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RESEARCH ARTICLE

Clinical correlates of vitiligo with depression and anxiety: A comparative study in patients and their caregivers.

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Abstract

Background: Vitiligo is a chronic depigmentation disorder with an incidence of approximately 0.5% of the general population. Although physical discomfort due to vitiligo is rare, the disease affects the patient's personal and social life, producing a negative self-image and social stigmatization. Patients with vitiligo have been shown to have higher rates of depression, anxiety and impaired quality of life in adulthood. **Objectives:** The aim of this study was to determine the pattern of psychiatric morbidity in vitiligo patients treated at the dermatology outpatient clinic and to investigate the relation between anxiety, depression, social anxiety levels, and self esteem and disability in these patients. **Material and Methods:** Fifty patients with vitiligo were assessed in dermatology outpatient department of Shri Guru Ram Rai Institute of Medical and Health Sciences (SGRRIM &HS), Dehradun with Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I), Hospital Anxiety Depression Scale (HADS), Rosenberg Self-Esteem Scale (RSES), Liebowitz Social Anxiety Scale (LSAS) and Sheehan Disability Scale (SDS). Control group included caregivers who were matched to patients in terms of age, sex and education level. **Results:** In comparison to healthy controls, the rate of psychiatric morbidity was found to be higher and mean self-esteem score was found to be lower in the vitiligo group. There was no significant difference between groups in terms of social anxiety. Majority of the patients were mildly disabled. Among the vitiligo cases, psychiatric morbidity was found more frequent in female and young participants. Anxiety and social avoidance scores negatively correlated with age. **Conclusion:** These findings suggest that the rate of psychiatric morbidity is higher in patients with vitiligo than healthy control subjects. Patients with vitiligo treated at dermatology clinics should be assessed in terms of psychiatric disorders and psychiatric interventions may become necessary in the course of illness.

INTRODUCTION

Skin has a special position in psychiatry due to its responsiveness to emotional stimuli and expressivity of emotions such as anger, fear and shame. It has an important role in development of self-esteem and ego integrity (1). Relationship between skin and brain is based on both being originated from the same ectodermal structure and being under influence of same hormones and neurotransmitters (2). At this point, psychodermatology makes up a common area of interest based on the mutual relationship and interaction between psychiatry and dermatology (3).

Psychodermatological disorders can be classified under three main titles according to relationship between dermatological diseases and psychiatric disorders (3,4):
(i) Psychophysiological (psychosomatic) disorders (acne, alopesia areata, atopic dermatitis, psoriasis, psychogenic purpura, rosea, seborrheic dermatitis and urticaria etc.);
(ii) Conditions which the primary disorder is psychiatric but patient him/herself causes the skin disease (parasitosis delusion, dysmorphophobia, artificial dermatitis, neurotic itches, trichottilomania etc.);
(iii) Psychiatric disorders developing secondary to morphological changes caused by dermatological disorder (alopesia areata, cystic acne, hemangioma, ichtyosis, psoriasis, vitiligo etc.).

According to this classification, vitiligo which is in the third group is the most prevalently acquired pigmental disorder affecting 0.1-2% of the world population independent from race and gender (5). Although it does not cause physical disability or pain, it may have a substantial psychosocial impact on the functionality of patient and people with vitiligo have to struggle against feeling of embarrassment and low self-esteem more than other dermatological patients (6). Psychological effects of vitiligo may vary from person to person but it may cause problems up to severe loss of self-esteem and social anxiety in people with dark skin and with lesions in visible skin areas (7,8). Moreover, factors such as being in adolescence or young adulthood, female gender, living alone and low socio-economic status negatively affect adherence to the disease (9,10). In at least one third of patients, a psychiatric disorder, mainly affective and anxiety disorders accompany vitiligo (7,11,12).

Aim and Objectives:

Aim of this study is to investigate the anxiety and depression level, social anxiety and avoidance, self-esteem and functional losses of patients with vitiligo admitted to dermatology outpatient clinic and examine them for psychiatric morbidity by comparing to healthy control group (caregivers)

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Materials and Methods:

It was a case control study done between September 2013 and August 2014 ie.1 year at SGRRIM &HS, Dehradun. Vitiligo patients aged between 20 and 70 years old attending to Dermatology Outpatient Clinic of Shri Guru Ram Rai Institute of Medical and Health Sciences (SGRRIM &HS), Dehradun, were included in the study. Fifty patients (28 women, 22 men) with vitiligo who gave consent to participate in the study were recruited. Control group consisted of 50 (30 women, 20 men) people from hospital personnel and their caregivers who have no known dermatological or psychiatric disorders and similar to patients for age, gender and educational levels. Subjects with mental retardation, psychotic disorder, dementia, delirium and other amnestic disorders and who refused to participate in the study were excluded. A prior ethical clearance was taken from Institutional Ethical Committee before the commencement of this study.

Tools of Investigations:

Informed consent was taken and socio-demographic data questionnaires were given to the participants and following scales were administered:
1. Structured Clinical Interview for DSM-IV Axis I Disorders, Clinical Version (SCID-I): This is a structured clinical interview administered by interviewer to assess diagnosis of axis I psychiatric disorder according to DSM-IV (13). It can be administered by a trained interviewer to people over 18 years old who have adequate cognitive abilities to conduct this structured interview. This scale consists of six modules and examines 38 DSM-IV axis I disorders with diagnostic criteria and 10 axis I disorders without diagnostic criteria for "present" and "lifelong" options.
2. Hospital Anxiety and Depression Scale (HADS): This is a self-rating scale developed to determine the risk, level and change of severity of anxiety and depression in patients with somatic diseases and admitted to first level healthcare (14). It has anxiety (HAD-A) and depression (HAD-D) subscales and consists of 14 items. Seven of them assess anxiety and remaining seven items assess depression. It provides quadruple Likert type assessment. Cut-off point was taken as 10/11 for anxiety subscale and 7/8 for depression subscale. According to this, subjects receiving scores over this point are evaluated as risk group.
3. Rosenberg Self-Esteem Scale (RSE): The scale developed by Rosenberg (15) has 63 items and 12 subscales. First 10 items are used to assess self-esteem. In our study, self-esteem subscale consisting of 10 questions was used. This scale is a quadruple Likert type self-rating scale consisting of 10 items. If total score from first 10 items are 0-1 then self-esteem is evaluated as high, if the score is 2-4, it is evaluated as moderate, if 5-6 it is evaluated as low.

4. Liebowitz Social Anxiety Scale (LSAS): This scale was developed by Heimberg et al. (16). It was developed to determine fear and/or avoidance levels of patients with social anxiety disorder in case of social communication or performance. A total of 24 items are evaluated in quadruple Likert type for anxiety and avoidance subtitles separately.

5. Sheehan Disability Scale (SDS): This scale consists of "work", "social life/leisure time activities" and "family life/responsibilities at home" subscales and is used to determine disability in these domains. Scoring is done by the subject according to grading between 0 and 10. Impairment in different levels such as none (0), mild (1,2,3), moderate (4,5,6), evident (7,8,9) and very much (10) in this scale (17).

Statistical analyses of data were done by SPSS (Statistical Package for Social Science) version 17 software. Descriptive statistics were shown as mean and standard deviation values. Categorical comparisons were done by using chi square test. Correlation between age and subscales and total scale scores within groups were analyzed by Spearman correlation test. Level of significance was taken as $p<0.05$.

Results:

Socio-demographic characteristics of study groups can be seen in **Table 1.** Mean age in vitiligo and control group was 40.90±12.70 and 37.50±10.15, consecutively. There were no statistically significant differences between patients with vitiligo and healthy control group for age, gender, educational level, marital status and working status (Table 1).

		Vitiligo group (n=50)	**Control group (n=50)**	**P value**	
Age, Mean±SD		40.90±12.70	37.50±10.15	0.063	
		Vitiligo group (n=50)	**Control group (n=50)**	**χ2**	**P value**
Gender	Female (%)	28(56%)	30(60%)	0.86	0.44
	Male (%)	22(44%)	20(40%)		
Marital status	Married (%)	31(62%)	27(54%)	0.67	0.57
	Unmarried (%)	19(38%)	23(46%)		
Educational level	Primary school and lower (%)	08(16%)	10(20%)	7.04	0.11
	Secondary school (%)	07(14%)	02(4%)		
	High school or equivalent (%)	10(20%)	08(16%)		
	Undergraduate (%)	10(20%)	12(24%)		
	Graduate (%)	15(30%)	18(36%)		
Work status	Working (%)	33(66%)	28(56%)	0.12	0.66
	Non working (%)	17(34%)	22(44%)		

Table 1: Socio demographic characteristics of vitiligo cases and control groups

SCID-I		**Vitiligo group (n=50)**	**Control group (n=50)**	**χ2**	**P value**
Diagnosis : Present/Absent		27/23	06/44	6.76	0.013
Diagnosis	Major depression	12	03		
	Dysthymic disorder	04	01		
	Social phobia	03	-		
	Specific phobia	02	-		
	Alcohol addiction	02	-		
	Generalized anxiety disorder	04	02		

Table 2: Comparison of vitiligo and control groups according to SCID-I diagnoses and distribution of diagnoses.

When presence of a psychiatric diagnosis was compared between vitiligo and control groups after interviews with SCID-I, prevalence of a psychiatric disorder in vitiligo group (n=27; 54%) was found higher than control group (n=6; 12%) and difference between groups was statistically significant (p<0.05). Distribution of diagnoses by SCID-I were shown in **Table 2** in detail for both groups. Major depression was the most prevalent diagnosis of note.

According to Rosenberg Self-Esteem Scale (RSE) scores, self-esteem of vitiligo groups was found statistically significantly lower than control group (p<0.01). No statistically significant difference was found between HADS and LSAS scores of two groups **(Table 3).**

Cases from vitiligo group were classified according to disability levels in **Table 4** and most of the cases reported mild disability at all three life domains.

		Vitiligo group (n=50) Mean±SD	Control group (n=50) Mean±SD	P value
RSE		0.99±0.90	1.75±1.50	P<0.001
HADS	**Anxiety**	4.78±2.40	7.05±3.80	P=0.12
	Depression	4.50±2.12	6.95±4.25	P<0.05
LSAS	**Anxiety**	15.80±8.80	14.70±8.78	P=0.55
	Avoidance	12.30±9.33	15.65±9.52	P<0.05

Table 3: Comparison of vitiligo and control groups according to scores from Rosenberg Self-Esteem Scale (RSE), Hospital Anxiety and Depression Scale (HADS) and Liebowitz Social Anxiety Scale (LSAS) and their correlations with age.

	Work life	Family life	Social life
Mild	42	45	40
Moderate	04	03	06
Severe	04	02	04

Table 4: Distribution of cases according to Sheehan Disability Scale (SDS) in vitiligo group

Discussion:

We found in our study that first axis psychiatric disorders were more frequent in vitiligo group than control group. Major depression was the most prevalent diagnosis of note. Self-esteem was also found statistically significantly lower in vitiligo group than control group. No statistical difference was found between anxiety, depression and social depression scores. Negative correlation was found between age and anxiety and social withdrawal scores in correlation analysis. In several studies, psychiatric disorders were reported to be observed more in people with dermatological diseases (18). In a study done in cases with vitiligo, 40% of cases were found to be depressive and had low self-esteem (19). In the study of Sukan and Maner (11) which they compared patients with vitiligo and chronic urticaria for SCID-I diagnoses, they found high prevalence of psychiatric morbidity such as social phobia (26%), dysthymia (26%), obsessive compulsive disorder (26%) and specific phobia (36%) in cases with vitiligo. In the study of Mattoo et al. (7) which 113 vitiligo cases and 55 healthy controls were assessed with general health questionnaire, psychiatric morbidity prevalence was found 25% in vitiligo cases and concluded that vitiligo is correlated with high psychiatric morbidity. Sharma et al. (18) evaluated psychiatric morbidity by examining 30 newly diagnosed and untreated psoriasis or vitiligo patients between 18 and 60 years old by Hindu Version of General Health Questionnaire and found psychiatric morbidity in 53.3% of patients with psoriasis and in 16.2% of patients with vitiligo.

In our study, we found a psychiatric disorder in 54% of vitiligo cases and majority of them were affective or anxiety disorders. This finding is consistent with current literature. This finding suggests that people with vitiligo are under risk of psychiatric disorders. Healthy and normal skin is important for physical and mental health of people and has an important role in development of self-esteem (20). In a study done in Turkey which patients with vitiligo and urticaria were compared to control group, self-esteems of both patients groups were found significantly lower than control group (21). In another study, 16 vitiligo cases were evaluated by RSE. Patients having low self-esteem were divided into two groups and cognitive-behavioral therapy was administered to one group. When patients were re-

evaluated at the end of the study, significant elevation of self-esteem and decreasing of lesions were observed in the group receiving psychotherapy (22). In our study, self-esteem evaluated by RSE was found lower in vitiligo group which is consistent with the literature. This finding supports the mutual agreement of negative effects of dermatological diseases such as vitiligo which affect body image without physical disability or pain on self-esteem and self-respect.

In a study with a large sample (n=610), HADS was used and depressive symptoms in 4% and anxiety symptoms in 22% of patients vitiligo were found over cut-off score (23). Prcic et al. (24) compared 33 adolescent vitiligo patients and 60 healthy controls and found no significant difference between depression and anxiety scores. In our study, HADS scores from anxiety and depression subscales of vitiligo group were higher than control group but difference was not found statistically significant. Different results were reported in the related literature. Comprehensive studies with higher number of patients will give us more information about this issue.

In another study, psychiatric morbidity was found more frequent in women and singles than men and married people (25). In our study, psyhcopathology was found more frequent in women than men which is consistent with literature. In a study which vitiligo cases were evaluated by general health questionnaire and open-ended questions, it was seen that quality of life and self-esteem decrease, but psychiatric morbidity and perceived stigmatization increase, by lower ages (26). In our study, anxiety and avoidance sub scores of social anxiety scale increase but no correlation between depression and self-esteem and age was detected. Thoughts and judgment about how a person is appraised by others have important roles in the development of social anxiety. Self-esteem and depression concepts have wider dimensions compared to social anxiety. Inner appraisal instead of appraisal by outer world and environment affect these concepts. Body image makes up an important portion of self-esteem in adolescence but decreases by increasing age.

Conclusion:

Our findings showed that prevalence of psychiatric morbidity is higher in vitiligo cases than healthy controls. This risk seemed to be higher in young-middle aged people and women and patients having wider lesions and lesions in visible areas. All vitiligo patients should be screened for psychiatric morbidity if possible and case should be evaluated in collaboration with psychiatry for better outcomes. Psychiatric support should be considered as first-line especially in risk groups.

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