

Dermatology Life Quality Index (DLQI) and its Determinants among Patients Attending Tertiary Care Hospitals, in the Western Part of India

Bharti Koria^{1*}, Sachin Bhimani², Ravi H. Patel³, Ravi K. Patel³, Reeva Yadav³, Richa Bhatt³, Ritika Sharma³

¹Associate Professor, Department of Community Medicine, PDU Medical College, Rajkot, Gujarat, India

²Senior Resident, Department of Neurosurgery, PDU Medical College, Rajkot, Gujarat, India

³Interns, Government Medical College, Bhavnagar, Gujarat, India

*Address for Correspondence: Dr. Bharti Koria, Associate Professor, Department of Community Medicine, PDU Government Medical College, Rajkot, Gujarat, India

E-mail: drbhartikoria@gmail.com

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ABSTRACT

Background: Vitiligo, is an autoimmune disease resulting in white patches over the skin. It is an important skin disease that has a major impact on the quality of life of patients. It significantly lowers sufferers' quality of life resulting in anguish, shame, insults, seclusion etc. In younger individuals, vitiligo affects relationships, employment, and everyday activities. Stress, depression, and low self-esteem are caused by the psychological load of vitiligo. Social stigma and discrimination have a negative influence on one's QoL. Lots of studies have been conducted in QoL among Vitiligo patients.

Methods: This was a cross-sectional study done among vitiligo patients coming for treatment at a tertiary care hospital. A structured proforma was used to collect the data from July to September 2021. data collection, data were entered in Microsoft Excel. Percentages and proportion, tests were used to analyse the data. Jamovi 2.4.11 software used to analyse the data

Results: It was observed that 15-29 years and 60 plus were less in number to come to take treatment (10%, 12.55 % consequently). It was observed that female's Dermatology life quality Index was more affected as compared to males (median female 2.5>male 1; p<0.05). Those who have studied up to the secondary level had a more compromised quality of life as compared to those studied above the secondary level, (median up to secondary 3>Above secondary 1; p<0.05). No significant correlation was found between age, income and DQLI.

Conclusion: Gender and education significantly impact vitiligo patients' quality of life, underscoring the need for targeted psychological support and education to aid vulnerable groups.

Key-words: Vitiligo, Quality of Life (QoL), Dermatology Life Quality Index (DQLI), Psychological Impact, Social Stigma

INTRODUCTION

Vitiligo is an autoimmune disease, caused by the destruction of pigment-producing cells in the skin, resulting in white patches over the skin of any part of the body or whole of the body ^[1]. The precise cause of vitiligo is unknown, but it is frequently thought to be a

multifactorial illness with a complicated pathogenesis that includes several hypotheses linking the immune system, cytotoxic, biochemical, oxidant-antioxidant, viral, and neurological mechanisms to the destruction of melanocyte function in genetically predisposed individuals ^[2]. Positive family history also has a role in manifesting vitiligo ^[3]. The precipitating factor linked to the development of vitiligo: is sunburn. Stress, contact with cytotoxic substances, chemicals and other autoimmune diseases ^[4].

Vitiligo is thus an important skin disease having a major impact on the quality of life of patients suffering from vitiligo ^[5]. Vitiligo is a significant skin problem that significantly lowers sufferers' quality of life; many of them experience anguish and shame as a result of their

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illness. Vitiligo sufferers are greeted by society just like any other person who stands out from the crowd. They face taunts or remarks spoken in whispers, hostility, insults, or seclusion. For individuals with vitiligo, the chronic nature of the condition, the need for long-term care, the absence of a consistent medication and unpredictable progress are typically extremely discouraging [6]. Particularly in younger individuals, vitiligo severely lowers quality of life, affecting relationships, employment, and everyday activities. These consequences are exacerbated by the severity of the disease, especially in visible places and in those with darker skin tones. Disease activity throughout time may enhance acceptance and quality of life. Stress, depression, and low self-esteem are caused by the psychological load of vitiligo, which is fuelled by the desire to hide lesions and conventional beauty standards [7]. Social stigma increases the need for culturally responsive care since it undermines self-esteem, particularly in cultural situations. Because of social pressures and obvious disparities, anxiety and sadness are prevalent [7].

Patients with vitiligo often face post-traumatic stress after detection of vitiligo [8]. Patients often reported stress, depression, anxiety, and sleeping problems related to vitiligo. Gender association have been seen more symptoms among females as compared to males. Compromised quality of life has been seen in both genders. There is a favourable relationship between stress, the humiliation of having vitiligo, and clothing choices [9].

Vitiligo patients face medical and social loss costs in many ways [10]. Studies have confirmed that vitiligo lesions over exposed areas may reduce an applicant's work prospects by decreasing their chances of being hired in an interview or they need to hide the lesions [11]. More than 25% was shown to be linked to feelings of self-consciousness, trouble making friends and doing homework, as well as bullying and taunting. Studies have linked bullying and teasing to lesions on the arms and face. The degree of vitiligo is linked to QOL impairment in kids and teens, particularly with self-consciousness, but also to bullying and taunting [12].

To understand better, the quality of life of the suffers depends on duration, severity, affected part and gender of the vitiligo patients. Studies have reported women, with lesions on the face or open part, larger body area,

progressive diseases and darker skin tone, unmarried persons have suffered a more compromised quality of life as compared to others [12,13]. Social stigma has a negative influence on one's self-esteem, particularly in cultural contexts. It also considerably lowers one's quality of life, particularly for younger patients, and hurts relationships, employment, and everyday activities [7]. Lots of studies have been conducted in QoL among Vitiligo patients. Here, is a study to study the relation between vitiligo patients and their life quality and create awareness among society and vitiligo patients about the acceptance of the disease.

MATERIALS AND METHODS

Research Design- This was a questionnaire-based cross-sectional study conducted in the Department of Dermatology at a tertiary care hospital from July to September 2021. All eligible persons coming to the skin department have explained the objectives of the study and asked for consent to interview. The one-to-one interview was carried out with the help of a pre-tested and structured questionnaire which was prepared after piloting. The questionnaire includes a demographic profile, dermatology life quality index questions, vitiligo disease activity score and vitiligo area severity index (details of which are given below). We interviewed 40 clinically diagnosed and registered cases of vitiligo coming into tertiary care Hospital Skin OPD regularly for treatment and were ready to give an interview with consent to be included in this study. Participant were then given detailed information about vitiligo and solved their confusion and questions regarding the problem they were facing.

Dermatology Life Quality Index (DLQI) [14]- The DLQI questionnaire is a widely validated tool for the measurement of Quality of Life (QOL) conceptualised by Finlay AY, for clinical use. The questionnaire consisted of 10 questions with a four-point scale with a score from 0 to 3. The DLQI was calculated by summing the score of all 10 questions with a maximum score of 30 and a minimum of 0.

- Score 0-1: No effect at all on patients' life;
- Score 2-5: Small effect on patient's life;
- Score 6-10: Moderate effect on patient's life;
- Score 11-20: Very large effect on patients' life;
- Score 21-30: Extremely large effect on patient's life.

Inclusion and Exclusion Criteria

Inclusion Criteria

- Patients clinically diagnosed with vitiligo and registered in the Dermatology Department of the tertiary care hospital.
- Patients attending the Skin Outpatient Department (OPD) regularly for treatment during the study period (July to September 2021).
- Participants willing to provide informed consent for the interview.

Exclusion Criteria

- Patients with an incomplete or unclear diagnosis of vitiligo.
- Patients unwilling to participate or unable to provide informed consent.
- Patients with severe psychological, cognitive, or physical impairments that hinder effective participation in the study.
- Those who participated in the pilot study or any other similar research study recently.

Statistical Analysis- Data were entered in Microsoft Excel. Missing data were again collected by calling the patients. Frequencies, percentages, man Witney U test, and correlation matrix were used to analyse the data in Jamovi 2.4.11 software. The Dermatology Life Quality Index (DLQI) used in the I study was as follows.

RESULTS

There were about 40 patients who were attending hospital for regular treatment for vitiligo., half of them were male, 50% and half of them were female, 50% (Table 1). Most patients, 37.5% taking treatment were middle-aged between 30-44 years followed by 45-59 years' age, about 25%. It was observed that 15-29 years and 60 plus were less in number to come to take treatment (10%, 12.55 % consequently). Nearly 55% were studied up to graduation and higher level followed by 30% were studied up to secondary level. 62.5% of them did not have any income sources and not earning. Among all patients, 77.5% were married and 22.5% were unmarried.

Table 1: Descriptive demographic data of patients with vitiligo

Variable	N=40	Percentage
Gender		
Female	20	50
Male	20	50
Age		
15-29	4	10
30-44	15	37.5
45-59	10	25
60-75	5	12.5
Education		
illiterate	02	5
Primary	04	10
Secondary	12	30
Graduate and higher	22	55
Monthly income		
No income	25	62.5
<20,000	7	17.5
20000-40,000	4	10
>40	4	10
Marital status		
Married	31	77.5
Unmarried	09	22.5

Table 2 explains that the Mann-Whitney U test was applied to see any significant difference of variables in terms of the Dermatology life quality Index. It was observed that females' Dermatology life quality Index was more affected as compared to males as it was found statistically significant (median female 2.5> male 1; p<0.05). Dividing the educational level into two parts, those who have studied up to the secondary level had a more compromised quality of life as compared to studied above the secondary level, (median up to secondary 3>Above secondary 1; p<0.05). Not any significant difference was found in marital status, suggesting that marital status does not affect the quality of life of vitiligo patients.

Table 2: Dermatology life quality Index of variables

Variable vs Dermatology Life Quality Index	Variable median	Mann-Whitney U	p-value
Gender	Male (Median =1) Female (Median =2.5)	124	0.036 df=38
Education	up to secondary (Median =3) Above secondary (Median =1)	103	0.023 df=36
Marital status	Unmarried (Median =2) Married (Median =1.5)	121	0.633 df=37

A correlation matrix was applied to find any association between age, income and DLQI. No significant correlation was found between age, income and DQLI. One important thing found was Pearson's r was minus value in both. So, if a larger sample size was taken then maybe some negative association can be found. It may suggest that as age and income increase, DQLI decreases, which means the quality of life would be less compromised in these situations.

Table 3: Correlation of dermatological life quality index with age and monthly income.

Dermatology Life Quality Index	Age	Monthly Income
Pearson's r	-	-
df	-	-
p-value	-	-
Pearson's r	-0.102	-
df	38	-
p-value	0.532	-
Pearson's r	-0.160	0.039
df	38	38
p-value	0.324	0.813

DISCUSSION

Numerous clinical and demographic variables have a substantial influence on the quality of life (QoL) of vitiligo sufferers. The results of several investigations are combined in this discussion to give a thorough grasp of these effects. According to many studies, the majority of patients receiving therapy for vitiligo are middle-aged, especially between the ages of 30 and 44^[13,15]. Because of the mental stress brought on by the disease's obvious character, this age group frequently seeks therapy.

According to the Dermatology Life Quality Index (DLQI) scores, women's quality of life is more significantly impacted than men's. Numerous research has demonstrated that female patients report higher degrees of emotional distress and social stigma, supporting this tendency^[16,17]. For example, one study indicated that women's mean DLQI score (6.6±3.55 vs. 4.8±2.71) was considerably higher than men's^[17]. Social pressures and beauty standards that disproportionately impact women are to blame for this gender gap, which causes increased psychological suffering and social exclusion^[18].

Compared to patients with greater levels of education, those with lesser educational attainment—more particularly, those who have only completed secondary school—reported a more impaired quality of life. Lower self-esteem and coping strategies, as well as limited access to services and knowledge for treating the illness, maybe the cause of this.^[17] Better health literacy and access to healthcare are frequently linked to higher education levels, which might lessen the detrimental effects of vitiligo on one's quality of life.

It's interesting to note that DQLI scores did not significantly correlate with age or wealth. This implies that vitiligo's psychological and social effects are widespread across age and socioeconomic categories, suggesting that the stigma and emotional toll of the illness are experienced by people of all backgrounds^[17,19]. Although having more money might make therapy more accessible, it doesn't always lessen the psychological suffering brought on by the illness^[19].

CONCLUSIONS

In conclusion, gender and educational attainment have a substantial impact on the dermatologic quality of life of vitiligo patients, with women and those with lower levels of education suffering from more impairment. The fact that age, wealth, and DQLI did not significantly correlate highlights the psychological toll that vitiligo has on people worldwide. These results emphasize the necessity of focused psychological assistance and educational

programs to enhance the quality of life for vitiligo patients, especially the most susceptible.

CONTRIBUTION OF AUTHORS

Research concept-Reeva Yadav, Richa Bhatt, Ritika Sharma

Research design- Sachin Bhimani, Ravi H. Patel, Ravi K. Patel

Supervision- Bharti Koria

Materials-Reeva Yadav, Richa Bhatt, Ritika Sharma

Data collection-Sachin Bhimani, Ravi H. Patel, Ravi K. Patel

Data analysis and Interpretation- Bharti Koria

Literature search- Reeva Yadav, Richa Bhatt, Ritika Sharma

Writing article-Sachin Bhimani, Ravi H. Patel, Ravi K. Patel

Critical review- Bharti Koria

Article editing-Reeva Yadav, Richa Bhatt, Ritika Sharma

Final approval- Bharti Koria

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