

# Assessment of impact of vitiligo on quality of life of patients using Dermatology Life Quality Index

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## Abstract

**Objective** To analyze the effect of vitiligo on psychosocial well-being of patients using Dermatology Life Quality Index (DLQI) score.

**Methods** This cross-sectional survey was conducted in the Department of Dermatology, Allied/ D.H.Q Hospitals, Faisalabad Medical University over six months. 125 patients of vitiligo were enrolled. The location and type of disease (localized, generalized, segmental, universal and acrofacial) was noted by physical examination and DLQI questionnaires in Urdu were filled in by the patients. Total scores were calculated and effect on psychosocial well-being of patients was noted as No impact (0-1), minimal impact (2-5), Moderate impact (6-10), Very huge impact (11-20) and Extremely huge impact (21-30).

**Results** Mean age of patients was  $29.2 \pm 9.1$  years and mean of DLQI score was  $9.7 \pm 5.9$ . Out of 125 patients 73 (58.4%) were male while 52 patients (41.6%) were female. Impact of the illness on psychosocial well-being was noted as: No impact on 13 patients (10.4%), Small effect on 30 patients (24.0%), Moderate effect on 43 patients (34.4%), Very large effect on 22 patients (17.6%) and Extremely huge effect on 17 patients (13.6%).

**Conclusion** Vitiligo can significantly alter everyday life of sufferers. It can have profound psychosocial implications as most of the patients reported moderate to severe impairment of quality of life.

## Key words

Vitiligo, Quality of life, Dermatology Life Quality Index (DLQI).

## Introduction

Vitiligo is a frequently encountered dermatosis affecting 1–2% of world's population. It is characterized by macules and patches of depigmentation involving limited to large areas of skin, rarely covering the whole body.<sup>1</sup> Its exact etiopathogenesis is not known, however, reported mechanisms include genetic, auto cytotoxic and immune mediated factors.<sup>2</sup> The prolonged course of the ailment, dearth of promising therapeutic options and incalculable

outcome of the illness is devastating for the sufferers. They are in misery due to low self-esteem and cosmetically unappealing self-image.<sup>3</sup>

Recently, the importance of psychodermatology has been highlighted. Since both physiological and psychosocial factors contribute to pathogenesis of vitiligo, therefore, it can be counted as a psychosomatic disease.<sup>4</sup> Quality of life is a multidimensional aggregation of psychosocial habits, etiquette and societal norms. It can be measured and validated. Finlay et al in 1994 proposed Dermatology Life Quality Index (DLQI) to evaluate life quality among patients of various diseases.<sup>5</sup> This 10-item

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questionnaire was applied in many studies, its validity and reliability is proven.<sup>6,7</sup>

The patients of vitiligo have been reported to be depressed, anxious, having suicidal tendency and obsessive compulsive disorder.<sup>8</sup> Wang et al, conducted a meta-analysis and concluded that these patients suffered from depression about 5 times more frequently than controls.<sup>9</sup>

The motive behind this study was to analyse the impact of vitiligo on psychosocial well-being of patients in our population. By knowing the magnitude of the problem, Dermatologists can play a pivotal role in reducing the anxiety and misery of patients and help them better cope with their appearance and psychosocial issues. This may eventually lead to better management of this psychosomatic disorder.

## **Methods**

After getting approval from Institutional Review Board, patients were selected by non-probability consecutive sampling from the Outpatient Department of Dermatology, Allied/ D.H.Q Hospitals, Faisalabad Medical University from November 2020 to April 2021. Inclusion criteria included adult patients from 16 to 60 years of age, who were diagnosed cases of Vitiligo on basis of presence of depigmented patches on body and having 1-50% of body involvement calculated by rule of nine. Patients eliminated from the study were; psychiatric patients who couldn't answer the questionnaire properly, patients taking psychoactive drugs and patients having any other co-existing chronic disease such as diabetes mellitus, hypertension, peripheral vascular disease etc. which may contribute to altered quality of life.

After taking written informed consent, 125 patients of vitiligo were enrolled. Their demographic data was registered on predesigned

proformas. The location and type of disease (localized, generalized, segmental, universal and acrofacial) was noted by standard physical examination. Patients were asked to fill the DLQI questionnaire Urdu version, after explaining the purpose of research and method of filling the questionnaire. After collecting the questionnaires from patients scoring was done for each question and total score and impact on everyday routine of patients was noted.

DLQI questionnaire is divided into ten queries, involving 6 categories, involving emotions, everyday routine, hobbies, job and studies, relations and therapy related issues. Every query may have four answers scored from zero to three. The final score is the sum of scores of all the questions, ranging from zero to thirty. Greater score denotes more impairment of daily living. The final score is categorized as follows: 0-1= no impact, 2-5= minimal impact, 6-10= modest impact, 11-20 = very huge impact, and 21-30= extremely huge impact.<sup>10</sup>

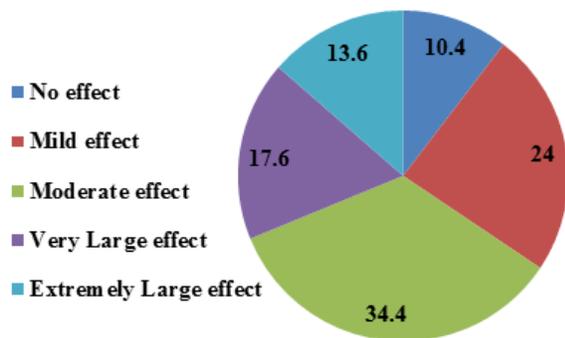
Data were analysed using SPSS ver.27. Descriptive statistics were calculated for all variables. Mean and standard deviation was calculated for all quantitative variables like age and score of questionnaires. Frequency and percentages were calculated for qualitative variables like gender and effect (No, Mild, Moderate, Very huge or Extremely huge effect) on everyday life of patients.

## **Results**

125 patients were enrolled during a period of six months. Most patients were in the age range of 21-30 years and minimum between 51-60 years old. Out of 125 patients, 73 patients (58.4%) were male while 52 patients (41.6%) were female. 51 (40.8%) were married while remaining 74 patients (59.2%) were unmarried (**Table-1**). Mean age of the patients was

**Table 1** Descriptive demographic data of patients.

		No. of Patients (n = 125)	
		n	%
Gender	Female	73	58.4
	Male	52	41.6
Age	16-20	18	14.4
	21-30	69	55.2
	31-40	24	19.2
	41-50	08	6.4
	51-60	06	4.8
Marital status	Married	51	40.8
	Unmarried	74	59.2
Effect of disease	No effect	13	10.4
	Mild effect	30	24.0
	Moderate effect	43	34.4
	Very large effect	22	17.6
	Extremely large effect	17	13.6



**Pie Chart 1** Effect of vitiligo on quality of life of patients

29.2±9.1years and mean DLQI score was 9.7±5.9.

Impact of illness on daily life was as follows:



**Figure 1**



**Figure 2**



**Figure 3**

Figures showing depigmented patches of vitiligo on arms (1), trunk (2) and limbs (3) of a patient

no impact on 13 patients (10.4%), mild effect on 30 patients (24.0%), moderate effect on 43 patients (34.4%), very large effect on 22 patients (17.6%) and extremely huge impact on 17 patients (13.6%) as seen in **Pie chart 1**.

## Discussion

Vitiligo is a frequently encountered dermatosis with an unpredictable course, that leads to loss of inherent skin colour and formation of depigmented patches.<sup>11</sup> This leads to a particularly huge dilemma especially in darker races like ours where beauty and complexion have conventional standards and enormous psychosocial impact.<sup>12</sup>

Mean age of the patients was 29.2±9.1years which is comparable to studies done previously.<sup>13,14</sup> According to our study, mean DLQI score was 9.7±5.9. This was higher than most of the studies.<sup>13,16</sup> This can be attributed to lower sample size in the studies, darker skin type of our population and higher sensitivity of our population to their physical appearance (**Figure 1-3**).

Mishra et al<sup>17</sup> studied 100 patients of vitiligo, 16 reported no impact on daily routine whereas 84 patients documented minimal to very huge impact of vitiligo; out of which, 37 had minimal effect, 21 reported modest impact and 26 had very huge impact.

These results were similar to our results owing to similar skin type and psychosocial background. A mean DLQI score of 4.95 was observed by Ongenaes et al<sup>13</sup> in their study that evaluated the life quality of 119 Belgian vitiligo patients. Aghaei et al<sup>14</sup> mentioned a mean DLQI of 7.05 in 70 Iranian patients with vitiligo. Silpa-archa et al<sup>18</sup> studied 104 vitiligo patients and reported 7.46 as the mean DLQI score and found depression in 13.5% patients. They further highlighted that higher DLQI scores were associated with skin type IV, aggressive disease, newer patches developing in last three months and disease involving upper part of the body.

In our study, Impact of illness on daily life was noted to be as follows: no effect on 13 patients (10.4%), mild effect on 30 patients (24.0%), moderate effect on 43 patients (34.4%), very large effect on 22 patients (17.6%) and extremely huge impact on 17 patients (13.6%). These results are comparable with findings of Zandi et al<sup>19</sup> where they demonstrated that 11% patients had no impact, 22% had mild impact, 33% had modest impact and 32% noted very huge impact of the ailment.

In our part of the world, vitiligo is considered as an infectious skin disease by many people. This results in social isolation of the patients. Another factor which makes the vitiligo patient as a social outcast is the common belief in our society that vitiligo is another form of leprosy. Both these factors can seriously impair the social life of vitiligo patients especially the females. Since stress has a profound effect on causation and aggravation of autoimmune diseases and this can lead to difficulty in management of patients. Therefore, while treating these patients their psychological wellbeing must be considered. Involvement of a psychologist and even a psychiatrist in special cases is inevitable. Vitiligo support group should be available and all vitiligo patients should be encouraged to join

these groups. Unfortunately, no controls were enrolled for comparison and correlation with the type and duration of the disease could have better helped is an analysing the cause effect relationship.

## **Conclusion**

Vitiligo has a significant effect on everyday life of sufferers as most (65.6%) of them had modest to extremely high negative effect on their lives. Dermatologists should pay more attention towards this aspect of the disease and treat it appropriately with available modalities.

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