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Original article:

Common Psychiatric disorders amongst patients with Psoriasis: A Tertiary Hospital based Case Control Study

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Abstract

Background: Psoriasis is a common, genetically determined inflammatory and proliferative disease of the skin. Psychological stress can exacerbate the disease.

Objectives: This study sought to investigate the depression and anxiety disorders among patients with psoriasis and control group.

Material and Methods: This study was a comparative case-control study. It included 100 psoriatic patients who were compared to 100 controls. The patient group was recruited from the outpatient clinic of dermatology department of Career Institute of Medical Sciences, Lucknow and diagnosed by a consultant and a specialist dermatologists. The sample includes both sexes, ageing from 20 to 50.

Results: From One-hundred patients in each group, 57 were male (50 control) and 43 were female (50 control). Depression score was 78% and 20% in psoriatic patients and control, respectively. The Beck depression inventory (BDI) of patients with psoriasis were significantly higher than scores of the control group ($P < 0.001$). Anxiety symptoms scored on BAI also revealed higher values than controls, with a highly statistically significant value (Chi-square= 35.8 and $p<0.001$).

Conclusion: The results revealed that psoriatic patients reported significantly higher degrees of depression and anxiety than controls. Understanding their diverse mechanisms of coping can give them a better chance for a more comprehensive and beneficial management plan.

Keywords: Psoriasis, Anxiety, Depression

Introduction

Psoriasis is an immune mediated genetically determined common dermatological disorder which affects skin, nails, joints and has various systemic associations. There is evidence that the disease is associated with a high impact on the health-related quality of life and considerable cost [1]. Two-peak age of onset was considered for the disease; the early age of onset is between 16–22 years, and latent age of onset is between 57–60 years. The incidence of psoriasis in adult men and women and among different races is equal. However, females tend to develop the disease earlier than males. There are several classes of psoriasis including: psoriasis vulgaris, guttate psoriasis, generalized pustular psoriasis, disseminated erythrodermic psoriasis, scalp psoriasis, palms and soles psoriasis, nail psoriasis, arthropathic psoriasis, and verse psoriasis. It is believed that a combination of several factors contribute to the development of this disease. Genetic factors, trauma, infection, certain medicines, such as nonsteroid anti-inflammatory drugs (NSAIDs), betablockers, antimalaria medicine, and lithium, endocrine factors, sunlight, metabolic factors, alcohol, cigarette, and psychological factors have been found in development of psoriasis [2].

There is strongly clinical evidence that stress can play a role on the onset and exacerbation of psoriasis [3–6]. In a study on psoriatic patients, 60% of the patients strongly believed that stress was a causal factor for their psoriasis [7]. Psoriasis is associated with a variety of psychological problems. So, considering the psychosocial aspects of the disease is very important in psoriatic patients [8]. According to previous controlled studies, the prevalence of depression was ranged from 0 to 58% in psoriasis patients [4]. One study has demonstrated that female psoriatic patients appear to be more vulnerable to develop depression than males. The prevalence of anxiety is higher than depression in psoriatic patients. Even psoriatic patients have reported significantly higher degrees of anxiety than other chronic diseases such as cancers. Furthermore, the severity of anxiety would be greater in patients with palms and soles psoriasis [4].

Psoriasis is associated with a variety of personality disorders. On the other hand, psychological stress can induce resistance to regular psoriatic treatment and causes psoriasis to appear worse. In this view, psoriasis is an inflammatory disease with expensive and long-term therapies, and as mentioned before, psychosocial stress can exacerbate the disease. Therefore, we decided to compare depression and anxiety disorders in patients with psoriasis and the control group.

Aim and Objectives:

The study aims at assessment of depressive and anxiety symptoms in patients with psoriasis and controls.

Materials and Methods:

In this hospital-based case-control study, all participants were patients who referred to Department of Dermatology at Career Institute of Medical Sciences, Lucknow between June 2015 and Dec 2015. The institutional ethics committee of Hospital approved the study protocol. Written informed consent was obtained from all participants. Diagnosis of psoriasis was based on clinical examination by a dermatologist and confirmed by histological examination of the lesions by a pathologist.

It included 100 psoriatic patients who were compared to 100 controls. The sample includes both sexes, ageing from 20 to 50. All patients did not have past or current history of seeking psychiatric help. Patients suffering from other dermatological diseases, medical conditions that would interfere with the assessment, mental sub-normality, past history of psychiatric disorders and substance use disorders, co-morbidity with other active major medical problems, and patients under oral or systemic corticosteroids medications were excluded. In the control group, thirty individuals were randomly selected from visitors of medical departments in Career Institute of Medical Sciences, Lucknow other than the psychiatric or dermatological departments. Individuals with physical disorders and patients' relatives were excluded to avoid genetic influence. Both groups were matched for age, sex, education, occupation and marital status.

Both groups were subjected to the application of the case history of psychiatry department of Career Institute of Medical Sciences, Lucknow to obtain socio-demographic and relevant clinical data. Psychiatric diagnosis was following the DSM-IV-TR (Diagnostic and Statistical Manual of Mental Disorders –IV, Text Revised) criteria (American Psychiatric Association, 2000). The following psychometric tools were applied:

A- **Beck Depression Inventory (BDI) (Beck, et al. 1988)** [9]: It is a self-report scale designed to assess the severity of symptoms of depression. The inventory is composed of 21 groups of statements on a 4-point scale from which the subject selects the best matching to his or her current state. Each statement group corresponds to a specific behavioral manifestation. Responses are scored 0-3, corresponding to "no, mild, moderate or severe depressive symptoms".

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B- **Beck Anxiety Inventory (BAI) (Beck, et al. 1988)** [10]: It is a self-report scale for assessment of the severity of anxiety symptoms. It includes 21 items scored on a 0 to 3. Scoring range varies from 0 to 63, where higher scores indicate greater anxiety severity.

All data from both groups were computed and conducted on the SPSS (Statistical Package for Social Sciences, version 17) software for statistical analysis. Student T-test and MannWhitney U test were used for continuous variables such as age and education. Chi-square test was used for qualitative variables such as scores on BDI and BAI. Both approaches were combined to illustrate findings from different perspectives. Probability level (P value <0.05) was considered statistically significant.

Results:

There were 100 patients (57 males (50 controls) and 43 females (50 controls)) in the case and control groups. Their age range was between 20 and 50 with a mean of 39.50±7.9 and 37.80± 6.9 in case and control, respectively. In the control group, 4% were students, 26% were housewives, 29% were professional, and 32% were skilled workers. The occupational status in the case group were as follows: unemployed 9.0%, student 1%, housewives were 30% and 15%, 38% were professional and skilled workers respectively. There was no evidence for chronic diseases such as hypertension, diabetes, asthma, and rheumatic disorders in history of the patients in the case and control groups. There was no history of drug users in either of the studied groups. Ninety-nine (99%) were on topical therapy while the other one (1%) were receiving systemic as well as topical therapy. (Table 1,2)

Ninety-five (95%) were plaque psoriasis (psoriasis vulgaris), three (3%) guttate [GUH-tate] psoriasis, one (1%) inverse psoriasis, and one (1%) pustular psoriasis. There was no erythrodermic psoriasis or psoriasis arthritis. Duration of the disease was less than one year among all the psoriatic patients.

Biosocial characteristic	Psoriasis		Control		P value
	Mean	SD	Mean	SD	
Age	39.5	+7.9	37.8	+6.9	0.345
Education	7.1	+5.1	8.1	+5.3	0.217

Table 1: Demographic characteristics of cases and controls

Biosocial characteristic		Psoriasis		Control		P value
		No.	%	No.	%	
Sex	Male	57	57	50	50	1.020
	Female	43	43	50	50	
Marital status	Single	18	18	20	20	0.987
	Married	80	80	77	77	
	Divorced	02	02	03	03	
Occupation	Unemployed	09	09	05	05	0.125
	Student	01	01	04	04	
	Housewife	30	30	26	26	
	Professional	15	15	29	29	
	Skilled	38	38	32	32	
	Manual	07	07	04	04	

Table 2 : Socio demographic characteristics of cases and controls

Figure 1: Psychiatric diagnosis in psoriasis patients

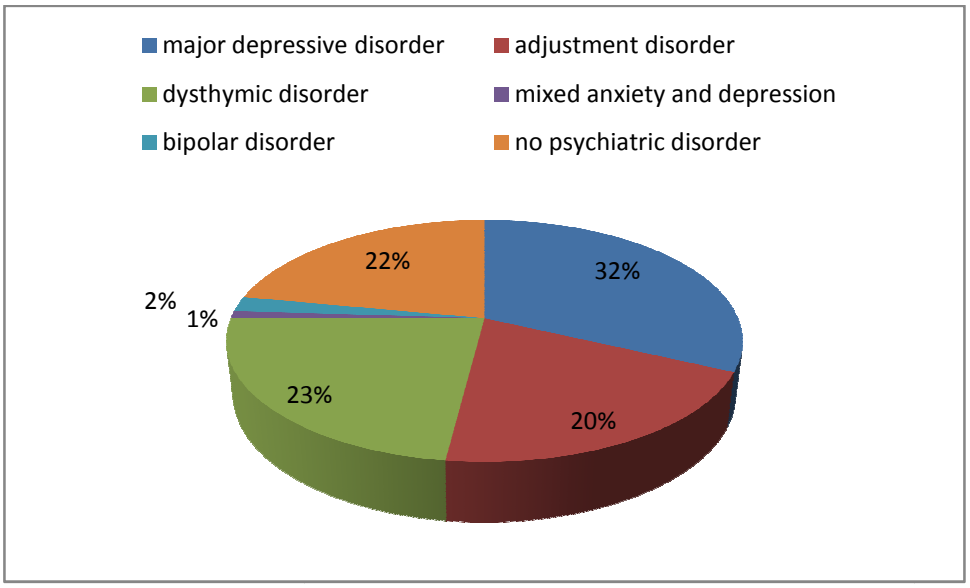

Figure (1) demonstrates that 78% patients had psychiatric diagnoses according to the DSM-IV-TR criteria, while 22% had no psychiatric disorders. The most frequent diagnosis was for major depressive disorder and was found in 32% patients. Adjustment disorder with depressed mood was detected in 20%, and dysthymic disorder was found 23%. Only 1% subject was given a diagnosis of adjustment disorder with mixed anxiety and depression and 2% had bipolar I disorder.

Beck depression inventory (BDI)	**Psoriasis (n=100)**		**Control (n=100)**		**Chi square**	**P value**
	No	**%**	**No**	**%**		
Absent	22	22	80	80	31.2	<0.001
Mild	19	19	15	15		
Moderate	19	19	05	05		
Severe	40	40	0	0		
Beck anxiety inventory (BAI)	**No**	**%**	**No**	**%**	**Chi square**	**P value**
Absent	14	14	90	90	35.8	<0.001
Mild	16	16	10	10		
Moderate	25	25	0	0		
Severe	45	45	0	0		

A highly statistically significant value was found between the psoriatic and the control groups when the severity of their depressive symptoms was compared (Chi-square= 31.2, p<0.001). As revealed in (Table 3), 40% psoriatic patients had severe depression on BDI, 19% had moderate depression, and 19% had mild depression. Depression was absent in 22%. The control group includes 80% having absent significant depressive symptoms. Mild depression was detected in 15% subjects whereas moderate in 5%.

Anxiety symptoms scored on BAI also revealed higher values than controls, with a highly statistically significant value (Chi-square= 35.8 and p<0.001). 45% of psoriatic patients had severe anxiety, (25%) moderate anxiety, (16%) mild anxiety. Anxiety was absent in 14% of cases compared to 90% of the control group. A mild degree of anxiety was detected in 10% of the control group.

Discussion:

Psoriasis is a chronic skin disease that has been significantly linked to psychiatric symptoms and disorders. Our study results reveal that 78% of the psoriatic patients have psychiatric diagnoses according to DSM-IV-TR criteria (American Psychiatric Association, 2000). Many studies support the view that dermatological conditions carry a high degree of psychiatric morbidity varying from 10 to 90% (Woodruff, et al. 1997; Bharath, et al. 1997; Mehta and Malhotra, 2007 and Saleh, et al. 2008) [11-14]. Variation in prevalence of psychiatric disorders could be related to sample size, patient selection, duration of illness, or psychometric measures with different cut off scores.

The relation between mood disturbances and psoriasis was highlighted by the results of the current study. All comorbid psychiatric disorders fall in the affective spectrum. Assessment of depressive symptoms using BDI revealed higher statistically significant depressive scores among the patients than in the control group. Many studies have supported this finding, although some of them did not go along with the quantification of the degree of depression. For instance, Akay, et al. (2002) [15] found less patients with severe degree of depression; 26%, versus 40% in the current study.

Among patients with psoriasis, there was a higher degree of anxiety than controls. This finding goes along with Richards, et al. (2001) [16] study where anxiety was identified in 43% of attendees at a tertiary clinic for psoriasis. In contrast, Devrimci-Ozguven, et al. (2000) [17] did not find elevated levels of anxiety associated with psoriasis; which was partly attributed to the low psoriasis severity scores that could have influenced their results. It could also be explained in view of the diversity of factors underlying the emergence of anxiety in psoriatic patients (Fortune, et al. 2002). [18]

Conclusion:

There is a high frequency of psychiatric co-morbidities encountered in psoriatic patients. They show significant higher levels of anxiety and depression and they utilize specific coping processes. Understanding their diverse mechanisms of coping can give them a better chance for a more comprehensive and beneficial management plan.

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