Original Research Paper

Volume : 5 | Issue : 8 | August 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

# Quality of Life in Patients of Psoriasis in Himachal Pradesh, India

Medical Science

KEYWORDS :

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## INTRODUCTION:

Psoriasis is a serious condition strongly affecting the way a person sees himself and the way he is seen by others. It is linked with social stigmatization, pain, discomfort, physical disability and psychological distress.1 Psoriasis affects both sexes equally and can occur at any age although it most commonly appears for the first time between the ages of 15 and 25 years. It affects 2.5% of world's population.2

Although the definition of psoriasis as "a common, chronic, disfiguring, inflammatory condition of the skin"3– is focused to skin only but it's effects run more than just skin deep. Psoriasis generally does not affect survival; it certainly has a number of major negative effects on patients, demonstrable by the significant detriment to quality of life. We have done a study of psoriasis patients with the objective of identifying the clinical variables adversely affecting their quality of life (QoL).

## Material and Method:

The study group consisted of 100 consenting consecutive cases of psoriasis, of both sexes, aged above 18 years, and with duration of the disease of at least 6 months, attending the dermatology OPD and IPD of Maharishi Markandeshwar Institute of Medical Sciences and Research, Kumarhatti, Solan (Himachal Pradesh), India. Patient of age above 70 years or having any comorbid chronic skin condition were excluded from the study. The study period was from July 2014 to Sep 2014. The institutional ethics committee approved the study. Details about the lesions, distribution, type, number, site of involvement, seasonal variation, and morphology were noted, followed by the assessment of the severity of the disease using PASI (Psoriasis Area Severity Index) scaling. The patients were also evaluated for physical and psychological aspect of quality of life using the PDI and PLSI scales respectively.

### Physical Disability Index (PDI):

The questions of PDI had been translated to Hindi and validated by back translation to English by two unbiased individuals separately. It is a 15-item standardized questionnaire designed to quantify the functional disability in aspects of daily activities, employment, personal relationships, leisure, and treatment effects in psoriasis patients. All 15 questions were related to last 4 weeks only. Categorical scores were given to each question according to the severity – score 3: Very much (severe); score 2: A lot (moderate); score 1: Very little (mild); and score 0: Not at all (unaffected). The resulting score ranged from 0 to 45. The higher the score, the more the quality of life is impaired. The PDI can also be expressed as a percentage of maximum possible score of 45.

### Psoriasis Life Stress Inventory (PLSI):

The PLSI is a 15-item questionnaire that provides a measure of the daily hassles of psychosocial stress associated with having to cope with everyday events in psoriatic patients. Scores on this scale range from 0 to 45. The PLSI also permits patients to be classified as a function of their distribution of scores into two groups: those patients who react significantly to the stress associated with having psoriasis (score of > 10); and those patients who are not significantly affected with having psoriasis-related stress (score of < 10).

After assessing the severity of psoriasis using the PASI scale, PDI and PLSI scales were calculated. The Pearson's correlation formula was applied and the 'r' value, standard deviation, and P value was calculated. Then the correlation between all the three variables was assessed.

## Results:

The study group consisted of 100 consecutive patients with psoriasis. The characteristics of the respondents are given in the Table 1. The mean score of PASI in our cases was 9.97 (out of the maximum possible score of 72) and mean score of PDI and PLSI was 19.17 and 19.47 respectively. Of the various components of the PDI scale, the daily activities of the psoriatic patients were affected the most (38.66%), followed by personal activities (21.22%). The PDI score of leisure activity was 18.34%, at work/home was 17% and for treatment was least i.e 4.78 %.( Graph 1)

### Correlation of clinical severity score with QoL indices:

In our study, clinical severity score i.e PASI and QoL indices i.e PDI and PLSI were positively correlated with each other, and found to be statistically significant.(Table 3) The total PASI score significantly correlated with the total PDI ($r = 0.583$; $P < 0.001$) and with total PLSI ($r = 0.479$; $P < 0.001$). Total PDI and PLSI are significantly correlated with each other also. ($r = 0.768$; $P < 0.001$)

### QOL indices in two clinical severity groups based on PASI-

Feldman et al4 in his study had argued that for clinical trial criteria PASI should be > 11, and divided his subjects into 2 groups. In the present study, the patients were divided into 2 groups based on their PASI scores; group I, PASI < 11; group II, PASI > 11. The mean of the PDI and the PLSI in each of the clinical severity groups were compared [Table 2]. PDI and PLSI scores are higher in group 2 which comes out to be statistically significant also (p=0.0001), which signifies that increase in clinical severity increases the impairment in quality of life.

## Discussion:

Prevalence of psoriasis varies in different parts of the world. According to published reports, prevalence in different populations varies from 0% to 11.8%.5 In a study from tertiary health care center from North India, psoriasis patients accounted for 2.3% of the total dermatology outpatients.6 It has profound impact on the psychological and social aspect of the patient, particularly because of its visibility. The anguish expressed by many psoriasis patients has been explored extensively in western literature over many decades.7 Surprisingly, very few Indian studies especially in Northern states have looked into the psychological aspects of this chronic disfiguring disease. Thus the present study was conducted to assess the physical and psychosocial disability of psoriasis patients in the region of Himachal Pradesh.

Psoriasis is a chronic and recurring disease which often brings about a feeling of hopelessness in terms of cure for the condition.8 It has an immense impact on social life, with patients frequently complaining of social difficulties and friction with family members. PASI has been the most widely used scale for assessment of the disease extent and severity but it do not measure the impact of psoriasis on patients' QoL directly so use of other QoL scales is recommended. Various measures have been used to assess QoL in psoriasis patients. These measures may be categorized as psoriasis-specific, skin specific, generic QoL measures, and "mixed" measures. Skin-specific measures like Questionnaire on Experience with Skin Complaints (QES) and Dermatology Life Quality Index (DLQI) or Generic QoL measures like Short Form 36 (SF-36), Subjective Well Being Scale (SWLS) facilitate comparisons across various diseases. Whereas psoriasis specific measures like PDI and PLSI are the most sensitive tools to detect psychosocial morbidity in patients.

**Quality of life indices:**

PDI measures disability in five aspects, namely, daily activities, work, personal relations, leisure and treatment. Since psoriasis is a disease affecting the skin, depending on its severity and location, the patients experience significant physical discomfort and disability. According to the different subsets of PDI, the QoL was most affected in daily activities (38.66%), followed by personal relations (21.22%), leisure (18.34%), work (17%) and the least affected was problems with treatment (4.78%). The mean total PDI score was 19.17 in the present study.

Most of the other authors, Manjula et al9, Fortune et al,10 and Rakesh SV et al7 too found, that out of the different components of PDI, daily activity was most affected. In our study, personal relations subset was second most commonly affected domain whereas Rakesh SV*et al*7 and Manjula et al9 found that the questions related to difficulties in personal relationships scored the lowest.

The mean PLSI score in the present study was 19.47. The PLSI scores were more for females 12.29 as compared to that of males 7.18, suggesting that the disease affected the female's psychology more than males. Our findings are in concordance with the findings of other studies like of Pakran et al11 and Gupta et al.12 According to Koo et al13, the females's QoL was affected more, as in his study the females had more severe disease with higher PASI scores. This finding is similar to our study where the mean PASI for females was 14.32 as against 5.63 in males, thus affecting the female's QoL more than that of males.

**CORRELATION BETWEEN SEVERITY AND QOL**

We observed a highly significant correlation between the clinical severity (PASI) with the total PDI and PLSI score. Our findings are in concordance with other investigators like Finlay *et al*14 and Aschroft *et al.*15 Feldman4 divided his patients into two groups on the basis of PASI score, so we divided into two groups based on the clinical severity Group I PASI<11 (*n*=76) and Group II PASI >11 (*n*=24). We found that the total PDI was statistically different in the two groups. (Table 3) Rakesh SV et al7 did a similar study using the same scales and concluded a positive correlation (r = 0.529; P < 0.001) between the disease severity and the stress incurred by the patient. Aschrof15 and Gefland16 have demonstrated moderate co relation between extend of disease and physical disability. However, Fortune10, Heydendael17, Yang18 and Shankar et al19could not find any significant correlation between PASI and quality of life. On closer examination of Fortune's study, we noted that most of his patients had low clinical severity scores and the patients had milder disease and so had not much effect on the quality of life.

**Conclusion:**

In recent years, the conceptualization of stress in the context of psoriasis has developed to include not only significant life events but also chronic, recurrent, low-grade stresses, or daily hassles that occur largely as a result of living with a chronic disfiguring disease.12 It is the inner world of the patient too that clinicians need to assess. Therefore, QoL measures are being assigned increasing important in the evaluation of health care outcomes. We found in our psoriatic patients that as clinical severity of disease increases the impairment in QoL indices also increases so the need of the hour is a multidimensional approach towards the patients suffering from psoriasis. The "brain-skin axis" is a relatively new concept connecting stress and psoriasis that need to be look into more keenly.

**Table 1**

| **Patient characteristics** | **Value** |
|---|---|
| **Total number of respondents** | **100** |
| **Number of males** | **74** |
| **Number of females** | **26** |
| **Mean age in years** | **55.19±9.31 years** |
| **Mean age in years (males)** | **56.59 ±8.75 years** |
| **Mean age in years (females)** | **53.94± 9.76 years** |
| **Mean age at onset** | **46.35±11.73 years** |
| **Mean PASI score**<br>**Male**<br>**Female** | **9.97**<br>**5.63±2.47**<br>**14.32±3.98** |
| **Mean PDI score**<br>**Male**<br>**Female** | **19.17**<br>**6.46±3.65**<br>**12.71± 4.64** |
| **Mean PLSI score**<br>**Male**<br>**Female** | **19.47**<br>**7.18±4.13**<br>**12.29±4.52** |

**Figure 1.**

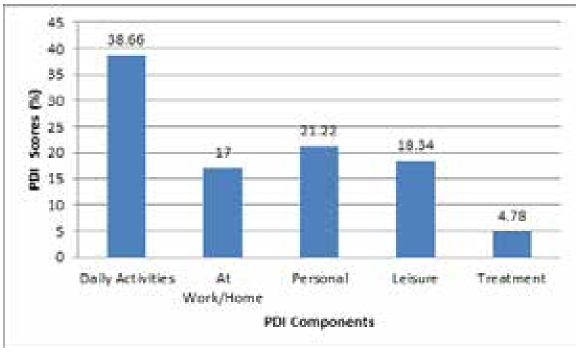

**Table 2 Relationship of PDI and PLSI to PASI**

| | **PASI <11 (n=76)** | **PASI≥11 (n=24)** | **p value** |
|---|---|---|---|
| **PDI(mean)** | **6.46** | **12.71** | **0.0001** |

| | | | |
|---|---|---|---|
| **PLSI (mean)** | **7.18** | **12.29** | **0.0001** |

**Table 3. Correlations between PASI, PDI and PLSI**

| | | PDI | PLSI | PASI |
|---|---|---|---|---|
| **PDI** | **r value** | **1** | **.768** | **.583** |
| | **P value** | **-** | **.000*** | **.000*** |
| | | | | |
| **PLSI** | **r value** | **.768** | **1** | **.479** |
| | **P value** | **.000*** | **-** | **.000*** |
| | | | | |
| **PASI** | **r value** | **.583** | **.479** | **1** |
| | **P value** | **.000*** | **.000*** | **-** |
| | | | | |

*** Correlation is significant at the 0.01 level.**

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