https://africanjournalofbiomedicalresearch.com/index.php/AJBRr
Afr. J. Biomed. Res. Vol. 27 (September 2024); 226-232

Research Article

Clinical Significance and Psychological Impact of Psychocutaneous Disorders - A Hospital Based Cross Sectional Study

Tanishq Gupta[1], Poonam Bharti[2], Kirti Arora[3], Vikas Kumar Pandey[4], Manish Kumar Maity[4], Aman Bharti[5*]

[1]Junior Resident, Department of Psychiatry, MM Institute of Medical Sciences and Research, Maharishi Markandeshwar (Deemed to be University), Mullana - 133207, Ambala, Haryana, India
[2]Head of the Department & Professor, Department of Psychiatry, MM Institute of Medical Sciences and Research, Maharishi Markandeshwar (Deemed to be University), Mullana - 133207, Ambala, Haryana, India
[3]Assistant Professor, Department of Biochemistry, Guru Gobind Singh Medical College and Hospital, Faridkot, Punjab – 151203, India
[4]Research Scholar, Department of Pharmacy Practice, MM College of Pharmacy, Maharishi Markandeshwar (Deemed to be university), Mullana - 133207, Ambala, Haryana, India
[5]Associate Professor, Department of Medicine, Guru Gobind Singh Medical College and Hospital, Faridkot, Punjab – 151203, India

ABSTRACT

Objective - To assess the presence of psychiatric symptoms such as depression, anxiety and stress in patient suffering from psychocutaneous disorders.

Methods - This is a cross sectional study conducted in the department of psychiatry of Maharishi Markandeshwar Institute of Medical Sciences and Research (MMIMS&R), Mullana, Ambala, India from April 2023 – April 2024. 120 patients having psychocutaneous disorders were included in this study on the basis of a predefined inclusion and exclusion criteria. All patients were assessed for the presence of depression, anxiety and stress by using depression, anxiety and Stress Scale DASS-42. The prevalence of depression, anxiety or stress and their severity was assessed in all the cases. Patients were also assessed for any other comorbid psychiatric condition. Qualitative data was presented with incidence and percentage tables. For statistical purposes p value less than 0.05 was taken as statistically significant.

Results - Amongst the studied cases there was a slight male preponderance with Male : Female (M : F) ratio being 1:0.78. The mean age of male and female patients was found to be 33.08 ± 9.77 and 36.17 ± 10.47 years respectively. Pruritis was the most common skin condition which was seen in 22 cases. The other common conditions were rosacea, acne, vitiligo and eczema and alopecia. Depression was observed in 41 patients, with 46.34% having mild depression, and the rest experiencing moderate to extremely severe levels. Anxiety was noted in 38 cases, with 52.63% mild and the remainder ranging from moderate to extremely severe. Among 73 cases of stress, 56.16% were mild, with the rest varying from moderate to extremely severe. Finally, out of 63 patients with insomnia, 60.32% had mild insomnia, and the others had moderate to extremely severe levels.

Conclusion - Psychiatric symptoms like stress, insomnia, depression, and anxiety are frequent in patients with chronic skin conditions. Therefore, a close collaboration between dermatologists and psychiatrists is vital in providing comprehensive care in cases of psychocutaneous disorders.

Keywords - Psychocutaneous disorders, Psoriasis, Stress, Depression

***Author for correspondence:** dramanbharti@gmail.com*

Received: 12/06/2024, Accepted: 20/07/2024

DOI:https://doi.org/10.53555/AJBR.v27i3.1554

INTRODUCTION

Psychocutaneous disorders represent a combination of dermatology and psychiatry and encompass a range of conditions where psychological factors play an important role in the pathogenesis of skin conditions and conversely chronic skin conditions affect psychological health of an individual [1]. These disorders are characterized by a bidirectional relationship between the skin and the psychological health. These conditions are classical example of interconnection of skin condition and psychological distress. Skin conditions such as vitiligo and psoriasis and known to affect the psychological health of patients and conversely, psychological issues are known to exacerbate the severity of these skin conditions. The pathogenesis of psychocutaneous disorders involves multiple predisposing factors including genetic, neuroimmunological and psychosocial factors [2]. Stress, for instance, can exacerbate skin conditions through neuroendocrine and immune-mediated pathways. This connection underscores the importance of understanding the psychological impact of these skin conditions on patients' mental health [3].

The impact of psychocutaneous disorders on mental health can range from mild to profound. Patients with these conditions often experience a heightened level of psychological stress, as well as anxiety and depression, which can further aggravate their dermatological symptoms [4]. Various dermatological conditions if visible on face or exposed parts of skin can lead to social stigma and embarrassment. Particularly in adolescents and young individuals this may create a vicious cycle of psychological distress and skin disease exacerbation. This vicious circle highlights the need for a comprehensive approach that involves dermatological and psychological aspects [5].

The classical example of such a disorder includes Psoriasis which is a chronic inflammatory skin condition known to be associated with significant psychological distress. Various studies have reported an increased incidence of depression and anxiety in patients having psoriasis vulgaris. Similarly, atopic dermatitis, often characterized by intense itching and chronic course, can lead to sleep disturbances and emotional stress [6]. Acne, a common condition particularly in adolescents, can significantly affect self-esteem and social interactions thereby predisposing an individual for depressive symptoms. Another notable condition is alopecia areata, an autoimmune disorder causing hair loss, which can have a devastating impact on an individual's psychological well-being. Each of these conditions exemplifies the relationship between skin health and mental health and makes it important not only to treat the skin condition but also to assess the mental health of these individuals and do appropriate interventions if needed [7].

These disorders can be divided into 4 broad categories that include psychophysiological disorders (psoriasis, acne vulgaris, pruritis and urticaria), psychiatric disorders with dermatologic manifestation (psychogenic pruritis, dysmorphobia and trichotillomania), dermatologic disorders with psychiatric symptoms (Alopecia areata, chronic eczema and albinism) and miscellaneous conditions (glossodynia, vulvodynia and psychogenic purpura) [8].

The management and therapeutic approach to psychocutaneous disorders require a multidisciplinary approach that addresses both the skin condition and the associated psychological impact [9]. Dermatological treatments aimed at controlling skin symptoms and psychological interventions such as including counselling, cognitive-behavioural therapy and stress management techniques are essential in these individuals. Pharmacotherapy, such as the use of antidepressants or anxiolytics, may be indicated in selected cases. The collaboration between dermatologists and psychiatrists is vital in providing comprehensive care in cases of psycho-dermatological disorders [10].

We conducted this cross-sectional study to assess presence of psychiatric symptoms such as depression, anxiety and stress in patient suffering from psychocutaneous disorders.

MATERIALS AND METHODS

This is a cross sectional study conducted in the department of psychiatry of Maharishi Markandeshwar Institute of Medical Sciences and Research (MMIMS&R), Mullana, Ambala, India from April 2023 – April 2024. 120 patients having skin conditions such as psoriasis, tinea, atopic dermatitis, vitiligo, acne vulgaris or any other dermatological condition which is likely to affect mental health were included in this study on the basis of a predefined inclusion and exclusion criteria.

Institutional Review Board Statement

The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of Maharishi Markandeshwar Institute of Medical Sciences & Research (MMIMS&R), Mullana, Ambala (Project No - IEC-169-P).

The sample size was calculated by formula $N = (Z_\alpha^2) \times SD^2/d^2$ using OPENEPI software version 3 on the basis of pilot studies done on the topic of psychological impact of Psychocutaneous disorders. Assuming 90% power and 95% confidence interval minimum sample size was determined to be 120. Sociodemographic details of all the patients such as age, gender, religion, education, marital status, income occupation and type of family of all the patients were noted. The skin condition as diagnosed by the dermatologist was also noted. A detailed history was taken with respect to duration of skin condition. The severity of the disease and how it affected quality of life of patient was asked and noted. Presence of co-existent psychotic disorders was assessed. History of medications such as on antidepressants or anxiolytics was asked for and noted. Family history of all patients were assessed for presence of depression, anxiety and stress by using Depression Anxiety and Stress Scale DASS-42. This self-reported scale designed to measure the negative emotional states of depression, anxiety and stress. The essential function of the DASS is to assess the severity of the core symptoms of depression, anxiety and stress. The total score represents

overall distress (0 to 30), with higher scores indicating more severe distress or a greater number of symptoms. Two subscales are presented: Anxiety-Stress: Items 1, 4, 6, 7, 8, 9 (raw score range = 0 to 18) Depression: Items 2, 3, 5, 10 (raw score range = 0 to 12). The DASS-42 scale was interpreted as below on the basis of score obtained on the basis of answers of questionnaire

Scale	Normal	Mild	Moderate	Severe	Extremely Severe
Depression	0-9	10-13	14-20	21-27	28+
Anxiety	0-7	8-9	10-14	15-19	20+
Stress	0-14	15-18	19-25	26-33	34+

The prevalence of depression, anxiety or stress and their severity was assessed in all the cases. Patients were also assessed for any other co-morbid psychiatric condition. Statistical analysis was done using SPSS version 21.0 software. Quantitative data was presented as mean and standard deviation. Qualitative data was presented with incidence and percentage tables. For statistical purposes p value less than 0.05 was taken as statistically significant.

Inclusion Criteria:

1. Patients diagnosed to be having psychocutaneous disorders.
2. Those who gave informed and written consent to be part of study.
3. Patients above 18 years of age.

Exclusion Criteria:

1. Age below 18 years.
2. Those who refused consent to be part of study.
3. Patients with co-existent psychotic disorders.

RESULTS

The analysis of the patients on the basis of gender distribution showed that out of 120 cases of Psychocutaneous disorders there were 71 (59.17%)males and 49 (40.83%) females. There was a slight male preponderance with M : F ratio being 1:0.78 (Figure 1).

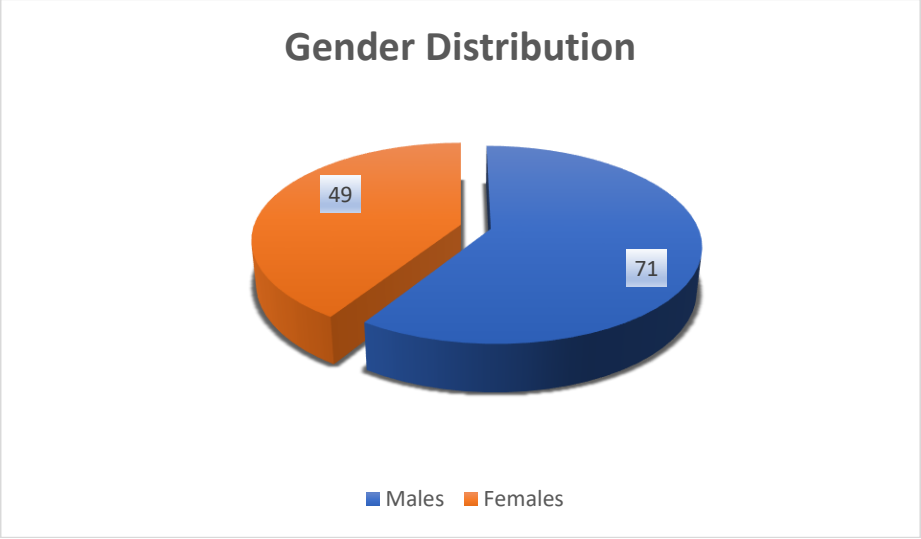

Figure 1 - Gender Distribution of the studied cases

The analysis of age groups of the patients showed that amongst males the most common affected age group was between 18-30 years (27.50%) whereas in females the most common affected age group was 31-40 years (14.17%) followed by 18-30 years (13.3%). The mean age of male and female patients was found to be 33.08 +/- 9.77 and 36.17 +/- 10.47 years respectively. The mean age of male and female patients was found to be comparable with no statistically significant difference (P=0.1008)(Table 1).

Table 1 - Age distribution of the studied cases

Age category	Males		Females	
	No of cases	Percentage	No of cases	Percentage
18-30	33	27.50%	16	13.33%
31-40	21	17.50%	17	14.17%
41-50	13	10.83%	10	8.33%
> 50	4	3.33%	6	5.00%
Total	71	59.17%	49	40.83%
Mean Age	**33.08 +/- 9.77 years**		**: 36.17 +/- 10.47 years**	
P= 0.1008 (Not Significant)				

A significant majority (67.5%) of the individuals were married, while singles represented 29.17% and only a small fraction (3.33%) was divorced. In terms of the duration of illness, the distribution was relatively even, with 32.5% having illness duration of less than 5 years, 37.5% between 5 to 10 years, and 30% suffering for more than 10 years. Regarding educational qualifications, the highest proportion of individuals (35%) had completed secondary education, followed by 25% with higher secondary education. Those with education below secondary level constituted 21.67%, and 18.33% of the individuals had a graduate degree or higher (Table 2).

Table 2 - Sociodemographic factors in studied cases

Sociodemographic Factors		**No of cases**	**Percentage**
Marital Status	**Single**	35	29.17%
	Married	81	67.50%
	Divorced	4	3.33%
Duration of illness	**Less than 5 years**	39	32.50%
	5-10 years	45	37.50%
	> 10 years	36	30.00%
Educational Qualification	**Below Secondary**	26	21.67%
	Secondary	42	35.00%
	Higher Secondary	30	25.00%
	Graduate and above	22	18.33%

The analysis of skin conditions showed that pruritis was the most common skin condition which was seen in 22 (18.33%) cases. The other common conditions were rosacea (15.83%), acne (10%), vitiligo (9.17%) and eczema (8.33%) and alopecia (7.50%). The data revealed a higher incidence of these skin conditions in males, who constituted approximately 59.17 % of the total cases. Conditions like trichotillomania and dermatillomania were less common (Table 3).

Table 3: Genderwise Distribution of skin conditions in studied cases

Skin Condition	Total Patients		Males		Females	
	No of cases	Percentage	No of cases	Percentage	No of cases	Percentage
Psoriasis	8	6.67%	5	4.17%	3	2.50%
Eczema(Atopic dermatitis)	10	8.33%	6	5.00%	4	3.33%
Acne	12	10.00%	4	3.33%	8	6.67%
Trichotillomania	3	2.50%	2	1.67%	1	0.83%
Dermatillomania	4	3.33%	1	0.83%	3	2.50%
Urticaria (Hives)	8	6.67%	5	4.17%	3	2.50%
Alopecia Areata	9	7.50%	5	4.17%	4	3.33%
Pruritus	22	18.33%	15	12.50%	7	5.83%
Hyperhidrosis	7	5.83%	5	4.17%	2	1.67%
Rosacea	19	15.83%	12	10.00%	7	5.83%
Vitiligo	11	9.17%	7	5.83%	4	3.33%
Lichen Simplex Chronicus	7	5.83%	4	3.33%	3	2.50%
Total	120	100.00%	71	59.17%	49	40.83%

Patients were analysed for psychiatric symptoms such as depression, anxiety, stress and insomnia. Stress was the most common symptom which was seen in 73 (60.83%) patients. Insomnia, depression and anxiety was seen in 63 (52.50%), 41 (34.17%) and 38 (31.67%) patients respectively (Figure 2).

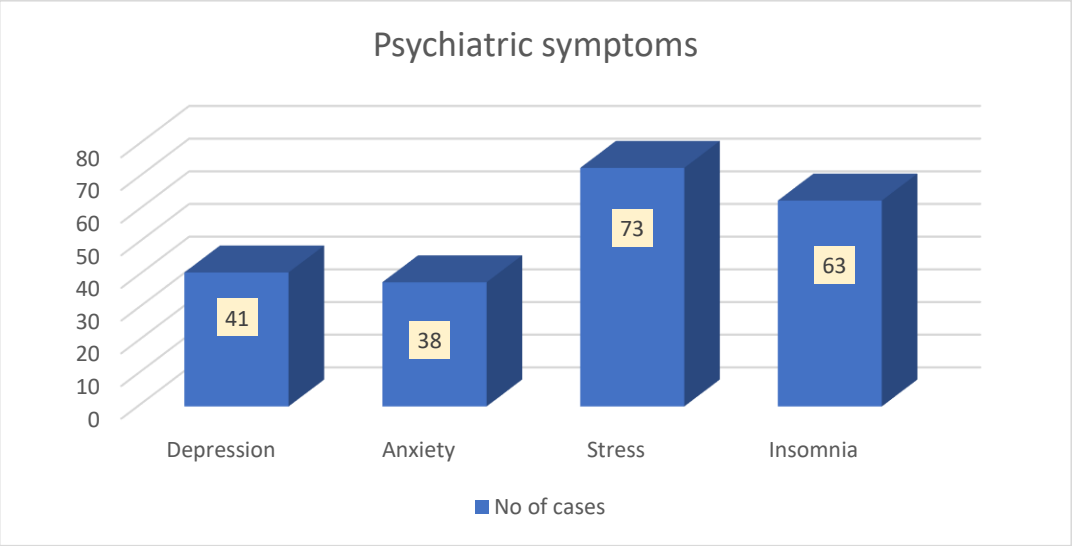

Figure 2: Prevalence of psychiatric symptoms in studied cases

The severity of Depression, Anxiety, stress and Insomnia as assessed by DASS-42 scale showed that amongst the 41 cases with depression 19 (46.34%) patients had mild depression where as moderate, severe and extremely severe depression was seen in 13 (31.71%), 6 (14.63%) and 3 (7.32%) cases. Amongst the 38 cases with Anxiety, 20 (52.63%) patients had mild anxiety, whereas moderate, severe, and extremely severe anxiety was seen in 11 (28.95%), 5 (13.16%), and 2 (5.26%) cases respectively. In the context of Stress, out of 73 cases, 41 (56.16%) experienced mild stress, while moderate, severe, and extremely severe stress were present in 15 (20.55%), 11 (15.07%), and 6 (8.22%) cases respectively. Regarding Insomnia, of the 63 patients, 38 (60.32%) had mild insomnia, with moderate, severe, and extremely severe insomnia observed in 14 (22.22%), 8 (12.70%), and 3 (4.76%) cases respectively.

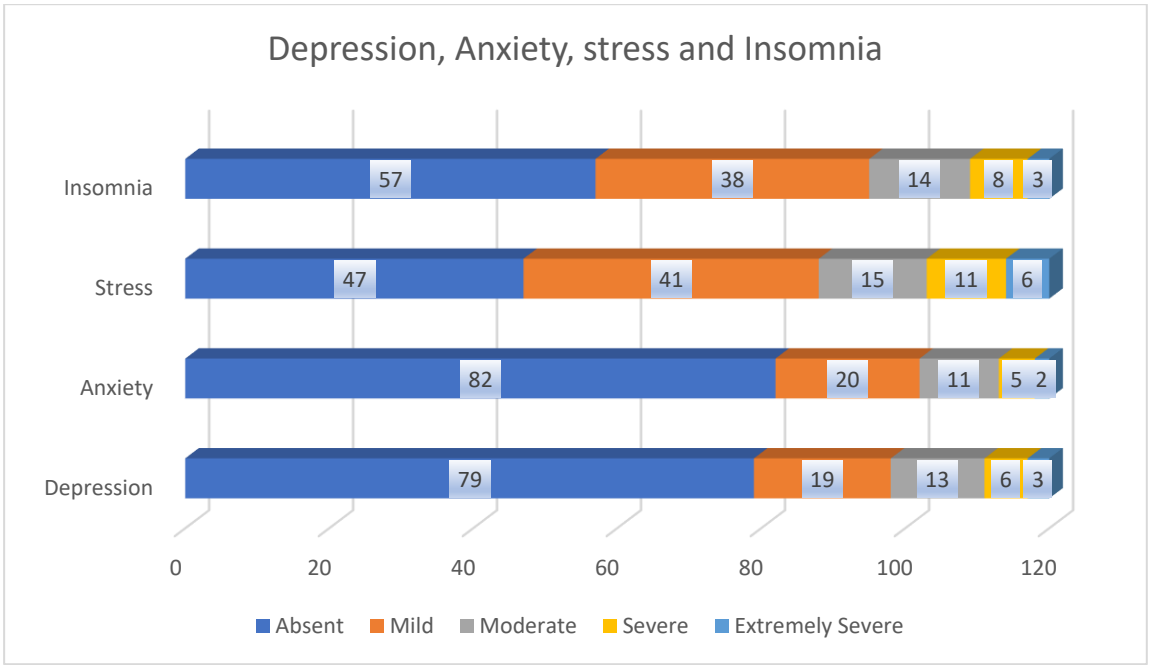

Figure 3: Depression, Anxiety, Stress and Insomnia and their severity in studied cases.

DISCUSSION

Psychocutaneous diseases represent a unique relationship between dermatological diseases and psychiatric illness. These conditions, such as psoriasis, eczema, and trichotillomania, are often exacerbated by psychological factors like stress, anxiety, and depression. The skin, being the most visible organ, means that any dermatological issue can significantly impact a person's mental well-being, leading to a vicious cycle of psychological distress and skin problems[11]. In our study of Psychocutaneous disorders of 120 patients there were 71 (59.17%) males and 49 (40.83%) females. There was a slight male preponderance with M:F ratio being 1:0.78. The mean age of male and female patients was found to be 33.08 ±9.77 and 36.17 ± 10.47 years respectively. The mean age of male and female patients was found to be comparable with no statistically significant difference.

Sawant N et al conducted a study to analyse the Gender Differences in Depression, Coping, Stigma, and Quality of Life in Patients of Vitiligo [12]. In this study prevalence of depression was found to be significantly higher in females (63.64%) compared to males (42.86%), as indicated by a p-value of less than 0.0457. Additionally, females exhibited higher average scores on the Beck Depression Inventory (BDI), with a statistically significant difference ($p<0.0083$) from males. However, no significant gender differences were observed in terms of participation, even though a slightly higher percentage of females (52%) reported feeling stigmatized compared to males (45%), with a non-significant p-value of 0.5779. The quality of life was notably impaired in almost 97% of the patients, but this impairment did not significantly differ between genders ($p<0.3547$). Females displayed a significantly higher tendency towards faulty coping styles than males, with significant differences observed across all domains and total scores ($p<0.0094$). Moreover, a strong association was found between depression and both faulty coping and stigma in both genders, with a highly significant p-value of less than 0.0001. Various other studies such as those done by Gibson Ret al and Kiran J Dange et alshows that females were predominantly affected [13, 14]. The male predominance in our study may be due to the fact that many females do not attend psychiatry OPD for stigma attached to psychiatric illnesses.

In our study pruritis was the most common skin condition which was seen in 22 (18.33%) cases. The other common conditions were rosaecea (15.83%), acne (10%), vitiligo (9.17%) and eczema (8.33%) and alopecia (7.50%). Rahman SM conducted a study to analyse the common psycho dermatological conditions [15]. The study found that common psychiatric pathologies typically found in dermatology practices included depressive symptoms, anxiety symptoms, obsessive-compulsive disorder behaviours, and psychosis. The authors also reported that common cutaneous disorders associated with these psychopathological symptoms include, but were not limited to, psoriasis, acne vulgaris, atopic dermatitis, urticaria, trichotillomania, excoriation disorder, and delusions of parasitosis. Similar skin conditions in cases psychodermatological disorders were also reported by the authors such as Situm Met al [16] and Kuhn Het al [17].

In our study Patients were analysed for psychiatric symptoms such as depression, anxiety, stress and insomnia. Stress was the most common symptom which was seen in 73 (60.83%) patients. Insomnia, depression and anxiety was seen in 63 (52.50%), 41 (34.17%) and 38 (31.67%) patients respectively. Soliman MM et al conducted a study to quantify levels of psoriasis-related depressive, anxiety, stress, and insomnia symptoms in Arabic patientswith psoriasis (a skin condition commonly associated withpsychodermatological disorder) [18]. For this purpose the authors undertook a cross-sectional survey on patients' demographics, disease characteristics, and psychological measures using the Patient Health Questionnaire-9, Generalized Anxiety Disorder 7-item scale, Depression Anxiety Stress Scale-21 (7-item stress subscale), and Insomnia Severity Index. The prevalence and scores of depression, anxiety, stress, and insomnia symptoms were calculated. The prevalence of depressive, anxiety, stress, and insomnia symptoms were 47.1%, 32.7%, 59.6%, and 57%, respectively. Multivariate linear regression analyses revealed that for each unit increase in the impact of psoriasis on daily life, there were 5.7, 3.8, 5.3 and 6.5 units increase in depression, anxiety, and stress, and insomnia scores, respectively. On the basis of these findings the authors concluded that clinical interventions, screening for psychiatric comorbidities, and consideration of psychotherapy should be implemented in patients with chronic skin conditions known to cause psychocutaneous disorders. Similar prevalence of psychocutaneous disorders was also reported by the authors such AlShahwan MAet al [19] and Mleeh NTet al [20].

CONCLUSION

Psychiatric symptoms such as stress, insomnia, depression, and anxiety are commonly seen in patients with chronic skin conditions. The severity of these symptoms varies, reflecting the complex nature of the psychological impact of skin conditions. The findings emphasize the need for comprehensive care that addresses both the dermatological and psychological aspects of psychocutaneous disorders. Findings in this study also highlights the importance of an integrated approach in healthcare for effective management and treatment of psychocutaneous disorders.

Conflict of Interest: No conflict of interest by any author.

References:

1. Zagami M, Klepper E, Wienecke E, et al. A review of psychocutaneous disorders from a psychotherapeutic perspective-Toolkit for the dermatologist. Skin Health Dis. 2023;3(4):e211. Published 2023 Jan 9. doi:10.1002/ski2.211
2. Jafferany M, Patel A. Understanding psychocutaneous disease: psychosocial & psychoneuroimmunologic perspectives. Int J Dermatol. 2020;59(1):8-15. doi:10.1111/ijd.14629
3. Panasiti MS, Ponsi G, Violani C. Emotions, Alexithymia, and Emotion Regulation in Patients With Psoriasis. Front Psychol. 2020;11:836. Published 2020 May 19. doi:10.3389/fpsyg.2020.00836
4. Barankin B, DeKoven J. Psychosocial effect of common skin diseases. Can Fam Physician. 2002;48:712-716.
5. 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 Jan-Feb;56(1):36–40.
6. Silverberg JI, Chiesa-Fuxench Z, Margolis D, et al. Epidemiology and Burden of Sleep Disturbances in Atopic Dermatitis in US Adults. Dermatitis. 2022;33(6S):S104-S113. doi:10.1097/DER.0000000000000731
7. Penzer-Hick R, Haddad M. Assessing and managing mental health issues in people with chronic skin conditions. Nurs Stand. 2021;36(10):71-76. doi:10.7748/ns.2021.e11744
8. Al Hawsawi K, Pope E. Pediatric psychocutaneous disorders: a review of primary psychiatric disorders with dermatologic manifestations. Am J Clin Dermatol. 2011;12(4):247-257. doi:10.2165/11589040-000000000-00000

9. Kuhn H, Mennella C, Magid M, Stamu-O'Brien C, Kroumpouzos G. Psychocutaneous disease: Clinical perspectives. J Am Acad Dermatol. 2017;76(5):779-791. doi:10.1016/j.jaad.2016.11.013
10. Connor CJ. Management of the psychological comorbidities of dermatological conditions: practitioners' guidelines. Clin Cosmet Investig Dermatol. 2017;10:117 132. Published 2017 Apr 20. doi:10.2147/CCID.S111041
11. Mento C, Rizzo A, Muscatello MRA, Zoccali RA, Bruno Negative Emotions in Skin Disorders: A Systematic Review. Int J Psychol Res (Medellin). 2020;13(1):71-86. doi:10.21500/20112084.4078
12. Sawant NS, Vanjari NA, Khopkar U. Gender Differences in Depression, Coping, Stigma, and Quality of Life in Patients of Vitiligo. Dermatol Res Pract. 2019;2019:6879412. Published 2019 Apr 2. doi:10.1155/2019/6879412
13. Gibson R, Williams P, Hancock J. An introduction to the assessment and management of psychodermatological disorders. BJPsych Advances. 2021;27(5):305-312. doi:10.1192/bja.2020.66
14. Kiran J Dange, Dr Kanchan Bala Rathore, & Avinash D Karde. (2023). Psycho-cutaneous disorders: a comprehensive analysis in psychiatric and dermatology patients. Journal of Population Therapeutics and Clinical Pharmacology, 30(18), 582–592. https://doi.org/10.53555/jptcp.v30i18.3068
15. Rahman SM, Abduelmula A, Jafferany M. Psychopathological symptoms in dermatology: A basic approach toward psychocutaneous disorders. Int J Dermatol. 2023;62(3):346-356. doi:10.1111/ijd.16344
16. Situm M, Kolić M, Buljan M. Acta Med Croatica. 2016;70 Suppl 1:35-38.
17. Kuhn H, Mennella C, Magid M, Stamu-O'Brien C, Kroumpouzos G. Psychocutaneous disease: Clinical perspectives. J Am Acad Dermatol. 2017;76(5):779-791. doi:10.1016/j.jaad.2016.11.013
18. Soliman MM. Depressive, anxiety, stress, and insomnia symptoms in patients with psoriasis: a cross-sectional study. Postepy Dermatol Alergol. 2021;38(3):510-519. doi:10.5114/ada.2020.98726
19. AlShahwan MA. The prevalence of anxiety and depression in Arab dermatology patients. J Cutan Med Surg. 2015;19:297–303.
20. Mleeh NT, Alshamrani HM, Basyouni RN, et al. Prevalence and predictors of depression among dermatology clinic patients in a teaching hospital, Jeddah, Saudi Arabia. J Fam Med Prim Care. 2019;8:2496–501.