

# Comparative Assessment of Anxiety among Psoriasis Patients: A Case Control Study

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## ABSTRACT

**Objective:** To compare subcomponents of anxiety among psoriasis patients and controls.

**Materials and Methods:** In this hospital-based case-control study, One hundred patients with psoriasis (case) referred to the dermatology department and 100 dermatological healthy volunteers (control) were studied. Demographic characteristics were recorded. IPAT Anxiety scale was administered to the patients in both groups.

**Results:** The results of present study clearly revealed that psoriasis patients scored higher on different sub-components of anxiety namely low self-control, suspicion, apprehension and tension as compared to the control group. ( $p < 0.05$ )

**Conclusions:** Present study highlights the higher prevalence of anxiety in the psoriasis patients; it also shows importance of psychological adjustment in psoriasis patients.

**Keywords:** Anxiety, Psoriasis, IPAT Anxiety Scale.


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## INTRODUCTION

The term "stress" was coined by Hans Selye (1907-1982) who laid the concept of the adrenocortical system being the vital responder to stress.<sup>1</sup> The more rudimentary term psychosomatic disease mirrors those illnesses whose evolutions are channeled by psychological (thoughts, emotions and behavior) issues; in contrast somatopsychic diseases echoes those where the biologic aspect of the disease affects the psyche.<sup>2</sup>

Psoriasis being a key disease in the cluster of psychocutaneous disorders, it has become a focus for exploration. Due to the intimate interplay between psychosocial factors and psoriasis, this disease confirms the said definitions.<sup>2</sup> The incidence of disease is 1-2% of the general population.<sup>3,4</sup>

The neurogenic inflammation hypothesis of psoriasis put forth by Farber et al. states that neuropeptides like substance P (SP) and nerve growth factor (NGF) act as a crux in its pathogenesis. Unmyelinated terminals of sensory fibers in skin release SP and other NP's thereby resulting in generation of local neurogenic inflammation in those who are genetically primed.<sup>1</sup>

Stressful life events are associated with higher levels of SP in the central and the peripheral nervous system of animal models.<sup>1</sup> There is strong clinical evidence that stress can play a role on the onset and exacerbation of psoriasis.<sup>5-7</sup> In a study on psoriatic patients, 60% of the patients strongly believed that stress was a causal factor for their psoriasis.<sup>8</sup>

Psoriasis is associated with a variety of psychological problems. So, considering the psychosocial aspects of the disease is very important in psoriatic patients.<sup>9</sup> According to previous controlled studies, the prevalence of depression was ranged from 0 to 58% in psoriasis patients.<sup>3</sup> 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.<sup>3</sup> 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. So that, recognition and treatment of the psychosocial problems can decrease health care costs and shorten the therapeutic period. In the view of above mentioned observations the present study compared anxiety disorders in patients with psoriasis.

## MATERIALS AND METHODS

In this hospital-based case-control study, Conducted in collaboration of Department of Dermatology, Department of Psychiatry and Department of Pathology, all participants were

patients who referred to Department of Dermatology. 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. The study and control group consisted of 100 patients each were included in the study.

The exclusion criteria were as follows:

- Other dermatologic diseases,
- Individuals with mental retardation or cognitive and speech disorders.

A dermatologist confirmed the diagnosis of psoriasis based on observations and clinical findings. Biopsy was taken from suspected lesions and sent to the pathology center of the hospital. For the patients whose samples were positive after H&E stain and microscopic examination appropriate treatment was started. In addition, a dermatologist examined the control group for presence of dermatological diseases.

Then the patients in both case and control groups were evaluated by IPAT Anxiety Scale by department of Psychiatry. This test was made up of five subcomponents of anxiety like low self-control, emotional instability, suspicion, apprehension and tension.

**Statistical Analysis**

Spreadsheets were created for data entry. The data was analyzed using SPSS 20 (SPSS Inc. Chicago, IL, USA) Windows software program. Descriptive statistics were used to summarize the demographic information and the survey data was analyzed using t-test. Confidence level and level of significance were fixed at 95% and 5% respectively.

**Table 1: Demographic Characteristics of study participants**

Variables	Cases (n %)	Controls (n %)
Mean age	42.7±2.8	43.8±3.7
<b>Gender</b>		
Male	58 (58)	47 (47)
Female	42 (42)	53 (53)
<b>Education Level</b>		
Primary	18 (18)	29 (29)
High school	44 (44)	53 (53)
College	38 (38)	18 (18)
<b>Total</b>	<b>100 (100)</b>	<b>100 (100)</b>

**Table 2: Comparison of psoriasis patients and control groups based on all the measured variables**

Variables	Cases	Controls	p-value
	Mean±SD	Mean±SD	
Low self-control	8.4±1.2	7.1±2.3	
Emotional Instability	5.8±2.1	3.3±1.7	
Suspicion	5.5±1.7	3.2±1.1	0.05*
Apprehension	11.1±2.5	9.4±2.8	
Tension	9.7±1.9	7.1±2.9	

Test applied: t-test. \* indicates statistically significant values

**RESULTS**

Table 1 depicted the demographic distribution of study participants in terms age, gender and level of education. The average age of subjects in psoriasis group was 42.7 years and it was 43.8 years in the control group.

Table 2 shows means and SDs of psoriasis patients and control group for all dimensions of anxiety are given. The psoriasis patients scored higher on all the subcomponents of anxiety i.e. low self -control ( $p<0.05$ ), suspicion ( $p<0.05$ ), apprehension ( $p<0.05$ ) and tension ( $p<0.05$ ). Psoriasis patients were more anxious as compared to the control group.

**DISCUSSION**

It is widely believed that stress has an important role in triggering psoriasis and that the mechanism of stress-induced exacerbations of psoriasis involved the nervous, endocrine and immune systems.<sup>10</sup> Stress can also alter the epidermal permeability barrier,<sup>11</sup> and a barrier abnormality might facilitate the development or persistence of inflammatory skin diseases through activation of an epidermal-initiated cytokine cascade.<sup>12</sup> The body's response to stress is mediated by hypothalamus, pituitary, cerebral cortex, and the limbic system, in addition to the adrenal gland, as proposed by Selye.<sup>13</sup> In addition to classic stress response involving increased levels of neuroendocrine hormones and autonomic neurotransmitters,<sup>14</sup> stress also affects the immune system.

In humans, stress results in decreased levels of natural killer-cell cytotoxicity, depressed mitogenic responses in lymphocytes, increased serum immunoglobulin A levels, enhanced neutrophil phagocytosis, and activation of interferon synthesis in lymphocytes.<sup>15</sup> Psoriasis patients usually develop low body image, which leads to social withdrawal, severe depression, and sometimes active suicidal attempts.<sup>16</sup>

The results of the present study clearly revealed that the psoriasis patients lacked foresight and self-control and showed altered and socially unacceptable character responses. They had little regard for social reputation and were inconsiderate to others. Another study<sup>17</sup> concluded a similar type of finding that psoriasis sufferers felt self-conscious, disturbed/inconvenienced by the shedding of the skin. The psoriasis patients used to get annoyed by a greater number of things than the average person. They were less cohesive, low on morale and developed a feeling of insecurity.

Similar to ours, O'Leary et al.<sup>10</sup> study showed that the magnitude of anxiety and depression in patients with psoriasis is higher than that in healthy individuals, but they found no association between severities of psoriasis with anxiety, whereas Harvima et al.<sup>18</sup> found an association between psychological stress and clinical severity and symptoms in psoriatic patients. They had found patients with significant psychological distress who had more severe dermatologic lesions and particular defects.

Taner et al.<sup>19</sup> in 2007 compared the rate of depression and anxiety in patients with Behcet's disease and in patients with psoriasis. The results of their study revealed that the prevalence of anxiety in young patients with Behcet's disease was higher than that in the psoriatic patients. Furthermore, there was a positive correlation between the severity of psychological symptoms and longer duration of the disease in patients with Behcet's disease.

There were some limitations in our study. It only included the new cases of psoriatic patients with anxiety that referred to the

psychiatrist after completing the questionnaire. In addition, psychiatry problems such as schizophrenia, MDD, and personality disorders in subjects with mental retardation, cognitive and speech disorders as exclusion criteria in the present study had not been diagnosed after clinical interview.

## CONCLUSION

The present study concluded that psoriatic patients reported significantly higher degrees of anxiety than controls. The clinical manifestations play a significant role in triggering or exacerbating psychological stress in chronic dermatological diseases. Our study suggests role of relaxation therapy, psychotherapy and social support might help to reduce the exacerbations of psoriasis.

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