e-ISSN 2320 –7876 www.ijfans.org
Vol.11,S Iss.2, 2022
Research Paper © 2012 IJFANS. All Rights Reserved, UGC CARE Listed (Group -I) Journal

A Cross-Sectional Study to Evaluate the Occurrence of Anxiety and Depression in Patients with Atopic Dermatitis

Amit Beniwal[1], Aman Singh Jamwal[2], Tabish Brar[3], Debalina Biswas[4], Brijesh Saran*[5], Amoolya K Seth[6]

[1,2,3,4] Junior Resident, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India.
[5] Assistant Professor, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India.
[6] Professor, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India.
[5]drbrijeshsaran400@gmail.com

Abstract:

Background: Atopic dermatitis is a chronic skin disease with significant impairment of quality of life. A significant association with psychiatric co-morbidities has been shown in recent studies. Methodology: The first phase includes an assessment for psychiatric co-morbidities with a 12-item general health questionnaire (GHQ-12). In the second phase, patients with GHQ-12 ≥3 were assessed for various psychiatric illnesses using the Hamilton anxiety rating scale, Beck depression inventory, and Yale-Brown obsessive-compulsive scale. Clinical diagnosis was made using ICD-10 criteria and quality of life was measured using WHO-QOL brief scale. Results Sixty-eight patients were recruited, 24 (35.3%) of them had GHQ-12 ≥3 and were included in the second phase. On phase 2 screening, 12 (17.6%) patients had anxiety and 12 (17.6%) patients had depression. Significant impairment of quality of life affecting all 4 domains was seen in all the patients. Conclusion Our study shows a high incidence of psychiatric co-morbidities (35.3%) especially anxiety and depression in patients with atopic dermatitis.

INTRODUCTION

Atopic dermatitis is a chronic skin disease characterized by itchy exudative skin lesions and a remitting relapsing disease course. The disease is associated with a significant impairment in the quality of life and a high psychosocial burden. [1] Psychosomatic factors are known to play an important role in the clinical presentation and course of the disease. [2] The disease has been linked to various mental health problems like depression, anxiety, autism, attention deficit hyperactivity disorders, etc. Indian studies evaluating this association are limited in number. Therefore, we planned to conduct a cross-sectional study and evaluate the occurrence of psychiatric co-morbidities in patients presenting with atopic dermatitis.

 © 2012 IJFANS. All Rights Reserved,

METHODOLOGY

This study was conducted in Santosh medical college and hospital, Ghaziabad, (U.P) in the department of Psychiatry in collaboration with the Department of Dermatology. This was a cross-sectional study, conducted for 10 months from February 2013 to December 2013. All consecutive patients (age above 16 years) with a clinical diagnosis of atopic dermatitis attending the outpatient department of Dermatology were recruited. Patients with significant systemic illnesses were excluded from this study.

After written informed consent, the first phase of screening for psychiatric co-morbidities of all the patients was done using the 12-item general health questionnaire (GHQ-12). The GHQ -12 is a patient-based questionnaire and is used to screen patients with psychiatric disorders followed by a formal psychiatric interview to determine a diagnosis. Each question was scored 0-3 based on Linkert's scale and a total score of 3 or more was considered significant.

In the second phase, patients who scored 3 or more on GHQ-12 were further evaluated for specific psychiatric illnesses using appropriate scales. The brief Psychiatric Rating Scale (BPRS) was developed using factor analysis to assess changes in the severity of psychotic features. It contains 18 items, each representing a separate symptom zone. Among these 18 items, 5 require observation of the patient, and 13 require the patient's verbal response. Further rating of these 18 items is based on 7 points Likert scale, having a total score range of 18-126, and a score of 30 and above is considered significant.

The Hamilton Anxiety Rating Scale (HARS) was developed to assess changes in the severity of anxiety symptoms. It contains 14 items, each representing a series of symptoms, and measures both somatic and psychic anxiety. Further rating of these 14 items is rated on a 5-point scale having a total score range of 0-56 and a score of >=14 suggesting clinically significant anxiety.

The Beck Depression Inventory (BDI) is used to assess the severity of depression in clinically diagnosed patients as well as a screening tool to detect depressive symptoms in the normal population. It contains 21 items with a rating of 0-3 according to the severity of symptoms creating a score range of 0-63 with a division as minimal 0-13, mild 14-19, moderate 20-28, and severe 20-63.

Yale-Brown Obsessive Compulsive Scale (Y-BOCS) is used to measure the severity and type of symptoms in patients with the diagnosis of obsessive-compulsive disorder. It is divided into two sub-scales: obsession and compulsion. Each subscale is then rated from 0 to 4 based on 5 aspects of pathology which are time, functioning, distress, resistance, and control. Total score range from 0-40 and a 16 or more is considered significant.

The quality of life was also evaluated using the WHO Quality of life brief scale (WHOQOL-BRIEF).

 © 2012 IJFANS. All Rights Reserved

RESULTS

A total of 68 patients were recruited. After phase 1 screening, 24 (35.3%) of them were found to have a GHQ-12 score of >3 and were subjected to phase 2 screening. Among these 24 patients, there were 18 (75%) male and 6 (25%) female, and the mean age of the presentation was 34.54 years (range:22-60). Nineteen (79.2%) of these patients were educated till high school. Their occupation varied from unemployed (2, 8.3%), self-employed (10, 41.6%), farmer 2 (8.3%), housewives (6, 25%), semi-skilled 2 (8.3%) and government job (2, 8.3%). Twenty (83.3%) of them were married while 4 (16.6%) were unmarried. The majority of the patients were from urban areas (21, 87.5%) and most of them (21, 87.5%) had a family income in the range of 10,000-25,000 rupees. Sixteen (66.6%) of them were residing in nuclear families while 8 (33.3%) were in joint families.

As per the ICD-10 criteria, among the psychiatric co-morbidities in 68 patients, 12 (17.6%) patients had anxiety including one with social phobia, and 12 (17.6%) patients had depression.

BPRS score in all 28 patients with GHQ-12 $\geq$ 3 was <30 ruling out any psychotic co-morbidities in these patients. In these 28 patients, a HARS score $\geq$ 14 was noted in all the patients (Table 1). A BDI score of >13 was seen in 12 (50%) of these 28 patients. Y-BOC score of >16 was not seen in any of them. Among the 108 patients, 104 patients showed a poor quality of life based on a low score on WHOQOL-BRIEF. The mean of patients with WHO QOL domain 1 (physical health) was 82.12, domain 2 (psychological) at 60.06, domain 3 (social) at 79.91, and domain 4 (environmental) at 84.68.

DISCUSSION

Atopic dermatitis has shown a significant association with various psychiatric co-morbidities as with other chronic skin diseases like acne, alopecia areata, and psoriasis. [3] In a large multi-center study from 13 European countries involving 4994 participants, atopic dermatitis patients showed a high occurrence of depression (8%) and anxiety (17.6%) with suicidal ideation noted in 15% of patients. [4] We also noted a similar trend with 17.6% of patients showing symptoms of depression and anxiety each. Another cross-sectional study by Sanna et al showed that atopic diseases were associated with a 59% increased likelihood of depression and proposed an immune-inflammatory pathway responsible for it which may be helpful in future therapeutics. [5] The study found no correlation with various sociodemographic factors as also noted by us.

The pathomechanism of the association of atopic dermatitis with various neuropsychiatric problems is unknown. An association between the degree of pruritus and the occurrence of depression was noted by Chrostowska-Plak et al who evaluated eighty-nine patients and found a significant correlation between pruritus and Beck's Depression Inventory score. [6] The author concluded that itch intensity plays an important role in determining the psychosocial well-being of the patient. The intensity of itch also has been shown to significantly correlate with the

 © 2012 IJFANS. All Rights Reserved,

sleeplessness of these patients and their coping behavior. [7] Increased level of pro-inflammatory cytokine levels has also been proposed to play a role in pathogenesis. [8] A significant association is also noted with disease severity. In a Southeast Asian study of 100 patients with atopic dermatitis, 18% of patients had anxiety and 5% had depression, and a significant correlation was seen between the occurrence of mental health problems and disease severity. [9] We could not evaluate the association between disease severity and intensity of pruritus in our study.

Thus, our study suggests a significant association of psychiatric co-morbidities in a patient with atopic dermatitis. Prospective long-term studies are required to explore an underlying mechanism that may also help in its therapeutics. Also, early treatment of the skin disease halting its inflammatory pathway may help in the prevention of future psychiatric co-morbidities in this population.

SN	GHQ-12 score	BPRS score	HARS score	BDI score	Y-BOC score	WHO-QOL domain 1	WHO-QOL domain 2	WHO-QOL domain 3	WHO-QOL domain 4
1	9	18	28	4	0	82.12	75	83.33	81.25
2	9	18	28	4	0	82.12	58.33	75	96.87
3	12	18	34	2	0	82.12	83.33	91.66	78.12
4	12	18	34	2	0	82.12	50	58.33	81.12
5	16	20	34	4	0	92.85	50	58.33	90.62
6	17	21	25	1	0	60.72	25.00	68.33	78.12
7	17	19	38	1	0	92.55	83.33	100	87.5
8	17	21	28	1	0	92.85	75	91.66	90.62
9	17	19	38	1	0	92.85	75	91.56	90.62
10	18	21	27	3	0	75.57	58.33	100	87.5
11	18	18	18	32	0	78.57	66.66	83.33	84.37
12	18	18	16	28	0	60.72	33.33	58.33	78.12
13	18	19	16	18	0	92.85	75.00	91.66	90.62
14	18	21	38	3	0	82.12	50.00	75	90.62
15	18	20	34	4	0	42.8	33.33	91.56	87.5
16	18	18	18	32	0	50.72	33.33	58.33	78.12
17	18	18	16	28	0	78.57	33.33	58.33	57.6
18	18	19	16	18	0	92.85	75	91.66	90.62

 © 2012 IJFANS. All Rights Reserved,

19	21	18	20	25	0	92.85	83.33	91.66	93.75
20	21	18	20	28	0	82.12	75	83.33	81.25
21	22	18	18	28	0	92.85	75.00	91.66	90.62
22	22	18	16	38	0	92.55	75.00	91.66	90.62
23	22	18	18	28	0	82.12	75	75	78.12
24	22	18	18	38	0	60.72	25	58.33	78.12

References :

- Silverberg JI, Gelfand JM, Margolis DJ, Boguniewicz M, Fonacier L, Grayson MH, Simpson EL, Ong PY, Chiesa Fuxench ZC. Patient burden and quality of life in atopic dermatitis in US adults: A population-based cross-sectional study. Ann Allergy Asthma Immunol. 2018 Sep;121(3):340-347.

- Arima M, Shimizu Y, Sowa J, Narita T, Nishi I, Iwata N, Ozaki N, Hashimoto S, Matsunaga K. Psychosomatic analysis of atopic dermatitis using a psychological test. J Dermatol. 2005 Mar;32(3):160-8.

- Gupta MA, Gupta AK. Depression and suicidal ideation in dermatology patients with acne, alopecia areata, atopic dermatitis, and psoriasis. Br J Dermatol. 1998 Nov;139(5):846-50. doi: 10.1046/j.1365-2133.1998.02511.x.

- Dalgard FJ, Gieler U, Tomas-Aragones L, Lien L, Poot F, Jemec GBE, Misery L, Szabo C, Linder D, Sampogna F, Evers AWM, Halvorsen JA, Balieva F, Szepietowski J, Romanov D, Marron SE, Altunay IK, Finlay AY, Salek SS, Kupfer J. The psychological burden of skin diseases: a cross-sectional multicenter study among dermatological out-patients in 13 European countries. J Invest Dermatol. 2015 Apr;135(4):984-991. DOI: 10.1038/jid.2014.530.

- Sanna L, Stuart AL, Pasco JA, Jacka FN, Berk M, Maes M, O'Neil A, Girardi P, Williams LJ. Atopic disorders and depression: findings from a large, population-based study. J Affect Disord. 2014 Feb;155:261-5. doi: 10.1016/j.jad.2013.11.009.

- Chrostowska-Plak D, Reich A, Szepietowski JC. Relationship between itch and psychological status of patients with atopic dermatitis. J Eur Acad Dermatol Venereol. 2013 Feb;27(2):e239-42.

- Weisshaar E, Diepgen TL, Bruckner T, Fartasch M, Kupfer J, Lob-Corzilius T, Ring J, Scheewe S, Scheidt R, Schmid-Ott G, Schnapp C, Staab D, Szczepanski R, Werfel T, Wittenmeier M, Wahn U, Gieler U. Itch intensity evaluated in the German Atopic

 © 2012 IJFANS. All Rights Reserved,

Dermatitis Intervention Study (GADIS): correlations with quality of life, coping behavior and SCORAD severity in 823 children. Acta Derm Venereol. 2008;88(3):234-9. doi: 10.2340/00015555-0432.

- Buske-Kirschbaum A, Schmitt J, Plessow F, Romanos M, Weidinger S, Roessner V. Psychoendocrine and psychoneuroimmunological mechanisms in the comorbidity of atopic eczema and attention deficit/hyperactivity disorder. Psychoneuroendocrinology. 2013 Jan;38(1):12-23. doi: 10.1016/j.psyneuen.2012.09.017.

- Lim VZ, Ho RC, Tee SI, Ho MS, Pan JY, Lim YL, Tang MB, Chan KL, Giam YC. Anxiety and Depression in Patients with Atopic Dermatitis in a Southeast Asian Tertiary Dermatological Centre. Ann Acad Med Singap. 2016 Oct;45(10):451-455.