



Evaluation of psoriasis area and severity index and its correlation with DLQI in evaluating various parameters in psoriasis – A hospital-based study

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ABSTRACT

Psoriasis is a common chronically relapsing auto-inflammatory disease of the skin affecting patients of all ages and both genders. There is a more significant impact on the quality of life in patients with established disease. The study was conducted to correlate the relation between dermatology life quality index and psoriasis area and severity index and thereby deriving the impact of one on the other. This is a cross-sectional, descriptive study undertaken in psoriasis patients who had disease manifestations but did not undergo any treatment. Patient's DLQI and PASI were calculated at a given point of time. Fifty patients participated in the study. Thirty-three patients were men, with a mean age of 37 years, and seventeen patients were women with a mean age of 34 years. PASI & DLQI were tabulated and compared with age, gender, disease duration, occupation etc. PASI is a reliable parameter to measure the severity of disease and DLQI for measuring the quality of life in psoriatic patients. PASI and DLQI are reliable parameters, and combining both and correlating them with various demographic and lifestyle parameters gives a clear indication of how these influence the disease impact in general.



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INTRODUCTION

Psoriasis is a chronic, inflammatory, skin disease that nearly affects three per cent of the world population, which also has an impact on the economic, psychological and social aspects of the patient.

Psoriasis is the most easily seen dermatoses in dermatology OPD, second next to dermatophytosis. The

severity of affection varies anywhere between mild to severe involving the skin commonly and sometimes the nails and joints (Seng and Nee, 1997). Psoriasis causes emotional distress, social detachment leading to never-ending embarrassment in patients (Rapp *et al.*, 1999). This impacts their life in a greater way leading to restrictions from social and recreational activities and also possibly affecting their sexual relationships (Almeida *et al.*, 2013). The utmost matter of concern is the economic burden it brings in due to the cost of treatment and absenteeism from the workplace (Martins and Arruda, 2004). The currently accepted norm is evaluation should consider clinical, psychological and social factors (Finlay *et al.*, 1990).

Several tools have been tested and validated to measure the severity of psoriasis, till date, DLQI & PASI are the assessment indices that are often cited, most widely accepted, reliable and easily reproducible (Martins *et al.*, 2004). They have been developed to ensure maximum benefit to the patients

undergoing treatment (Smith *et al.*, 2005; Yang *et al.*, 2005). It is quite natural that the disease severity is directly proportional to its impact on the quality of life. Still, there are some studies which have even challenged this strict association (Reich and Griffiths, 2008; Revicki *et al.*, 2008).

The objective of our work is to make out the correlation between the clinical severity of psoriasis and patients' quality of life by using the PASI and the DLQI tools.

MATERIALS AND METHODS

This was an observational, cross-sectional study of 50 patients with chronic plaque psoriasis seen in the dermatology unit of Saveetha medical college hospital between March and June 2020. Seventeen women and thirty-three men aged between 18 and 70 years agreed to participate in the study and signed the consent form approved by the local research ethics committee. Patients with pustular psoriasis, palmoplantar psoriasis, scalp psoriasis, erythrodermic psoriasis and psoriatic arthritis were excluded from the study. Pregnant females and also patients with known psychiatric illnesses were also excluded.

All patients were assessed by the same clinician to establish the disease severity, and PASI was calculated using the standard scoring system. In a single appointment, the patients also answered a standardized quality of life questionnaire adapted to the Indian context (Nayak *et al.*, 2018).

Statistical analysis

The disease severity (Psoriasis Area and Severity Index - PASI), quality of life (Dermatology Life Quality Index - DLQI) and their subdivisions were correlated through standard statistical methods.

RESULTS AND DISCUSSION

The results were tabulated as follows comparing parameters like age, gender, duration of the disease, occupation, comorbidities and sleep. Attempts were made to correlate these with PASI and DLQI.

The PASI and DLQI were worst in the 31-50 years group as given in Table 1, which directly correlates to the most productive age group wherein the stress related to work and managing the family compounds the problem.

The mean PASI score was higher, but DLQI lower in males compared to females, and the results are given in Table 2. The DLQI may be higher in females due to the stigma and social detachment they experience due to prevailing cultural practices.

The mean PASI was highest in the group wherein the duration of the disease was between 1 and 5 years whereas DLQI was worst in people having disease duration of more than five years and the results are provided in Table 3.

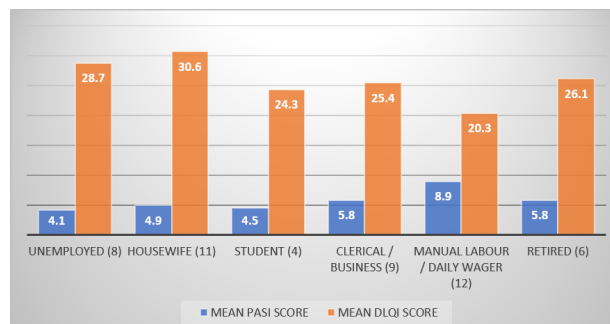


Figure 1: Relation between PASI and DLQI concerning the occupation

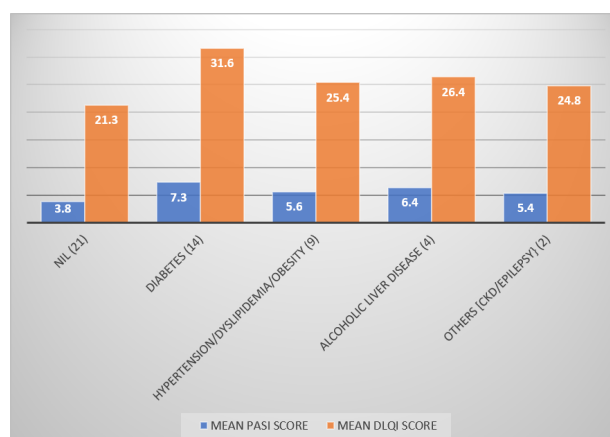


Figure 2: Relation between PASI and DLQI concerning comorbidities

With regards to occupation, manual labourers and daily wagers had the maximum disease severity on comparison with other groups whereas people aged more than 55 years and the unemployed faced interpersonal problems, family detachment and lack of employment contributing to higher DLQI in their population. These results are mentioned in Figure 1 and Table 4.

People with diabetes were the worst affected in terms of PASI and DLQI as the chronic disease had worsened their skin condition leading on to poor quality of life as evidenced by DLQI and mentioned in Figure 2 and Table 5.

Sleep-deprived people had the worst disease severity as evidenced by higher PASI and DLQI values shown in Table 6.

The PASI has been the easiest as well as a useful method of obtaining an objective clinical measure in psoriatic subjects.

Table 1: The relation between PASI and DLQI with different age groups

Age Group(N)	Mean PASI score	Mean DLQI score
18-30 (7)	5.6	26.7
31-50 (29)	6.4	28.3
51-70 (14)	5.2	22.8

Table 2: The relation between PASI and DLQI concerning gender

Gender(N)	Mean PASI score	Mean DLQI score
Male(33)	6.5	22.9
Female(17)	4.9	28.9

Table 3: The relation between PASI and DLQI concerning disease duration

Duration(N)	Mean PASI score	Mean DLQI score
Less than one year (16)	3.9	20.6
1 to 5 years (25)	7.1	24.7
More than five years (9)	6.1	32.4

Table 4: The relation between PASI and DLQI concerning the occupation

Occupation(N)	Mean PASI score	Mean DLQI score
Unemployed (8)	4.1	28.7
Housewife (11)	4.9	30.6
Student (4)	4.5	24.3
Clerical / Business (9)	5.8	25.4
Manual labour / Daily wagger (12)	8.9	20.3
Retired (6)	5.8	26.1

Table 5: The relation between PASI and DLQI concerning comorbidities

Comorbidities(N)	Mean PASI score	Mean DLQI score
Nil (21)	3.8	21.3
Diabetes (14)	7.3	31.6
Hypertension/Dyslipidemia/Obesity (9)	5.6	25.4
Alcoholic liver disease (4)	6.4	26.4
Others [CKD/Epilepsy] (2)	5.4	24.8

Table 6: The relation between PASI and DLQI concerning sleep

Sleep(N)	Mean PASI score	Mean DLQI score
7 to 10 hours a day (11)	4.1	22.6
5 to 7 hours a day (24)	4.3	23.0
Less than 5 hours a day (15)	8.7	32.1

DLQI is more subjective, which is more dependent on distinct groups of people based on their socio-cultural and economic profile. PASI and DLQI had no positive correlation when comparing various parameters as they are two distinct entities measured by people who judge it in different perspectives

The age and gender comparison concerning PASI were comparable with other studies (Hägg *et al.*, 2017; Gelfand *et al.*, 2004).

The DLQI in patients with psoriasis for more than five years was maximum compared to the other groups which differed from the study by Silva *et al.* where the DLQI was better in people with chronic disease (da Silva *et al.*, 2013).

The PASI was most severe in daily wagers, and hard labourers and life quality were worst hit in the unemployed which is in contrast with the study by Rita *et al.* which showed no relation of occupation with PASI and DLQI (Vora, 2020).

Psoriasis with comorbidities was not compared in terms of PASI and DLQI in earlier studies. Still, one study shows an increased risk of psoriasis with some of the comorbidities mentioned in our study (de Carvalho *et al.*, 2016).

Reduction in sleep has been shown to have a positive correlation with disease severity and affection of quality of life. A study by Saçmacı and Gürel (2019) shows similar findings.

CONCLUSION

PASI is a reliable parameter to measure the severity of disease and DLQI for measuring the quality of life in psoriatic patients. This study showed a statistically significant correlation between PASI as an indicator of the severity of disease and DLQI as an indicator for the quality of life and drawing comparison between these scores and the various lifestyle parameters gives an indirect measure on the impact of the disease. It accentuates the importance of adopting a multi-dimensional approach towards the assessment of psoriasis and also helps in analyzing the efficacy of the treatment given to these patients.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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