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Original Research Article

Vitiligo and depression: an observational study in patients attending tertiary care centre

Preetam S. Katroliya[1], Devesh Vyas[2], Deepak Argal[1], Nishant Patel[2]*

[1]Department of Dermatology, SRVS Medical College, Shivpuri, Madhya Pradesh, India
[2]Department of Psychiatry, SRVS Medical College, Shivpuri, Madhya Pradesh, India

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***Correspondence:**
Dr. Nishant Patel,
E-mail: nishantpatelmbbs@gmail.com

ABSTRACT

Background: Vitiligo, a chronic skin disorder characterized by depigmentation and white patch formation, not only poses a cosmetic challenge but also imposes a significant psychological burden. The relationship between vitiligo and depression remains underexplored, despite growing recognition of their potential association. This observational study aimed to investigate the prevalence of depression and assess the quality of life (QoL) among patients with vitiligo attending a tertiary care center.

Methods: A cross-sectional study was conducted at the dermatology and psychiatry departments of SRVS Medical College, Shivpuri, involving 150 vitiligo patients aged 18 to 60 years. Participants were assessed using the patient health questionnaire (PHQ-9), vitiligo area scoring index (VASI), and dermatology life quality index (DLQI). Statistical analyses were performed using statistical package for the social sciences (SPSS) version 26.

Results: The mean age of participants was 38.55±14.82 years, with 69.3% being female. Nonsegmental vitiligo accounted for 84% of cases, and 42.6% had active disease. The mean DLQI score was 8.45±6.12, with female gender and active disease significantly associated with lower QoL scores. A strong correlation was observed between depressive symptoms and impaired QoL (DLQI). The prevalence of depression (PHQ-9 score ≥9) was 14.6%, with employed individuals showing a significantly higher prevalence compared to other groups.

Conclusions: Our findings highlight the significant burden of depression and impaired QoL among vitiligo patients attending a tertiary care center. Addressing the psychosocial aspects of vitiligo alongside its dermatological manifestations is crucial for optimizing patient care and enhancing overall well-being. Further longitudinal research is warranted to elucidate the complex relationship between vitiligo and depression.

Keywords: Depression, vitiligo, DQLI, Vasi, Phq-9

INTRODUCTION

Vitiligo, a chronic skin disorder characterized by depigmentation and the formation of white patches, poses not only a cosmetic challenge but also a significant psychological burden for those affected.[1] The condition results from the autoimmune destruction of melanocytes, leading to the loss of pigmentation in various areas of the skin.[2] Beyond the physical manifestations, the psychosocial impact of vitiligo cannot be understated, with many individuals experiencing stigma, social isolation, and altered self-esteem due to the visible nature of the disorder.[3]

While the dermatological aspects of vitiligo have been extensively studied, there is a growing recognition of the potential association between vitiligo and mental health issues, particularly depression.[4,5] The emotional toll of coping with a chronic and often unpredictable skin condition may contribute to the development or exacerbation of depressive symptoms. However, the relationship between vitiligo and depression remains a complex and underexplored aspect of dermatological research.

This observational study aims to investigate the prevalence of depression and assess the quality of life among patients with vitiligo attending a tertiary care center. By conducting a thorough examination of the mental health status of individuals grappling with vitiligo, we seek to shed light on the nuanced interplay between dermatological conditions and psychological well-being. Our research builds upon existing literature that highlights the psychosocial impact of visible skin disorders, emphasizing the need for a comprehensive understanding of the patient experience.

METHODS

This cross-sectional study was conducted from February 2023 to February 2024 at the dermatology and psychiatry departments of SRVS Medical College, Shivpuri, following approval from the Institutional Review Board. Written informed consent was obtained from all participants. A total of 150 subjects aged 18-60, diagnosed with vitiligo, were included in this study. The study involved recruitment from the outpatient department (OPD), adhering to predefined inclusion and exclusion criteria.

Inclusion criteria

Participants eligible for inclusion in this study were individuals who had received a confirmed diagnosis of vitiligo through clinical examination by a dermatologist or based on established diagnostic criteria. The study included individuals aged between 18 and 60 years. Additionally, participants were required to be willing to take part in the study and capable of providing informed consent.

Exclusion criteria

Individuals with severe dermatological conditions, other than vitiligo, that might independently impact mental health were excluded from participation. This included patients with a documented history of severe psychiatric disorders such as schizophrenia or bipolar disorder. Additionally, individuals who were currently receiving treatment with psychotropic medications for mental health conditions were not eligible to participate. Furthermore, individuals with serious medical conditions that could significantly affect their quality of life or contribute to psychological distress were excluded. Pregnant individuals were also excluded from the study.

The participants were assessed using three instruments: the patient health questionnaire (PHQ-9), vitiligo area scoring index (VASI), and dermatology life quality index (DLQI).

Patient health questionnaire

The patient health questionnaire (PHQ-9) was employed to assess the severity of depressive symptoms over the preceding two weeks. Participants rated the frequency of nine depressive symptoms on a scale from 0 to 3. Scores were calculated by summing up the scores for each column, and severity categories were interpreted using the PHQ-9 scoring box.[6]

Vitiligo area scoring index

Vitiligo area scoring index (VASI) involved a detailed assessment of body surface area involvement in vitiligo, with depigmentation estimated to the nearest percentage for each segment. Various categories, ranging from complete depigmentation (100%) to minimal depigmentation (10%), were used for scoring.[7]

The dermatology life quality index

It is a self-administered questionnaire developed to assess the impact of skin diseases on a patient's quality of life. It comprises 10 questions covering six domains: symptoms and feelings, daily activities, leisure, work and school, personal relationships, and treatment. Each question has four response options indicating the degree of impairment experienced by the patient. The total score ranges from 0 to 30, with higher scores indicating a more significant impact on quality of life.[8]

Statistical analysis

Data were collected, tabulated, and statistically analyzed using statistical package for the social sciences (SPSS) statistical package version 26 on an IBM-compatible personal computer. Quantitative data were described using mean±SD. Pearson’s correlation coefficient was used to test association between two quantitative variables. Independent t-test, Chi-squared test, and analysis of variance (ANOVA) were used to compare continuous and categorical data. All p values <0.05 were regarded as being statistically significant.

RESULTS

Demographic and clinical characteristics

A total of 150 individuals diagnosed with vitiligo participated in this study. Table 1 provides a summary of the demographic and clinical profiles observed within the study participants. The mean age of the patients was 38.55±14.82 years, with the majority (69.3%) being female. Non-segmental vitiligo was the most common type, accounting for 84% of cases. Approximately 42.6% of patients were identified as having active disease.

Dermatology life quality index

The mean dermatology life quality index (DLQI) score among participants was 8.45±6.12. Table 2 presents the results of the analysis investigating factors associated with QoL in vitiligo patients. Female gender and active disease were found to be significantly associated with QoL scores. Moreover, a high DLQI score was strongly correlated with depressive symptoms, as indicated by a PHQ-9 score of ≥9. However, no significant differences in DLQI scores were observed based on employment status, type of vitiligo.

Furthermore, a statistically significant correlation (Pearson correlation coefficient=0.438) was found between depression and QoL (DLQI). Patients experiencing depressive symptoms exhibited impaired QoL.

Depression

The mean PHQ-9 score among participants was 5.56±4.38. Of the total sample, 22 individuals (14.6%) had a PHQ-9 score of ≥9, while 93 had a score of 0–4 and 35 had a score of 5-8.

In Table 3, we present the factors found to be significantly correlated with depression among individuals diagnosed with vitiligo. Notably, a significantly higher prevalence of depression was observed among employed individuals compared to students, unemployed individuals, or retirees (p=0.035).

Table 1: Demographic characteristics of study participants.

Demographic data	Total (%)
Gender	
Male	46 (30.6)
Female	104 (69.3)
Age, mean±SD (years)	38.55±14.82
Marital status	
Married	68 (45.3)
Single	76 (50.6)
Divorced	6 (4)
Education	
Primary	30 (20)
Secondary	55 (36.6)
Undergraduate	44 (29.3)
Postgraduate	21 (14)
Doctoral	0
Occupation	
Housewife	43 (28.6)
Public servant	15 (10)
Business owner	12 (8)
Office worker	16 (10.6)
Unskilled labor	19 (12.6)
Unemployed/retired	20 (13.3)
Student	25 (16.6)
Type	
Segmental	24 (16)
Non-segmental	126 (84)
Disease activity	
Stable	86 (57.3)
Progressive	64 (42.6)
DLQI, mean±SD	8.45±6.12
PHQ-9, mean±SD	5.56±4.38

Table 2: Association of demographic and clinical factors with quality of life (DLQI).

Factors	Mean DLQI±SD	P value
Gender		
Male (n=46)	6.32±6.10	0.012
Female (n=104)	8.31±6.12	
Age (years)		
<30 (n=41)	8.21±6.52	0.122
30-59 (n=91)	6.34±4.76	
>60 (n=18)	5.45±5.34	

Continued.

Factors	Mean DLQI±SD	P value
Education		
Below undergraduate (n=85)	6.56±5.08	0.338
Undergraduate and above (n=65)	8.86±6.72	
Occupation		
Unemployed/retired/students (n=45)	6.75±5.86	0.071
Employed (n=105)	8.57±6.72	
Types of vitiligo		
Segmental (n=24)	8.58±7.84	0.473
Non-segmental (n=126)	6.19±4.93	
Disease activity		
Stable (n=86)	5.91±4.34	0.021
Progressive (n=64)	8.66±7.36	
PHQ-9 (depression; PHQ-9 ≥9)		
PHQ-9 <9	7.28±5.81	<0.001
PHQ-9 <9	14.00±5.63	

Table 3: Correlation of sociodemographic and disease factors with depression (PHQ-9) in vitiligo patients.

Factors	Number of cases PHQ-9 <9	Number of cases PHQ-9 ≥9	P value
Gender			
Male	36	10	1.122
female	78	26	
Age (years)			
<30	37	4	0.077
30-59	69	22	
>60	16	2	
Education			
Below undergraduate	71	14	0.612
Undergraduate and above	54	11	
Occupation			
Unemployed/retired/students (n=45)	42	3	0.035
Employed (n=105)	84	21	
Type			
Segmental	19	5	0.632
Non-segmental	108	18	
Disease activity			
Stable	79	7	0.082
Progressive	48	16	

DISCUSSION

The findings of this study provide valuable insights into the relationship between vitiligo and depression, shedding light on the significant burden of psychological distress experienced by individuals grappling with this dermatological condition. Our results reveal a notable prevalence of depression among patients attending a tertiary care center for vitiligo management, underscoring the need for holistic approaches to patient care that address both the physical and mental aspects of the disease.

The observed mean DLQI score of 8.45 indicates a moderate impairment in the QoL among individuals with vitiligo in our study.[8] This finding aligns with previous research highlighting the profound impact of visible skin disorders on various domains of life, including social interactions, daily activities, and emotional well-being.[9,10] The strong association between female gender and reduced QoL corroborates existing literature suggesting that women with vitiligo may experience heightened psychosocial distress due to societal beauty standards and cultural norms.[11-13] Active disease refers to a clinical state characterized by the rapid spread of new lesions, the presence of confetti-like depigmentation, as well as manifestations such as trichrome and Köebner phenomenon. Our investigation revealed that individuals with active vitiligo experienced notably higher DLQI scores, indicating a greater impact on their QoL compared to those with stable vitiligo. Similar findings were reported by Karelson et al who also observed a significant association between DLQI scores and the active stage of the disease.[14] Furthermore, our study elucidates a significant correlation between depression and impaired QoL in patients with vitiligo, emphasizing the interconnectedness of mental health and dermatological conditions.[15] The higher prevalence of depression among employed individuals compared to students, unemployed, or retired individuals underscores the potential role of occupational stressors and societal expectations in exacerbating psychological distress in this population.[16]

The mean PHQ-9 score of 5.56 in our study indicates a relatively low prevalence of clinically significant depressive symptoms among patients with vitiligo. However, it is essential to recognize that even subthreshold levels of depression can have a substantial impact on individuals' well-being and functioning. Therefore, proactive screening and early intervention strategies aimed at addressing mental health concerns in patients with vitiligo are warranted to mitigate the risk of progression to more severe psychiatric disorders.

Limitations

Limitations of this study include its cross-sectional design, which precludes causal inferences regarding the relationship between vitiligo and depression. Additionally, the study's reliance on self-reported measures of depression and quality of life may introduce response bias and underreporting of symptoms. Future longitudinal research incorporating objective clinical assessments and standardized diagnostic criteria for depression is needed to elucidate the temporal and mechanistic links between vitiligo and psychiatric comorbidities.

CONCLUSION

Our study underscores the importance of integrated dermatological and psychiatric care in the management of vitiligo, recognizing the multifaceted nature of the disease and its impact on patients' holistic well-being. By addressing the psychosocial dimensions of vitiligo alongside its dermatological manifestations, healthcare providers can optimize patient outcomes and enhance the overall quality of life for individuals living with this chronic skin disorder.

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