Study on Assessment of Quality of Life and Depression in Patients of Vitiligo

Abstract

Context: Vitiligo is an autoimmune pigmentary disorder characterized by localized or generalized depigmentation of the skin. It is associated with significant stigma and has impact on patient's quality of life (QoL) and psychological wellbeing. **Aims:** To see the variance in QoL and level of depression in vitiligo patients with extent of vitiligo. **Materials and Methods:** Vitiligo patients aged ≥18 years attending OPD were included in the study. Impairment in QoL was assessed by administering DLQI (Dermatology Life Quality Index) and VIS22 (Vitiligo Impact Scale22). Depression was assessed by administering QIDSSR16 (Quick Inventory of Depressive Symptomatology). The Vitiligo Area Scoring Index (VASI) was calculated based on clinical examination. **Results:** One hundred and fifty patients enrolled. Most common age group was 18–30 years. Mean DLQI, VIS22, QIDSSR16 scores were 7.02, 16.37, 5.87, respectively. QoL was affected to some extent in 85.3% and 86.7% according to the DLQI and VIS22, respectively. Depression was seen in 44%. **Conclusion:** Young patients showed higher impairment in QoL and also higher levels of depression. It would be useful to offer psychiatric consult and counseling in addition to specific treatment.

Keywords: *Depression, Dermatology Life Quality Index, quality of life, Vitiligo Area Scoring Index, Vitiligo Impact Scale-22*

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Introduction

Vitiligo, though considered just a cosmetic problem, affects a person's emotional and psychological well-being and has major consequences on patient's life.[1] The sense of being stigmatized may affect a person's interpersonal and social behavior, which in turn increases the risk of depression.[2] Previous studies have assessed quality of life (QoL) in vitiligo patients in India, but there are no studies assessing disease-specific QoL in vitiligo.[2,3] The objective of the current study was to see the variance in QoL and level of depression in vitiligo patients with extent of vitiligo.

Materials and Methods

This cross-sectional study was carried in the Department of Dermatology at a tertiary care center after getting ethics approval from the Institutional Ethics Committee. The calculated sample size in our study was 151 assuming proportion of people with affected QoL as 50% and acceptable difference of 0.08 (convenient sampling). All consenting patients aged ≥18 years with clinical diagnosis of vitiligo were included. Patients with depigmented patches due to causes other than vitiligo and patients with known/previously diagnosed psychiatric conditions were excluded from the study. The Vitiligo Area Scoring Index (VASI)[4] was used to assess severity of illness, general impairment in QoL was measured using the Dermatology Life Quality Index (DLQI),[5] disease-specific QoL was measured using the Vitiligo Impact Scale-22 (VIS-22).[6] Current level of depression was evaluated using the Quick Inventory of Depressive Symptomatology-Self Report (QIDS-SR-16).[7] English/vernacular language versions of scales were used based on patient's preferred language. Translation of the DLQI and VIS-22 into vernacular language was done using the translation-back translation method (vernacular version of the QIDS-SR-16 is available on their official website).

Statistical methods used

Categorical data were presented with proportions and descriptive statistics. The comparison of quantitative data across categories was done with the independent

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sample t-test and association of two categorical variables was done using the Chi-square test. The correlation of two continuous variables was found using correlation coefficient. Comparison of continuous variables across more than two categories was done by the analysis of variance (ANOVA) test and *post hoc* tests. “P” value <0.05 was considered significant.

Results

Total 150 patients (83 females) were included in this study. About half of the study population (52%) was young (18–30 years), more than half (66.7%) were married, and half of the population (50.7%) had progressive disease. The VASI scores ranged between 0.125 and 95 [Table 1].

Using DLQI, 52 (34.7%) patients were found to have small effect on QoL while 39 (26%) had moderate, 35 (23.3%) had very large, and 2 (1.3%) had extremely large effect on QoL. Using VIS-22, 81 (54%) patients had small effect on QoL while 42 (28%) had moderate, 7 (4.7%) had very large, and none of them having extremely large effect on QoL. No or minimal effect on QoL was almost equal on both the scales, respectively [DLQI (14.7%) and VIS-22 (13.3%)].

Variance in DLQI, VIS-22, and QIDS-SR-16 scores with socio-demographic variables and disease-specific variables are shown in Table 1. While on DLQI there was no difference by age (P value 0.07), on VIS-22 the 18–30-year age group scored significantly higher (P value 0.03). Patients with regressive vitiligo had statistically significantly less mean scores on DLQI and VIS-22 as compared to patients with stable or progressive vitiligo (P values 0.014 and 0.006). The mean scores of DLQI and VIS-22 were higher in patients with lesions of vitiligo over exposed parts and patients with positive family history, but the difference was not statistically significant. On VASI score-based categorization (≤5 and >5) of DLQI and VIS-22 scores we found no significant difference.

Analysis of the individual items of the DLQI found that symptoms and feeling item was highest endorsed with mean (±SD) of 0.94 (0.68) followed by daily activity and leisure with mean (±SD) of 0.73 (0.75) and 0.72 (0.75), respectively. Least affected item was personal relationship with a mean (±SD) of 0.53 (0.63).

Analysis of the individual items of the VIS-22 found that patients endorsed the following items in higher frequencies: feeling worried when they develop a new lesion (n = 132,88%), keep on thinking about the disease (n = 116,77.3%), bothered by advice and suggestions from others (n = 108,72%), bothered about the amount of money spent on the treatment (n = 99,66%), observing some kind of dietary restriction (n = 97,64.7%), feeling vitiligo is the

Table 1: Variance in DLQI, VIS-22, QIDS-SR-16 scores with socio-demographic variables and disease-specific variables

	n (%)	Mean DLQI (±SD)	Mean VIS (±SD)	Mean QIDS (±SD)
Total	150 (100)	7.02 (5.58)	16.37 (9.57)	5.87 (4.8)
Sex				
Male	67 (44.7)	7.07 (5.78)	16.42 (9.57)	5.78 (4.91)
Female	83 (55.3)	6.98 (5.44)	16.34 (9.64)	5.95 (1.73)
Age category				
18-30 years	79 (52.7)	7.89 (6.03)	18.29 (9.82)	6.92 (5.14)
31-49 years	50 (33.3)	5.56 (4.3)	14.52 (8.84)	4.84 (4.19)
>50 years	21 (14)	7.23 (6.01)	13.57 (9.15)	4.38 (4.03)
Marital status				
Married (total)	100 (66.7)	6.92 (5.44)	15.55 (9.25)	5.03 (4.23)
Unmarried (total)	49 (32.7)	7.24 (5.94)	17.92 (10.16)	7.37 (5.31)
Divorcee (female)	1 (0.7)	6	23	17
Stability				
Progressive	76 (50.7)	6.05 (5.35)	14.88 (8.76)	5.18 (4.78)
Stable	61 (40.7)	8.59 (5.52)	19.2 (10.17)	6.97 (4.99)
Regressive	13 (8.7)	5.31 (5.78)	11.85 (7.99)	2.89 (2.89)
Involved areas				
Involves only covered areas	42 (28)	5.71 (5.58)	15.31 (9.05)	5.5 (5.23)
Involves uncovered areas	108 (72)	7.53 (5.52)	16.79 (9.78)	6.02 (4.64)
Family history				
Positive	56 (37.3)	7.39 (4.85)	18.04 (8.45)	6.25 (4.58)
Negative	94 (62.7)	6.8 (5.98)	15.38 (10.09)	5.65 (4.93)
VASI score				
≤5.0	136 (90.67)	6.74 (5.6)	15.98 (9.52)	5.76 (4.76)
>5.0	14 (9.34)	9.71 (4.5)	20.21 (9.5)	7.0 (5.17)

SD = Standard deviation

worst disease (*n* = 86,57.3%), and having problem wearing clothes of their choice (*n* = 75,50%).

Using the QIDS-SR-16 scale, 66 (44%) patients of vitiligo screened positive for depression. Mild depression was seen in 23.3% patients, while moderate, severe, and very severe depressions were seen in 16%, 4.7%, and 0% patients, respectively. Mean QIDS-SR-16 score was significantly higher in the 18–30-year age group (*P* value 0.02) [Table 2]. Almost half of the patients (*n* = 41,51.7%) in this sub-group were depressed. Suicidal ideation was seen in 35 (23.33%) patients in this study using the QIDS-SR-16 scale suicidal ideation question. Endorsement of suicidal ideations was highest in the age group of 18–30 years (*n* = 22,27.8%). QoL was significantly worse in patients who were depressed (*P* values <0.001 for DLQI and VIS-22) [Table 3].

VASI was significantly correlating with DLQI but poorly correlating with VIS-22 scores (*n* = 150). VIS-22 was significantly correlating with DLQI (*n* = 150, Pearson correlation value 0.7). Significant correlation was observed between VASI and QoL (DLQI, VIS-22) when patients with a VASI score of ≤5.0 were included (*n* = 136). Other 14 patients were excluded from this correlation analysis as they had a very high VASI scores, few of them having scores >80 and significantly hampering correlation analysis.

Discussion

Vitiligo, considered a cosmetic problem, affects person's emotional and psychological well-being.[1] Concerns and worries of the patient's family members about the condition also add to the mental trauma experienced by the patient.

Earlier studies across the globe have reported mean DLQI scores ranging from 1.82 to 14.72.[7-14] Mean (SD) DLQI in our study was 7.02 (5.57) which can be interpreted as moderate effect of the illness on QoL. This finding was similar to other studies.[8,11] Lack of effect of gender on QoL in our population was consistent with previous studies.[10,14] While several other studies have shown higher impairment of QoL in female patients and attributed it to sensitivity toward their appearance.[9,13,15]

Patients in the age group of (18–30 years) had highest mean DLQI (±SD) of 7.88 (6.03). This is similar to other studies.[10,16] This is the age group who are more concerned about their appearance. Vitiligo is still a stigma and poses difficulty in getting married and patients have fear of rejection. This may explains high percent of vitiligo patients of this age attending dermatology clinic and high DLQI among them. Pahwa *et al*. assessed psychological impact of vitiligo using semi-structured interviews, found that vitiligo was considered a serious illness in view of its possible adverse effects on marriage and securing a job.[17] In this study, mean DLQI was statistically significantly less (*P* = 0.014) in patients of regressive disease when compared to others. Many studies have shown association between disease extension and lower QoL.[8,14,16]

Mean (±SD) DLQI scores were insignificantly (statistically) higher among patients with positive family history of vitiligo. It might be due to closely witnessing the chronic nature of the disease, need for regular follow up with doctors for the treatment by the patients of vitiligo with positive family history.

Vitiligo Impact Scale-22

Disease-specific QoL instruments have the advantage of fewer irrelevant questions leading to higher acceptability, greater responsiveness, and greater ability to discriminate

Table 2: Comparision of sex, age group, area involved among degrees of depression

Category	No depression (*n*)	Mild depression (*n*)	Moderate-to-severe depression (*n*)	"*P*" value
Sex				
Male	40	13	14	0.57
Female	44	22	17	
Age category				
18-30 years	38	18	23	0.02
31-49 years	33	11	6	
≥50 years	13	6	2	
Area involved				
Only covered	28	4	10	0.44
Involves uncovered	56	31	21	

P value <0.05 considered significant

Table 3: Comparision of various scale scores among degrees of depression

Category	No depression	Mild depression	Moderate-to-severe depression	"*P*" value
Mean VASI (SD)	3.85 (14.24)	5.13 (13.53)	6.41 (18.23)	0.71
Mean DLQI (SD)	4.74 (4.3)	9.89 (5.67)	9.97 (5.81)	<0.0001
Mean VIS-22 (SD)	12.25 (8.26)	20.66 (8.41)	22.71 (8.70)	<0.0001

P value <0.05 considered significant

between patients with varying severity of distress.[18] So, we measured effect on QoL in patients of vitiligo using disease-specific scale, VIS-22. Though there were no differences when compared to DLQI, using VIS-22 we found vitiligo can even pose difficulty in primary daily activities like wearing clothes, having food of their choice, and going to social events. Pahwa *et al*. also found patients observed dietary restrictions and wore clothes that covered patches of vitiligo.[17]

Depression

Earlier research across the globe using various assessment tools like the Psychiatric Assessment Schedule and General Health Questionnaire (GHQ) have shown depression rates ranging from 10% to 69% in vitiligo patients.[2,8,12,13,19,20] Higher depression and suicidal ideation rates in the younger age group (18–30 years) is consistent with earlier reports by other studies.[13,20] Higher depression in this younger age group could be due to fear of rejection, difficulty in getting married, or getting a job.

The clinician should screen the patient for depression and suicidal ideations using cost-effective self-report tools like the Patient Health Questionnaire (PHQ-9) or GHQ. If screening positive, the patient should be offered consultation with a psychiatrist. The clinician should also make sure to evaluate progress on follow-up visits.

Correlation between different scales

There was a statistically significant correlation observed between depression in patients of vitiligo (QIDS-SR16) and their QoL (DLQI, VIS-22 with Pearson correlation value of 0.429 and 0.536, respectively). Patients who were depressed had impaired QoL [Table 3]. Similar findings were seen in other studies.[12] So dealing with psychological component could improve the QoL.

As there was no correlation found between the area involved by vitiligo (VASI) and depression (QIDS-SR-16) in patients of vitiligo (Pearson correlation value of 0.024), every patient of vitiligo irrespective of area of involvement has to be evaluated psychologically. Other studies also have shown that the psychosocial impact of vitiligo poorly correlates with the extent of depigmentation.[2,7,19]

VASI was significantly correlating with DLQI and VIS-22 scores (Pearson correlation values of 0.178 and 0.174, respectively). Statistical correlation between a higher DLQI mean score and the greater body surface area affected by vitiligo was found in several studies.[8,11,12,14,16]

Limitations

- Though the sample size was fairly large, there was no external control group consisting of healthy individuals to compare and thus makes it hard to estimate pure effects of vitiligo over them
- Our study population may not reflect the impact of the disease in the larger community of people with vitiligo who do not seek medical attention.

Conclusion

Young patients with vitiligo showed higher impairment in QoL and also had more psychological morbidity. As young patients are affected, it is a heavy burden not only on the family but also on the society. Psychiatric consult and proper counseling have to be provided to the patients of vitiligo in addition to specific treatment. This decreases levels of depression in patients which in turn improves their QoL.

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Conflicts of interest

There are no conflicts of interest.

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