

Psychological Morbidity in Vitiligo-A Case Control Study

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Abstract

Background: Vitiligo is associated with various psychiatric comorbidities. Various studies have showed prevalence ranging from 34% to 75%. Vitiligo can greatly affect the quality of life of patients and psychiatric comorbidities can further worsen it. Thus there is need to recognise psychiatric comorbidities and treat them in these patients.

Aims: The aims of our study were to determine the psychiatric morbidity and the Quality of Life (QOL) in patients suffering from vitiligo and to determine the factors related with psychiatric morbidity and those affecting the QOL in these patients.

Methods: 50 patients of age range 18 – 65 years with disease duration of 1-26 years attending the vitiligo clinic in dermatology outpatient department of a tertiary care hospital were included and 50 persons with no dermatological or diagnosed psychiatric illness accompanying them served as control group. They were diagnosed for psychiatric disorders as per DSM-IV TR, if present. Scales used were Body Surface Area (BSA), WHO-Quality of Life (WHO-QOL) scale, General Health Questionnaire (GHQ), Hamilton rating scales for Anxiety and Depression (HAM-A and HAM-D).

Results: 30% patients in vitiligo group suffered from psychiatric disorder, depression was present in 20% of patients and 8% had anxiety disorders. QOL scores had negative correlation with BSA, GHQ, HAM-A and HAM-D scores and they were statistically significant.

Conclusions: Thus it was found that vitiligo patients had more psychiatric comorbidities as compared to control group and it had bearing on their quality of life too.

Keywords: Vitiligo; Psychiatric comorbidity; Quality of life

Introduction

Vitiligo is a chronic dermatological disorder characterized by hypopigmentation or depigmentation of skin and mucosa, onset of which is often correlated with certain personality characteristics, stress, illness and personal crisis. There is possible relationship between stress and the development of vitiligo as psychological stress increases the level of neuroendocrine hormones which activate the immune system and increase the level of neuropeptides subsequently. These physiopathological changes may be the initiating or exacerbating factors for pathogenesis of vitiligo. The sense of being stigmatized or being different from others is a common reaction and may affect the person's interpersonal and social behavior, which may increase the risk of depression and other psychosocial disorders [1-3]. About 75% of vitiligo patients found their disfigurement intolerable [4]. The prevalence of psychiatric morbidity as assessed by researchers in patients of vitiligo was found to be 16.2%; prevalence of depression was 10% and of anxiety was 3.3% [5]. Around 34% of patients having vitiligo developed psychiatric morbidity in a study conducted by other researchers in India. It included adjustment disorder (56%), depressive episode (22%) and dysthymia (9%) [6]. A clinical prevalence of 48% of psychiatric morbidity was found among 180 patients of vitiligo in yet another paper [7].

The skin, the most visible organ, determines to a great extent our appearance and plays a major function in social and sexual communication. Appearance is important in our society and it influences the way we are perceived by others. Skin diseases causing an altered or impaired appearance may profoundly affect those afflicted. Aside from causing physical discomfort and inconvenience, it has been demonstrated that they influence the patient's personal and social life, daily functioning and psychological status. Skin disease may provoke negative emotions such as shame or embarrassment, anxiety, lack of confidence and even psychiatric diseases like depression. The patients' self-image may be profoundly depressed and his self-esteem threatened. Aside from discomfort in social relationships, patients may experience

inferiority, feel discriminated against and stigmatized. Thus, regardless of psychiatric morbidity, skin diseases particularly vitiligo can greatly affect patient's quality of life (QOL) [8].

The aims of our study were to determine the psychiatric morbidity and the Quality of Life (QOL) in patients suffering from vitiligo and to determine the factors related with psychiatric morbidity and those affecting the QOL in these patients.

Methodology

50 patients of age range 18–65 years with disease duration of 1-26 years attending the vitiligo clinic in dermatology outpatient department of a tertiary care hospital were included and 50 persons with no dermatological or diagnosed psychiatric illness accompanying them served as control group. Patients with chronic debilitating diseases such as cancer, liver, renal and cardiac diseases, hypertension, diabetes and pregnant/ lactating women were excluded.

The study was approved by the Institutional Ethics Committee and all subjects were recruited after obtaining a written informed consent. The demographic profile was collected in the semi-structured proforma and following data were collected:

1. The phenomenology of the vitiligo including age of onset, duration, course of illness and treatment details were taken.

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2. The phenomenology of the psychiatric disorder, if present, including its age of onset, duration, course and treatment details were taken by detailed history taking and diagnosis was made according to DSM- IV TR (Diagnostic and Statistical Manual of Mental Disorders) [9].
3. Body Percentage of Surface Area (BSA) involved according to the rule of nines was used to calculate extent of body area affected by vitiligo.
4. Quality of life was assessed by WHO-Quality of Life BREF questionnaire.
5. General Health Questionnaire (GHQ-28) was administered for objective evaluation of psychological distress.
6. Hamilton Rating Scale for Anxiety and Depression (HAM-A & HAM-D) were administered for calculating severity of anxiety and depression respectively.

WHO-QOL BREF

The WHO QOL-BREF is an abbreviated version of the WHO QOL-100 which was developed simultaneously in 15 field centres around the world. It is a self administered instrument and takes into consideration physical, psychological, social relationships and environmental domains of quality of life and gives sub scores on above mentioned domains. It consists of 26 items, scored on 5 point Likert scale. The score ranges from 0 to 400. Each domain has maximum score of 100 [10].

GHQ-28

The GHQ-28, developed by Goldberg in 1978, is a 28 item questionnaire developed as screening tool to detect those likely to have or to be at risk of developing psychiatric disorder. It has been divided into 4 subscales: somatic symptoms (items 1-7), anxiety/ insomnia (items 8-14), social dysfunction (items 15-21) and severe depression (22-28). Each item is accompanied by 4 possible responses: Not at all, No more than usual, Rather more than usual and Much more than usual. There are different methods to score the GHQ-28. It can be scored from 0 to 3 for each response with a total possible score ranging from 0 to 84. Using this method, a total score of 23/24 is the threshold for presence of distress. Alternatively it can be scored by binary method: Not at all and No more than usual score 0, rather more than usual and much more than usual score 1. Using this method any score more than 4 indicates presence of distress [11].

HAM-A

The HAM-A was one of the first rating scales developed to measure the severity of anxiety symptoms, and is still widely used today in both clinical and research settings. The scale consists of 14 items, each defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0-56, where <17 indicates mild severity, 18-24 mild to moderate severity and 25-30 moderate to severe [12].

HAM-D

The original HAM-D included 21 items, but Hamilton pointed out that the last four items (diurnal variation, depersonalization/derealization, paranoid symptoms, and obsessive compulsive symptoms) should not be counted toward the total score because these

symptoms are either uncommon or do not reflect depression severity. Therefore, the 17-item version of the HAM-D has become the standard for clinical trials and, over the years, the most widely used scale for controlled clinical trials in depression. The total score is obtained by summing the score of each item, 0-4 (symptom is absent, mild, moderate, or severe) or 0-2 (absent, slight or trivial, clearly present). For the 17-item version, scores can range from 0 to 54. It is accepted by most clinicians that scores between 0 and 6 do not indicate the presence of depression, scores between 7 and 17 indicate mild depression, scores between 18 and 24 indicate moderate depression, and scores over 24 indicate severe depression. A total HAM-D score of 7 or less after treatment is for most raters a typical indicator of remission. A decrease of 50% or more from baseline during the course of the treatment is considered indicator of clinical response, or in other words, a clinically significant change [13].

Statistical Analysis

The data obtained was entered into MS Excel sheet. Data analysis was done with the help of SPSS Version 20. The tests used were the ANOVA, chi square test, Student's t test and correlation was analyzed using Pearson's correlation coefficient. Two - tailed 'p' value was obtained for all statistical analysis and score of $p \leq 0.05$ was considered as statistically significant.

Results

The mean age was 33.60 and 32.84 years in vitiligo and control groups respectively. Males and females comprised 44% and 56% in vitiligo group and 28% and 72% in control group. Hindus were in majority in both groups. Vitiligo and control groups both had 64% married people. The mean years of learning were 8.16 years in vitiligo group and 8.40 years in control group. Majority of them were housewives in both the groups (40% and 48% respectively). The mean duration of illness in vitiligo patients was 5.95 years (range 1-23 years) with mean BSA score being 13.22 (1-70). 30% patients in vitiligo group suffered from psychiatric disorder while only 6% in control group and difference was statistically significant. Depression was present in 20% of vitiligo patients and 8% had anxiety disorders while in control group, anxiety disorders seen in 4% and none had depression. Both group had one patient suffering from schizophrenia. Severity of vitiligo had statistically significant bearing on psychiatric comorbidity in these patients as mean BSA score in patients with psychiatric morbidity was 20.67 and 10 in those without psychiatric morbidity (Table 1). The rates of substance use were higher in vitiligo group (10%) while none in control. The mean WHO-QOL scores was lower in vitiligo group and the difference was statistically significant ($p=0.03$) (Table 2). QOL was poorer in vitiligo patients having psychiatric comorbidity (statistically significant) and it affected all the 4 domains of QOL ($p<0.01$) (Table 3). QOL scores had negative correlation with GHQ, HAM-A, HAM-D and severity scores and they were statistically significant ($p<0.01$) (Table 4).

Discussion

In our study the patients in the vitiligo group were in the age group of 18 -65 years and this was more in our study as compared to that reported in previous studies [2,13-15], where mean age was in second decade of life. There were more females in both the groups. This was in accordance to studies reported in the past [2,5,13,15,16]. The duration of skin illness in our study was much less than other studies [17]. The less average duration in vitiligo group might be due to increased concern about the lesions by the patients as they were of younger age group females who are more concerned about their looks.

Duration of vitiligo	Psychiatric condition	
	Present (N=15)	Absent (N=35)
Mean	6.33	5.79
SD	4.271	4.770
Unpaired t test t(48)= 0.383 p=0.703 Not significant		
BSA	Psychiatric condition	
	Present (N=15)	Absent (N=35)
Mean	20.67	10.03
SD	19.598	10.545
Unpaired t test t(48)= 2.496 p= 0.016 Significant		

Table 1: Comparison of duration and BSA scores in vitiligo patients suffering from psychiatric illness and those not suffering.

WHO-QOL Total	Vitiligo	Control
Mean	240.72	265.56
Std. Deviation	61.383	50.795
Range	38-350	157-350
ANOVA F=4.860, df=1, p=0.03, Significant		

Table 2: WHO-QOL scores.

WHO- QOL Score	Psychiatric condition	
	Present (N=15)	Absent (N=35)
Physical Domain	Mean	43.80
	SD	15.920
	Unpaired t test t(48)= -5.143 p< 0.01 Significant	
Psychological Domain	Mean	45.40
	SD	18.469
	Unpaired t test t(48)= -4.757 p< 0.01 Significant	
Social Relationship Domain	Mean	44.53
	SD	24.862
	Unpaired t test t(48)= -4.484 p< 0.01 Significant	
Environmental Domain	Mean	48.93
	SD	17.625
	Unpaired t test t(48)= -4.257 p< 0.01 Significant	
Total Quality of Life	Mean	182.67
	SD	66.391
	Unpaired t test t(48)= -5.553 p< 0.01 Significant	

Table 3: Comparison of WHO-QOL scores between persons suffering from psychiatric illness and those not suffering in vitiligo group.

WHO- QOL TOTAL	GHQ Total	HAM-A	HAM-D	BSA Score
Vitiligo (N=50)	-0.623** p<0.01 significant	-0.625** p<0.01 significant	-0.670** p<0.01 significant	-0.355** p=0.011 significant

Table 4: Correlation of quality of life with psychiatric comorbidity and severity of vitiligo.

30% patients suffered from psychiatric comorbidity with depression (20%) being the major disorder in our study followed by anxiety disorder (8%). A study found psychiatric illness in 34% of vitiligo patients with anxiety in 12% and depression in 22% patients [15]. The prevalence of psychiatric morbidity as assessed in patients of vitiligo was found to be 16.2%; prevalence of depression was 10% and of anxiety was 3.3% [5]. Around 34% of patients having vitiligo developed psychiatric morbidity in a study conducted in India. It included adjustment disorder (56%), depressive episode (22%) and dysthymia (9%) [6]. A clinical prevalence of 48% of psychiatric morbidity in another study was found among 180 patients of vitiligo [7]. A study by Ahmed et al. [14] found psychiatric comorbidity in 42% of patients with major depression and anxiety disorders being main comorbidity. Another study by Rashid et al. [16] found psychiatric comorbidity of 24%. These values are comparable with our study.

Also we found that QOL was poorer in patients with psychiatric disorders compared to those not having it and also it was affected by severity of psychiatric illness. Similar findings were found by other authors [15,18,19]. The poorer quality of life might be due to dark skin color and light coloured vitiligo patch causing much stress and guilt among patients and they feeling shame in facing society due to disfigurement. Also vitiligo is considered to be as unclean disease or white leprosy (Sewta Kushtha) by some people [20].

Our study was limited by its cross-sectional nature and also patients were not followed up to see the effects of treating psychiatric comorbidities. Also control group comprised of accompanying persons and their psychological might be influenced by the illness of the patients.

References

- Mattoo SK, Handa S, Kaur I, Gupta N, Malhotra R (2002) Psychiatric morbidity in vitiligo: prevalence and correlates in India. *J Eur Acad Dermatol Venereol* 16: 573-578.
- Zandi S, Farajzadeh S, Saberi N (2010) Effect of vitiligo on self reported quality of life in Southern part of Iran. *Journal of Pakistan Association of Dermatologists* 21: 4-9.
- Al'Abadie MS, Kent GG, Gawkrödger DJ (1994) The relationship between stress and the onset and exacerbation of psoriasis and other skin conditions. *Br J Dermatol* 130: 199-203.
- Salzer BA, Schallreuter KU (1995) Investigation of the personality structure in patients with vitiligo and a possible association with impaired catecholamine metabolism. *Dermatology* 190: 109-115.
- Sharma N, Koranne RV, Singh RK (2001) Psychiatric morbidity in psoriasis and vitiligo: a comparative study. *J Dermatol* 28: 419-423.
- Mattoo SK, Handa S, Kaur I, Gupta N, Malhotra R (2001) Psychiatric morbidity in vitiligo and psoriasis: a comparative study from India. *J Dermatol* 28: 424-432.
- Martín MR, Meliá JN, Rodríguez MS, Cabrera AN, Bustáduy MG (2012) Assessment of psychiatric disorders in vitiligo. Considerations for our daily practice. *Our Dermatol Online* 3: 61-62.
- Ongenaes K, Beelaert L, van Geel N, Naeyaert JM (2006) Psychosocial effects of vitiligo. *J Eur Acad Dermatol Venereol* 20: 1-8.
- American Psychiatric Association (2000) Diagnostic and Statistical Manual for the Classification of Psychiatric Disorder 4th edition text revised (DSM-IVTR). American Psychiatric Publishing.
- http://www.who.int/mental_health/media/68.pdf
- Goldberg D (1978) Manual of the General Health Questionnaire. Windsor: NFER- Nelson.
- Hamilton M (1959) The assessment of anxiety states by rating. *Br J Med Psychol* 32: 50-55.
- Cusin C, Yang H, Yeung A, Fava M (2009) Rating Scales for Depression. In: Baer L, Blais MA, editors. *Handbook of Clinical Rating Scales and Assessment in Psychiatry and Mental Health*. Current Clinical Psychiatry.
- Ahmed I, Ahmed S, Nasreen S (2007) Frequency and pattern of psychiatric disorders in patients with vitiligo. *J Ayub Med Coll Abbottabad* 19: 19-21.
- Saleh HM, Salem SAM, El-Sheshetawy RS, El-Samei AMA (2008) Comparative Study of Psychiatric Morbidity and Quality of Life in Psoriasis, Vitiligo and Alopecia Areata. *Egyptian Dermatology Online Journal* 4: 2.
- Rashid HA, Mullick SI, Jaigirdar QH, Ali R, Nirola DK, et al. (2011) Psychiatric Morbidity in Psoriasis and Vitiligo in Two Tertiary Hospitals in Bangladesh. *BSMMU J* 4: 88-93.
- Devrimci-Ozguven H, Kundakci TN, Kumbasar H, Boyvat A (2000) The depression, anxiety, life satisfaction and affective expression levels in psoriasis patients. *J Eur Acad Dermatol Venereol* 14: 267-271.
- Sampogna F, Picardi A, Chren MM, Melchi CF, Pasquini P, Masini C, Abeni D (2004) Association between poorer quality of life and psychiatric morbidity in patients with different dermatological conditions. *Psychosom Med* 66: 620-624.

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19. Mechri A, Amri M, Douarika AA, Ali Hichem BH, Zouari B, et al. (2006) [Psychiatric morbidity and quality of life in Vitiligo: a case controlled study]. *Tunis Med* 84: 632-635.
20. Falabella R (2009) Vitiligo and the melanocyte reservoir. *Indian J Dermatol* 54: 313-318.