



## Screening for Psychiatric Morbidity among Outpatients with Skin Diseases in a Tertiary Hospital in Northwest Nigeria

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### ABSTRACT

#### Background

Psychological stressors exacerbating dermatologic conditions have been well supported by research.

#### Aims

To determine the prevalence and correlates of psychiatric morbidity among outpatients with skin diseases.

#### Method

A cross-sectional study of 152 skin disease patients attending a dermatological outpatient's clinic at a tertiary health institution in Sokoto State, Northwest, Nigeria. The participants completed a sociodemographic and clinical characteristics questionnaire, and the General Health Questionnaire (GHQ-28 version). Data was analysed using chi-square to test for association between categorical variables with a p-value of 0.05 as the significance level.

#### Results

The prevalence of psychiatric morbidity was 63.8% (using a score greater than the mean GHQ score of 45.8, approximately 46 as cut-off score). Older age ( $p=0.026$ ), being a female ( $p<0.001$ ), early age at onset of skin disease ( $p<0.001$ ) were significantly associated with psychiatric morbidity. Having skin lesion on the face ( $p<0.001$ ), cause due to allergic reaction ( $p<0.001$ ), longer duration of skin disease ( $p<0.001$ ), comorbidity with a chronic medical condition ( $p<0.001$ ) were significantly associated with psychiatric morbidity.

#### Conclusion

Given the high prevalence of dermatology patients that have psychiatric morbidity, dermatologists may consider incorporating mental health screening into their patient evaluation. Measures to mitigate the influence of certain demographic and clinical characteristics associated with psychiatric morbidity should be considered.

**Keywords:** Psychiatric morbidity; outpatients; skin disorders; tertiary hospital; Northwest Nigeria

### Introduction

Globally, 4,859,267,654 new skin and subcutaneous disease cases were identified in 2019, most of which were fungal and bacterial skin diseases.<sup>1</sup> Skin diseases, such as acne, alopecia, bacterial skin infections, decubitus ulcers, fungal skin diseases, pruritus, psoriasis, scabies, urticaria, viral skin diseases,

and other skin diseases, are common health problems worldwide and are the leading causes of global disease burden.<sup>2</sup> Skin diseases affect not only physical health but also mental health and national healthcare systems globally.<sup>3</sup> In sub-Saharan African regions, skin diseases are common.<sup>4</sup> The World Health Organization's report on the global burden of disease indicated that skin diseases were associated with mortality rates of 20,000 in Sub-Saharan Africa in 2001.<sup>5</sup>

Psychiatric and psychological factors are important in at least 30% of dermatologic disorders.<sup>6</sup> Consideration of psychiatric and psychosocial factors is important both for the management and for some aspects of secondary and tertiary prevention of a wide range of dermatologic disorders.<sup>6</sup>

Psychological stressors exacerbating dermatologic conditions have been well supported by research.<sup>7</sup> The presence of lesions in visible areas of the skin may cause emotional troubles in patients, including low self-worth, embarrassment, sorrow, and social isolation.<sup>8</sup> Those alterations may predispose to psychiatric disorders such as anxiety, depression, and even suicidal ideation.<sup>8</sup>

The impact of skin alterations on the mental health of dermatological patients should be a central concern and timely identification and treatment of mental disorders are essential for the comprehensive management of these skin diseases. There is limited data on the mental health of patients with skin diseases attending dermatological clinics in Northwest Nigeria.

### **Aims**

To determine the prevalence and correlates of psychiatric morbidity among outpatients with skin diseases.

### **Method**

A cross-sectional study of 152 skin disease patients attending a dermatological outpatient's clinic at Usmanu Danfodiyo University Teaching Hospital, a tertiary health institution in Sokoto State, Northwest, Nigeria. All procedures involving patients were based on the approved protocols of the "Medical Ethics" at the Usmanu Danfodiyo University Teaching Hospital, Sokoto State, Nigeria.

### **Participants and procedure**

The participants completed a sociodemographic and clinical characteristics questionnaire, and the General Health Questionnaire (GHQ-28 version). The study was conducted between February 2023 and May 2023. All the participants: (a) were out-patients aged 10 years and above; (b) had a current primary diagnosis of skin disease and indication for treatment of skin disease; (c) spoke English or Hausa; and (d) provided written informed consent. Their caregivers assisted those under the age of 18 years regarding consent and administration of the questionnaire. Exclusion criteria were: (a) self-reported history of psychiatry disorder; (b) need for urgent care (i.e. acute exacerbation of skin disease or any other medical condition; and (c) inability to follow research procedures owing to the presence of intellectual disability or significant visual or hearing impairments.

### **Measurements**

Social demographics and clinical characteristics data were obtained from the participants and their case record files. The General Health Questionnaire (English and the Hausa)<sup>9</sup> of the GHQ-28 version) was administered to measure Psychiatric morbidity. Using the binary scoring method, the cut-off score for psychiatric morbidity in this study was GHQ score  $\geq 4$ .<sup>9</sup> GHQ scores of less than 4 were classified as not having psychiatric morbidity while scores  $\geq 4$  were classified as having probable psychiatric morbidity.<sup>9</sup>

The GHQ-28 was developed and introduced as a screening tool to detect those likely to have or to be at risk of developing psychiatric disorders. The GHQ-28 is a 28-item measure of common mental health problems, including somatic symptoms (items 1–7), anxiety/insomnia (items 8–14), social dysfunctions (items 15–21), and severe depression (items 22–28).<sup>10</sup> This questionnaire has been translated into 38 languages.<sup>11</sup> The sensitivity and specificity of the questionnaire were estimated at 70.5% and 92.3%, respectively. The reliability of the questionnaire based on the value of Cronbach's alpha was 87%.

### **Statistical Analyses**

We used the chi-squared test for the analysis of categorical variables. All statistical analyses were performed at a significance level of 0.05, using SPSS version 25.

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## **Results**

### **Sociodemographic characteristics**

We identified 152 participants who all filled out the questionnaires. The sociodemographic characteristics of the participants are summarized in Table 1.

### **Clinical characteristics**

The most common area of skin lesion was the neck (36.2%), 36.2% could not identify the cause of their skin disease, majority (75.7%) have had skin disease for more up to 10 years, 96.7% had chronic skin diseases, 3.9% had the thought of suicide due to skin disease. Out of the 20 different skin disease reported, the commonest (7.9%) skin disease was eczema, followed by pemphigus vulgaris (7.2%), Cutaneous Leishmaniasis and Collagen vascular disease (6.6%), Pruritus, Juvenile Dermatomyositis, Head Warts, Psoriasis, Allergic Dermatitis, Amyotrophic dermatomyositis, Hypopigmentation, Malignant skin disease all occurred in 3.9% of the participants (Table 2).

**Table 1: Participants sociodemographic characteristics**

<b>Variables</b>	<b>Frequency (%)</b>
<b>Age group (years) Mean 31.2 (SD ±16.8)</b>	
10-25	84(55.3)
26-40	25(16.4)
41-55	27(17.8)
56-70	16(10.5)
<b>Gender</b>	
Male	40(26.3)
Female	112(73.3)
<b>Tribe</b>	
Hausa	5(3.3)
Igbo	6(3.9)
Yoruba	33(21.7)
Others	108(71.1)
<b>Religion</b>	
Christianity	11(7.2)
Islam	141(92.8)
<b>Marital status</b>	
Married	68(44.7)
Single	74(48.7)
Widow/Divorce	10(6.6)
<b>Occupation</b>	
Unemployed	63(41.4)
Employed	89(58.6)
<b>Education</b>	
Primary	6(3.9)
Secondary	34(22.4)
Tertiary	74(48.7)
Quranic school	33(21.7)
Nil	5(3.3)

**Table 2: Participants clinical characteristics**

<b>Variables</b>	<b>Frequency (%)</b>
<b>Age at onset of skin disease</b>	
10-20	54(35.5)
21-30	28(28.4)
31-40	58(38.2)
<10	12(7.9)

<b>Areas affected</b>	
Face	55(36.2)
Neck	21(13.8)
Exposed part after wearing cloths	33(21.7)
Not exposed after wearing clothes	43(28.3)
<b>Causes of skin diseases</b>	
Stress	29(19.1)
Unknown	55(36.2)
Infection	46(30.3)
Drug	12(7.9)
Soap	5(3.3)
Allergic reaction	5(3.3)
<b>Total duration of skin diseases</b>	
1-10years	115(75.7)
11-30 years	17(11.2)
Above 30 years	15(9.9)
Less than one year	5(3.3)
<b>Nature of skin disease</b>	
Chronic	147(96.7)
Exacerbation	5(3.3)
<b>Thought of suicide (ending life due to skin disease)</b>	
Yes	6(3.9)
No	146(96.1)
<b>Chronic Medical disease comorbidity</b>	
Yes	47(30.9)
No	105(69.1)
<b>Diagnosis (Skin diseases)</b>	
Eczema	12(7.9)
Pruritus, Juvenile Dermatomyositis, Head Warts, Psoriasis, Allergic Dermatitis, Amyotrophic dermatomyositis,	6(3.9)
Hypopigmentation, Malignant skin disease	
Pemphigus vulgaris	10(7.2)
Chronic actinic dermatitis, Chancroid, Papular rash, Herpes zoster, Inflammatory candidiasis, Alopecia, Bullous pemphigoid, Candida auris	5(3.3)
Cutaneous Leshmaniasis, Collagen vascular disease	10(6.6)

#### **Prevalence of psychiatric morbidity and sociodemographics factors associated with psychiatric morbidity**

The prevalence of psychiatric morbidity was 63.8% (GHQ-28 scores  $\geq 4$ ). Older age ( $p=0.026$ ), being a female ( $p<0.001$ ), and early age at onset of skin disease ( $p<0.001$ ) were significantly associated with psychiatric morbidity (Table 3).

**Clinical factors associated with psychiatric morbidity**

Having skin lesion on the face ( $p<0.001$ ), cause due to allergic reaction ( $p<0.001$ ), longer duration of skin disease ( $p<0.001$ ), comorbidity with a chronic medical condition ( $p<0.001$ ) were significantly associated with psychiatric morbidity (Table 4).

**Table 3: Sociodemographic factors associated with psychiatric morbidity**

Variable	No Distress (%)	Distress (%)	$\chi^2$	df	<i>p</i> -value
<b>Age (years)</b>				1	
10-31	46.8%	53.2%	5.547		<b>0.026</b>
32_70	27.6%	72.4%			
<b>Gender</b>				1	
Male	72.5%	27.2%	31.005		<b>&lt;0.001</b>
Female	23.3%	76.8%			
<b>Marital status</b>				1	
Married	30.9%	69.1%	3.801*		0.066
Not married	46.4%	53.6%			
<b>Employment</b>			3.1790	1	
Unemployed	44.4%	55.6%	1.113		0.316
Employed	36.0%	64.0%			
<b>Education</b>				1	
Secondary and below	37.2%	62.8%	0.353		0.620
Above secondary	41.9%	58.1%			

\*Fischer's Exact

**Table 4: Clinical characteristics associated with psychiatry morbidity**

Variables	No Distress (%)	Distress (%)	$\chi^2$	Df	<i>P</i> -value
<b>Age at onset</b>					
10-20	61.1%	38.9%	25.832	3	<0.001
21-30	21.4%	78.6%			
31-40	27.6%	72.4%			
<10	0.0%	100.0%			
<b>Area affected</b>					
Face	29.1%	70.9%	20.735	3	<b>&lt;0.001</b>
Neck	23.8%	76.2%			
Exposed part after wearing clothes	69.7%	30.3%			
Not exposed after wearing clothes	25.6%	74.4%			
<b>Causes of skin diseases</b>					
Stress	79.3%	20.7%	*		<b>&lt;0.001</b>
Unknown	27.3%	72.7%			

Infection	23.9%	76.1%			
Drug	50.0%	50.0%			
Soap	0.0%	100.0%			
Allergic reaction	0.0%	100.0%			
<b>Total duration of skin disease</b>					
1-10years	42.6%	57.4%	15.001*		<0.001
11-30 years	35.3%	64.7%			
Above 3o years	0.0%	100.0%			
Less than one year	0.0%	100.0%			
<b>Nature of skin disease</b>					
Chronic	37.4%	62.6%			0.160
Exacerbation	0.0%	100.0%			
No	33.6%	66.4%			
<b>Chronic Medical disease comorbidity</b>					
Yes	10.6%	89.4%	19.229	1	<0.001
No	47.6%	52.4%			

\*Fischer's Exact

## Discussion

We found a significantly high prevalence of psychiatric morbidity among patients with common skin diseases. In this study, the prevalent skin disease was eczema as previously reported in Nigeria and Africa<sup>12,13</sup>.

Older age, being a female, and early age at the onset of skin disease were significantly associated with psychiatric morbidity. Having skin lesions on the face, cause due to allergic reactions, longer duration of skin disease, and comorbidity with a chronic medical condition were significantly associated with psychiatric morbidity.

The co-occurrence of mental and dermatological problems has previously mostly been described in national single-centre studies. An Italian study of 2,579 dermatological patients showed an overall lower psychiatric morbidity of 25% compared to our findings, with a higher percentage of psychiatric cases in patients with skin infections, pruritic conditions, and alopecia.<sup>14</sup>

In a study at the Dermatology department of a Medical College in north India among 1000 participants diagnosed/confirmed cases of skin diseases, 34.2% were diagnosed with definite Psychiatric comorbidity (Depression 36.32%, Anxiety disorder 18.41%, 7.96% with Somatoform disorder. Obsessive-compulsive disorder was diagnosed in 6.47%, followed by Adjustment disorder 4.98% Alcohol dependence syndrome 4.98%, Schizophrenia in 2.99% (N = 12) and Bipolar Affective Disorder 2.99%, no diagnosis was found in 14.93%.<sup>15</sup>

A cross-sectional study of 90 patients attending the dermatological clinic of the University of Port Harcourt Teaching Hospital, Southeast, Nigeria using (GHQ-12) reported a prevalence of 38% for psychiatric morbidity. Contrary to our findings, there was no significant relationship between the sociodemographic characteristics of the patients and psychiatric morbidity.<sup>16</sup>

In another study, 799 new adult patients attending the dermatology outpatients' clinic of a Southwest Nigeria University Teaching Hospital, Nigeria, were administered the Hospital Anxiety and Depression Scale. Of the total number of participants, 33.9% and 15.6% had various degrees of probable anxiety and depression respectively with an overall prevalence of 9.0%. There were no significant associations between the psychiatric morbidity and sociodemographic variables.<sup>17</sup>

The General Health Questionnaire used in this study does not measure specific psychiatric disorders. However, our results are compatible with most of the previous findings. These findings are relevant for clinical services because of the community's high prevalence of skin diseases.<sup>2</sup>

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## Conclusions

Given the high prevalence of dermatology patients that have psychiatric morbidity, dermatologists should consider incorporating mental health assessment into their patient evaluation. Measures to mitigate the influence of certain demographic and clinical characteristics associated with psychiatric morbidity should be considered.

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## Conflict of interest

The authors did not declare any conflicts of interest.

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## REFERENCES

1. Yakupu A, Aimaier R, Yuan B, Chen B, Cheng J, Zhao Y, et al. The burden of skin and subcutaneous diseases: findings from the global burden of disease study 2019. *Frontiers in Public Health*. 2023;11:1145513.
2. Urban K, Chu S, Giesey RL, Mehrmal S, Uppal P, Delost ME, et al. Burden of skin disease and associated socioeconomic status in Asia: a cross-sectional analysis from the Global Burden of Disease Study 1990-2017. *JAAD international*. 2021;2:40-50.
3. Kovitwanichkanont T, Chong AH, Foley P. Beyond skin deep: addressing comorbidities in psoriasis. *The Medical Journal of Australia*. 2020;212(11):528-34.
4. Henshaw E, Ibekwe P, Adeyemi A, Ameh S, Ogedegbe E, Archibong J, et al. Dermatologic practice review of common skin diseases in Nigeria. 2018;8(1):235-48.
5. World Health O, Public Health Agency of C. Preventing chronic diseases: a vital investment: World Health Organization; 2005.
6. Christensen RE, Jafferany M. Psychiatric and psychologic aspects of chronic skin diseases. *Clinics in Dermatology*. 2023;41(1):75-81.
7. Hunter HJA, Griffiths CEM, Kleyn CE. Does psychosocial stress play a role in the exacerbation of psoriasis? *British Journal of Dermatology*. 2013;169(5):965-74.
8. Cortés H, Rojas-Márquez M, Del Prado-Audelo ML, Reyes-Hernández OD, González-Del Carmen M, Leyva-Gómez G. Alterations in mental health and quality of life in patients with skin disorders: a narrative review. *International journal of dermatology*. 2022;61(7):783-91.
9. Bakare AT, Yusuf AJ, Habib ZG, Obembe A. Anxiety and depression: a study of people with leprosy In Sokoto, NorthWestern Nigeria. *Journal of Psychiatry S*. 2015;1:2-7.
10. Goldberg DP, Hillier VF. A scaled version of the General Health Questionnaire. *Psychological medicine*. 1979;9(1):139-45.
11. Sterling M. General health questionnaire-28 (GHQ-28). *Journal of physiotherapy*. 2011;57(4):259.
12. Oninla OA, Olasode OA, Onayemi O, Ajani AA. The prevalence and pattern of skin disorders at a university teaching hospital in Ile-Ife and Ilesha, Nigeria. *Clinical Medicine Insights Dermatology*. 2014;7:25.
13. Ayanlowo O, Puddicombe O, Gold-Olufadi S. Pattern of skin diseases amongst children attending a dermatology clinic in Lagos, Nigeria. *Pan African Medical Journal*. 2018;29(1):1-10.
14. 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;143(5):983-91.
15. Raikhy S, Gautam S, Kanodia S. Pattern and prevalence of psychiatric disorders among patients attending dermatology OPD. *Asian Journal of Psychiatry*. 2017;29:85-8.
16. Altraide DD, Okefor CU, Otiye-Odibi BI. Psychiatric Morbidity Among Dermatology Patients: A Hospital-based Cross-Sectional Study. *Journal of Dermatology and Dermatologic Surgery*. 2021;25(1):22-5.
17. Coker A, Ajose F. Psychiatric comorbidity in a dermatology outpatient clinic in a lagos tertiary hospital. *Age*. 2020;15(30):305.