



Received on 16 April 2014; received in revised form, 23 July 2014; accepted, 22 September 2014; published 01 October 2014

QUALITY OF LIFE IN PATIENTS WITH PSORIASIS IN OSMANABAD REGION OF INDIA: A SINGLE CENTRE STUDY

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Keywords:

Psoriasis, DLQI,
QOL, Patients

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ABSTRACT: The prevalence of psoriasis has a deep negative impact on Quality of life (QoL) daily. It has been classified under psychophysiological disorders. The prime objective of the present study is to evaluate and assess the Quality of Life (QoL) of psoriasis patients in Osmanabad region of India. A retrospective analyzing study was carried out on 52 psoriatic patients attending outpatient and inpatient departments of the Government Ayurvedic College and Hospital, Osmanabad, Maharashtra state, India. The study was carried out between October 2010 to March 2011. A total of 52 patients suffering from psoriasis who had completed an assessment of disease severity and the dermatology life quality index (DLQI) questionnaire were analyzed. Of these patients, 75% were men. The mean score on the DLQI was 8.28, and almost all patients reported a moderate to extremely large impact on their quality of life (DLQI >7). A higher psoriasis area severity index (PASI), younger age, and initial lesions on the trunk, hands-legs, and scalp significantly negatively impacted patients quality of life. Psoriasis is a serious condition and is associated with a larger extent with significant lower QoL, which in turn impairing the life of psoriatic patients as compared to other healthy individuals. Thus, an ideal holistic approach to be adopted by the dermatologist and other health professionals, including measures like pharmacotherapy and psychotherapeutics which are extremely beneficial in the management of psoriasis, hence, improving the quality of life of psoriasis patients.

INTRODUCTION: Psoriasis is a common, genetically determined, papulosquamous disorder of the skin, characterized by sharply defined erythematous, scaly lesions particularly on the extensors prominence of the body and scalp¹. The disease is enormously variable in duration, extent, and it has affected 1 to 2 % of the universal population, with men and women equally affected¹.

It is a chronic skin disease that, although usually not life-threatening, causes tremendous morbidity and is characterized by defects in the normal cycle of epidermal development that leads to epidermal hyperproliferation, altered maturation of the skin, inflammation and vascular alteration².

Widespread psoriasis can be extremely disabling disease both physically and psychologically. In many cases, the presence of psoriasis causes functional impairment of manual capacity, pain, and psychological stress, placing a significant burden on the patient's quality of life. It has a major impact on patient's quality of life, influencing their career, social activities, family and all other aspects of life at a very greater extent.

QUICK RESPONSE CODE 	DOI: 10.13040/IJPSR.0975-8232.5(10).4522-28
	This article can be accessed online on www.ijpsr.com
DOI link: http://dx.doi.org/10.13040/IJPSR.0975-8232.5(10).4522-28	

There are many studies describing the various ways in which psoriasis can affect a patient's life. Very little is known about the impact of psoriasis on the Quality of life (QoL) of patients in some parts of India, especially the Osmanabad region.

The present study is a sincere attempt to focus and highlight the QoL of patients suffering from this

disease, in particular to the Osmanabad region. **Fig. 1** shows the clinical photographic examples of erythema, scaling, and induration with the stages of disease moderate, severe, and very severe. The photos are of patients who enrolled in the present research study.



FIG. 1: CLINICAL PHOTOGRAPHIC EXAMPLES OF PSORIASIS PATIENTS

Impact of Psoriasis on Patient's Quality of Life (QoL): Psoriasis has a significant negative impact on patient's Quality of life (QoL). Psoriasis is a serious condition strongly affecting the way a person sees himself and the way he is seen by

others, that leads to a feeling of guilt and inferiority complex. Psoriasis patients often experience difficulties like maladaptive coping responses, problems in body image, self-esteem, self-concept and also have feelings of stigma, shame, and

embarrassment regarding their appearance³. This is oftentimes accompanied by a perception of being evaluated by others based on their disfigurement³.

Individuals with psoriasis commonly engage in coping strategies to avoid unwanted and unpleasant social consequences. However, most of these strategies fail to improve patient's QoL⁴⁻⁶. Discussing their skin condition, covering their lesions, and avoiding contact with people are significantly associated with a negative impact on life⁴⁻⁹. Studies have indicated that talking to others regarding the non-contagious nature of psoriasis lessens the negative impact on the QoL and thereby reduces social discomfort^{10,25}.

MATERIAL AND METHODS: A total of 52 patients identified as suffering from psoriasis visiting the Government Ayurvedic College and Hospital, Osmanabad, India were studied. QoL was evaluated using Dermatology life quality index (DLQI).

The psoriasis-related records included age at onset, duration, site of initial lesions, triggers and exacerbating factors, diagnosis by biopsy, family history of psoriasis, therapeutic history (Allopathic or Indian Ayurvedic medicine), body surface area (BSA), Psoriasis Area Severity Index (PASI) and Dermatology Life Quality Index (DLQI). Institutional Ethical Committee's approval (Ref No .GACO/SS/5671/2010) and written consent from the patients was obtained before the study. The study was carried out between October 2010 to March 2011. Patients below 15 and above 65 years of age, pregnant women, and those with cataract or cardiovascular disorder were excluded from the study. At the first visit, a thoroughly detailed case history was taken.

Psoriasis Area and Severity Index (PASI): Four main areas were assessed for calculation of the PASI scores: the head (scalp), the trunk, the upper extremities, and the lower extremities, corresponding to 10%, 20%, 30%, and 40% of the total body area, respectively. The maximum score for PASI is 71.4¹¹. Though in essence, the PASI and the SAPASI are measured for the severity of psoriasis, they provide an adequate picture of the impact of the disease on patients' QoL. Studies have indicated an inverse relationship between QoL

and severity of psoriasis. Moreover, PASI is the most widely used measure of severity in the research as well as the clinical setting. This makes it an important tool in gauging the impact of the disease on QoL^{11,36}.

Dermatology Life Quality Index (DLQI) The DLQI is a compact self-reported questionnaire to measure QoL over the previous week (or 7 days) in patients with skin diseases. It consists of 10 items covering symptoms and feelings (items 1 and 2), daily activities (items 3 and 4), leisure (items 5 and 6), work and school (item 7), personal relationships (items 8 and 9) and treatment (item 10). Each item is scored on a four-point scale, with higher scores indicating greater impairment in HRQoL¹².

Health-related Quality of Life Assessment (HRQoL): In this study, HRQoL was assessed with a dermatology-specific instrument DLQI. Patients were asked to complete a Marathi (regional language) translation of the DLQI in Government Ayurvedic College and Hospital, Osmanabad, India. The DLQI is a self-reported questionnaire to measure how much a skin problem has affected the life of the patient over the previous 7 days. It consists of 10 questions, 6 sections, and 1 overall summary score.

Each question has 4 alternative answers: "no effect at all", "slight effect", "moderate effect", "very large effect", or "extremely large effect with scores of 0, 1, 2, 3, and 4 respectively. The 6 sections cover symptoms and feelings (questions 1 and 2), daily activities (questions 3 and 4), leisure (questions 5 and 6), work/school (question 7), personal relationships (question 8 and 9) and treatment (question 10). The DLQI is calculated by summing the score of each question resulting in a maximum of 30 and a minimum of 0. The higher the score, the more the quality of life is impaired. A DLQI score of 0-1 is interpreted as no effect at all on patient's life, 2-5 as a small effect, 6-10 as a moderate effect, 11-20 as a very large effect, and 21-30 as an extremely large effect¹³.

RESULTS: A total of 52 patients were enrolled in the present study. All patients with psoriasis completed the BSA, DLQI, and PASI questionnaire. As shown in **Table 1**, 75% of total patients were male, and 25 % were women. The

age of patients ranged from 15 to 65 years, with a mean of 33.5. Among all patients, 26 (66.60 %) male patients were active smokers, and 20 (51.28 %) were alcohol drinkers. Smoking and drinking was common in male patients only.

Allergic conditions was reported from 07 (17.94%), male patients and 02 (15.38%) female patients. Concomitant medical conditions were reported by 49.99% patients, of them 9 (17.30%) were Diabetic and 17 (32.69%) were Hypertensive's.

TABLE 1: CHARACTERISTICS (INDIVIDUALS DETAILS) OF RECRUITED PATIENTS (n=52)

S. no.	Characteristics	Total = 52
1	Age (Years)	Median 33.5
		Range 15-65
2	Gender	Male 39 (75.00 %)
		Female 13 (25.00 %)
3	Occupational Status N (%)	Student 09 (17.30 %)
		Working 30 (57.69 %)
		Unemployed 04 (07.69 %)
		Retired 07 (13.46 %)
4	Psoriasis Area Severity Index (PASI)	Housewife 02 (03.84 %)
		Median 8.6
5	Body Mass Index (BMI)	Range 0.5 – 71.4
		Mean 24.75
6	Duration of Disease (Years)	Range 15.5 – 51.3
		Median 15.8
		Range 0.5 - 45

TABLE 2: PATIENT CHARACTERISTICS (n = 52)

S. no.	Characteristics	Total = 52
1	Age Range (Years)	15 – 65
		Mean (SD) 31.6 (12.5)
2	Gender No. (%)	Male 39 (75.00 %)
		Female 13 (25.00 %)
3	Smoking No. (%)	Male 26 (66.60 %)
		Female 00 (00.00 %)
4	Alcohol Intake No. (%)	Male 20 (51.28 %)
		Female 00 (00.00 %)
5	Employed No. (%)	30 (57.69 %)
6	Allergic History No. (%)	Male 07 (17.94 %)
		Female 02 (15.38 %)
7	Concomitant diseases No. (%)	Diabetes 09 (17.30 %)
		Hypertension 17 (32.69 %)
		PASI Range 0.5 – 71.4
8	PASI	Mean (SD) 13.8 (7.2)
		BSA % Range 0.2 – 20.00 %
9	BSA %	Mean (SD) 4.5 (1.4)

Abbreviations: PASI - Psoriasis Area Severity Index, BSA – Body Surface Area, SD – Standard deviation.

TABLE 3: HISTORY OF PATIENTS WITH PSORIASIS (n = 52)

S. no.	History of psoriasis	n	%		
1	Age at onset (Years)	15 – 20	04 (07.69 %)		
		21 – 29	09 (17.30 %)		
		30 – 39	23 (44.30 %)		
		40 – 49	09 (17.30 %)		
		50 – 59	01 (01.92 %)		
		60 – 65	06 (11.53 %)		
		Mean (SD)	31.6 (12.5)		
2	Duration (Years)	< 1	06 (11.53 %)		
		1 – 15	17 (32.69 %)		
		16 – 30	25 (48.07 %)		
		31 – 45	04 (07.69 %)		
		Mean (SD)	25.7 (8.3)		
3	Site of initial lesions	Head	05 (09.61 %)		
		Arms	13 (25.00 %)		
		Legs	13 (25.00 %)		
		Trunk	17 (32.69 %)		
		Multiple body areas	04 (07.69 %)		
4	Trigger factors	Diet	11 (11.10 %)		
		Stress	20 (20.21 %)		
		Irregular sleep habits	19 (19.20 %)		
		Seasonal weather changes	26 (26.30 %)		
		Sickness	13 (13.21 %)		
		Unknown	10 (10.21 %)		
		5	Exacerbating factors	Irregular sleep habits	24 (23.07 %)
				Seasonal weather changes	21 (20.19 %)
				Stress	17 (16.34 %)
				Diet	10 (09.61 %)
Sickness	04 (03.84 %)				
Medicine side effects	09 (08.65 %)				
6	Family history of psoriasis	Unknown	09 (08.65 %)		
		No	29 (55.77 %)		
7	Allopathic medicine & ultraviolet therapy	Yes	23 (44.23 %)		
		No	29 (55.77 %)		
8	Alternative Indian Ayurvedic medicine	Yes	10 (19.24 %)		
		No	42 (80.76 %)		
8	Alternative Indian Ayurvedic medicine	Yes	18 (34.61 %)		
		No	34 (65.39 %)		
		Yes			

The mean PASI was 13.8 (SD =7.2), with range of 0.5 – 71.4, and the mean BSA was 4.5% (SD=1.4) with a range of 0-100 %. All the patients belong to Osmanabad region of Maharashtra state, India.

The patient's characteristics have been depicted in **Table 2**, while, the psoriasis-related history of the patients is summarized in **Table 3**. Psoriasis was diagnosed before 39 years of age in the majority (44.30%) of patients with a mean age at onset of 31.6 (SD=12.5) years. The initial site of lesion was the trunk region in (32.69 %), the arms (25%), the legs (25%), the scalp in (09.61%) and multiple regions in (07.69%). Among all patients, 29 (55.77 %) had a family history of psoriasis. A maximum of 42 (80.76%) patients have been treated with Western Allopathic medicine plus ultraviolet therapy, and 34 patients (65.39%) had been treated with Indian Ayurvedic medicine for their psoriasis. Seasonal weather changes, irregular sleeping habits, and stress were found to be the three main causes of triggering and aggravating psoriasis.

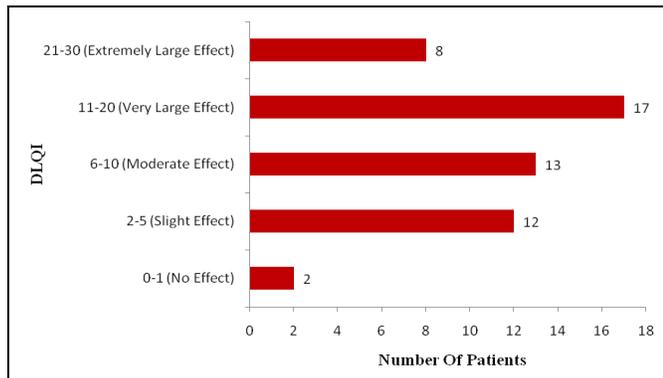


FIG. 2: DERMATOLOGY LIFE QUALITY INDEX (DLQI) IN PSORIASIS PATIENTS

DISCUSSION: Psoriasis is a known to a distressing, recurrent disease that significantly impairs quality of life and till date has no permanent cure has been reported, all treatments are palliative only. It represents a lifelong burden for affected patients various environmental factors have been suggested as aggravating factors for psoriasis, including stress, trauma, and withdrawal of systemic corticosteroids with the discontinuance of regular medications. A study by Krueger G et al., reported that at least 20% of psoriasis patients had contemplated suicide ¹⁴.

There was a significant prevalence of anxiety and depression observed during the study in patients with psoriasis. The skin, having an integral role in an individual's physical and emotional growth in early life and as an organ of communication, greatly affects personal image and self-esteem ¹⁵.

DLQI Scores: The HRQoL was assessed with the DLQI questionnaire, and the detailed DLQI scores are summarized in **Table 4**. The mean DLQI score was 8.28 (5.70). There were 02, 12, 13, 17 and 08 of the 52 patients scoring 0-1, 2-5, 6-10, 11-20, and 21-30, respectively. This indicates that 3.84%, 23.07%, 25.00%, 32.69% and 15.38% of all patients indicated "no effect at all", "slight effect", "moderate effect", "very large effect", and "extremely large effect" respectively on their life, which is graphically represented in **Fig. 2**. **Fig. 3** depicts the degree of Quality of life impairment due to psoriasis based on DLQI scores. The section for symptoms and feelings had the highest score while the section for work and school had the lowest score.

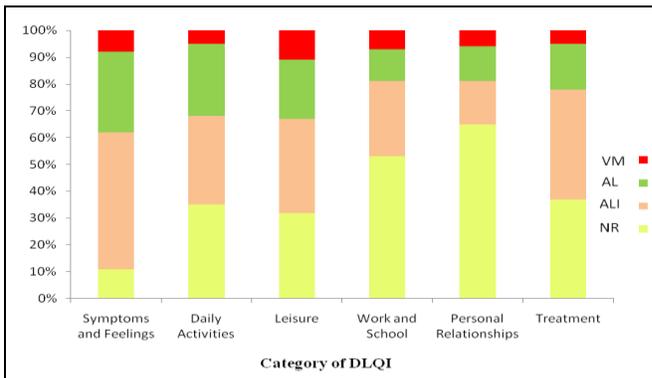


FIG. 3: DEGREE OF QUALITY OF LIFE IMPAIRMENT DUE TO PSORIASIS BASED ON CATEGORY OF DLQI. VM= Verv Much. AL= A Lot. ALI= A Little. NR= Not Relevant

This is oftentimes accompanied by a perception of being evaluated by others based on their disfigurement. Studies that have probed the link between psoriasis and depression directs towards a reciprocal relationship between them. Psoriasis patients were more likely to be depressed than the general population with patients' age, education, and disease severity being important predictors of psychological distress in the patient cohort ¹⁶⁻¹⁷.

Gupta et al., in their study of 127 psoriasis patients found that 9.7% of patients reported their wish to be dead, and 5.5% reported active suicidal ideation at the time of the study ¹⁸. Many psoriasis patients experience social and psychological difficulties created by their environment ¹⁹. Psoriasis patients may feel humiliated when they need to expose their bodies during swimming, intimate relationships, using public showers, or living in conditions that

do not provide appropriate privacy^{20, 25}. Many of the patients suffering from psoriasis often feel the need to hide their disease, thus severely affecting their self confidence^{21, 28}. These studies have focused and highlighted the need for psychosocial strategies to be developed in treating patients with psoriasis and helping them to improve their overall QoL.

In the present study, we first evaluated factors that impact the quality of life in patients with psoriasis in Osmanabad region of India. The results obtained revealed higher PASI scores, average age and initial lesions on the trunk and other body parts significantly negatively impacted the quality of life of psoriasis patients. Our data showed that mean DLQI score was 8.28 (5.70), and the mean PASI

score was 13.8 (SD =7.2) approximately in line with other studies done earlier²². **Table 4** shows the values of DLQI scores. In the DLQI questionnaire, our study showed higher scores for feelings, and lower scores for work and school also correlates with previous research¹¹⁻¹². Among all patients, a maximum number of patients had moderate to severe psoriasis according to the definition of psoriasis in earlier research studies²³, 73.07% of patients had a moderate to extremely large effect on their life (DLQI > 7). The results of our study confirm that clinical severity of psoriatic patient is related to the quality of life of some patients, which is found to be consistent with the earlier studies, thus showing that DLQI scores have a positive Correlation with PASI scores¹².

TABLE 4: DLQI SCORES OF PATIENTS WITH PSORIASIS (N = 52)

Question	Mean (SD)
I. Symptoms and feelings	2.81 (1.29)
1. Over the previous week, how itchy, painful, or stinging has your skin been?	1.37 (0.45)
2. Over the previous week, how embarrassed or insulting have you been because of your skin?	1.44 (0.51)
II. Daily activities	1.14 (1.17)
1. Over the previous week, how much your skin interferes with your daily activities? (Household, official)	0.51 (0.72)
2. Over the previous week, how much your skin influenced to wear your apparels?	0.63 (0.71)
III. Leisure	1.45 (1.60)
1. Over the previous week, how much your skin affected your social and leisure activities?	0.81 (0.69)
2. Over the previous week, how much your skin made it difficult for you to do any physical sport?	0.64 (0.74)
IV. Work and school	0.65 (0.84)
1. Over the previous week, has your skin prevented as a problem from working or studying?	0.65 (0.84)
V. Personal relationships	1.34 (0.48)
1. Over the previous week, how much your skin created problems with your partner or friends?	0.76 (0.90)
2. Over the previous week, how much your skin caused any difficulties in sexual activities?	0.58 (0.81)
VI. Treatment	0.89 (0.70)
1. Over the previous week, how much of a problem has the treatment for your skin been or by taking up time?	0.89 (0.70)
Total	8.28 (5.70)

CONCLUSION: Finally, in conclusion, we conclude that Psoriasis is a serious condition and is associated with significantly lower QoL. The data obtained suggest that the clinical severity, site of lesions, and age are closely associated with the quality of life of patients of psoriasis. Psoriasis patients feel humiliated, and that develops stress, which in turn contribute to aggravating the disease condition. This demands the usage of psychotherapeutic measure as an adjunct therapy for psoriasis. Patients themselves need to monitor their lifestyle, food habits, substance use habits and physical exercise which aids in strengthening the cardiovascular system, encourages the release of

endorphins, acts as mood elevators and is to be physically and psychologically distressing. Thus, an ideal holistic approach to be adopted by the dermatologist and other health professionals, including measures like pharmacotherapy and psychotherapeutics which are extremely beneficial in the management of psoriasis, hence, improving the quality of life of psoriasis patients.

ACKNOWLEDGEMENT: The authors would like to thanks Acharya Nagarjuna University, Nagarjuna Nagar, Guntur A. P, to Dr. Nitin Dhepe and Dr. Naziya Izhaar for their kind support and encouragement for the work. We would also like

thanks to the patients enrolled for the study and permitted to share their clinical data and history with us.

CONFLICT OF INTEREST: Nil

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How to cite this article:

Gazi S, Ali S, Talmale SR, Pange S, Kadam B and Surwase U: Quality of life in patients with psoriasis in Osmanabad region of India: a single centre study. Int J Pharm Sci & Res 2014; 5(10): 4522-28. doi: 10.13040/IJPSR.0975-8232.5(10).4522-28.