

Original Research Article

Quality of life in psoriasis: a clinical study

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ABSTRACT

Background: Psoriasis is a common inflammatory dermatosis with a chronic course that can have a significant detrimental effect on the quality of life (QoL) of those suffering from it. We conducted this study to evaluate the effect of psoriasis on QoL and to assess the impact of demographic factors and disease severity on QoL.

Methods: Ninety patients attending the Dermatology OPD at Himalayan Institute of Medical Sciences were included in the study. Their demographic details and history were recorded, followed by a physical examination including assessment of disease severity. DLQI was used to measure QoL. T-test and ANOVA were used to study the effect of demographic factors and disease severity on QoL. $P < 0.05$ was considered statistically significant.

Results: Out of 90 patients, 61 (67.78%) were males and 29 (32.22%) were females. The mean DLQI score was 15.00 ± 4.93 . QoL was impacted by age, sex, marital status and disease severity, whereas place of residence and educational status had no correlation with DLQI scores.

Conclusions: There is a marked negative impact on QoL of psoriasis sufferers; hence it becomes important to take the psycho-social aspect of the disease into consideration during treatment.

Keywords: Psoriasis, Quality of Life, DLQI, Uttarakhand

INTRODUCTION

Health related quality of life is a reflection of the perceived impact of a disease by the patient on his physical, mental, psychological and social well being and function. It is an extremely relevant concept, as a result of which health care in the modern times, especially in chronic disease is more and more focused on not only alleviating the physical pain and symptoms, but also enhancing the quality of life (QoL).¹ However, people commonly perceive that diseases pertaining to skin are not as serious as compared to other medical ailments. This mindset can be put down to the fact that most disease of the skin, albeit chronic, are not life threatening. Hence the impact of a cutaneous disease experienced by the patient may be belittled in the eyes of the public and

the policy makers.² Another reason for this can be the fact that till now, most of the focus has been on alleviating the physical symptoms of a disease, and the impact it might have on the psychology of a patient has been overlooked. But in the last few years, consensus regarding the fact that dermatoses might affect a patient's view of himself and his social interactions has been consistently growing.³ Psoriasis is one such type of skin disease that can affect an individual's self image and feeling of well being. Its impact, even in comparison to other diseases of the skin, is quite high.⁴ It impacts different life aspects like work, public relations, sexual life and leisure activities which are linked to appearance and attractiveness, hampering the affected individual's self worth and personality.⁵ In the last two decades, researchers as well as clinicians have become

increasingly curious about the concept of QoL and it has become an important factor in determining treatment efficacy.⁶ We undertook this study to gain an insight into the patients' mindset and identify the various factors that affect their QoL in order to help modify and improve the physician-patient communication as per the patients' need and mindset to fulfil the growing need to understand and improve the QoL in psoriasis patients. The aim of our study was to assess the QoL in patients with psoriasis and to study the effect of demographic factors and disease severity on their QoL.

METHODS

The present cross-sectional observational study was conducted at Himalayan Institute of Medical Sciences, Dehradun, Uttarakhand over a period of 12 months, from 1st January 2017 to 31st December 2017. Patients were recruited from the Dermatology, Venereology and Leprosy outpatient department (OPD) after obtaining written informed consent. Before commencing the study, approval from the institutional ethics committee was obtained.

90 consecutive patients of psoriasis aged >18 years without known systemic diseases like diabetes mellitus, congestive heart failure, coronary insufficiency, hepatic or renal insufficiency or any other co-existent cutaneous diseases that might affect QoL like atopic dermatitis, vitiligo, alopecia etc. were included. Patients with neuropsychiatric complaints and with inability to understand the DLQI questionnaire were also excluded. Sample size was calculated by $z^2 \times pq/d^2$ where $z=95\%$ confidence interval, $p=\text{estimated prevalence}=93.9\%$, $q=1-p$, $d=0.05$.⁷

A structured case reporting form was used to generate data. DLQI questionnaire was used to estimate the QoL of the patients. It is a reliable, validated, structured questionnaire and each question has four options: 'not at all', 'a little', 'a lot' or 'very much' with 0, 1, 2 and 3 being the respective corresponding scores. The answer 'not relevant', is scored '0'. Scores for all the questions were added up to get the total DLQI. The maximum score is 30 and the minimum is 0. A higher DLQI score signifies a poorer QoL. Effect on the QoL can be grouped into five, based on the total score [no effect (0-1), small effect (2-5), moderate effect (6-10), very large effect (11-20), and extremely large effect (21-30)].⁸ The relation of age, sex, marital status, level of education, place of residence and disease severity with the resultant scores was analysed.

The educational status of the study participants was divided into illiterate, elementary education (classes i-viii), secondary/senior secondary education (classes ix-xii) and college degree/diploma as per the criteria obtained from the website of the Ministry of Human Resource Development, Government of India.⁹

The place of residence was categorized as being urban, or rural, with an urban area being defined as per the Census of India 2011.¹⁰

Disease severity was categorized as being mild, moderate, or severe, assessed by the body surface area (BSA) involved. Limited disease with $\leq 2\%$ BSA involvement was graded as mild psoriasis, scattered disease with 3%-10% BSA involvement was graded as moderate psoriasis, and extensive disease with $>10\%$ BSA involvement was graded as severe psoriasis. Rule of palm was used to calculate the involved BSA. Total palmar surface of palm plus five digits of the patient was taken equivalent to 1%.¹¹

Statistical analysis was carried out using statistical package for social sciences (SPSS) version 20 and Microsoft Excel. Data has been presented as the arithmetic mean, and \pm standard deviation (SD). t-test and Analysis of Variance (ANOVA) were used to determine whether the difference between means of the sample groups was significant. $P < 0.05$ was considered as statistically significant.

RESULTS

A total of 136 consecutive psoriasis patients attending the OPD were screened for eligibility in the study. 46 did not meet the eligibility criteria. 90 patients who met the criteria were included in the study (Figure 1).

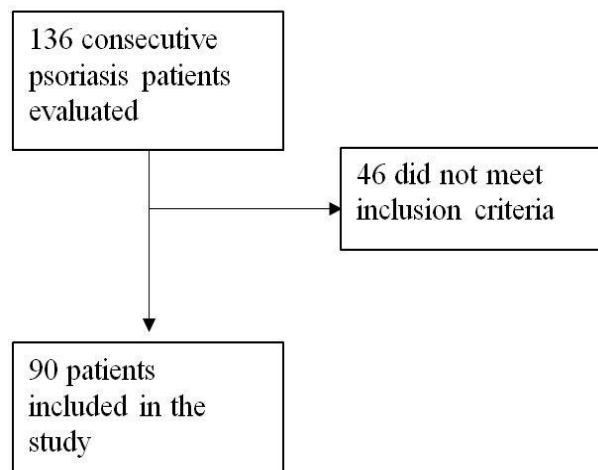


Figure 1: Flowchart of study participants.

Demographic characteristics of study participants are given in Table 1.

Maximum patients belonged to the age group of 18-30 years (34.44%), followed by an equal number of patients in the age group of 41-50 years and 51-60 years (16.67% each). The male to female ratio was 2.10:1. The mean DLQI score was 15.00 ± 4.93 .

Table 1: Demographic characteristics, disease severity of study subjects and their comparison with DLQI.

Characteristics	Number (%)	DLQI mean (SD)	P value
Age group (years)			
18-30	31 (34.44)	19.13 (3.48)	0.0000
31-40	22 (24.44)	14.27 (2.28)	
41-50	15 (16.67)	14.40 (3.67)	
51-60	15 (16.67)	11.80 (3.41)	
60+	7 (7.78)	7.14 (5.25)	
Gender			
Male	61 (67.78)	14.08 (5.03)	0.0094
Female	29 (32.22)	16.93 (4.10)	
Residence			
Urban	54 (60.00)	15.72 (4.71)	0.0872
Rural	36 (40.00)	13.92 (5.06)	
Education			
Illiterate	7 (7.78)	14.14 (3.60)	0.9704
Elementary (Class I-VIII)	20 (22.22)	15.15 (5.16)	
Secondary/Sr. Secondary (Class IX-XII)	33 (36.67)	15.00 (4.88)	
College degree/diploma	30 (33.33)	15.10 (5.08)	
Marital status			
Married	63 (70.00)	13.08 (4.13)	<0.0001
Unmarried	27 (30.00)	19.48 (3.55)	
Disease severity			
Mild	8 (8.89)	11.13 (3.79)	0.0013
Moderate	40 (44.44)	13.90 (5.28)	
Severe	42 (46.67)	16.79 (3.96)	

Table 2: Effect of psoriasis on quality of life of patients.

DLQI score and effect on QoL	No. of patients	Percentage (%)
0-1 (no effect)	2	2.22
2-5 (small effect)	1	1.11
6-10 (moderate effect)	10	11.11
11-20 (very large effect)	63	70
21-30 (extremely large effect)	14	15.56

Most of our patients (70%) had a very large effect on their QoL due to the disease (Table 2).

Our younger patients (<30 years) had significantly more deterioration in their QoL as compared to the elderly ($p=0.00$). QoL in females was worse as compared to males, with the difference being statistically significant ($p=0.0094$). Unmarried patients had more deterioration in their QoL as compared to married ones, and this difference was statistically significant ($p<0.0001$). We also noted a positive correlation between disease severity and DLQI scores in our study (0.0013) (Table 1).

There was no statistically significant correlation for DLQI with place of residence ($p=0.0872$) or educational status ($p=0.9704$) (Table 1).

DISCUSSION

Psoriasis is a common, chronic, multifactorial psychocutaneous disease that can impair the QoL (QoL)

of affected patients.⁷ People with psoriasis may have difficulties coping with their appearance and also feel stigmatized, which in turn may lead to anxiety and/or depression.¹² In our study comprising 90 patients we further tried to explore the impact psoriasis can have on a patient's QoL and if certain demographic factors play a role as to how much the QoL is affected. 97.78% of our patients reported impairment in their QoL, which was slightly lower than the 99% reported by Martins et al, but higher than the 93.9% reported by Vettuparambil et al. from South India, and 86.7% by Barot et al.^{7,13,14} The mean DLQI score in our study was 15.00 ± 4.93 , implying psoriasis had a very large impact on the QoL of our patients. This is similar to the findings of Mork et al and Zachariae et al who found mean scores of 14.8 and 13.3 ± 8.7 respectively.^{15,16} An Indian study from Wardha by Yuwante et al also reported a mean score of 13.11, which was comparable to our study.¹⁷ Our patients had a worse QoL than those in studies by Eid et al from Egypt, Fatani et al from the Middle East and Lin et al. from Taiwan who arrived at mean DLQI scores of 12.2 ± 5.3 ,

10.67±5.54 and 9.16±6.3 respectively.¹⁸⁻²⁰ The higher impact on QoL in our study can be explained by the fact that our study was carried out at a tertiary centre in a hill state, where most of the patients present with more advanced and chronic disease. They are already at a stage where the disease starts affecting their daily lives, before which they try to manage it with treatment taken locally or through home remedies.

Of our patients, the younger lot (<30 years of age) had a greater impact on their QoL, and our findings were statistically significant. Our findings were in concurrence with various international studies by Fatani et al, Lin et al and Tejada et al and with an Indian study by Barot et al.^{14,19,20,21} A 2004 literature review and a study from the Nordic region by Zacharie et al also support our inference.^{1,22} This reflects the fact that the stigma associated with psoriasis has its greatest impact in earlier adulthood, when an individual is starting his/her career and establishing new social relationships. With advancing age, acceptance of the disease is much better.

However, the results from studies by Sampogna et al and McKenna et al concluded that QoL decreases with increasing age.^{23,24} Mork et al also had similar findings in their study.¹⁵

In our study, females had a worse QoL than males, and the difference was statistically significant. Mabuchi et al, Zachariae et al and Talamonti et al had similar findings.^{22,25,26}

This can be explained by the fact that females tend to be more concerned about their body image and their appearance; hence, diseases that affect patients' appearance will have higher impact on the QoL of female patients as compared with male counterparts. Nevertheless, in a study on Chilean patients, men had significantly higher overall mean DLQI scores compared with female patients, a finding that was attributed to the greater disease extent in male patients in the studied sample.²⁷

However, neither Lin et al, nor a 2004 literature review by de Korte et al could establish any relationship between gender and QoL in patients with psoriasis.^{1,20}

Another demographic factor affecting the QoL studied by us was the marital status of the patients. Unmarried patients had a higher DLQI score as compared to the married ones, and the difference was statistically significant.

Tejada et al and Zachariae et al also recorded the significant benefits of being married in their respective studies.^{21,22}

Married patients are well settled in their lives and hence are less likely to face rejection because of psoriasis. In unmarried patients, development of a chronic disease

may in fact influence the patient's decision with regard to marriage and hence impair their QoL.

Eid et al found no significant difference between married and unmarried patients as regards the DLQI score or subscores.¹⁸

In our study, we could not establish any relation between the area of residence and QoL of our patients. Patients from urban areas had slightly higher DLQI scores, but the difference was not statistically significant. The findings of Eid et al corroborated with our findings.¹⁸ They explained the slightly higher scores in the urban population by the more demanding nature of life in urban areas.

In our study, there was no difference in the QoL of patients based on their level of education. Zachariae et al also reported similar findings in their study.²²

A study by Goyal et al reported significant association between educational status and QoL in cases of psoriasis in that the less educated experienced poorer QoL, whereas Tejada et al reported that the higher educated have a worse QoL.^{21,28} And Even though not statistically significant, Vettuparambil et al observed a steady increase in the impairment of QoL from illiterate to those who had education in college level, except in those with professional education and stated this as indicating that psoriasis has a greater impact on social interactions in individuals belonging to higher social classes.⁷ It is possible that with higher education, understanding of the disease is better and so is its acceptance. On the other hand, people with better education have higher expectations from life along with more social exposure and interactions, and psoriasis may prove to be a hindrance, hampering their QoL.

Disease severity greatly impacted the QoL in our patients, with the DLQI scores of patients with severe disease being significantly higher than those with mild or moderate disease. Our findings were supported by the studies carried out by de Korte et al, Eid et al, Mabuchi et al, Lin et al and Pakran et al who also found more impaired QoL to be linked to more severe disease.^{1,18,20,25,29} This would be self explanatory as with more body surface area affected, the patient would spend more money and time on its treatment, and with time, the disease would become more visible.

However, an Indian study by Vattuparambil et al and a study from Brazil by Silva et al could not establish any relation between the clinical severity and the QoL of patients with psoriasis.^{7,30}

CONCLUSION

Apart from the physical impact of a disease, its effect on the sufferers' psychology can have drastic implications on disease prognosis. Psoriasis fits perfectly into the

category of such diseases, which can severely debilitate an individual's mental health and QoL. Taking these facts into account and observing a paucity of Indian studies correlating demographic factors and disease severity to quality of life and anxiety and depression in psoriatic patients, we undertook this study.

The findings in our study indicate that Quality of Life is significantly impaired among patients with psoriasis. And it is influenced by their age, sex, marital status and disease severity. This intense negative effect on QoL discerns psoriasis as a grave condition and not solely that of cosmetic concern. Hence, its management must address all areas of concern to improve the patients' overall health, well being and functioning.

Our study highlights the need to take into account the psycho-social impact of psoriasis along with its physical symptoms while planning treatment for patients with psoriasis. The patient must be made to feel as being in control of the disease situation, rather than being made to feel like a pawn of circumstances. Keeping these factors in mind and tailoring the treatment as per the patients' need while simultaneously providing them psychological support whenever needed would ultimately help in improving overall health outcomes and quality of life of psoriasis patients.

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