Original Research Article

Prevalence and correlates of Depression and Suicidal ideation in patients of Psoriasis and Acne vulgaris

Shyam Prashad K[1], Kailash Sureshkumar[2*], Vidyendaran Rudhran[3], Murali Mohan Reddy[4], Shabeeba Z Kailash[5]

[1]MBBS Student, [2,3]Assistant Professor, Department of Psychiatry, [4]Associate Professor, Department of Community Medicine, [5]Department of Psychiatry, Chettinad Hospital and Research Institute, Tamil Nadu, India

[*]Corresponding author email: **kaidoc02@gmail.com**

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Abstract

Background: Psychiatric comorbidity and its effect have been increasingly recognized in various dermatological conditions. Multiple factors of dermatological and psychiatric illnesses interact dynamically influencing each other. We studied the prevalence and correlates of Depression and suicidal ideation in patients suffering from Psoriasis and Acne vulgaris.

Materials and methods: Seventy one outpatients diagnosed with Psoriasis and Acne vulgaris were cross-sectionally studied for the prevalence and distribution of Depression and suicidal ideation. Correlation between the severity of Depression and the severity of dermatological illness was analyzed. Further, analysis of factors associated with Depression was done by regression analysis.

Results: Prevalence of moderate and severe Depression was 29.6% in the study population. Prevalence of suicidal ideation in the study population was 15.5%. The number of patients with moderate and severe depression was significantly higher (X^2 = 19.588; p value < 0.001) in the Psoriasis group compared to Acne vulgaris. Severity of dermatological illness correlated better with the severity of Depression in patients of Psoriasis (r = 0.66, p value < 0.001) as compared to Acne vulgaris (r = 0.46, p value < 0.001). Diagnosis of Psoriasis was associated with the occurrence of Depression in regression analysis.

Conclusion: The high prevalence of depression in the study population emphasizes the importance of incorporating routine psychological screening in the evaluation of dermatological illnesses.

Identification of factors associated with depression can help us to identify the high risk groups and provide appropriate management in improving their quality of life.

Key words

Depression, Suicidal ideation, Psoriasis, Acne vulgaris, Dermatology.

Introduction

The increasing emphasis on General hospital psychiatry makes it more important to study the dynamic relationship between physical and psychiatric illnesses. Chronicity of illness, recurrences, social stigma and side effects of the medications used are few of the reasons which make dermatological patients more vulnerable for psychological problems. Depression is the commonest psychiatric comorbidity in patients with dermatological illnesses and its prevalence varies from 7 – 60% [1, 2] depending on the study population and the screening methods used [3]. Completed suicides and suicidal ideations correlate with the severity of depression, and the prevalence of suicidal ideation ranges from 5-7% [4, 5] in dermatological patients. The prevalence of depression has been found to be more in dermatological patients when compared to other chronic medical conditions [6].

There are many studies which report that depression and stress can lead to exacerbation of dermatological problems [7], modulate pruritus perception [8], reduce the adherence to treatment [9], decrease the quality of life [10] and increase the all-cause mortality rates [11] in dermatological patients. On the other hand, treatment of associated depression can increase the response to treatment of dermatological conditions [12]. The association between the severity of dermatological illnesses and the severity of depression has been inconsistent [13]. Even the milder form of dermatological illness in an adolescent teenager or a young adult has been reported [1] to cause more depression because of perceived cosmetic disfigurement, associated social stigma and poor coping strategies. In view of the above mentioned inconsistencies and the sparsely available literature on the correlates of depression and suicidal ideation in dermatological patients, the current study is done aiming at evaluating and comparing the prevalence of depression and suicidal ideation in patients suffering from Psoriasis and Acne vulgaris, two of the common dermatological conditions. Further, we have aimed at studying the factors influencing the occurrence of depression in the study population.

Materials and methods

The study was a cross-sectional, hospital-based study which was conducted after approval from the Institutional human ethics committee. A purposive sampling of 142 patients (Psoriasis – 71; Acne vulgaris – 71) was done from the Dermatology outpatient department of a tertiary care hospital. Patients of both gender in the age group of 16 - 65 years with a diagnosis of Psoriasis or Acne vulgaris and who were able to give written informed consent were included in the study. Patients with co-morbid severe medical conditions (e.g. hepatic and renal failure, cardiac failure, diabetic ketoacidosis etc.) and those with co-morbid major psychiatric illnesses (e.g. schizophrenia, bipolar disorder, obsessive-compulsive disorder and substance use (except nicotine) disorders) were excluded from the study. Psoriasis Area and Severity Index (PASI) [14] was used to assess the severity of psoriasis and the grading of Acne vulgaris (I-IV) [15] was done based on clinical examination. Psychiatric assessment was done and the diagnosis of depression was made based on ICD – 10 diagnostic criteria. Hamilton Depression Rating Scale (HDRS) [16] was used to rate the severity of Depression. Scale for Suicidal Ideation (SSI) [17] was used to measure the intensity of a person's suicidal ideation. Statistical methods were used to compare the prevalence and correlates of depression and suicidal ideation in

patients suffering from psoriasis and acne vulgaris.

Results

In the study population, there were 71 patients each in the Psoriasis and Acne vulgaris groups. Mean age of the study population with Psoriasis (34.17 ± 11.31 years) was higher than those with Acne vulgaris (21.58 ± 5.64 years) which was statistically significant (p value <0.001). The proportion of males were significantly higher (p value = 0.019) in the Psoriasis group (60.29%) as compared to the Acne vulgaris group (39.70%). Significantly more number of patients (p value = 0.003) had completed primary school education in the Psoriasis group (66.66%) whereas more number of patients had completed secondary school or higher education in the Acne vulgaris group (62.82%). Proportion of married patients were significantly higher (p value <0.001) in the Psoriasis group (78.57%) as compared to the Acne vulgaris group (21.42%). There was no statistically significant difference observed between the two groups in the area of residence, occupation, family income and religion. Significantly more number of patients (p value <0.001) had medical comorbidities (the commonest being Diabetes Mellitus) in the Psoriasis group (69.23%) in comparison with the Acne vulgaris group (30.76%). Past psychiatric illness was seen in 4 of the patients (5.63%) with Psoriasis whereas none of the patients with Acne vulgaris had a history of past psychiatric illness which was statistically significant (p value = 0.042). Only 2 of the patients (2.82%) with Psoriasis had a family history of psychiatric illness whereas none of them had a family history of psychiatric illness in the Acne vulgaris group which was not statistically significant (p value = 0.154) (**Table – 1**).

Table - 1: Comparison of socio-demographic and clinical variables across the study groups.

Parameters		**Psoriasis (N=71)**	**Acne vulgaris (N=71)**	**P value**
Age (Mean ± SD)		34.17 ± 11.31	21.58 ± 5.64	<0.001*
Gender	Male	41 (60.29%)	27 (39.70%)	0.019*
	Female	30 (40.54%)	44 (59.45%)	
Marital status	Single	27 (31.39%)	59 (68.60%)	<0.001*
	Married	44 (78.57%)	12 (21.42%)	
Education	Illiterate	10 (62.5%)	6 (37.5%)	0.003*
	Primary	32 (66.66%)	16 (33.33%)	
	Secondary school/ higher	29 (37.17%)	49 (62.82%)	
Family income	≥ Rs.19575	63 (49.21%)	65 (50.78%)	0.833
	Rs.9788 - Rs.19574	7 (58.33%)	5 (41.66%)	
	Rs.7323 - Rs.9787	1 (50%)	1 (50%)	
Residence	Rural	7 (36.84%)	12 (63.15%)	0.202
	Semi urban	22 (61.11%)	14 (38.88%)	
	Urban	42 (48.27%)	45 (51.72%)	
Religion	Hindu	58 (49.57%)	59 (50.42%)	0.789
	Islam	6 (60%)	4 (40%)	
	Others	7 (46.66%)	8 (53.33%)	
Number of patients with medical comorbidities		36 (69.23%)	16 (30.76%)	<0.001*
Number of patients with past history of psychiatric illness		4 (100%)	0 (0%)	0.042*
No. of patients with family history of psychiatric illness		2 (100%)	0 (0%)	0.154

* p<0.05 was considered statistically significant

Table - 2: Prevalence and severity of Depression in Psoriasis and Acne vulgaris patients.

Sr. No.	Grades of depression	Psoriasis N (Percentage)	Acne vulgaris N (Percentage)	Chi-square value	P value
1	No depression	11 (15.49%)	20 (28.17%)	19.588	< 0.001*
2	Mild depression	27 (38.03%)	42 (59.15%)		
3	Moderate and Severe depression	33 (46.48%)	9 (12.68%)		

*p < 0.05 was considered statistically significant.

Table - 3: Comparison of Suicidal ideations across the study groups.

Suicidal ideation	Diagnosis		Chi-square value (Fisher's exact test)	P value
	Psoriasis N (Percentage)	Acne vulgaris N (Percentage)		
Yes	21 (95.45%)	1 (4.54%)	21.515	< 0.001*
No	50 (41.66%)	70 (58.33%)		

*p < 0.05 was considered statistically significant.

Table - 4: Linear regression analysis of factors influencing Depression (HDRS score) in the study population.

Parameter	Regression coefficient	95% CI#		P value
		Lower	Upper	
Age	0.123	0.040	0.207	<0.001*
Gender	-0.682	-2.552	1.188	0.472
Education	-1.639	-3.499	0.222	0.084
Marital status	3.189	1.350	5.028	0.001*
Religion	0.781	-1.672	3.234	0.530
Diagnosis of Psoriasis	5.00	3.325	6.675	< 0.001*
Medical comorbidities	2.247	-0.688	5.182	0.132

#CI – Confidence interval, *p < 0.05 was considered statistically significant.

Table - 5: Multi variate linear regression analysis of factors influencing Depression (HDRS score) in study population.

Parameter	Regression coefficient	95% CI#		P value
		Lower	Upper	
Age	-0.083	-0.205	0.040	0.183
Gender	-1.569	-3.289	0.151	0.073
Education	-0.620	-2.443	1.203	0.502
Marital status	1.849	-0.589	4.286	0.136
Religion	0.685	-1.550	2.920	0.546
Diagnosis of Psoriasis	5.246	3.142	7.350	< 0.001*
Medical comorbidities	1.279	-1.444	4.002	0.354

#CI – Confidence interval, *p < 0.05 was considered statistically significant.

Severity of both psoriasis and acne vulgaris was studied. In the Psoriasis group, majority (64.8%) of the patients were with mild illness, whereas in the Acne vulgaris group more number of patients (81.7%) was with Grade 2 and 3 (moderate and severe) acne. Though there were statistically

significant differences in few socio-demographic and clinical variables between Psoriasis and Acne vulgaris groups, no attempts at matching these variables were done. Since these differences might actually represent the differences in epidemiology of the individual illnesses studied, matching these variables would reduce the generalizability of the results. HDRS score was considered as the primary outcome variable. Suicidal ideation was considered as the secondary outcome variable. The prevalence of depression was significantly higher (p value < 0.001) in Psoriasis patients (84.5%) compared to those with Acne vulgaris (71.8%). The number of patients with moderate and severe depression was also significantly higher (X^2 = 19.588; p value < 0.001) in the Psoriasis group compared to the Acne vulgaris group (**Table – 2**).

The mean HDRS score in Psoriasis patients (13.94 ± 6.36) was significantly higher (95% CI 3.32-6.67; p value < 0.001) as compared to Acne vulgaris patients (8.94 ± 3.25). The proportion of people with suicidal ideations were significantly higher (Fisher's exact Chi-square value = 21.515; p value < 0.001) in the Psoriasis group (95.45%) when compared to the Acne vulgaris group (4.54%) (**Table – 3**).

There was a strong positive correlation between PASI score and HDRS score among Psoriasis patients, which was statistically significant (Pearson correlation coefficient r = 0.669; p value < 0.001). There was a mild positive correlation between Acne grading and HDRS score among patients with Acne vulgaris which was statistically significant (Pearson correlation coefficient r = 0.462; p value < 0.001). Regression analysis was used to study the factors influencing Depression in the study population. During univariate linear regression analysis, factors which have shown statistically significant association with HDRS score are the age, marital status and the diagnosis of Psoriasis (p value ≤ 0.001) (**Table – 4**).

During multivariate linear regression analysis, after controlling for potential confounding variables, the factor which has shown statistically significant association with HDRS score is the diagnosis of Psoriasis (p value < 0.001) (**Table – 5**).

Discussion

We examined the prevalence and severity of Depression in the outpatients of Psoriasis and Acne vulgaris and analyzed the factors that might be associated with depression. The overall prevalence of depression was high in the study population and the number of patients with moderate and severe depression was also considerably high (29.6%). Further, the prevalence and severity of depression were higher in patients suffering from psoriasis compared to those with Acne vulgaris. This was in spite of the fact that Psoriasis group had more number of patients with mild illness as compared to Acne vulgaris group which had more number of patients with moderate illness. This suggests a hypothesis that the type of dermatological illness could determine the propensity for depression rather than the severity of that particular illness, which needs to be studied further. Many biological similarities particularly immunological have also been suggested in the pathogenesis of Depression and Psoriasis [18].

Severity of dermatological illness correlated better with the severity of Depression in patients of Psoriasis as compared to Acne vulgaris patients. Factors like age, perception of cosmetic disfigurement, social support and coping skills might have also influenced the development of Depression apart from the severity of dermatological illness as suggested in previous studies [1]. Age, marital status and the Diagnosis of psoriasis were associated with the occurrence of Depression in the current study. Few of these findings are similar to previous studies [1, 2].

Our study had few limitations. Though the diagnosis of depression was done by a qualified psychiatrist with ICD 10 diagnostic criteria, using a structured diagnostic interview tool

would have further improved the validity of the diagnosis. Individual's coping behavior, subjective body image perception and social support were not assessed in this study. Including such variables would make the assessment of the factors influencing Depression in dermatological illnesses more holistic and comprehensive.

Conclusion

The high prevalence of Depression of more than moderate severity in the study population indicates to us that it may be extremely important to incorporate routine psychological screening in the assessment of dermatological illnesses. Identification of specific factors that are associated with Depression in patients with dermatological illnesses helps us to identify the high risk population so that the overall quality of life of such patients can be improved with appropriate management.

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References

1. Gupta MA, Gupta AK. Depression and suicidal ideation in dermatology patients with acne, alopecia areata, atopic dermatitis and psoriasis. Br J Dermatol., 1998; 139(5): 846–850.
2. Akay A, Pekcanlar A, Bozdag KE, Altintas L, Karaman A. Assessment of depression in subjects with psoriasis vulgaris and lichen planus. J Eur Acad Dermatol Venereol., 2002; 16(4): 347–352.
3. Abraham M Korman, Dane Hill, Ali Alikhan, Steven R Feldman. Impact and management of depression in psoriasis patients. Expert Opinion on Pharmacotherapy, 2016; 17(2): 147-152.
4. Cotterill JA, Cunliffe WJ. Suicide in dermatological patients. Br J Dermatol., 1997; 137(2): 246–250.
5. Gupta MA, Schork NJ, Gupta AK, Kirkby S, Ellis CN. Suicidal ideation in psoriasis. Int J Dermatol., 1993; 32(3): 188–190.
6. Cooper Patrick L, Crum RM, Ford DE. Identifying suicidal ideation in general medical patients. JAMA, 1994; 272(22): 1757–1762.
7. Pacan P, Szepietowski JC, Kiejna A. Stressful life events and depression in patients suffering from psoriasis vulgaris. Dermatol Psychosom., 2003; 4(3): 142-145.
8. Gupta MA, Gupta AK, Schork NJ, Ellis CN. Depression modulates pruritus perception: a study of pruritus in psoriasis, atopic dermatitis, and chronic idiopathic urticaria. Psychosom Med., 1994; 56(1): 36-40.
9. Renzi C, Picardi A, Abeni D, et al. Association of dissatisfaction with care and psychiatric morbidity with poor treatment compliance. Arch Dermatol., 2002; 138(3): 337–342.
10. Zachariae R, Zachariae C, Ibsen HH, Mortensen JT, Wulf HC. Psychological symptoms and quality of life of dermatology out patients and hospitalized dermatology patients. Acta Derm Venereol., 2004; 84(3): 205-212.
11. Barefoot JC, Schroll M. Symptoms of depression, acute myocardial infarction and total mortality in a community sample. Circulation, 1996; 93(11): 1976-1980.
12. Fortune DG, Richards HL, Kirby B, McElhone K, Markham T, Rogers S, Main CJ, Griffiths CE. Psychological distress impairs clearance of psoriasis in patients treated with photochemotherapy. Arch Dermatol., 2003; 139(6): 752-756.
13. 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; 152(1): 73-79.

14. Fredriksson T, Pettersson U. Severe psoriasis – Oral therapy with a new retinoid. Dermatologica, 1978; 157(4): 238–244.
15. Witkowski JA, Parish LC. The assessment of acne: An evaluation of grading and lesion counting in the measurement of acne. Clin Dermatol., 2004; 22(5): 394-397.
16. Hamilton M. A rating scale for depression. Journal of Neurology, Neurosurgery and Psychiatry, 1960; 23: 56-62.
17. Beck AT, Steer RA, Ranieri WF. Scale for Suicidal Ideation: psychometric properties of a self-report version. J Clin Psychol., 1988; 44(4): 499–505.
18. Hassaan Tohid, Daniyal Aleem, Chantal Jackson. Major Depression and Psoriasis: A Psychodermatological Phenomenon. Skin Pharmacol Physiol., 2016; 29(4): 220–230.