

## RESEARCH ARTICLE

### Impact of acne and psoriasis on patient's quality of life: A multicentre study from health-care centers in Wardha district

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#### ABSTRACT

**Background:** Acne and psoriasis are important chronic skin diseases which may impair quality of life (QOL) of a patient. The dermatology life quality index (DLQI) is a questionnaire specially designed to assess the QOL in the patients with skin diseases. **Aims and Objectives:** This study was designed to analyze the DLQI for acne and psoriasis in rural health care centers. **Materials and Methods:** A multicenter, questionnaire-based prospective study was conducted with patients attending the outpatient department of 32 Health-Care Centers of Wardha District. 148 patients of acne and 38 patients of psoriasis were screened, out of which 120 patients of acne and 35 patients of psoriasis were analyzed for DLQI. **Results:** The mean DLQI score in psoriasis was 13.11, and DLQI score in acne was 7.17. In acne patients, question 2 which concerned embarrassment had the highest DLQI score while question 9, about sexual difficulties had the lowest mean DLQI score. In psoriasis patients, the highest DLQI scores were seen in Question 1 (physical symptoms) and lowest DLQI scores in Question 7 (working or studying). **Conclusion:** Acne has a moderate effect on QOL while psoriasis has very large effect on QOL.

**KEY WORDS:** Acne; Psoriasis; Dermatology Life Quality Index

#### INTRODUCTION

Skin diseases are a major health problem in the primary health-care settings. There are probably at least 2000 different skin conditions that might present to the dermatologists. Treatment is helpful in curing and preventing the spread of communicable diseases. Proper treatment also improves the quality of life (QOL) in patient with dermatological disorders.

QOL includes social well-being, health, family, and psychosocial relationships.<sup>[1]</sup> The patients may find skin

diseases more disabling and more serious than some other illnesses. Skin diseases may, substantially, diminish a patient's QOL by restricting work, social, family, leisure, and sexual activities.<sup>[2,3]</sup> Skin diseases are mostly related to psychological symptoms, and hence they have long lasting impact on patients.<sup>[4]</sup>

The dermatology life quality index (DLQI) is one of the QOL questionnaires that is specifically designed for skin diseases and can be used both to measure QOL and to compare it with that found in other cutaneous diseases.<sup>[5,6]</sup>

In a number of studies on psoriasis, acne, Scabies, Melasma and Urticaria, the DLQI has been used to assess the impact of treatment in these patients.<sup>[7]</sup> DLQI make easy to compare the impact of skin diseases and to evaluate the therapeutic risk-benefit.<sup>[8]</sup> According to their impact on QOL, new medications are evaluated more meticulously in addition to their safety and efficacy. In clinical practice, patient's life is impacted

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by dermatological disorders related to most appropriate treatment for that patient and may enhance compliance.<sup>[9]</sup>

Acne is a chronic disease, involving the face affecting more than 85% of the teenagers, as well as some adults.<sup>[10]</sup> It is a disease of pilosebaceous units in the skin. Acne vulgaris may be defined as any disorder of the skin whose initial pathology is the microscopic microcomedo. The microcomedo may evolve into visible open comedones ("blackheads") or closed comedones ("whiteheads"). Subsequently, inflammatory papules, pustules, and nodules may develop. The presence of excoriations, post inflammatory hyperpigmentation, and scars should be noted.<sup>[11]</sup> Although it is considered to be merely a cosmetic problem, it is associated with a considerable psychological impairment which is comparable with certain chronic diseases such as asthma, epilepsy, diabetes, and arthritis.<sup>[12,13]</sup> There are effective therapies for acne which can cause an improvement in QOL and psychological health.<sup>[14,15]</sup>

Psoriasis is a common, chronic and noninfectious skin disease characterized by well-defined slightly raised, dry erythematous macules with silvery scales and typical extensor distribution. The areas commonly affected are the scalp, back of elbows, front of knees and legs and the lower part of the back of the trunk. The nails, the palms, and soles may also be affected in the average cases. The typical lesions are coin-shaped; by confluence, big plaques of the size of the palm of a hand or figurate areas may be formed.<sup>[16]</sup>

In various studies, clinical severity assessment of psoriasis has been demonstrated along with quantification of the impact of disease on QOL provide a measure of the clinical efficacy of the dermatological therapies. Improvement in the overall psychosocial morbidity associated with the psoriasis is an important perception of treatment outcome.<sup>[17]</sup>

In this study, we were analyzed the DLQI for acne and psoriasis at outpatient department of 32 Health-Care Centers of Wardha District.

## MATERIALS AND METHODS

A multicenter, cross-sectional study was conducted with patients attending the outpatient department of 32 Health-Care Centers of Wardha District.

### Locus of Study

About 32 Health-Care Centers of Wardha District:

1. Acharya Vinoba Bhave Rural Hospital, Sawangi (Meghe), and Acharya Vinoba Bhave Grameen Rugnalaya Seloo (2 Health-Care Centers)
2. Grameen Aarogya Kendra, Deoli, Shaskiya Grameen Rugnalaya, Seloo, Grameen Rugnalaya, Samudrapur and Grameen Rugnalaya, Karanja (4 Health-Care Centers)

3. Pratham Aarogya Kendra, Deoli, Mandgaon, Nandori, Zadsai, Salai (kala), Anji (Mothi), Kharangana (Morangana), Talegao, Allipur, Kangaon, Giroli, Gaul, Vijaygopal, Nachangaon, Rohana, Wayfad, Jalgaon, Aashti, Sahur, Girad, Burkoni, Kannamwargram, Kharangana (Gode), Hamadpur, Dahegaon and Sindi (Railway) (26 Health-Care Centers).

## Methodology

A total of 148 patients of acne and 38 patients of psoriasis in the Primary Health-Care Centers and Rural Hospital of Wardha district were seen. Out of these 120 patients of acne and 35 patients of psoriasis were analyzed for DLQI. The study was carried out from January 2008 to September 2010. The research protocol was approved by Institutional Ethics Committee.

After explaining the aim and objectives of the study, the written consent was obtained from the patients whose photographs and interview was taken (Figures 1 and 2).

1. Interview of patients suffering from acne and psoriasis
2. DLQI prepared by Finlay and Khan was used to measure QOL in patient with dermatological disorders.<sup>[18]</sup> Professor Finlay granted permission for the use of the same.

## DLQI

DLQI containing 10 questions is a validated questionnaire for QOL in skin diseases. The scores on the questionnaire range from 0 to 30. The higher the score is the poorer the QOL. The questionnaire was applied to each patient during individual interviews carried out by trained interviewers. It is self-explanatory and can be simply handed to the patient who is asked to fill it in without the need for detailed explanation. It is usually completed within 10 min (Table 1).

## RESULTS

### DLQI

Data were obtained from subjects who responded to the DLQI questionnaire and analyzed. In addition, the association between the DLQI and the clinical data obtained from physicians were evaluated. (Table 1)

The mean DLQI score in psoriasis was 13.11, and DLQI score in acne was 7.17 (Table 2).

### Mean Scores of Each DLQI Question in Patients with Acne and Psoriasis

When comparing the scores of the individual items in acne patients, Question 2 which concerned embarrassment had the highest DLQI score while question 9, about sexual difficulties

**Table 1: Questionnaire of DLQI, score system and interpretation method**

Q. No.	Questions of DLQI	Score system	
Q1	Over the last week, how itchy, sore, painful or stinging has your skin been?	Very much	Scored 3
Q2	Over the last week, how embarrassed or self-conscious have you been because of your skin?	A lot	Scored 2
Q3	Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?	A little	Scored 1
Q4	Over the last week, how much has your skin influenced the clothes you wear?	Not at all	Scored 0
Q5	Over the last week, how much has your skin affected any social or leisure activities?	Not relevant	Scored 0
Q6	Over the last week, how much has your skin made it difficult for you to do any sport?	Interpretation of meaning of DLQI scores	
Q7	Over the last week, has your skin prevented you from working or studying?	0-1	No effect at all on patient's life
Q8	Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?	2-5	Small effect on patient's life
Q9	Over the last week, how much has your skin caused any sexual difficulties?	6-10	Moderate effect on patient's life
Q10	Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?	11-20	Very large effect on patient's life
		21-30	Extremely large effect on patient's life

DLQI: Dermatology life quality index

**Table 2: Mean scores of each DLQI question in patients with acne and psoriasis**

DLQI items	Acne	Psoriasis
Q1	1.21	2.09
Q2	1.43	1.36
Q3	0.58	1.30
Q4	0.38	1.52
Q5	0.72	1.15
Q6	0.52	1.13
Q7	0.48	0.82
Q8	0.41	1.02
Q9	0.32	0.92
Q10	1.12	1.80
Total	7.17	13.11

DLQI: Dermatology life quality index

had the lowest mean DLQI score. Other questions that also had a high mean DLQI score were Questions 1, 5 and 10 which represented itchy/sore/painful/stinging skin, social activities and treatment difficulties (Table 2).

In psoriasis patients, the highest DLQI scores were seen in Question 1(physical symptoms) and Question 10 (treatment difficulties), lowest DLQI scores in Question 7 (working or studying) and question 9 (sexual difficulties) (Table 2).

**DISCUSSION**

This study demonstrated that QOL can be affected by skin diseases, especially concerned with physical symptoms, feelings, social/leisure, and work. The impairment of patient's QOL was assessed using the DLQI questionnaire. The study population was from rural and suburban area of Wardha district, and their impacts on QOL of such population in acne and psoriasis was analyzed.



**Figure 1: Photograph of Acne vulgaris patient**



**Figure 2: Photograph of Psoriasis patient**

The mean total DLQI score of our 120 acne patients was 7.17. A previous study by Finlay and Khan<sup>[18]</sup> showed the mean total DLQI score for various dermatologic conditions was higher than that of the control (7.3 vs. 0.5). In their study,

18 patients with acne had the mean total DLQI score of 4.3. A study by Tejada Cdos et al. showed 10 as a median DLQI score of 50 acne patients.<sup>[19]</sup>

Al-Hoqail found that the most common cause of acne was diet.<sup>[20]</sup> Tan et al. and Pearl et al. noted that hormones were believed to be the most important etiologic factor and stress was the most frequent aggravating factor.<sup>[21,22]</sup> Tallab found that the hormonal imbalance and dirt were the commonly believed causes for acne while stress and diet were the most common believed aggravating factors.<sup>[23]</sup>

Question 2 which concerned embarrassment had the highest mean DLQI score. Lasek and Chren showed that appearance was most bothered to acne patient.<sup>[24]</sup> The others that also had high mean DLQI scores were question 1, 5 and 10 which represented social activities, itchy/sore/painful/stinging skin, and treatment difficulties, respectively. Question 9, which asked about sexual difficulties, had the lowest mean DLQI score. It should be noted that a high percentage of the patients marked "not relevant" for this item. Concerning personal relationship problems, female patients in our study had significantly higher mean DLQI scores than male patients.

Psoriasis is a common skin disease which has a significant impact on the patient's QOL. In our study, mean DLQI score of psoriasis patients was 13.11. Mørk et al.<sup>[25]</sup> and Zachariae et al.<sup>[26]</sup> showed similar results as 14.8 and 13.3, respectively. In psoriasis, highest DLQI scores were seen in question 1 and 10 related to physical symptoms and treatment difficulties. Lowest DLQI scores were seen in question 7 and 9 concerned with working or studying and sexual difficulties. Furthermore, the analysis showed that sex is related to QOL. Women had more impact on QOL than men except in question 6, 7, 8 and 9 such as sport, work, social relations, and sexual difficulties.

Zachariae et al.<sup>[26]</sup> found that female having longer disease duration and younger were associated with greater impairment of QOL. Roenigk and Roenigk<sup>[27]</sup> showed that women are more affected than men. McKenna and Stern<sup>[28]</sup> found that greater impairment of QOL in women than men and QOL decreased with increasing age. Tejada Cdos et al. showed 15.5 as a median DLQI score of psoriasis which was highest among all dermatological disorders in their study.<sup>[19]</sup>

Mabuchi shows total mean DLQI scores for psoriasis were  $3.6 \pm 3.2$  in male and  $7.2 \pm 1.2$  in female in Japan. Physical symptoms and feeling were affected most severely similar to our study. Clinical severity depends on DLQI score and necessity of treatment. More the DLQI score greater is the clinical severity.<sup>[29]</sup> A DLQI score of greater than 10 generally is strong supportive evidence for the need of active patient intervention.

## CONCLUSION

Acne has moderate effect and psoriasis has very large effect on patient's life. It is important to know high-risk patient with worse QOL for treating them with greater integrated way.

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