. Hundred cases were included consecutively and 50 from each group of psoriasis and vitiligo, who fulfilled the inclusion criteria. Patients more than 18 years of age of both sexes were taken as cases. However, if patients had cognitive disturbances like non-communicable, or with severe general medical condition were excluded as interview was not feasible. Research Instruments were 1) This is a structured questionnaire designed by the researcher for the purpose of this study. This questionnaire included socio-demographic and other variables. The questionnaires were finalized after pre-testing. 2) Diagnostic and Statistical Manual Fourth Edition (DSM-IV): This scale is globally accepted scale and was used in present study to diagnose psychiatric disorders clinically [12,13]. The researchers abided by the regulations of the university regarding ethical issues related to the study. Prior to the study, pre-testing was carried out in 5 cases of psoriasis and equal number of vitiligo patients. Diagnosis of psoriasis and vitiligo was done by dermatologist. Firstly, informed consent was taken from the patient. Then the patient was interviewed using the structured questionnaire. The psychiatric diagnosis was confirmed by consultant psychiatrist of the respective hospitals. Where necessary, the subsequent interview was done for full psychiatric assessment. The diagnosis was phenomenological based, drawing conclusion from clinical assessment based on DSM-IV diagnostic criteria. All data were checked and verified thoroughly to reduce any inconsistency. Then the data were entered and analyzed in the computer using computer software Statistical Package for Social Sciences (SPSS) programme and tests of significance were applied as necessary.

Results:

Among 100 patients selected for this study, 50 patients had psoriasis (named as group I) and the rest 50 had vitiligo (named as group II).

The socio-demographic characteristics have been presented in the table-I.

Table-I

Socio-demographic characteristics of the study population

Characteristics	Group I (n=50)		Group II (n=50)		Total		Significance
	N	%	N	%	N	%	
a. Age group							
1. <25 years	8	16.0	20	40.0	28	28.0	0.007**
2. 25-34 yrs	13	26.0	16	32.0	29	29.0	0.508^{NS}
3. 35-44 yrs	16	32.0	10	20.0	26	26.0	0.171^{NS}
4. ≥ 45 yrs	13	26.0	4	8.0	17	17.0	0.016^{NS}
5. Mean ± SD	35.32±10.05	31.50±9.70	33.50±9.99	0.061^{NS}			
b. Sex							
Male	36	72.0	18	36.0	54	54.0	0.001***
Female	14	28.0	32	64.0	46	46.0	
c. Religion							
Muslim	47	94.0	44	88.0			0.487^{NS}
Hindu	3	6.0	6	12.0			
d. Marital status							
Married	42	84.0	21	42.0	63	63.0	0.001***
Unmarried	8	16.0	29	58.0	37	37.0	
h. Monthly family income in Taka							
Less than 5000	13	26.0	2	4.0	15		0.002**
5000-10,000	17	34.0	9	18.0	26		0.068^{NS}
Above 10,000	20	40.0	39	78.0	59		0.001***

Group I= Patients with psoriasis, Group II=Patients with vitiligo

p value reached from Chi-square test (a_1-a_4, b, c, d, e, g, h) P value reached form Fisher's exact test (f), P value reached from unpaired Student's t test (a_5), **p<0.01, ***p<0.001, NS= not significant

It shows that the mean age of the study population was 33.50±9.99 years. The mean age of the psoriatic patients was 35.32±10.05 years and that for the vitiligo patients was 31.50±9.70 years. Among the patients 54.0% were male and 46.0% were female. The proportion of male patients was higher in psoriat patients (72.0%), whereas there were more female patients in vitiligo group and the difference was statistically significant ($p<0.001$). Among the psoriatic patients, 84.0% were married and 16.0% were unmarried whereas among the vitiligo patients, 42.0% were married and 58.0% were unmarried and the difference was statistically significant ($p<0.001$). Among fifty psoriasis and fifty vitiligo patients, psychiatric morbidity was analysed below (Figure 1 and Figure 2).

Figure 1 and figure 2 show that the prevalence of psychiatric disorder was found 50% and 24% among patients group of psoriasis (group I) and vitiligo (group II) respectively. From the figures it is clear that the prevalence of psychiatric disorders was higher among group I patients, compared to that of group II patients and a statistically significant ($p<0.01$) association of psychiatric disorders between group I and group II patients found in the above presentation.

The types of psychiatric disorders among the patients of psoriasis and vitiligo are collapsed into four major categories which is shown below (Table-II).

Table II shows the pattern of psychiatric disorders among the studied patients. It was evident that the proportion of

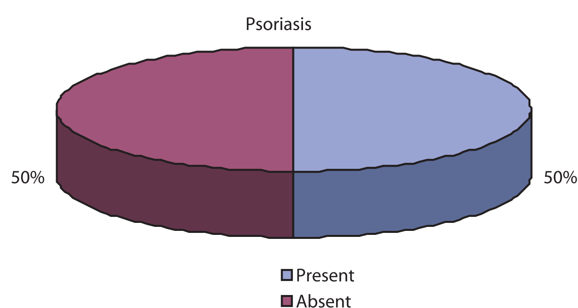

Fig.-1: *Prevalence of psychiatric disorders among patients with psoriasis (Group I).*

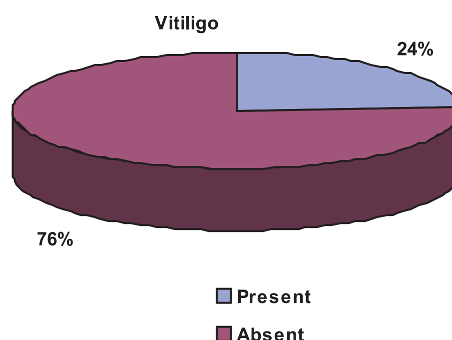

Fig.-2 : *Prevalence of psychiatric disorders among patients with vitiligo (Group II).*

Table-II

Distribution of patients by pattern of specific psychiatric disorders

Psychiatric disorders	Type of patients				Significance
	Group I (n=25)		*Group II (n=12)*		
	No.	%	No.	%	
Mood disorders	18	36.0	6	12.0	0.004**
Major depressive disorder	15	30.0	4	8.0	0.005**
Dysthymic disorder	3	6.0	2	4.0	1.000^{nsf}
Anxiety disorders	4	8.0	6	12.0	0.504^{ns}
Generalized anxiety disorder	2	4.0	2	4.0	-
Anxiety disorder not otherwise specified	1	2.0	3	6.0	0.617^{nsf}
Obsessive compulsive disorder	1	2.0	1	2.0	-
Somatoform disorders^{f}					
Somatoform disorder not otherwise specified	1	2.0	0	0.0	0.001***f
Adjustment disorder	2	4.0	0	0.0	0.494^{ns}

p value reached from Chi square testm.08
f value reached from Fisher's Exact test
Group I= Patients of psoriasis with psychiatric disorders
Group II=Patients of vitiligo with psychiatric disorders

Table-III

Distribution of patients with psychiatric disorders and duration of dermatological diseases (Psoriasis and Vitiligo)

Duration of Dermatological diseased (years)	Type of patients				Significance
	Group I n=25)		Group II (n=12)		
	No.	%	No.	%	
<5	11	44.0	2	16.7	0.149^{ns}
5-9	4	16.0	3	25.0	0.659^{ns}
$\geq$ 10	10	40.0	7	58.3	0.482^{ns}

Group I= Patients of psoriasis with psychiatric disorders
Group II=Patients of vitiligo with psychiatric disorders

major depressive disorder was higher in group I patients (30.0%) compared to group II patients (8.0%) and the difference was statistically significant ($p<0.01$). A statistically significant difference was also observed in somatoform disorder of group I patients ($p<0.001$), but the cell value was too small for any comment. However no statistically significant difference was found between group I and group II patients in terms of dysthymic disorder, generalized anxiety disorder, anxiety disorder not otherwise specified, obsessive compulsive disorder and adjustment disorder ($p>0.01$).

The possible correlates of psychiatric disorders of these two groups (psoriasis and vitiligo) of patients were analysed and presented in the subsequent tables (Table-III) and figures (Figure 01 and 02).

From the table shown below (Table III) it has been shown that the proportion of psychiatric disorders in group I patients was higher among the patients with duration of illness of less than 5 years, compared to group II patients. Whereas, that proportion in group II patients was higher among the patients with duration of illness of 5-9 years and 10 years and above, compared to group I patients. But the difference was not statistically significant ($p>0.01$).

However, Major depressive disorders among the three groups were 30%, 08% and 4.61%. Generalized anxiety disorders among the three groups were 04%, 04% and 02.87% respectively. Adjustment disorder was 04% in psoriasis, 0.0% in vitiligo and 0.06% in community survey.

Discussion:

One of the main objectives of the study was to compare the prevalence of psychiatric morbidity between the patients with psoriasis and vitiligo. This study also tried to find out and compare the specific types of psychiatric disorders between the two groups of patients and possible association of psychiatric disorders with socio-demographic and relevant parameters.

The nationwide community survey on psychiatric disorder in Bangladesh has shown that overall prevalence of psychiatric morbidity is 16.05%. The present study showed that rate of psychiatric morbidity in psoriasis and vitiligo was 50% and 24% respectively. In that community survey, it was seen that the rate of major depressive disorder (MDD) was 04.61%, generalized anxiety disorder (GAD) was 02.87%, obsessive compulsive disorder (OCD) was 0.45% and somatoform disorder was 01.42%. However, the present study showed that rate of MDD in psoriasis and vitiligo were 30% and 08% respectively, that in GAD in present study is 04% and 04% respectly. Present study found more MDD and GAD among psoriasis and vitiligo than community survey. It has been evident that overall, the psychiatric morbidities in psoriasis and vitiligo as well as the specific type of disorder are higher in general population in Bangladesh. [14].

In the present study, among 50 patients of psoriasis, the number of patients with psychiatric disorders was found 25 (50%) and in 50 vitiligo patients that number was 12 (24%). This difference was statistically significant. This finding supports our hypothesis. In a similar study done in India by Sharma et al, found that rate of psychiatric morbidity was 53.3% in patients with psoriasis and 16.22% in that of vitiligo [6]. In present study, rate of psychiatric morbidity in patients with psoriasis was found almost similar but rate of psychiatric morbidity in patients with vitiligo was higher in present study (24% in present study). The difference of prevalences in vitiligo patients found between the current study and the study done by Sharma et al, as mentioned above might be influenced by different set up as well as sample population they evaluated. In another study in Chandigarh, India [9] found 25% had psychiatric disorders among their vitiligo patients which is consistent with the present study (24%). These were probably due to the fact that the people of this subcontinent might present with similar psychological predisposition.

In the present study, it is evident from Table III that psychiatric disorders in patients with psoriasis and vitiligo were not related with duration of illness.

The current study, confirms the significant difference between psychiatric morbidities of patients with psoriasis and vitiligo. As mentioned in different studies, the higher prevalence of psychiatric morbidity found in psoriasis patients might be due to psychological stress related to onset and exacerbation of the disease reported by different authors[15-17]. Besides, there are increased levels of various neuropeptides i.e. substances P and vasoactive intestinal polypeptide (VIP) in the psoriatic skin, alteration of skin texture and more disability in areas of daily activities and employment in psoriatic patients than that of vitiligo patients [5,15,18]

In our point of view, the above finding might be due to secondary effects of psoriasis such as oozing and bleeding from skin, more discomfort and itching as well as more problems in adjusting to the discomfort of psoriasis than that of vitiligo patients. Moreover, as psoriasis produces more physical disabilities with cosmetic disfigurement in comparison to vitiligo as well as different aetiological aspect of the two diseases may explain this finding. These assumptions need further study to be proved.

On further evaluation of patients with psychiatric morbidity it was seen that the proportion of major depressive disorder was higher among psoriatic patients (30.0%), compared to vitiligo patients (08.0 %) and the difference was statistically significant (P <0.01). A study done in Bangladesh found depression in 33.3% of the psoriatic patients in a tertiary care teaching hospital over thirty outpatient samples using ICD-10 criteria[11]. Another prospective cross sectional study done by Matto el at, reported 34.0% of the patients with psoriasis were suffering from depressive disorders[8]. The same authors in 2002, on 113 Vitiligo patients found depressive disorders in 25% of their study population[9]. Sharma et al found depression in 23.3% of psoriasis patients[6]. In the same study, it was seen that 10% of the vitiligo patients were depressed. From above observations the investigator's finding of major depressive disorders in psoriatic samples is consistent with other studies cited above and that finding in vitiligo patients is also consistent with the study by Sharma et al as mentioned above [6,7,11]

Anxiety disorders (Generalized anxiety disorder, Anxiety disorder not otherwise specified and Obsessive compulsive disorder) are present in 8% of psoriasis and in 12% of vitiligo patient samples. This difference was not statistically significant. Though not exactly the same with the present study, Attah- Johnson & Mostaghimi found 20% of their vitiligo patients were suffering from anxiety disorders[19]. Anxiety disorders of 3.3% for both groups of patients is also reported in the study by Sharma et al[6]. This finding of anxiety disorders in both groups is much lower than our observation. A higher percentage of anxiety disorders in vitiligo patients (though not significant) than in psoriatic patients found in the present study might be explained by the findings as disfiguring skin lesions known to produce an increased incidence of anxiety[6], more severe stigma associated with hypo pigmentation in coloured races inhabiting most of the developing world[10]. In our view, more anxiety disorders in vitiligo patients are-progressive in nature and considerable psychologic effect of vitiligo on the patients are due to alteration of appearance of the victims. However, further study is needed in favour of these explanations.

The prevalence of adjustment disorder found in psoriatic group in our study was 4% and none had this disorder in the vitiligo group. In contrast, Matto et al, found a very high prevalence rate of 65% adjustment disorder – depressed type in their psoriatic patients, the only study found a very high percentage of adjustment disorder[7]. This difference might be due to difference of sample characteristics (age range of the present study was 18 years and above and that was of 14years and above in their study). However, large scale multi–centered study using structured diagnostic criteria, will help to explain the actual prevalence of adjustment disorder in this type of study population.

Present study has showed that significant number of patients (psoriasis & vitiligo) attending the dermatological out-patient settings have psychiatric disorders that needs psychiatric intervention along with dermatological treatment. Proper psychiatric management of them will help to improve their social and occupational life as well as quality of life. Study from abroad showed that, most of the patients of dermatology clinic, responded to the treatment offered by liaison psychiatrist within dermatology clinic[20]. Therefore for comprehensive treatment of these patients by existing set up in Bangladesh, liaison psychiatric services should be strengthened further.

This is the first study of its kind in Bangladesh. However, this study has some limitations. A small number of sample, non-use of a standardized structured interview for assessing psychiatric morbidity, lack of specific measurement of other variables (disease specific stressors, quality of life, coping etc.) limit the generalization of the

findings of the present study. In our study, clinical interview was used for diagnosing patients psychiatric morbidity instead of standardized interview schedule, which could make the study more methodologically sound. But no such standardized and valid instrument was available in our country at the time of conducting this study. Therefore, further research with multi-centered sample, using structured interview schedule in this field can explore more detail and accurate picture on this aspect.

Conclusion:

The findings of present study will hopefully create awareness among concerned persons and combined approach of management between psychiatry and dermatology can definitely improve quality of life of the sufferers.

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