Original article

Evaluating The Relationship Between The Severity Of Psoriasis And The Prevalence Of Depression In Patients With Psoriasis Compared With Healthy Subjects Referred To Dermatology Clinics Of Gorgan In 2016-17

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Abstract:

Introduction: Psoriasis is a systemic inflammatory disease and the most common recurrent chronic skin disease which affects almost 2% of the population and may occur at any age. This chronic disease causes changes in the appearance that impairs the patients' mental image of themselves and causes rejection from society, isolation, personality disorders, depression, low self-esteem and weakened position of the person in the family. Due to the lack of permanent recovery of patients with medications, psychiatric interventions lead to improvements in the quality of life in these patients. An accurate assessment of the relationship between disease severity and psychopathology of it hasn't been done in our society, so we decided to assess the relationship between disease severity and depression rate in patients with psoriasis referred to dermatology clinics is Gorgan in 2016-17 compared to healthy subjects.

Method : In this case-control study, 68 patients with psoriasis referred to dermatology clinics in Gorgan in 1395 and 68 normal controls were examined for depression using standard Beck (Beck II) test. Severity of the disease was calculated based on Psoriasis Area Severity Index Score (PASI Score). The data gathered was analyzed using statistical tests with confidence level of 0.95, and statistical power of 0.9 with SPSS software (version 18).

Findings: This study evaluated 70 patients with psoriasis referred to dermatology clinics in Gorgan in 2016-17 and 70 healthy subjects as controls. In each group 22 subjects were male (31.4%) and 48 subjects were female (68.6%). Average disease severity was 35/17 ± 27 percent. With the increasing severity of psoriasis, the rate of depression is higher among patients. (P=0.0001) The rate of mild, moderate and severe depression in the case group was higher than the control group. This difference is statistically significant (p=0.0001)

Conclusion: Depression symptoms are remarkably observed in psoriasis patients and the rate of these symptoms compared to healthy individuals is greater and these symptoms have a strong significant correlation with the severity of psoriasis.

Key words: Depression, psoriasis, Beck II

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Introduction:

Psoriasis is a systemic inflammatory disease (1) and is one of the most common chronic skin diseases (2, 3), with recovery and recurrence periods (4) affects almost 2% of people in Western societies (5) and in any age, from birth to higher ages, may flare (4). Although there are no accurate statistics on the prevalence of the disease in our country, it should be noted that psoriasis in Iran is one of the most common skin diseases. It seems that even in Northern Iran it is even more prevalent. It is estimated that an average of 2 percent of the population in the country is affected (6). The prevalence of the disease is equal in men and women. The disease is spread in the form of erythematosus plaques with exfoliation in different parts of the body. Skin manifestations are in 5-20% of cases is associated with arthritis (1). It mainly affects the extensor regions of the body and may be accompanied by moderate to severe itching (4).

The most common form of the disease is psoriasis vulgaris, which appears in the form of circular plaques in the extensor regions of the body such as the elbows and the lower back and around the umbilicus. Several endogenous and exogenous factors have been identified as the triggers of the disease. Endogenous agents can include pre-inflammatory cytokines, and environmental factors can include sunlight, infection, trauma and medications. The course of the disease is unpredictable and unviable (1).

This chronic condition causes a change in appearance that disrupts the mental image of the affected person. This change in appearance leads to a patient being rejected from society, isolation, personality disorder, depression, weakening of the individual's position in the family, and reduced his self-esteem (7). Stress in psoriasis is a major contributor to disability in patients. These stresses can have a major impact on the quality of life of the patients, the severity of the disease and the response to treatment (1). Psoriasis causes the patient to have a sheltered life. Patients may be reluctant to enjoy recreational activities such as sunbathing that is good for treating their illness in fear of others being aware of their illness. The effects of the disease also interfere with the physical activity of patients, such as sleep and daily activities.

Patients with psoriasis often have problems such as Adjustment disorders, lack of self-esteem and feelings of embarrassment (1). Several studies have shown that patients often feel depressed (8). In many cases, the condition affects how others treat the person and his feelings affect him.

So one of the most important issues is helping patients not to hurt their pride. One of the worst cases of psoriasis is that others suspect that the disease is contagious or caused by personal hygiene, while it is not. It's uncomfortable for people to avoid contact with the patient because he finds himself inappropriate. This may cause anger, shyness, or frustration (9, 10).There are different treatments for the disease. The purpose of the treatment is to minimize the extent and severity of the lesions to a degree that has less effect on the quality of life of the patients.

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Psychiatric interventions improve the quality of life of these patients due to the lack of continuous improvement of patients by drugs (1). One way to deal with self-esteem and negative attitudes by others is to have protection. Families and friends who know what psoriasis is, can mentally support the patient and give him energy and hope. Talking to people who are in the same situation also makes the patient calm. However, increasing the level of information and the level of education, emotional stress from psoriasis decreases (8, 11, 12).

Considering the reports about the prevalence and severity of depression and its related factors, and considering that attention to patient depression and psychological and therapeutic support can help to improve the quality of life of these patients and the adverse effects of this disease, especially reducing the prevalence of depression And in view of the fact that there is no accurate assessment of the prevalence of the disease and the relationship between the severity of the disease and its psychopathology in our society, therefore, in this study, the prevalence of depression in patients with psoriasis in Gorgan was evaluated.

Considering the different mental and physical conditions of these patients and the absence of official and indigenous statistics in this regard, we determined the relationship between the severity of the disease and the rate of depression in psoriatic patients referred to the skin clinics, and they compare with healthy people.

Methods:

This is an analytical case-control study that was conducted in Gorgan in 1395. Patients with psoriasis who visited the clinic during this period, if they had a benchmark for inclusion in the study based on a dermatologist's examination and did not have any exclusion criteria for participation in the study, were selected for sampling, After obtaining the approval of the research ethics committee of Golestan University of Medical Sciences.

Inclusion Criteria: Patients with psoriasis referring to skin clinics confirmed by a dermatologist, were considered as case groups and healthy subjects were considered as controls.

Exclusion Criteria: The presence of chronic illnesses, the presence of previous or current history of drug addiction, including opium and ..., the occurrence of any psychiatric illness with a definitive diagnosis by the psychiatrist (before the onset of psoriasis) and the dissatisfied person to continue to participate in this Research

First, the generalities of the research and its objectives were explained to the patients and they were assured that their identity would remain hidden and they would be free to refuse cooperation at any time. Then, their written consent was taken. After entering the study, patients completed the demographic checklist and Beck II questionnaires. A total of 70 people who had not had a history of psoriatic disease were informed consciously after giving explanations about research and obtaining written consent, and completed the

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demographic checklist and Beck II questionnaire.

First, the general and demographic information of patients including gender, age, ethnicity, family history of psoriasis, history of personality disorder, occupation, degree of education and duration of psoriasis disease, marital status and history of treatment was obtained by Demographic check list. In this descriptive analytical study, participants were evaluated for assessing the prevalence of depression by completing the Beck Depression Inventory. The severity of psoriasis was categorized by the dermatologist according to the PSI and PASI index into three groups: mild (<10%), moderate (10-40%) and severe (> 40%).

Statistical Analysis: The collected data were analyzed by SPSS software version 18 after encoding and import. Statistical analysis of the numerical distribution of Beck II questionnaires was carried out using Shapiro-Wilk test. In case of normal distribution of data, the analysis of variance was used to compare mean depression level in four groups and the Dunett test was used to compare three groups of patients with healthy group. If necessary, the three groups of patients were combined and to compare the mean depression level Patients with a healthy group used independent t-test. Non-parametric Kruskal-Wallis and Mann-Whitney tests were used if the distribution of data was not normal. Chi-square test was used for categorizing both traits. Odds ratio and relative risk were used to determine the severity of the relationship between the two traits. The significance level in all tests was 0.05.

Findings:

In both groups, the mean age was 32.25 ± 10.4 years.in both groups, 22 cases (31.4%) were men and 48 cases (68.6%) were women. The mean duration of the disease in patients was 6.59 ± 6.58 years (At least 1 year and maximum 30 years). 62 patients (88.6%) took medication while 8 (11.4%) did not take medication. 34.3% of patients with psoriasis was single and 65.7% were married. The ethnicity of the case group and the control group were compared, it should be noted that this difference in ethnicity in the two groups was not statistically significant (P = 0.685)

In terms of educational level and job status, the case group and the control group were compared and examined. This difference was not statistically significant between the two groups. P-value for the education level was (P = 0.715) and for the job status was (P = 0.111).

Psoriasis disease was categorized and evaluated by a dermatologist based on the PASI measurements in three groups: mild (<10%), moderate (10-40%) and severe (> 40%). The results were as follows: the mean severity of the disease in patients was (27 ± 17.35)%, the highest percentage among patients was 70 and the lowest was 7%. 18 cases (25.7%) were Mild, 31 cases (44.3%) were moderate and 21 cases (30%) were severe.

Beck II test was used to assess depression in both groups. By scoring scores in each of the sub-scales, the individual scores were obtained directly. The following scores were used to indicate the overall level of

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depression: 0 to 13: no or least depression, 14 to 19: mild depression, 20 to 28: moderate depression and 29 to 63: severe depression. Because of non-normal distribution of data, the Mann-Whitney test woas used to compare the distribution of depression scores in two case and control groups. The depression scores in the case group were significantly higher than the control group (P <0.001). The results of this study were presented in the following two groups as shown in Table 1.

Then, the frequency of depression in the group of patients with psoriasis was evaluated according to age, sex, ethnicity, marital status, duration of illness, and educational level. The results are shown in Table 2. Also, the relationship between these variables was evaluated in patients with depression severity. Other than gender, the rest of the variables studied did not have a statistically significant relationship with severity of depression. Depression increased in female patients (P = 0.05).

The relationship between the severity of depression and the severity of psoriasis in patients was studied. The results are shown in Table 3. The correlation coefficient of Spearman was also used to measure the relationship between depression severity and severity of depression and The severity of the disease has a significant correlation coefficient, so that people with high disease severity are more depressed (P-value <0.001)

Discussion:

This case-control study was conducted in Gorgan in 1395. A total of 70 patients with psoriasis were enrolled in the study. 70 people were also considered as healthy individuals. The ratio of women and men or the mean age was similar in both case and control groups. In both groups, the mean age was 32.25 ± 10.4 years. In line with the results of this study, Behnam et al. (14) studied the mean age of patients was 38.5 ± 13.5.

In each group, 22 cases (31.4%) were men and 48 cases (68.6%) were women. The mean duration of the disease in the patient group was (6.59 ± 6.58) years. In a study by Tusi et al. (2004) on 50 patients with psoriasis who referred to Loghman and Booali hospitals in Tehran in 2001-2003, the duration of the disease in 18 patients was less than 5 years and in 32 It was more than 5 years.

In our study, the ethnicity of the case group and the control group were compared and it was examined that this difference in ethnicity was not statistically significant in the two groups (P = 0.685). Also, in terms of educational level and occupational status, the case group and control group were compared and this difference was not statistically significant in two groups. P-value was (P = 0.715) and (P =0.111) respectively. In this study, Beck II test was used to assess depression disorder in both groups. By collecting scores, 18 (25.7%) had no or least depression, 16 (22.9%) had mild depression, 25 (35.7%) had moderate depression and 11 cases (15.7%) had depression Have severe.

In the study of Tusi et al. (6), 26% had no depression, 28% had mild depression and 18% had moderate and 28% had severe depression. In the study of Aghakhani et al. (13), the highest frequency was related to

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mild depression (42.6%). In the study of Enshaee et al. (7), the relative frequency of depression among patients was 69.9%, the most common form being Relative depression was observed with a frequency of 26.5%.

In the study of Behnam et al. (14), depression symptoms were observed in (31.4%) patients. In the study of Lakshmy et al (16) in India, 78.9% of patients were depressed, and in the study by Cohen et al. (17). The prevalence of major depression (MDD) among patients was 7.8%. According to the results of our study, the incidence of mild, moderate and severe depression was significantly higher in the case group than in the control group (P-value <0.001). In the study of Enshaee et al. (7). The prevalence of depression and anxiety was higher in patients with psoriasis than normal population. In a study by sharma et al in 2009 in India (4), patients with psoriasis ($t = 3.12$; $p < 0.01$) were more likely to develop depression than others. In a study by Tee et al. (18), it was concluded that chronic diseases such as psoriasis are associated with many psychiatric disorders such as depression and anxiety, and the therapist should pay attention to all aspects of the disorder, especially psychiatric aspects.

In this study the frequency of depression in the group of patients with psoriasis was evaluated according to age, sex, ethnicity, marital status, duration of illness, and educational level, also the relationship between these variables was evaluated in patients with depression severity. Other than gender, the rest of the variables studied did not have a statistically significant relationship with severity of depression. Depression increased in female patients which can be a sign of the poor power of the patients to adapt to the disease in different conditions. In Tusi et al. (6), depression in women with psoriasis is more than men and is consistent with the results of our study. In a study by Gul (15) in 2012, depression in women was 14.97% and in was males 13.88%. In the study of Inshaeia et al. (7), he concluded that the longer the disease was, the prevalence of depression and anxiety also increased, and in the study by Lakshmy et al. (16), the severity of psoriasis and the duration of the disease with The severity of depression and the severity of anxiety were directly and significantly related. This is inconsistent with our study results. Also, in a study by Cohen et al. (17), factors such as gender, age, and ethnicity, the condition of another physical illness, marital status, and occupation were effective factors on the degree of depression in patients with psoriasis. The same results were obtained in Tee et al. (18) in 2016, and there was a significant correlation between age, age, sex, marital status and severity of depression and anxiety. On the other hand, in our study, the relationship between the severity of depression and the severity of psoriasis was examined. The results showed that the mean severity of disease (PASI) in patients was (27 ± 17.35%) And 18 patients (25.7%) were in the mild group, 31 (44.3%) were in the moderate group and 21 (30%) were in the severe group.

In the study of Behnam et al. (14), 29 (41.4%) were mild, 12 (17.2%) were moderate and 29 (41.4%) had severe forms

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of illness. In our study, with the increase in the severity of psoriasis is associated with a higher rate of depression among patients (P-value <0.001). This result was concluded by Behnam et al. (14) that there was a significant direct correlation between depression and severity of psoriasis.

The reason for the statistical differences mentioned can be attributed to factors such as the difference in target population, the difference between the tools used to determine the degree of depression, the difference in time and place of study, and the social, economic, and cultural conditions, and the difference in sample size. This study has been accompanied by some limitations. Given that the present study was conducted in a group of patients in Gorgan, the results of the study may not be generalized to the entire Iranian society. It is suggested that similar studies with higher sample sizes be performed to evaluate other psychiatric disorders in a psoriasis patient.

Conclusion:

The results of this study and some similar studies showed that chronic diseases such as psoriasis can affect the mental health of a person. So patients with chronic illness are at high risk of developing mental disorders. Given the multifactorial nature of the disease, the principles of treatment for these patients should not be based solely on drug therapy. Considering the relationship between the severity of psoriasis and the degree of depression and psychological counseling these patients are necessary to reduce the outcomes of disease progression and accelerate the recovery process. The findings of this study suggest that psychopathology, especially depression, is significantly observed in patients with psoriasis, and these symptoms are significantly associated with the severity of psoriasis. Therefore, along with attention to the factors of aggravation or relief of illness, psychiatric aspects should be considered, including the high prevalence of depression in the person's life and the reduction of risk factors for mental disorders

References:

1- Zandi S, Shamsi Meymandi S, Sabouri Shahrebabak F.Evaluation of quality of life in patients with psoriasis. Dermatology and Cosmetic 2011; 2 (3): 166-173

2- Nasreen S , Ahmed I , Effendi S. Frequency and Magnitude of Anxiety and Depression in Patients with Psoriasis Vulgaris. Journal of the College of Physicians and Surgeons Pakistan 2008, Vol. 18 (7): 397-400.

3- Nabaei B, Safizadeh H, Hallaji Z. Evaluation of quality of life in psoriatic patients and
comparison with healthy control. Iran J Dermatol 2002; 5: 15-21(Persian).

4- Sharma S , Bassi R , Singh A . A comparative study of depression and anxiety in psoriasis and other chronic skin diseases. Journal of Pakistan Association of Dermatologists 2011; 21 (4): 235-240.

5- F Chan , KM Ho , AHT Pang . Depression in Hong Kong Chinese patients with psoriasis . Hong Kong J. Dermatol. Venereol. (2009) 17, 69-77.

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6- Tousi P, Ebrahimzadeh S, Zahyraldyn AR, Gachkar L. Study of Depression in patients with psoriasis admitted to Bu-Ali and Lukman hospitals in 1380-81. Pajoohandeh Journal. 2004; 8 (6): 9-15.

7- Anshayyh Sh, Kiani A,Yazdani A. Prevalence of depression and anxiety in patients with psoriasis. Skin Disease 2004; 6 (3): 23-1914.

8- Perrott SB, Murray AH, Lowe J, Mathieson CM. The psychosocial impact of psoriasis: physical severity, quality of life, and stigmatization. Physiol Behav. 2000 Sep 15;70(5):567-71

9- Kimball AB, Jacobson C, Weiss S, Vreeland MG, Wu Y. The psychosocial burden of psoriasis. Am J Clin Dermatol. 2005;6(6):383-92

10- Vardy D, Besser A, Amir M, Gesthalter B, Biton A, Buskila D. Experiences of stigmatization play a role in mediating the impact of disease severity on quality of life in psoriasis patients. Br J Dermatol. 2002 Oct;147(4):736-42.

11- Menter A. The effect of psoriasis on patients' quality of life and improvements associated with alefacept therapy. J Cutan Med Surg. 2004 Dec;8 Suppl 2:20-5.

12- Mazzotti E, Picardi A, Sampogna F, Sera F, Pasquini P, Abeni D; IDI Multipurpose Psoriasis Research on Vital Experiences study group. Sensitivity of the Dermatology Life Quality Index to clinical change in patients with psoriasis. Br J Dermatol. 2003 Aug;149(2):318-22.

13- Aqhakhani Nader, Baqhaee Rahim. Psychosocial Problems in Psoriasis Patients Admitted to Hospitals of Medical Sciences Universities of Tehran. Urmia Journal medical science, Vol. 9, No. 3, Autumn 1998, pp. 168-162

14- Behnam B,Taheri R,Sadat Hashemi M,Nesari-Rad Motlagh M.frequency of psychopathological manifestations in psoriatic patients in semnan city , central part of iran.Journal of Fundamentals of Mental Health, Autumn,2010,Vol.12,No.3(47),P.604-11.

15- Gul . EXPERIENCE OF ANXIETY AND DEPRESSION AMONG PSORIASIS PATIENTS. ASIAN JOURNAL OF SOCIAL SCIENCES & HUMANITIES.2012. Vol.1(4)158-164

16- Lakshmy S, Balasundaram S, Sarkar S, Audhya M, Subramaniam E. A Cross-sectional Study of Prevalence and Implications of Depression and Anxiety in Psoriasis. Indian J Psychol Med. 2015 Oct-Dec;37(4):434-40.

17- Cohen BE, Martires KJ, Ho RS. Psoriasis and the Risk of Depression in the US Population: National Health and Nutrition Examination Survey 2009-2012. JAMA Dermatol. 2016 Jan;152(1):73-9. doi: 10.1001/jamadermatol.2015.3605.

18- Tee SI, Lim ZV, Theng CT, Chan KL, Giam YC. A prospective cross-sectional study of anxiety and depression in patients with psoriasis in Singapore. J Eur Acad Dermatol Venereol. 2016 Mar 30. doi: 10.1111/jdv.13615. [Epub ahead of print]

19- Beck, A.T., Steer, R.A. & Garbin, M.G. Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. Clinical Psychology Review, 1988, 8, 77-100.

20- AzKhosh M. The use of psychological tests and clinical diagnosis. Psychotherapy, 2008; 3: 226-224

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Tables and Figures:

Figure 1: Frequency of Psoriasis level and severity index (PASI) in patients with psoriasis

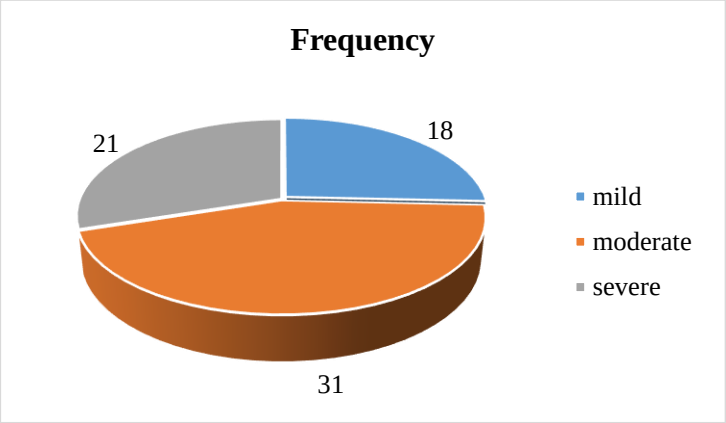


Figure 2: Relationship between severity of depression and severity of disease in case group

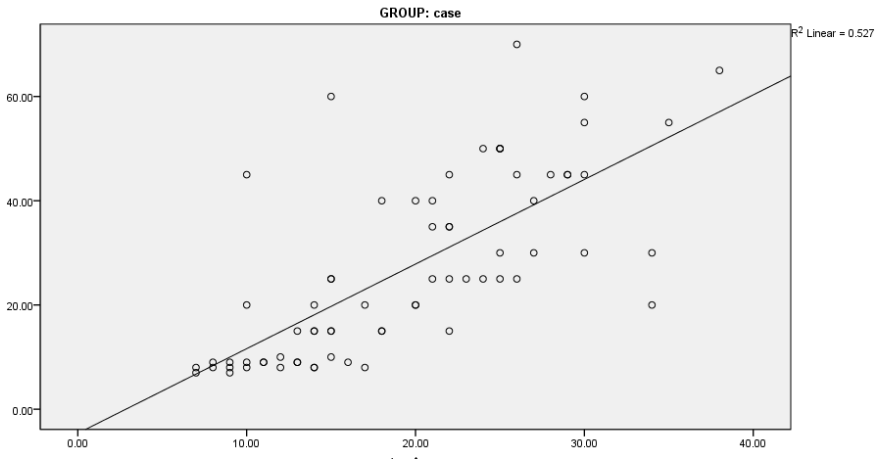


Table 1: Frequency of depression was studied in both groups using Beck II test.

	Severity of depression			
	no or least depression	mild depression	moderate depression	severe depression
Case group	18 (25.7 %)	16 (22.9 %)	25 (35.7 %)	11(15.7 %)
Control group	53 (57.7 %)	8 (11.4 %)	5 (7.1 %)	4 (5.7 %)
total	71 (50.7 %)	24 (17.1 %)	30 (21.4 %)	15 (10.7 %)

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Table 2: Depression in the group of patients with psoriasis based on age, gender, ethnicity, marital status, duration of illness and education level

		Severity of depression				p-value
		no or least depression	mild depression	moderate depression	severe depression	
marital status	single	6 (25 %)	5(20.8%)	11(45.8 %)	2 (8.3 %)	
	married	12 (26.1 %)	11 (23.9 %)	14 (30.4 %)	9 (19.6 %)	0.496
Level of Education	Under diploma	3 (17.6 %)	5 (29.4 %)	7 (41.2 %)	2 (11.8 %)	
	Higher than diploma	15 (28.3 %)	11 (20.8 %)	18 (34 %)	9 (17 %)	0.705
Sex	Male	8 (36.4 %)	7 (31.8 %)	7 (31.8 %)	0 (0%)	
	female	10 (20.8 %)	9 (18.8 %)	18 (37.5 %)	11(22.9 %)	0.050
Age	< 32 years old	10 (26.3 %)	10 (26.3 %)	14 (36.8 %)	4 (10.5 %)	
	Above 32 years old	8 (25 %)	6 (18.8 %)	11 (34.4 %)	7 (21.9 %)	0.593
race	fars	12 (24 %)	14 (28 %)	15 (30 %)	9 (18 %)	
	Non-fars	6 (30 %)	2 (10 %)	10 (50 %)	2 (10 %)	0.221
Duration of illness	< 5 years	8 (23.5 %)	11 (32.4 %)	11 (32.4 %)	4 (11.8 %)	
	Above 5 years	10 (27.8 %)	5 (13.9 %)	14 (38.9 %)	7(19.4 %)	0.308

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Table 3: The relationship between the severity of depression and the severity of psoriasis

		severity of psoriasis		
		mild	moderate	severe
severity of depression	no or least depression	14(77.8 %)	3 (16.7 %)	1 (5.6 %)
	mild depression	4 (25 %)	10 (62.5 %)	2 (12.5 %)
	moderate depression	0 (0%)	15 (60 %)	10 (40 %)
	severe depression	0 (0%)	3 (27.3 %)	8 (72.7 %)

The linear regression method was used to determine the statistical model of the relationship between depression severity and severity of the disease. The results showed that the following linear relationship was observed (P-value <0.001).(figure 2)

(Severity of illness) * 0.325 + 10.642 = Severity of depression

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