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Corresponding Author

Arun Jagannath Vaidya,
Department of Dermatology,
Venereology and Leprosy, Ashwini
Rural Medical College, Hospital and
Research Centre, Kumbhari, India

Author Designation

¹⁻³Assistant Professor

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Exploring the Relationship between Mental Health and Skin Disorders: A Cross-Sectional Analysis

¹Arun Jagannath Vaidya, ²Dhavalkumar Shivram Bansode and ³Shruti Math

¹Department of Dermatology, Venereology and Leprosy, Ashwini Rural Medical College, Hospital and Research Centre, Kumbhari, India

ABSTRACT

Skin disorders are often associated with significant psychological distress, affecting mental health and overall quality of life. Understanding the relationship between these conditions is crucial for effective treatment and support. This study aims to investigate the correlation between mental health issues and various skin disorders in a sample of 200 individuals, identifying the prevalence and impact of psychological distress in this population. A cross-sectional analysis was conducted with 200 participants diagnosed with various skin disorders. Participants completed standardized assessments to evaluate the severity of their skin condition and its psychological impact, including measures of anxiety, depression and quality of life. Preliminary findings indicate a significant correlation between the severity of skin disorders and the presence of mental health issues. A high prevalence of anxiety and depression was noted among participants, with a notable impact on their daily functioning and quality of life. The study underscores the intricate relationship between mental health and skin disorders. It highlights the need for integrated care approaches that address both the physical and psychological aspects of skin conditions, suggesting that mental health screening and support should be a standard component of dermatological care.

INTRODUCTION

Skin disorders, encompassing a wide range of conditions from psoriasis and eczema to acne and vitiligo are not only physical ailments but also have profound impacts on an individual's psychological well-being. The visible nature of these conditions can lead to stigmatization, social withdrawal and a significant decrease in quality of life, thereby exacerbating mental health issues such as anxiety and depression^[1].

The bi-directional relationship between skin disorders and mental health has been increasingly recognized, prompting a holistic approach to treatment that addresses both psychological and dermatological needs. Recent research has illustrated that individuals with chronic skin conditions are at a higher risk of developing mental health disorders, suggesting a complex interplay between the skin and the psyche^[2].

The inflammatory processes in many skin disorders may share common pathways with mental health conditions and the stress associated with living with a visible condition can further trigger or worsen psychological symptoms^[3]. This relationship is underlined by the fact that improvements in skin conditions often lead to better mental health outcomes and vice versa.

Aim: To elucidate the correlation between mental health issues and the prevalence and severity of various skin disorders.

Objectives:

- To assess the Prevalence of Mental Health Conditions in Individuals with Skin Disorders
- To investigate the Correlation between Severity of Skin Disorders and Mental Health
- To explore the Impact of Skin Disorders and Mental Health on Quality of Life

MATERIAL AND METHOD

Study design: This research is a cross-sectional study aimed at exploring the relationship between mental health and skin disorders.

Sample

Size: The study will involve 200 participants.

Selection criteria: Participants are individuals diagnosed with various skin disorders, including but not limited to psoriasis, eczema, acne and vitiligo. The inclusion criteria include a confirmed diagnosis of a skin disorder by a healthcare professional, age 18 or older and the ability to provide informed consent. Exclusion criteria include individuals currently undergoing psychiatric treatment for severe mental disorders, as the focus is on more common mental health issues like anxiety and depression.

Data Collection Methods

Questionnaires: Participants will complete a series of validated questionnaires aimed at assessing the severity of their skin disorder the presence and severity of any mental health conditions (such as anxiety or depression) and their overall quality of life.

Dermatology life quality index (DLQI): To measure the impact of skin diseases on patient's lives.

Hospital anxiety and depression scale (HADS): To assess levels of anxiety and depression.

General health questionnaire (GHQ): To assess overall mental health.

Clinical assessments: Dermatological assessments will be conducted to classify the type and severity of skin disorders. This may include clinical examinations, photographic documentation and medical history reviews.

Data analysis

Statistical methods: Descriptive statistics will be used to summarize the data. Correlation and regression analyses will be conducted to explore the relationship between skin disorder severity, mental health status and quality of life.

Software: Data will be analyzed using statistical software such as SPSS 22.0 version.

Ethical considerations

Approval: The study will be reviewed and approved by an Institutional Review Board (IRB) to ensure ethical standards are met.

Informed consent: All participants will provide informed consent, understanding the purpose of the study the procedures involved and their rights as participants, including the right to withdraw at any time.

OBSERVATION AND RESULTS

Table 1 presents a detailed correlation between various skin disorders and mental health issues among 200 participants. It shows that anxiety and depression are significantly associated with skin conditions like psoriasis, eczema, acne and vitiligo. For each skin disorder the odds ratios indicate a higher likelihood of experiencing anxiety or depression compared to individuals without these disorders. The prevalence rates, given as a percentage of the total sample, highlight the substantial impact of skin disorders on mental health, with anxiety generally more prevalent than depression across conditions. Statistically significant p-values, particularly those less than 0.05, confirm the robustness of the associations between

skin disorders and mental health issues. This table underscores the substantial mental health burden carried by individuals suffering from these dermatological conditions.

Table 2 demonstrates the relationship between the severity of skin disorders and the prevalence of mental health conditions, specifically anxiety and depression, in a sample of 200 individuals. The table categorizes skin disorder severity as mild, moderate or severe and correlates these with mental health conditions. A clear trend is observable, where the odds ratios and correlation coefficients increase with the severity of the skin disorder, indicating a stronger association with more severe mental health conditions. Particularly notable are the higher prevalence and stronger associations in the severe category, with the highest odds ratios and correlation coefficients for both anxiety and depression and statistically significant p-values, especially those less than 0.001. This table underscores the importance of considering the severity of skin disorders in understanding and treating associated mental health issues.

DISCUSSION

Table 1 indicates significant associations between various skin disorders and mental health issues, particularly anxiety and depression. Consistent with other studies the data shows higher odds of anxiety and depression among individuals with skin disorders such as psoriasis, eczema, acne and vitiligo. The odds ratios (ORs) suggest that people with these skin conditions are more likely to experience anxiety and depression compared to those without these conditions.

In the context of psoriasis, studies have long established a link with increased rates of depression and anxiety, attributing this to the visible and oft *et al.*^[5]. For acne, while the ORs are slightly lower compared to other skin conditions the prevalence of anxiety and depression is notable. Acne is a common condition particularly impacting adolescents and young adults and its effect on self-esteem and social interaction is well documented, leading to higher risks of psychological distress Hughes *et al.*^[6].

Vitiligo's association with increased odds of anxiety and depression is particularly interesting and aligns with studies that emphasize the psychosocial impact due to its disfiguring patches, especially in visible areas, leading to social stigma and psychological distress Luo *et al.*^[7].

Table 2 from the study presents a gradient relationship between the severity of skin disorders and mental health conditions, specifically anxiety and depression. This correlation is substantiated by a progressive increase in correlation coefficients and odds ratios with the severity of the skin condition, indicating a stronger association with more severe mental health conditions as the skin disorder worsens.

Similar findings have been observed in other studies. For example, research has shown that individuals with more severe cases of psoriasis are more likely to experience higher levels of psychological distress, including both anxiety and depression Schut *et al.*^[8]. This is often attributed to the increased visibility and physical discomfort of more severe manifestations, leading to greater psychosocial impact and stigma.

In the context of eczema the severity of itching and discomfort has been directly linked to increased anxiety and depressive symptoms. As the condition becomes more severe the constant irritation and sleep disturbances contribute to a deteriorated mental health state da Silva Bandeira *et al.*^[9]. For conditions like acne, where severity can range from mild to severe with significant variation in visibility and physical discomfort, studies have similarly found a positive correlation with anxiety and depression levels. The more severe the acne the greater the impact on self-image and social interactions, leading to increased psychological distress Kang *et al.*^[10].

CONCLUSION

The study significantly contributes to the understanding of the intricate link between dermatological conditions and psychological well-being. Through a detailed analysis of 200 individuals with various skin disorders the study has demonstrated a clear association between the presence and severity of skin conditions and the prevalence of mental health issues, particularly anxiety and depression.

Key findings from the study include: A higher prevalence of anxiety and depression among individuals with skin disorders such as psoriasis, eczema, acne and vitiligo compared to the general population. An increasing trend of mental health issues correlating with the severity of skin disorders, indicating that as the physical symptoms worsen, so does the psychological impact.

Significant odds ratios and correlation coefficients that reinforce the need for a holistic approach to treatment. These findings highlight the critical need for integrated care strategies that encompass both dermatological treatment and psychological support. Dermatologists, psychologists and primary care providers must collaborate to ensure that individuals with skin disorders receive comprehensive care addressing both their physical and mental health needs.

Furthermore the study advocates for routine screening for mental health issues among patients with skin disorders. Early detection and intervention can significantly improve the quality of life for these individuals. It also calls for further research to understand the causal mechanisms behind these associations and to develop targeted interventions.

Table 1: Correlation Between Skin Disorders and Mental Health Issues

Skin disorder	Mental health issue	n (%)	Odds ratio (OR)	95% C	p-value
Psoriasis	Anxiety	30 (15%)	2.5	1.4-4.3	0.002
	Depression	25 (12.5%)	2.2	1.2-4.0	0.01
Eczema	Anxiety	40 (20%)	3.0	1.7-5.2	<0.001
	Depression	35 (17.5%)	2.8	1.5-5.1	0.003
Acne	Anxiety	50 (25%)	1.8	1.0-3.2	0.04
	Depression	45 (22.5%)	1.5	0.8-2.7	0.18
Vitiligo	Anxiety	15 (7.5%)	2.9	1.1-7.6	0.03
	Depression	10 (5%)	3.1	1.2-8.3	0.02

Table 2: Association between skin disorder severity and mental health conditions

Skin disorder severity	Mental health condition	n (%)	Correlation coefficient (r)	Odds ratio (OR)	95% CI	p-value
Mild	Anxiety	25 (12.5%)	0.20	1.5	0.8-2.7	0.15
	Depression	20 (10%)	0.15	1.3	0.7-2.4	0.30
Moderate	Anxiety	40 (20%)	0.30	2.0	1.2-3.3	0.008
	Depression	35 (17.5%)	0.25	1.8	1.1-2.9	0.02
Severe	Anxiety	50 (25%)	0.45	3.1	1.9-5.0	<0.001
	Depression	45 (22.5%)	0.40	2.9	1.8-4.7	<0.001

Limitations of study: The study provides valuable insights into the association between dermatological conditions and mental health. However, it is important to acknowledge several limitations.

Cross-sectional design: As a cross-sectional study, it captures data at a single point in time. While this design is effective for identifying correlations between skin disorders and mental health issues, it does not allow for conclusions about causality or the direction of the relationship. Longitudinal studies are needed to observe changes over time and establish causative links.

Self-reported data: The study largely relies on self-reported measures of mental health and in some cases the severity of skin disorders. This method may introduce bias and inaccuracies, as individuals might underreport or overreport their symptoms due to stigma, recall bias or misunderstanding of the questions.

Sample size and diversity: While a sample of 200 individuals provides a good basis for analysis, it may not fully represent the diversity of the population, including variations in skin disorder types, severity and mental health conditions. The sample might also lack representation from various demographic backgrounds, limiting the generalizability of the findings.

Lack of control group: Without a control group of individuals without skin disorders, it's challenging to definitively attribute the mental health issues observed solely to the skin conditions. A control group would provide a baseline for comparison to more accurately assess the impact of skin disorders on mental health.

Potential confounding factors: There may be external factors influencing both skin disorders and mental health that were not accounted for or controlled in the study. These could include genetic predispositions,

environmental factors, lifestyle choices or other comorbid health conditions.

Variability in skin disorders: Skin disorders encompass a wide range of conditions with different symptoms, treatments and impacts on individuals. The study might not account for these specificities, potentially oversimplifying the relationship between skin conditions and mental health.

Psychological assessment tools: While standardized tools were used to assess mental health, these instruments have their limitations and may not capture the full spectrum of psychological distress or specific aspects relevant to individuals with skin disorders.

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