

# Quality of life in psoriasis and its relationship to clinical severity- An Original Research

\*<sup>1</sup>Shubhshree Misra, <sup>2</sup>Manoj Ghogare, <sup>3</sup>Shilpa Pawar

**ABSTRACT**--Psoriasis affects approximately 2% of the world's population, affecting both men and women. The present study was conducted to assess the effects of psoriasis severity PASI on the patient's quality of life PDI. The present study was conducted on 100 cases of Psoriasis of both genders. An assessment of psoriasis was made using the psoriasis area and severity index (PASI). The PASI score was calculated by subjective assessment of 3 factors: erythema (E), induration (I), and scaling (S). The majority of the patients (22%) were in the age group of 61-70 years. There was female preponderance (58%) while male patients constituted 42% of the study group. The M:F ratio was 1:1.4. 38% participants were regular tobacco users while 22% and 12% participants smoked and drank alcohol respectively. 52% patients had psoriasis for 0-5 years followed by 27% patients that had psoriasis for 6-10 years, 6% for 11-15 years, 8% for 16-20 years, 5% for 21-25 years and 2% for >25 years. The severity of psoriasis was graded according to the PASI score. 40% patients had mild psoriasis (PASI<7), 26% of patients had psoriasis of moderate severity (PASI 7 -12) while 3 4% had severe type (PASI>12). The mean PASI score was 9.17±4.67. The quality of Life (QoL) was most affected in daily activities (90%), followed by work (85%), leisure (72%), problems with treatment (68%) and the least affected was in personal relations (65%). Severity of psoriasis as per PASI has no correlation with psoriasis related Quality of Life (QoL) as per PDI in our study. The quality of Life (QoL) was most affected in daily activities and it was also observed that all aspects of (QoL) was affected more by patients having psoriasis of less severity on sensitive sites of head/neck and hand/foot as compared to patients having psoriasis of more severity on other parts of the body.

**Key words**--Erythema, Psoriasis, Scaling

## I. INTRODUCTION

Psoriasis affects approximately 2% of the world's population, affecting both men and women. Although psoriasis generally does not affect survival, it has significant detrimental effect on quality of life (QOL), which may be comparable to that of ischemic heart disease, diabetes, depression, and cancer.<sup>1</sup> It is often linked with social stigmatization, loss of self-confidence, pain, discomfort, physical disability, and psychological distress. Many patients report moderate to extreme feelings of anxiety, anger, and depression and higher frequency of suicidal ideation. According to a study using a 33-item questionnaire, anticipation of rejection and feelings of guilt and shame were the major aspects of stigmatization and correlated significantly with pruritus intensity and QOL.<sup>2</sup>

Psoriasis has a huge socioeconomic impact on patients' lives; thus, it is important to ascertain patient's goals and prepare a treatment plan which is practical and realistic. This includes both specific treatment and general

---

<sup>1</sup>\* Assistant Professor, Department of Dermatology, TSM Medical College and Hospital Lucknow, U.P

<sup>2</sup> Assistant Professor, Department of Dermatology, TSM Medical College and Hospital Lucknow, U.P

<sup>3</sup> Senior Resident, Department of Dermatology, TSM Medical College and Hospital Lucknow, U.P

measures, including counseling, rest, and emollients, which may be important in improving the QOL of the patients.<sup>3</sup>

The World Health Organization Quality of Life Group defined QoL as “an individual’s perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards, and concerns.” QOL includes all the factors that have an impact on an individual’s life and represents the extent to which the hopes of an individual are matched by experience, whereas health-related quality of life (HRQOL) relates only to health aspects, including psychological, social, and physical wellbeing.<sup>4</sup> The present study was conducted to assess the effects of psoriasis severity PASI on the patient’s quality of life PDI.

## **II. MATERIALS AND METHODS**

The present hospital based prospective co-relation study was conducted at our tertiary care centre among 100 patients to assess the effects of psoriasis severity (PASI) on the patient’s quality of life (PDI). It comprised of 100 cases of both genders. Institute Ethics Committee Clearance was obtained prior to the start of study. Written and informed consent was taken from all patients. Sociodemographic and clinical information was obtained from all the patients.

## **III. INCLUSION CRITERIA**

1. Diagnosed cases of psoriasis
2. Able and were willing to give informed consent (or parent/ guardian consent case of children under 16 years of age).

## **IV. EXCLUSION CRITERIA**

1. Pregnant and lactating women.
2. Nail and knee psoriasis without skin manifestation.

Relevant history, clinical examination and necessary investigations along with PASI were done for all the patients.

An assessment of psoriasis was made using the psoriasis area and severity index (PASI). The PASI score was calculated by subjective assessment of 3 factors: erythema (E), induration (I), and scaling (S). PASI examines four regions:- The head and neck, Upper limbs, Trunk and Lower limbs.

Each region was given a score to show how much of the region is affected by psoriasis (area) and a score was recorded how bad the psoriasis was (severity). The area score ranged from 0 (no psoriasis) to 6 (all of the skin affected). The severity score for each region were reached by adding scores for redness, thickness and scale, each of which was graded from 0 to 4, giving a maximum of 12.

PASI calculated by = area score x severity score (Maximum 6 x 12 = 72).

## **V. GRADING**

1. Redness (erythema); 0= no redness, 1= light red, 2= red, but not deep red, 3= very red and 4= extremely red.

2. Thickness (induration); 0= no thickness, 1= 0.25mm mild, 2= 0.5mm moderate, 3= 1mm severe and 4= 1.25mm very severe.

3. Scales; 4= no scales, 1= mainly fine scale, some of lesion covered, 2= coarser, thin scale, most of lesion covered, 3= coarser, thick scale, most of lesion covered and 4= very thick scale, all of lesion covered, very rough. Skin area involved calculated by palm method.

The PASI score ranged from 0 (no psoriasis on the body) and up to 72 (the most severe case of psoriasis). Psoriasis Disability Index consisted of 15 questions related to daily activities, work or school, personal relationships, leisure and treatment. All questions were based on the patient's experiences over the last 4 weeks. PDI is a tick box scoring system which uses a Likert scale of 0 to 3 in which 0 signifies not at all, 1 a little, 2 a lot and 3 signifies very much bothered. PDI resulting score ranged from 0 to 45. The higher the score, the more the quality of life is impaired.

The questionnaires were completed anonymously, after assuring the responders about the confidentiality of the data and explaining the objectives of the research. PDI were completed by patient. Quantitative data is presented with the help of Mean and Standard deviation. Comparison among the study groups is done with the help of paired t test as per results of normality test.

## VI. RESULTS

**Table 1:** Distribution of patients according to age

Age group (Years)	Number	P value
21-30	11	0.12
31-40	13	
41-50	18	
51-60	19	
61-70	22	
>70	17	

Table I shows that majority of the patients (22%) were in the age group of 61-70 years followed by 19% in the age group of 51-60 years. 18% patients were in the age group of 41-50 years, 17% patients were in the age group of greater than 70 years, 13% in the age group of 31-40 years and 11% patients in the 21-30 years of age group.

**Table 2:** Distribution of patients according to gender

Gender	Male	Female
Number	42	58

Table II shows that there was female preponderance (58%) while male patients constituted 42% of the study group. The M:F ratio was 1:1.4.

**Table 3:** Distribution of participants according to Addiction

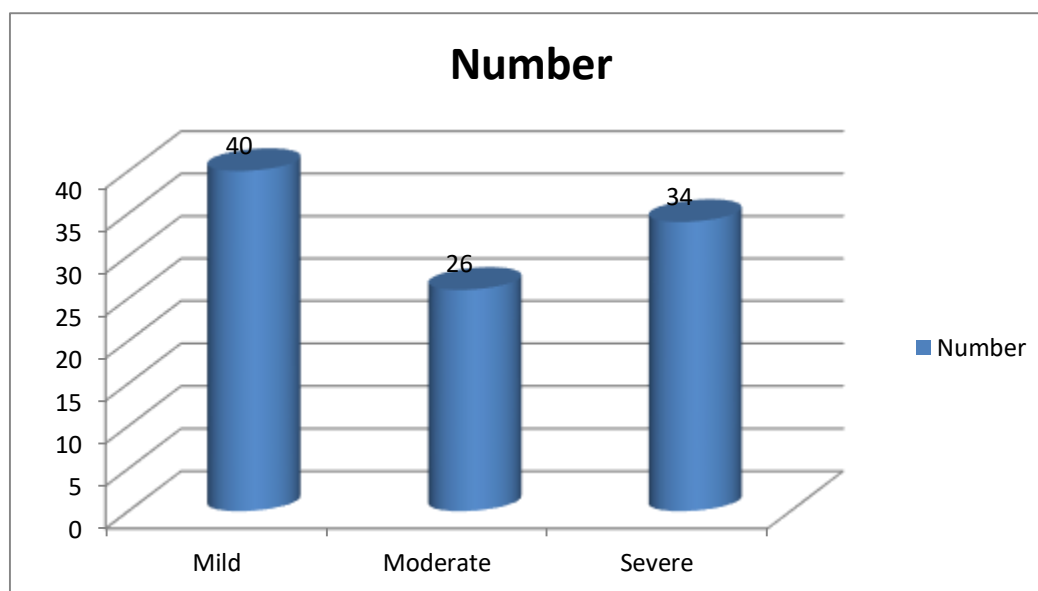
Addiction	Number	P value
Tobacco	38	0.14
Smoking	22	
Alcohol	12	

Table III shows that 38% participants were regular tobacco users while 22% and 12% participants smoked and drank alcohol respectively.

**Table 4:** Distribution of patients according to duration of disease

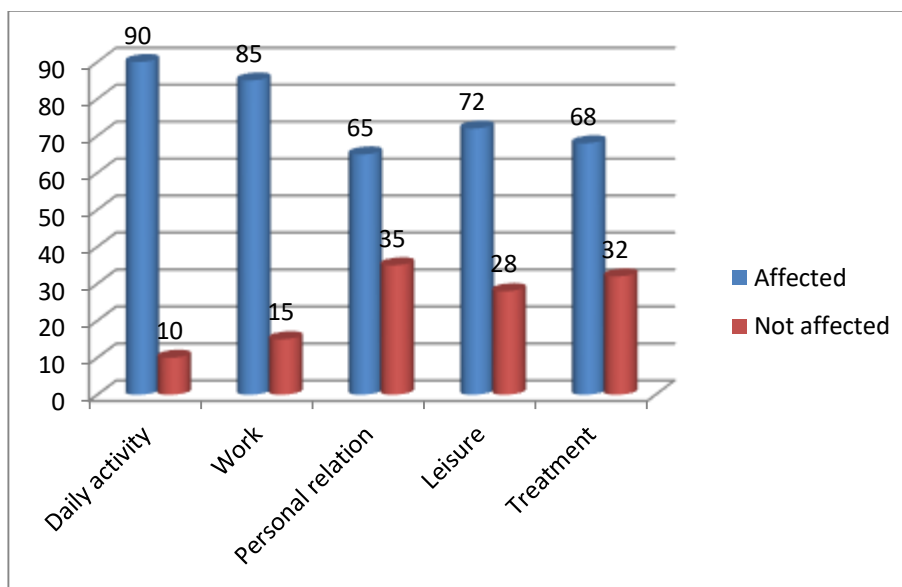
Duration of Disease	Number	Percentage
0-5	52	52%
6-10	27	27%
11-15	6	6%
16-20	8	8%
21-25	5	5%
>25	5	5%

Table IV shows that 52% patients had psoriasis for 0-5 years followed by 27% patients that had psoriasis for 6-10 years, 6% for 11-15 years, 8% for 16-20 years, 5% for 21-25 years and 2% for >25 years.



**Figure 1:** Distribution of patients according to psoriasis area severity index (PASI)

Graph I shows that the severity of psoriasis was graded according to the PASI score. 40% patients had mild psoriasis (PASI<7), 26% of patients had psoriasis of moderate severity (PASI 7 -12) while 3 4% had severe type (PASI>12). The mean PASI score was 9.17±4.67.



**Figure 2:** Distribution of patients according to different psoriasis disability index (PDI) subsets

Graph II shows that it was observed that according to the different subsets of PDI, the quality of Life (QoL) was most affected in daily activities (90%), followed by work (85%), leisure (72%), problems with treatment (68%) and the least affected was in personal relations (65%).

**Table 5:** Correlation of PASI score and PDI in patients

PASI	Mean PASI score	Mean PDI score	P value
Mild	4.3	19.9	<0.05
Moderate	9.5	28.4	<0.05
Severe	14.6	34.0	<0.05

Table V shows that the mild mean PASI <7 (4.30±1.29), moderate mean PASI 7-12 (9.54±1.92) and severe mean PASI>12 Score (14.62±1.10) significantly correlated with the mean PDI score. This indicated that clinical severity significantly correlated with QoL in psoriasis patients as per Student t-test (p<0.05).

**Table 6:** Pearson's correlation coefficient for relation between PASI scores and PDI subsets

PDI subset	R value	P value
Daily activity	0.51	0.0001
Work	0.57	0.0001
Personal relation	0.34	0.01
Leisure	0.41	0.003
Treatment	-0.01	0.95

Table VI shows that there was significant correlation of the PASI score with all PDI subsets except treatment-related activities.

## VII. DISCUSSION

A hospital based prospective co-relation study was conducted among 100 patients to assess the effects of psoriasis severity (PASI) on the patient's quality of life (PDI). Since psoriasis is a disease affecting the skin, depending on its severity and location, the patients experience significant physical discomfort and disability. Moreover, itching and pain can interfere with basic functions such as self-care. Psoriasis of hands and feet may cause difficulty in performing daily chores like picking things up, sewing, etc. Walking may become painful due to fissures on the thick, cracked soles. Having psoriatic skin lesions, especially on the exposed parts of the body, compels the patient to make necessary changes in their choice of clothing to conceal the lesions.<sup>5</sup>

Ginsburg IH et al<sup>6</sup> and Gupta MA et al<sup>7</sup> in feelings of stigmatization and age and gender differences in the impact of psoriasis on quality of life observed Psoriasis is associated with significant psychological distress, psychiatric morbidity, experience Stigma and decreased QoL.

In the present study, majority of the patients (22%) were in the age group of 61-70 years followed by 19% in the age group of 51-60 years. 18% patients were in the age group of 41-50 years, 17% patients were in the age group of greater than 70 years, 13% in the age group of 31-40 years and 11% patients in the 21-30 years of age group. Kumar S et al<sup>8</sup> found maximum number of patients fall in the age group 41-50 years while as age group 61-70 had the least number of patients.

There was female preponderance (58%) in our study while male patients constituted 42% of the study group. The M:F ratio was 1:1.4. Kumar S et al<sup>8</sup> found a total of 49 female psoriatic patients age ranged from 18-70 years with mean and SD of  $38.55 \pm 14.16$ . The mean age of onset in female psoriatic patients was 38.5 years.

Perrott SB et al<sup>9</sup> observed that men it is easier to tackle the social effects of psoriasis, in contrast, to women who are more likely to feel distressed or embarrassed in social gatherings. Misery L et al<sup>10</sup> suggested another way of understanding differences between men and women's reactions to psoriasis has been provided by stress.

In our study, 38% participants were regular tobacco users while 22% and 12% participants smoked and drank alcohol respectively. 43% participants gave a positive history of exacerbation of psoriasis with winter season and drug intake exacerbated psoriasis in 56% participants. 52% participants had a family history of psoriasis while 48% participants had no family history of psoriasis. 52% patients had psoriasis for 0-5 years followed by 27% patients that had psoriasis for 6-10 years, 6% for 11-15 years, 8% for 16-20 years, 5% for 21-25 years and 2% for >25 years.

The severity of psoriasis was graded according to the PASI score. 40% patients had mild psoriasis (PASI<7), 26% of patients had psoriasis of moderate severity (PASI 7 -12) while 34% had severe type (PASI>12). The mean PASI score was  $9.17 \pm 4.67$ . Kumar S et al<sup>8</sup> found mean PASI value of psoriatic patients was  $9.63 \pm 8.13$  (SD). Manjula VD et al<sup>11</sup> observed twenty-nine patients (90.6%) were having limitation of their daily activities due to psoriasis. Of these, 46.9% were mild (score 1-5), 31.3% were moderate (score 6-10) and 12.5% were severe (score > 10). There was no statistical association between daily activities and age group or gender.

It was observed in the present study that according to the different subsets of PDI, the quality of Life (QoL) was most affected in daily activities (90%), followed by work (85%), leisure (72%), problems with treatment (68%) and the least affected was in personal relations (65%). Kumar S et al<sup>8</sup> found Psoriasis Disability Index (PDI) of patients with mean and SD was  $19.22 \pm 7.16$ .

In our study, the mild mean PASI <7 ( $4.30 \pm 1.29$ ), moderate mean PASI 7-12 ( $9.54 \pm 1.92$ ) and severe mean PASI >12 Score ( $14.62 \pm 1.10$ ) significantly correlated with the mean PDI score. This indicated that clinical severity significantly correlated with QoL in psoriasis patients as per Student t-test ( $p < 0.05$ ). There was significant correlation of the PASI score with all PDI subsets except treatment-related activities.

Kumar S et al<sup>8</sup> reported a strong association in female psoriatic patients when we correlated the surface area of psoriatic lesions with quality of life. The clinical severity of the disease as manifested by PASI is found significantly correlated with the overall physical disability (PDI). Studies by Finlay AY et al<sup>12</sup>, Aschroft DM et al<sup>13</sup> and Gelfand JM et al<sup>14</sup> have found moderate correlation between PASI scores and PDI scores.

## VIII. CONCLUSIONS

Severity of psoriasis as per PASI has no correlation with psoriasis related Quality of Life (QoL) as per PDI in our study. The quality of Life (QoL) was most affected in daily activities and it was also observed that all aspects of (QoL) was affected more by patients having psoriasis of less severity on sensitive sites of head/neck and hand/foot as compared to patients having psoriasis of more severity on other parts of the body.

## REFERENCES

1. Finlay AY, Kelly SE. Psoriasis - An index of disability. *Clin Exp Dermatol* 1987;12:8-11.
2. Weiss SC, Kimball AB, Liewehr DJ, Blauvelt A, Turner ML, Emanuel EJ. Quantifying the harmful effects of psoriasis on health related quality of life. *J Am Acad Dermatol* 2002;4:512-8.
3. Hrehorów E, Salomon J, Matusiak L, Reich A, Szepietowski JC. Patients with psoriasis feel stigmatized. *Acta Derm Venereol* 2012;92:67-72.
4. Bhosle MJ, Kulkarni A, Feldman SR, Balkrishnan R. Quality of life in patients with psoriasis. *Health Qual Life Outcomes* 2006;4:35.
5. Finlay AY, Coles EC. The effect of severe psoriasis on the quality of life of 369 patients. *Br J Dermatol* 1995;132:236-44.
6. Ginsburg IH, Link BG. Feelings of stigmatization in patients with psoriasis. *J Am Acad Dermatol* 1989; 20: 53-63
7. Gupta MA, Gupta AK. Age and gender differences in the impact of psoriasis on quality of life. *Int J Dermatol* 1995; 34: 700-703.
8. Kumar S, Akhtar T, Islam WA, Chopra D and Kaur R. Quality of life evaluation in women Psoriatic patients. *Int. J. of Life Sciences* 2017; 5(1): 93-96.
9. Perrott SB, Murray AH, Lowe J, Ruggiero KM (2000) The personal-group discrimination discrepancy in persons living with psoriasis. *Basic Appl Social Psychol*;22: 57–67.

10. Misery L, Thomas L, Jullien D, Cambazard F, Humbert P, Dubertret L, Dehen L, Macy G, Boussetta S, Taieb C (2008) Comparative study of stress and quality of life in outpatients consulting for different dermatoses in 5 academic departments of dermatology. *Eur J Dermatol*; 18: 412–415.
11. Manjula VD, Sreekiran S, Saril PS, Sreekanth MP. A study of psoriasis and quality of life in a tertiary care teaching hospital of Kottayam, Kerala. *Indian J Dermatol* 2011;56:403-6
12. Finlay AY, Khan GK, Luscombe DK, Salek MS (1990) Validation of sickness impact profile and psoriasis disability index in psoriasis. *Br J Dermatol*;123:751-756.
13. Ashcroft DM, Li Wan Po A, Williams HC, Griffiths CE (1998) Quality of life measures in psoriasis: A critical appraisal of their quality. *J Clin Pharm Ther*;23:391-8.
14. Gelfand JM, Feldman SR, Stern RS, Thomas J, Rolstad T, Margolis DJ (2004) Determinants of quality of life in patients with psoriasis: A study from the US population. *J Am Acad Dermatol*; 51:704-8.