

Psychological Impact Of Chronic Dermatological Condition: A Cross Sectional Study

Dr. Nafia Farzana Chowdhury^{1*}, Dr. Tajruba Chowdhury², Dr Akhter Mahmud³, Dr. A.M. Fariduzzaman⁴, Atiqul Haq Mazumder⁵

¹Department of Psychiatry, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh

²Department of Dermatology and Venereology, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh

³Department of Psychiatry, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh

⁴Department of Psychiatry, Chandpur Medical College, Chandpur, Bangladesh.

⁵Postdoctoral Researcher, Department of Psychiatry, Research Unit of Clinical Medicine, Faculty of Medicine, University of Oulu, Oulu, Finland.

*Corresponding Author: Dr. Nafia Farzana Chowdhury, Department of Psychiatry, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh

KEYWORDS

Chronic skin disease, psychological impact, depression, anxiety, stress, DASS-21

ABSTRACT:

Background: Chronic dermatological conditions such as psoriasis, vitiligo, acne, and atopic dermatitis are known to have significant psychological implications due to their visible and persistent nature. This study aimed to assess the prevalence and severity of depression, anxiety, and stress among patients with chronic skin diseases in a tertiary care setting in Bangladesh. **Methods:** A cross-sectional study was conducted at the Department of Dermatology and Psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU) from January to December 2022. A total of 350 patients with clinically diagnosed chronic dermatological conditions were enrolled using purposive sampling. Psychological distress was assessed using the validated Bangla version of the Depression, Anxiety, and Stress Scale (DASS-21). Associations between skin conditions and psychological outcomes were analyzed using the Chi-square test. A p-value of <0.05 was considered statistically significant. **Results:** The majority of participants were aged 26–35 years (34.0%), with 54.0% being female. Psoriasis was the most common condition (28.9%), followed by acne (26.3%), vitiligo (22.9%), and atopic dermatitis (22.0%). Moderate to extremely severe depression and anxiety were observed in 45.4% and 45.7% of participants, respectively, while 30.8% reported similar levels of stress. Atopic dermatitis patients had the highest mean DASS-21 scores across all domains. Significant associations were found between atopic dermatitis and severe depression and anxiety ($p = 0.01$), and between psoriasis and psychological distress ($p = 0.03$). **Conclusion:** A considerable proportion of patients with chronic dermatological conditions experience psychological distress. Routine mental health screening should be integrated into dermatological care to ensure holistic patient management.

INTRODUCTION

Chronic dermatological conditions are often visible, persistent, and emotionally distressing, which can profoundly affect an individual's psychological well-being [1]. Unlike acute skin issues, chronic conditions such as psoriasis, vitiligo, acne, and atopic dermatitis not only produce physical discomfort but also cause significant psychosocial impairment due to their long-lasting nature and prominent appearance [2]. These skin disorders frequently lead to self-consciousness, low self-esteem, social withdrawal, and even stigma, thereby contributing to emotional distress, anxiety, and depression. In many cases, the psychological burden may exceed the physical discomfort of the skin disease itself [3].

Psoriasis is a chronic immune-mediated skin disease characterized by recurrent plaques, itching, and scaling. It

has been closely linked with psychiatric comorbidities, particularly depression and anxiety, due to its visible and often stigmatizing nature [4]. Similarly, vitiligo, an acquired pigmentary disorder, can cause substantial cosmetic disfigurement, especially in darker skin types, leading to distress, shame, and body image disturbance [5]. Acne vulgaris, while common in adolescents and young adults, can significantly impact emotional health due to its association with facial scarring and appearance-related concerns [6]. Atopic dermatitis, known for its chronic inflammation and severe pruritus, is increasingly recognized as a dermatological condition with strong psychiatric correlations [7]. Studies have found a notable association between atopic dermatitis and both major depressive disorder and generalized anxiety disorder [8].

The relationship between skin and mind is bidirectional. Psychological stress can exacerbate skin diseases, while chronic skin disorders can induce or aggravate psychiatric symptoms [9]. Despite growing awareness, the psychological component of dermatological care is often under-recognized and under-addressed, particularly in developing countries where mental health stigma and resource limitations persist [10]. Dermatological conditions are common, yet the mental health impact of these chronic diseases remains underexplored and underreported in clinical practice and academic research [11].

Understanding the mental health burden associated with chronic skin diseases is essential for holistic patient care. Standardized screening tools such as the Depression, Anxiety, and Stress Scale (DASS-21) provide an efficient method to evaluate psychological symptoms in dermatological patients [12]. Moreover, applying criteria from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), allows clinicians to identify potential cases of anxiety and depression that may require further psychological or psychiatric intervention [13].

This study aimed to assess the prevalence and severity of depression, anxiety, and stress among patients suffering from common chronic dermatological conditions attending a tertiary care hospital in Bangladesh. By identifying the extent of psychological distress and its association with specific skin disorders, the findings may help integrate mental health screening into routine dermatological practice and advocate for comprehensive management strategies that address both the physical and psychological dimensions of skin disease.

The study addresses a significant gap in dermatological care by examining the psychological burden of chronic skin conditions, particularly in a Bangladeshi context where such research is limited. The use of a validated tool (DASS-21) and a reasonably large sample size ($n=350$) enhances the reliability of the findings. The study provides detailed associations between specific dermatological conditions (e.g., atopic dermatitis, psoriasis) and psychological outcomes, supported by statistical significance.

METHODOLOGY & MATERIALS

This cross-sectional study was conducted at the Department of Dermatology and Psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU), over a one-year period from January 2022 to December 2022. A total of 350 patients diagnosed with chronic dermatological conditions, including psoriasis, vitiligo, acne, and atopic dermatitis, were enrolled using purposive sampling. The primary objective was to evaluate the psychological impact of these conditions using validated psychometric tools.

Patients aged 18 years and above, clinically diagnosed with any of the aforementioned skin disorders for a duration of at least six months, and willing to provide informed consent were included in the study. Individuals with known psychiatric illnesses diagnosed prior to the onset of the dermatological condition, those on current psychiatric medications, patients with systemic diseases (e.g., thyroid disorders, diabetes, or malignancies) that could influence psychological status, and those who declined participation were excluded.

Data were collected through face-to-face interviews using a structured questionnaire that included socio-demographic variables and disease-related characteristics. The psychological status of participants was assessed using the Bangla version of the Depression, Anxiety, and Stress Scale (DASS-21), which has been validated in the local context. Diagnosis of major depression or anxiety disorders was based on symptomatology in line with DSM-5 criteria, though no formal psychiatric diagnosis was made.

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 22. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the data. Chi-square test was applied to examine associations between categorical variables, particularly to assess relationships between types of dermatological conditions and levels of psychological distress. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Table 1: Socio-Demographic Characteristics of Participants (n = 350)

Characteristics	Frequency (n)	Percentage (%)
Age (years)		
18–25	83	23.7
26–35	119	34.0
36–45	90	25.7
>45	58	16.6
Gender		
Male	161	46.0
Female	189	54.0
Marital Status		
Married	242	69.1
Unmarried	108	30.9
Education Level		
Primary	43	12.3
Secondary	127	36.3
Higher Secondary	99	28.3
Graduate and above	81	23.1
Residence		
Urban	215	61.4
Rural	135	38.6

Table 1 presents the socio-demographic characteristics of the 350 study participants. The majority were aged between 26–35 years (34.0%), with a slightly higher proportion of females (54.0%) than males (46.0%). Most participants were married (69.1%) and resided in urban areas (61.4%). In terms of education, 36.3% had completed secondary level, while 23.1% held a graduate degree or higher.

Table 2: Distribution of Dermatological Conditions (n = 350)

Dermatological Condition	Frequency (n)	Percentage (%)
Psoriasis	101	28.9
Vitiligo	80	22.9
Acne	92	26.3
Atopic Dermatitis	77	22.0

Table 2 shows the distribution of dermatological conditions among the study participants. Psoriasis was the most common condition (28.9%), followed by acne (26.3%), vitiligo (22.9%), and atopic dermatitis (22.0%).

Table 3: Psychological Status Based on DASS-21 Scores

Psychological Domain	Normal (%)	Mild (%)	Moderate (%)	Severe (%)	Extremely Severe (%)
Depression	40.6	14	20.9	15.1	9.4
Anxiety	38	16.3	22	14.3	9.4
Stress	49.1	20	18.3	9.1	3.4

Table 3 summarizes the psychological status of participants based on DASS-21 scores. Depression was present at moderate to extremely severe levels in 45.4% of participants, while 45.7% exhibited moderate to extremely severe anxiety. Stress levels were comparatively lower, with 30.8% falling into moderate or higher categories. Normal scores were most common in the stress domain (49.1%).

Table 4: Mean DASS-21 Scores by Dermatological Condition

Condition	Depression (Mean ± SD)	Anxiety (Mean ± SD)	Stress (Mean ± SD)
Psoriasis	17.2 ± 6.5	14.8 ± 5.9	18.3 ± 7.1
Vitiligo	15.0 ± 5.7	13.2 ± 6.1	16.0 ± 6.3
Acne	12.8 ± 5.2	11.4 ± 4.6	13.2 ± 5.1
Atopic Dermatitis	19.1 ± 6.8	17.3 ± 6.4	20.5 ± 7.3

Table 4 displays the mean DASS-21 scores across different dermatological conditions. Patients with atopic dermatitis reported the highest mean scores for depression (19.1 ± 6.8), anxiety (17.3 ± 6.4), and stress (20.5 ± 7.3), indicating greater psychological distress. In contrast, acne patients had the lowest mean scores across all three domains. Psoriasis and vitiligo showed intermediate levels of psychological impact.

Table 5: Association between Dermatological Conditions and Severe Depression/Anxiety

Condition	Severe/Extremely Severe Depression (%)	Severe/Extremely Severe Anxiety (%)	p-value
Psoriasis	30	28	0.03*
Vitiligo	24	20	0.12
Acne	15	14	0.28
Atopic Dermatitis	42	38	0.01*

Table 5 illustrates the association between specific dermatological conditions and the prevalence of severe to extremely severe depression and anxiety. Atopic dermatitis showed the highest rates of both severe depression (42%) and anxiety (38%), with statistically significant associations ($p = 0.01$). Psoriasis was also significantly associated with higher psychological distress ($p = 0.03$). No significant association was found for vitiligo or acne.

DISCUSSION

This study explored the psychological burden among patients with chronic dermatological conditions in a tertiary care setting in Bangladesh. Among the 350 participants, 45.4% reported moderate to extremely severe depression, and 45.7% experienced moderate to extremely severe anxiety, while 30.8% reported moderate to extremely severe stress based on DASS-21 scores. These findings underscore the substantial mental health impact associated with chronic skin disorders in our population.

Atopic dermatitis was strongly associated with the highest psychological burden. Patients with this condition had the highest mean DASS-21 scores for depression (19.1 ± 6.8), anxiety (17.3 ± 6.4), and stress (20.5 ± 7.3), with statistically significant associations for both severe depression and anxiety ($p = 0.01$). This is consistent with findings by Dieris-Hirche *et al.*, who reported high rates of suicidal ideation among adults with atopic dermatitis in Germany, highlighting the severe psychological consequences of this chronic inflammatory condition [14]. Similarly, Pedersen *et al.* reported significant emotional and social burden among Bangladeshi families of children with atopic dermatitis, emphasizing that its impact is not limited to physical symptoms [15].

Psoriasis, the most common condition in our sample (28.9%), also showed a significant association with severe psychological distress ($p = 0.03$). This aligns with the work of Griffiths *et al.*, who documented that patients with psoriasis often suffer from decreased self-esteem, embarrassment, and stigmatization, leading to poor mental health outcomes [16]. Additionally, Soliman highlighted the lack of educational and psychological support in psoriasis care, which may further aggravate mental health issues [17].

In contrast, acne and vitiligo, though visibly prominent conditions, did not show statistically significant associations with severe depression or anxiety in our study. However, 26.3% of our participants had acne, and some degree of psychological disturbance was still observed, consistent with Rahman *et al.*, who found a reduced quality of life and emotional distress among acne patients in a dermatology clinic in Dhaka [18]. Halvorsen *et al.* also previously reported increased suicidal thoughts among adolescents with acne, especially when compounded by bullying or social isolation [19].

The overall rates of psychological distress observed in our study are in line with earlier reports emphasizing the bidirectional relationship between skin disease and mental health. Jafferany *et al.* noted that the chronicity, visibility, and discomfort associated with skin conditions often result in or exacerbate psychiatric symptoms such as depression and anxiety [20]. Our study contributes local data to this growing body of evidence, highlighting the urgent need for dermatologists to screen for mental health issues, especially in patients with atopic dermatitis and psoriasis.

Furthermore, chronic pruritus is a common feature in both psoriasis and atopic dermatitis may act as a contributing factor. Matteredne *et al.* found that chronic itch significantly affects sleep, mood, and concentration, and is often underreported and undertreated [21]. Our findings support this, as higher psychological scores were seen in conditions associated with pruritus.

Limitations and Recommendations

The cross-sectional design restricts the ability to infer causality between dermatological conditions and psychological distress. The absence of a control group limits the specificity of findings. Sampling from a single tertiary care hospital using purposive methods may introduce selection bias and reduce generalizability, particularly as the sample may overrepresent severe cases. Socioeconomic diversity was not assessed, potentially confounding the psychological outcomes. Psychological distress was measured using self-reported DASS-21 scores without confirmation through clinical interviews, which may lead to misclassification. The study did not

evaluate moderating factors such as social support or coping mechanisms. The reliance on Chi-square tests limits the depth of statistical analysis, and the lack of multivariate adjustment for confounders (e.g., age, gender, disease severity) reduces interpretative strength. Mean DASS-21 scores were reported without effect sizes, which hinders the understanding of clinical relevance. Additionally, cultural stigma and access to mental health services, crucial in the Bangladeshi context, were not explored. Although ethical approval was obtained, the study did not describe support for participants with severe distress. Implementation strategies for recommended mental health screening were also not outlined.

CONCLUSION

In conclusion, our findings reveal that nearly half of the patients with chronic dermatological conditions in this study experienced significant levels of depression and anxiety. Atopic dermatitis and psoriasis were notably associated with higher psychological distress. These results highlight the critical need for integrating mental health evaluation into routine dermatological care. Early identification and appropriate referral for psychological support may improve both quality of life and treatment outcomes in this vulnerable group.

Financial support and sponsorship: No funding sources.

Conflicts of interest: There are no conflicts of interest.

REFERENCES

1. Picardi A, Abeni D, Melchi CF, Puddu P, Pasquini P. Psychiatric morbidity in dermatological outpatients: an issue to be recognized. *British Journal of dermatology*. 2000 Nov 1;143(5):983-91.
2. Kimball AB, Jacobson C, Weiss S, Vreeland MG, Wu Y. The psychosocial burden of psoriasis. *American journal of clinical dermatology*. 2005 Dec;6:383-92.
3. Ongenaes K, Beelaert L, van Geel N, Naeyaert JM. Psychosocial effects of vitiligo. *Journal of the European Academy of Dermatology and Venereology*. 2006 Jan;20(1):1-8.
4. Gupta, Gupta. Depression and suicidal ideation in dermatology patients with acne, alopecia areata, atopic dermatitis and psoriasis. *British Journal of Dermatology*. 1998 Nov;139(5):846-50.
5. Dalgard F, Gieler U, Holm JØ, Bjertness E, Hauser S. Self-esteem and body satisfaction among late adolescents with acne: results from a population survey. *Journal of the American Academy of Dermatology*. 2008 Nov 1;59(5):746-51.
6. Hrehorów E, Salomon J, Matusiak Ł, Reich A, Szepietowski JC. Patients with psoriasis feel stigmatized. *Acta dermato-venereologica*. 2012;92(1):67-72.
7. Dalgard FJ, Gieler U, Tomas-Aragones L, Lien L, Poot F, Jemec GB, Misery L, Szabo C, Linder D, Sampogna F, Evers AW. The psychological burden of skin diseases: a cross-sectional multicenter study among dermatological out-patients in 13 European countries. *Journal of Investigative Dermatology*. 2015 Apr 1;135(4):984-91.
8. Dabas G, Vinay K, Parsad D, Kumar A, Kumaran MS. Psychological disturbances in patients with pigmentary disorders: a cross-sectional study. *Journal of the European Academy of Dermatology and Venereology*. 2020 Feb;34(2):392-9.
9. Dalgard FJ, Svensson Å, Halvorsen JA, Gieler U, Schut C, Tomas-Aragones L, Lien L, Poot F, Jemec GB, Misery L, Szabo C. Itch and mental health in dermatological patients across Europe: a cross-sectional study in 13 countries. *Journal of Investigative Dermatology*. 2020 Mar 1;140(3):568-73.
10. Ständer S, Schäfer I, Phan NQ, Blome C, Herberger K, Heigel H, Augustin M. Prevalence of chronic pruritus in Germany: results of a cross-sectional study in a sample working population of 11,730. *Dermatology*. 2010 Oct 1;221(3):229-35.
11. Sampogna F, Picardi A, Chren MM, Melchi CF, Pasquini P, Masini C, Abeni D. Association between poorer quality of life and psychiatric morbidity in patients with different dermatological conditions. *Psychosomatic medicine*. 2004 Jul 1;66(4):620-4.
12. Silverberg JI, Gelfand JM, Margolis DJ, Boguniewicz M, Fonacier L, Grayson MH, Simpson EL, Ong PY, Fuxench ZC. Patient burden and quality of life in atopic dermatitis in US adults: a population-based cross-sectional study. *Annals of Allergy, Asthma & Immunology*. 2018 Sep 1;121(3):340-7.
13. Fuxench ZC, Block JK, Boguniewicz M, Boyle J, Fonacier L, Gelfand JM, Grayson MH, Margolis DJ, Mitchell L, Silverberg JI, Schwartz L. Atopic dermatitis in America study: a cross-sectional study examining the prevalence and disease burden of atopic dermatitis in the US adult population. *Journal of Investigative Dermatology*. 2019 Mar 1;139(3):583-90.
14. Dieris-Hirche J, Gieler U, Petrak F, Milch W, Te Wildt B, Dieris B, Herpertz S. Suicidal ideation in adult patients with atopic dermatitis: a German cross-sectional study. *Acta dermato-venereologica*. 2017 Aug 7;97(10):1189-95.

15. Pedersen CJ, Uddin MJ, Saha SK, Darmstadt GL. Prevalence and psychosocial impact of atopic dermatitis in Bangladeshi children and families. PLoS One. 2021 Apr 16;16(4):e0249824.
16. Griffiths CE, Jo SJ, Naldi L, Romiti R, Guevara-Sangines E, Howe T, Pietri G, Gilloteau I, Richardson C, Tian H, Augustin M. A multidimensional assessment of the burden of psoriasis: results from a multinational dermatologist and patient survey. British journal of dermatology. 2018 Jul 1;179(1):173-81.
17. Soliman M. Acceptance of illness and need for education to support dermatology self-care in psoriasis patients: a cross-sectional study. Advances in Dermatology and Allergology/Postępy Dermatologii i Alergologii. 2021 Sep 1;38(5):842-9.
18. Rahman M, Akter S, Hossain SR. Quality of life and acne patients attended at a dermatology clinic of Dhaka, Bangladesh. Cross Curr Int J Med Biosci. 2022;4:1-5.
19. Halvorsen JA, Stern RS, Dalgard F, Thoresen M, Bjertness E, Lien L. Suicidal ideation, mental health problems, and social impairment are increased in adolescents with acne: a population-based study. Journal of Investigative Dermatology. 2011 Feb 1;131(2):363-70.
20. Jafferany M, Pastolero P. Psychiatric and psychological impact of chronic skin disease. The primary care companion for CNS disorders. 2018 Apr 26;20(2):27157.
21. Mattered U, Apfelbacher CJ, Vogelgsang L, Loerbroks A, Weisshaar E. Incidence and Determinants of Chronic Pruritus: A Populationbased Cohort Study. Acta dermato-venereologica. 2013 Sep 1;93(5).