

# Dermatological Quality of Life and Psychiatric Morbidity Among 200 Vitiligo Patients

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## Abstract

**Introduction:** Vitiligo is one of the most prevalent acquired depigmentation disorders that can produce significant psychosocial burden in patients who suffer from poor body image, low self-esteem, and considerable level of disability from the disease.

**Purpose:** The purpose of the study is to assess the quality of life (QoL) using the dermatological life quality index (DLQI), attitude to appearance (ATT), and impact of the disease questionnaire (IMPACT) score; to estimate the clinical interview schedule-revised (CIS-R); to evaluate the correlation of the disease.

**Materials and Methods:** The study was conducted in a total of 200 patients of vitiligo who attended the Dermatology out-patient department with the diagnosis of vitiligo made clinically. A detailed pro forma containing the sociodemographic details, clinical examination, clinical severity of the disease using vitiligo area, and severity index (VASI). Activity of the disease using vitiligo disease activity score was calculated. For assessment of perceptions, five screening instruments were used.

**Results:** Out of 200 cases, males comprised 113 (56.5%) with the majority married and from urban locality. Generalized type of vitiligo was the most common type (61%) with the mean ages of onset being 28.65 years. The mean VASI of the patients was 562.64. The mean DLQI score was found to be 4.82, and the mean ATT score was 2.82 and the mean IMPACT score was 3.4.

**Conclusion:** The effect on QoL and psychiatric morbidity was seen to be significant in women doing home management. Higher DLQI scores were observed in vitiligo patients with early age onset and clinical severity. The risk of psychiatric morbidity increased with higher DLQI and IMPACT scores.

**Key words:** Attitude to appearance, Clinical severity, Dermatological life quality index, Impact of the disease questionnaire scores, Psychiatric morbidity

## INTRODUCTION

Vitiligo with a prevalence of about 0.38-3.2% is the most prevalent acquired depigmentation disorder reported from the world literature.<sup>1-4</sup> The prevalence in India was reported as 1.79%.<sup>5</sup> Although it does not cause direct physical impairment, it can produce significant psychosocial burden with patients suffering from poor body image, low self-esteem and experiencing considerable level of

disability from skin disease.<sup>6</sup> Quality is a broad concept that encompasses physical health, psychological status and level of independence, social relations, beliefs and relationship to the environment.<sup>7</sup> The dermatological life quality index (DLQI) was chosen as the instrument to measure the QOL in view of its ease of application to a variety of skin diseases, its ease of use in busy out patients setting, and because it has been widely validated.<sup>8</sup> It is a simple practical questionnaire technique for routine clinical use. Finlay *et al.*<sup>8</sup> found the overall mean DLQI score for dermatology patients was 7.3 in their study, while Kent and Al-Abadie<sup>6</sup> assessed DLQI in vitiligo patients which averaged 4.82. Studies have indicated that people who suffer from dermatological conditions experience higher level of distress, as measured by instruments such as the general health questionnaire (GHQ) and by structured diagnostic interviews, than the general population.<sup>9-11</sup> Picardi *et al.*<sup>12</sup>

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estimated it to be 30.6% in females compared to 17.6% in males using GHQ-12, in dermatological outpatients and the overall prevalence was 25.2%. Psychiatric morbidity has not been studied to a great extent in the Indian population among patients with vitiligo. Among the few studies from India, a study worth mentioning was done by Mattoo *et al.*<sup>13</sup> who reported the prevalence of psychiatric morbidity to be 24.7%. Weiss *et al.*<sup>10</sup> however reported the prevalence of depressive disorder to be 47% in patients with vitiligo.

### Purpose

The purpose of the study is to assess the QoL among patients with vitiligo using the DLQI, Attitude to appearance (ATT) and impact of the disease questionnaire (IMPACT) scores; to estimate the prevalence of psychiatric morbidity among patients with vitiligo using the clinical interview schedule-revised (CIS-R); to assess the patients perception of disease using the Modified short explanatory model interview (SEMI) questionnaire; to evaluate the correlation of perception of illness, sociodemographic and clinical characteristics versus QoL and psychiatric morbidity in patients with vitiligo.

## MATERIALS AND METHODS

This was a cross-sectional study conducted in the outpatient clinic of the Department of Dermatology, Madras Medical College, Chennai, a tertiary care hospital in Tamil Nadu. A total of 200 patients with a clinical diagnosis of vitiligo who attended the Dermatology OPD who were eligible under the inclusion criteria of willingness to participate in the study and who were >14 years were considered. The exclusion criteria were patients not willing to participate in the study and those who were <14 years of age. The diagnosis of vitiligo was made clinically. A detailed pro forma containing sociodemographic details was completed which includes age, gender, social and work status, and disease-related characteristics. Clinical examination included type of vitiligo, site and distribution. The vitiligo was classified as generalized, acrofacial, segmental, and localized vitiligo. The clinical severity of the disease was calculated using the vitiligo area and severity index (VASI) as detailed by Hamazavi.<sup>14</sup> The activity of the disease was also measured using vitiligo disease activity score (VIDA). In VIDA, the disease activity is scored by history taking on a 6-point scale. It is a simple scoring system for classifying ongoing disease activity in relation to time, as assessed by the patient.<sup>15</sup> For assessment of perceptions of illness, their ATT, impact on certain areas of lives, QoL and psychiatric morbidity, of each patients was done by five screening instruments such as modified SEMI, the ATT questionnaire, IMPACT, the DLQI, and the score (CIS-R). From the above measurements, continuous variables

such as mean, standard deviation, and range and di/polytomous variables like frequency distributions were calculated. The Chi-squared and Fisher's tests were used to assess the significance of associations for categorical data, and Student's *t*-test was used to test the associations for continuous variables. Pearson's correlation coefficient was employed to study the correlation between variables. The statistical software SPSS for Windows release was employed for the analysis of data.

## RESULTS

Out of 200 cases, males comprised 113 (56.5%) of the patients. The majority of the patients, 163 (81.50%), were from urban, and 147 (73.50%) of the patients were married. Based on education, 24 (11%) patients were illiterate, 43 (21.5%) patients were educated up till primary school and those with education above primary school were 157 (78.5%). Based on the occupation housewives consisted 64 (32%). Those employed were 94 (47%) and the unemployed 106 (53%). Based on the clinical characteristics, Generalized type of vitiligo was the most common type (61%). Stable type of vitiligo was seen in 55%. The majority of the patients (86%) had involvement of the uncovered areas (Table 1). The mean age at presentation was 36.40 years, and the mean age of the onset was 28.65 years. The mean duration of the illness was 85.17 months, and the duration of exacerbation was 29.87 months. The mean duration between appearance of symptoms and the treatment sought was 18.68 months. Family history of vitiligo was present in 15.50% of patients. Clinical severity calculated using vitiligo area severity index (VASI) showed a mean of 562.64 and ranged from 23 to 8024, the median was 268. Patients who had received treatment before presentation were 162 (81%). Patients perception of their illness showed out of the 179 (89.5%) who came to the hospital for treatment, 42.5% named their disease by its medical or vernacular term. An open-ended questioning on the cause of onset of the disease showed 67 (33.5%) patients believed that their illness had

**Table 1: Clinical characteristics of vitiligo**

Variables	n (%)
Type of vitiligo	
Generalized	122 (61)
Acro-facial	36 (18)
Segmental	2 (1)
Localized	40 (20)
Stability	
Stable	110 (55)
Unstable	90 (45)
Region involved	
Covered	28 (14)
Uncovered	172 (86)

Type/stability/region involved

a medical cause and 7% believed that it was due to a drug reaction. 19 patients (9.5%) reported that vitiligo affected their marriage prospects and 2 patients (1%) affecting their married life.

Based on the quality of life, the mean AIT score was 2.82% and the median was 3 with IQR = 1. The mean IMPACT score was 3.4 and the median was 4 with interquartile range (IQR) = 3. The DLQI scores ranged from 0 to 20 with a mean of 4.82 and the median was 4 with IQR = 7. Sociodemographic characteristic revealed that females had a higher DLQI score compared to males ( $P < 0.001$ ). The unemployed had a median DLQI score of 5 compared to employed population who had median DLQI score of 3 ( $P < 0.001$ ). Patients with a higher DLQI score also had a higher VASI. The median VASI in patients with DLQI score  $>5$  was 358 (IQR = 471.5) compared to median VASI of 210.5 (IQR = 348) in patients with DLQI score of  $<5$  ( $P = 0.002$ ). The patients with vitiligo over the covered areas had a median DLQI score of 3 (IQR = 5) compared with the median of 4 (IQR = 7) in patients who had vitiligo over uncovered areas ( $P = 0.07$ ). The DLQI score in patients with generalized and acrofacial type of vitiligo (median = 5) was higher than those with localized type (median = 2) ( $P = 0.001$ ) (Table 2). For analysis purpose, the segmental type of vitiligo was merged with localized type. The patients with stable vitiligo had a median DLQI score of 3 (IQR = 6) compared with unstable vitiligo who had a median DLQI score of 4.5 (IQR = 6.5) ( $P = 0.32$ ). Age of onset had a significant negative correlation ( $P = 0.03$ ) with DLQI score. However, duration of disease ( $P = 0.62$ ) and exacerbation ( $P = 0.41$ ) were unrelated to DLQI scores.

**Table 2: Type of vitiligo and DLQI**

Type of vitiligo	DLQI score			Chi-square	P-value
	No	Median	IQR		
Generalized	122	5	7	13.3	0.001
Acrofacial	36	5	8		
Localized	40	2	4		

DLQI: Dermatological life quality index, IQR: Interquartile range

The patients who named the illness as vitiligo showed a higher DLQI score ( $P = 0.004$ ). The patients who felt that their illness was affecting their personal or relatives marriage had a significant higher impairment of DLQI, compared to those who did not ( $P < 0.001$ ).

The CIS-R score varied from 0 to 20 with mean score 5.8, and the patients with psychiatric morbidity were 29 (14.5%). The proportion of females with to psychiatric morbidity (19.74%) was higher than males (10.58%) ( $P = 0.02$ ). The proportion of employed patients with psychiatric morbidity were 10.60% compared to 18.16% of the unemployed ( $P = 0.05$ ). Patients with psychiatric morbidity tended to have a higher median VASI (480) compared to those without (216), and the difference was statistically significant ( $P < 0.001$ ). There was no correlation between the psychiatric morbidity and the duration of the disease. The median duration of disease in patients with psychiatric morbidity was 70 months (IQR = 152) compared to the median of 44 months (IQR = 90) in patients who did not have psychiatric morbidity ( $P = 0.30$ ). There was no significant difference in the age of onset of the disease between the patients with psychiatric morbidity and those without. The type of vitiligo did not have any correlation with psychiatric morbidity. It was more prevalent among those with vitiligo involving the exposed areas of the body 9 ( $P = 0.01$ ). There was no significant correlation between the psychiatric morbidity and the activity of the disease (Table 3). The psychiatric morbidity did not significantly differ in patients who reported that their disease had affected their own ( $P = 0.14$ ) or their relatives marriage from those who did not ( $P = 0.07$ ). There was a significant correlation of psychiatric morbidity with the AIT and IMPACT score. The patients with psychiatric morbidity also had a higher mean AIT ( $P = 0.002$ ) and IMPACT score ( $P = 0.0003$ ) compared to those who did not have psychiatric morbidity suggesting a perfectionist attitude and a greater impact of the disease on the QoL. There was a significant correlation between DLQI and psychiatric morbidity. The median DLQI for patients with psychiatric

**Table 3: Clinical characteristics and psychiatric morbidity**

Clinical characteristics	Psychiatric morbidity		Total	Chi-square	P-value
	Cases (%)	Noncases (%)			
Type of vitiligo					
Generalized	20 (16.39)	102 (83.61)	122	2.36	0.30
Acrofacial	5 (13.88)	31 (86.12)	36		
Localized	4 (9.52)	38 (90.48)	42		
Region involved					
Covered	2 (7.14)	26 (92.86)	28	6.5716	0.010
Exposed	32 (18.60)	140 (81.40)	172		
Stability					
Stable	15 (13.63)	95 (86.37)	110	0.1186	0.732
Unstable	14 (15.55)	76 (84.45)	90		

morbidity was 9.3 as compared to median of 3 in those who did not have psychiatric morbidity ( $P < 0.001$ ).

The ATT scores did not correlate with VASI. The median VASI in patients with ATT scores  $< 3$  was 260 (IQR = 380) compared to median VASI of 220 (IQR = 355) in patients with ATT score  $> 3$  ( $P = 0.12$ ). There was no association of ATT with gender and area of distribution of the skin lesions (Table 4). The ATT scores did not correlate with the type of vitiligo. The patients who felt that their illness was affecting their personal or relative's marriage prospects did not have a significantly higher score of ATT compared to those who did not.

The patients with IMPACT score  $< 4$  had a mean age of onset of 31.6 years compared with mean of 26.8 years in patients with IMPACT score  $> 4$  ( $P = 0.01$ ). The females had a higher IMPACT score compared to males ( $P < 0.001$ ). The IMPACT score did not vary with the type of vitiligo, but patients with involvement of uncovered areas had a higher IMPACT score ( $P = 0.001$ ) (Table 5). The patients with higher IMPACT score also had a higher VASI ( $P = 0.0004$ ). The patients who felt that their illness was affecting their illness was affecting their personal ( $P = 0.0001$ ) or relatives marriage prospects ( $P = 0.004$ ) had a significant higher impairment of their QoL compared to those who did not. A significant correlation was found between DLQI and IMPACT after adjusting for ATT (Table 6).

On univariate analysis, the risk factors for psychiatric morbidity were female sex, housewives, ATT score  $> 3$ ,

**Table 4: Type of vitiligo and ATT score**

Type of vitiligo	ATT score		Total	Chi-square	P-value
	<3 (%)	>3 (%)			
Generalized	101 (82.78)	21 (17.22)	122	0.36	0.82
Acrofacial	29 (80.55)	7 (19.45)	36		
Localized	33 (78.57)	9 (21.43)	42		
Total	163 (81.50)	37 (18.50)	200		

ATT: Attitude to appearance

**Table 5: Type and distribution of vitiligo and IMPACT score**

Variables	IMPACT score		Total	Chi-square	P-value
	<4 (%)	>4 (%)			
Type of vitiligo					
Generalized	75 (61.47)	47 (38.53)	122	3.14	0.020
Acrofacial	21 (58.33)	15 (41.67)	36		
Localized	30 (71.42)	12 (28.58)	42		
Distribution					
Covered	22 (78.57)	6 (21.43)	28	12.02	0.001
Uncovered	97 (56.39)	75 (43.61)	172		

IMPACT: Impact of the disease

IMPACT score  $> 4$ , DLQI score  $> 5$  (Table 7). On multivariate analysis after adjusting for gender, occupation and patients perception of the disease, the major risk factors were IMPACT score  $> 4$  and DLQI score  $> 5$ . The psychiatric morbidity was found to be 2.26 times higher if the IMPACT was  $> 4$ , 3.72 times higher if DLQI score was  $> 5$  (Table 8).

**DISCUSSION**

Vitiligo is the most common depigmenting disorder that is associated with significant degrees of psychiatric morbidity and also a significant effect on quality of life.<sup>6</sup> This study provides further insight regarding the quality of life and psychiatric morbidity in vitiligo. Vitiligo affects individuals of all age group, under 10 years to above 70 years. In our study, the mean age of onset of vitiligo was 28.65 years and ranged from 14 to 72 years. This was less when compared to that observed by Howitz *et al.*<sup>2</sup> from Denmark. The mean age of at presentation was 36.40 years, similar to studies reported from North India.<sup>13,16</sup> and less compared to a study done by Ongenae *et al.*<sup>17</sup> from Belgium. There was a preponderance of males in our study (M:F = 1.3:1) similar to a study where the ratio was (1.2:1)<sup>13</sup> but in

**Table 6: Correlation between DLQI, ATT, and IMPACT score**

Variables (scores)	Correlation coefficient	P-value
DLQI versus ATT	0.08	0.13
DLQI versus IMPACT	0.48	<0.001

DLQI: Dermatological life quality index, ATT: Attitude to appearance, IMPACT: Impact of the disease

**Table 7: Univariate analysis in relation to psychiatric morbidity**

Variables	ODDS ratio	95% CI	P-value
Gender: Males	0.46	0.22-0.88	0.026
Occupations: Housewives	2.48	1.23-4.72	0.005
Attitude to appearance: $> 3$	1.34	0.60-2.95	0.413
Impact score: $> 4$	3.59	1.79-7.08	<0.001
DLQI score: $> 5$	4.20	2.10-8.36	<0.001

CI: Confidence interval, DLQI: Dermatological life quality index, IMPACT: Impact of the disease

**Table 8: Multivariate analysis in relation to psychiatric morbidity**

Variables	ODDS Ratio	95% confidence interval	P-value
Gender: Males	1.80	0.53-5.68	0.268
Occupations: Housewives	2.12	0.68-6.24	0.152
Attitude to appearance: $> 3$	1.2	0.48-2.75	0.648
Impact score: $> 4$	2.26	1.09-5.28	0.045
DLQI score: $> 5$	3.72	1.68-9.92	0.001

DLQI: Dermatological life quality index, IMPACT: Impact of the disease

contrast to the studies done elsewhere showing female predominance.<sup>2,3,17,18</sup> This difference may be due to health seeking behavior among men and negligence of medical health among women. The mean duration of disease in our study was 85.17 months similar to Mattoo *et al.*<sup>13</sup> study where it was 80.40 months but lesser when compared to findings of a study from Belgium by Ongenae *et al.*<sup>17</sup> where the mean disease duration was 120 months. The large majority of our patients 163 (81.50%) were from urban areas as reported in other studies.<sup>2,5</sup> The study by Mattoo *et al.*<sup>13</sup> from Chandigarh, India, reported only 56.63% from the urban locality. Only 24 (12%) of the patients were illiterate. The patients who had received education above the primary level were 157 (78.5%). Hence, the majority of the patients in our study were literate from urban areas thereby having a bearing on the indices measured. The housewives constituted 32% of the study population. There were 94 (47%) employed patients and 106 (53%) of the patients were currently unemployed.

There were 122 (61%) patients with generalized vitiligo, 36 (18%) had acro-facial vitiligo, there were only 2 (1%) patients with segmental vitiligo, and 40 (20%) had localized vitiligo. This was in contrast to a study from Tunisia, where generalized vitiligo was present in 37.5%, acrofacial in 12.5%, and localized type in 25% of the study population.<sup>19</sup> A study from South India reported that generalized vitiligo was present in 48%, acrofacial type in 22.7%, and localized type in 16% and segmental type in 13.3%.<sup>20</sup> 31 (15.5%) of the patients had family history of vitiligo. This was in contrast to the findings of the study done by Gopal *et al.*<sup>20</sup> where prevalence was found to be 36%. 172 (86%) patients had vitiligo involving the uncovered areas in the body. This was almost similar to Akrem *et al.*<sup>21</sup> study from Tunisia, where vitiligo involved the uncovered areas in 78.33% of the population. Borimnejad *et al.*<sup>22</sup> from Iran reported location of vitiligo lesions over the visible areas in 53(76.4%) patients. This could be explained by the stigma attached with vitiligo which forces a patient to seek treatment if the visible areas are affected reflecting on the impact of location of the disease over QoL. Vitiligo area severity index (VASI) to assess the severity of vitiligo showed a mean of 562.64 and ranged from 23 to 8024.

The mean DLQI score in our study was 4.82 and ranged from 0 to 20, similar to the study by Kent and Al-Abadie<sup>6</sup> where the DLQI scores ranged from 0 through 26 with mean of 4.82. Ongenae *et al.*<sup>17</sup> also reported a mean DLQI score of 4.95 which is similar to our study. However, this is contrast to the mean DLQI scores in Prasad *et al.*<sup>16</sup> study which ranged from 2 to 21 with a mean score of 10.67. In our study, females had a higher impairment of QoL compared to males, as also housewives when compared

to rest of the population. Ongenae *et al.*<sup>17</sup> and Borimnejad *et al.*<sup>18</sup> also reported a higher overall score of DLQI among women thereby identifying gender as the most important predictor of DLQI score. This was in contrast to Kent and Al-Abadie<sup>6</sup> and Prasad *et al.*<sup>16</sup> where they found little relationship between DLQI scores and gender. In our study, there was a significant relationship between the DLQI scores and mean age of onset, similar to study reported by Prasad *et al.*<sup>16</sup> but unlike Kent and Al-Abadie<sup>6</sup> who found little difference between the two. Impairment of QoL was also found to be significantly higher in the unemployed compared to those who were employed. There was no significant correlation between QoL impairment, education, locality, residence, and marital status in our study. Those patients with a higher mean VASI also had a significant QoL impairment which was in contrast to another study, where there was no correlation between the DLQI and the extent of the disease.<sup>16</sup> Ongenae *et al.*<sup>17</sup> found that vitiligo confined to the head, face, neck, trunk and localized to the feet correlated significantly with the overall DLQI score. This finding was similar to our results. In our study, QoL did not correlate with the stability of vitiligo, and there were no other study reports that compared the disease activity to the QoL available. QoL was affected in those patients who reported that vitiligo affected their personal or relatives marriage prospects, but there are no other studies assessing this variable.

About 29 patients (14.50%) had psychiatric morbidity as assessed by CIS-R. The psychiatric morbidity was found to be 39% in a study done on chronic disfiguring dermatological conditions.<sup>23</sup> The psychiatric morbidity as assessed by GHQ-12 scale done by Sampogna *et al.*<sup>22</sup> from Italy showed a score of 47.5 in GHQ cases compared to score of 32.5 in GHQ noncases. There is a paucity of studies assessing psychiatric morbidity in patients with vitiligo in literature. Females (19.74%) were more affected than males (10.58%) which were statistically significant. However, Matoo *et al.*<sup>13</sup> in their study did not find any correlation between gender and psychiatric morbidity and reported that among GHQ positive cases, 57.14% were females and 42.85% were males. They also reported 57.14% GHQ-positive cases were not married compared to 42.85% married patients. In our study, the patients with psychiatric morbidity, 22.46% were housewives but it did not differ among patients based on marital status, level of education, and locality. Vitiligo affected the marital life of only 3 (1.5%) patients. There was no difference in the psychiatric morbidity of the patients who reported that vitiligo affected their personal or relatives marriage prospects and those who did not. The patients with psychiatric morbidity had more severe disease with a higher mean VASI score. In Sampogna *et al.*<sup>22</sup> study from Italy, the authors found that the association between the psychiatric morbidity and QoL

did not depend on the severity of the skin condition. In Mattoo *et al.*'s<sup>13</sup> study from Chandigarh, they did not find a significant difference mean percent area of vitiligo among GHQ-positive and negative cases. In our study, psychiatric morbidity did not differ with the mean age of onset of the disease or the mean duration of the disease that was similar to the findings of Mattoo *et al.*<sup>13</sup> Psychiatric morbidity was also unrelated to the type of vitiligo or the stability of the disease but was more in those patients with disease on the uncovered areas of the body.

The mean ATT score in patients with psychiatric morbidity was 3.12 compared to mean ATT score of 2.82 in those patients who did not have psychiatric morbidity which was significant. In Mattoo *et al.*'s<sup>13</sup> study from North India, the mean ATT score in vitiligo patients who were GHQ-positive cases was 4.23 while in the GHQ negative cases was 4.06 which was not statistically significant.

The IMPACT score is a composite measure reflecting both the psychiatric disorder and the behavioural change resulting from vitiligo. The mean IMPACT score was 3.5. The mean IMPACT score in patients with psychiatric morbidity was 4.5 compared to 3.2 in those who did not have psychiatric morbidity. In Mattoo *et al.*'s<sup>13</sup> study, the mean IMPACT score in GHQ-positive cases was 4.00, and the mean IMPACT score in GHQ negative cases was 1.98. 56 patients (74.25%) had an IMPACT score > 4 compared to only 18 (23.78%) male patients similar to Wessely and Lewis<sup>11</sup> study. IMPACT score was higher in those patients who had vitiligo lesions over the uncovered areas of the body consistent with findings of Wessely and Lewis.<sup>11</sup>

There was a significant correlation between DLQI and psychiatric morbidity. The median DLQI for patients with psychiatric morbidity was 9.3 as compared to median of 3 in those who did not have psychiatric morbidity suggesting that the patients with psychiatric morbidity had a significantly impaired QoL. There was a significant correlation of psychiatric morbidity with ATT and IMPACT scores. These scores were significantly higher in the patients with psychiatric morbidity, suggesting that the disease had a greater impact on the daily activities of these patients. There was a significant correlation between the DLQI and IMPACT scores after adjusting for the ATT score indicating that vitiligo had a major impact on the lifestyle of the patients since its onset and this did not depend on whether the patient had a perfectionist attitude or not. The higher ATT and IMPACT scores in patients with psychiatric morbidity suggest a significant change in vitiligo related social and psychosocial dysfunction.

## CONCLUSION

Out of the 200 patients with vitiligo studied, the mean DLQI score was found to be 4.82 and scores ranged from 0 to 20. 29 (14.5%) patients had psychiatric morbidity. The mean ATT score was 2.82 and the mean IMPACT score was 3.4. The effect of QoL and psychiatric morbidity was seen significant in women especially those who had no other employment outside house management. Unemployment had a significant effect on QoL but not on psychiatric morbidity. Psychiatric morbidity did not vary with the age of onset but higher DLQI scores were observed in the patients who developed vitiligo at an earlier age. The clinical features which showed correlation with QoL were clinical severity and the type of vitiligo. Psychiatric morbidity depended on the clinical severity and location of vitiligo lesions on the exposed areas. The patients who presented primarily for the treatment of vitiligo had significant impaired QoL. Effect on marriage of patient's or relatives was also associated with higher impairment of QoL. Further longitudinal trials should be undertaken to assess the risk factors associated with the psychiatric morbidity in vitiligo. It is important to recognize the psychological component of this distressing condition by adequate evaluation of the mental state of the patient. Counseling and referral to a Psychiatrist would help to improve the appearance-related stress handling capability and to improve the general well-being of the patient.

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