

## Original Research Article

# QUALITY OF LIFE IN PATIENTS WITH PEMPHIGUS AND PEMPHIGOID IN A TERTIARY CARE HOSPITAL: A COMPARATIVE CROSS-SECTIONAL STUDY.

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**ABSTRACT**

**Background:** Immunobullous Disorders (IBD) represent a group of chronic autoimmune blistering diseases of the skin and mucous membranes. IBD equally affects the mental status of a patient along with physical status, thus hampering the quality of life (QOL). Measuring the QOL is important in the evaluation of nonclinical aspects of disease. This study is carried out to know the impact of IBD on the QOL of patients.

**Materials and Methods:** A comparative cross-sectional study was conducted at the Department of Dermatology, Venereology and Leprosy in a tertiary care hospital. A total of 44 patients (22 in each group) diagnosed with pemphigus and pemphigoid clinically, histologically, and immunologically were recruited in the study. Dermatology life quality index (DLQI) questionnaire was used to assess the QOL of the patients. Statistical analysis was performed using the chi-square test and unpaired t-test.

**Results:** Overall mean DLQI score was  $16.05 \pm 7.3$  and individual mean DLQI scores were  $11.6 \pm 5.1$  and  $17.8 \pm 4.8$  for bullous pemphigoid group and pemphigus vulgaris group respectively. P value  $<0.001$  which indicates a significant difference in mean DLQI scores between the two groups. Impact on QOL is higher in pemphigus group when compared to bullous pemphigoid group.

**Conclusion:** IBD significantly impairs the QOL of patients. QOL of patients of the pemphigus group is more impaired when compared to the pemphigoid group. Therefore, consideration should be given to the patient's QOL along with clinical status for an effective care and patient satisfaction.

**Keywords:** Bullous Pemphigoid, Pemphigus Vulgaris, Quality of Life, Skin Diseases, Vesiculobullous.

**INTRODUCTION**

Intraepidermal and subepidermal blisters are the histological characteristics of Immunobullous Disorders (IBD), a group of chronic autoimmune blistering diseases of the skin and mucous membranes. The presence of antibodies against desmosomal adhesion proteins, hemidesmosomes, and the basement membrane zone is the immunopathological characteristic of IBD.<sup>[1]</sup>

Pemphigus and pemphigoid groups are included in IBD. Pemphigus vulgaris (PV), Pemphigus foliaceus (PF), Paraneoplastic, and IgA Pemphigus are the four main types of Pemphigus; PV is the most prevalent type. Bullous pemphigoid (BP), mucous

membrane pemphigoid, linear Ig A disease, and epidermolysis bullosa acquisita are among the pemphigoid group<sup>[1]</sup>. Patients' physical and mental well-being are significantly impacted by IBD.<sup>[2]</sup> A person's physical, functional, social, and emotional well-being are all considered aspects of their "quality of life" (QOL). Skin conditions have a significant negative influence on quality of life even though they are rarely fatal.<sup>[3]</sup>

In assessing the advantages and disadvantages of a treatment, QOL measurement is also crucial.<sup>[3]</sup> Adjuvant immunosuppressive medications and systemic glucocorticoids are the cornerstones of IBD treatment. Long-term use of these therapeutic

modalities is known to have additional detrimental effects on patient's QOL.<sup>[4]</sup> The improvement of the doctor-patient relationship is another use for QOL. Consequently, as a secondary outcome in clinical practice, dermatologists have shifted in favour of using QOL measures as an adjunct to the clinical assessment of diseases in recent years.<sup>[3]</sup>

So, this study aims to assess the QOL in patients with Pemphigus and pemphigoid diseases in a tertiary care centre in South India.

## MATERIALS AND METHODS

### Study design and participants

A single-center, comparative cross-sectional study was performed at the department of Dermatology, Venereology and Leprosy in a tertiary hospital. A total of forty-four patients diagnosed with pemphigus and pemphigoid clinically, histologically, and immunologically were recruited in the study after taking written and informed consent. Firstly, the patient's demographic details including age, sex, education level, disease duration, and disease type were recorded. Then, DLQI was used to assess the quality of life of the patients Dermatology Life Quality Index (DLQI).<sup>[5,6]</sup>

The questionnaire consisted of 10 questions and was designed for use in adults older than 16 years. The questions were classified into the following subscales: symptoms and feelings (questions 1 and 2), daily activities (questions 3 and 4), leisure (questions 5 and 6), personal relationships (questions 8 and 9), work and school (question 7), and treatment (question 10).

It was structured with each question having four alternative responses: 'not at all', 'a little', 'a lot' or 'very much' with corresponding scores of 0, 1, 2 and 3, respectively. The answer 'not relevant', was scored as '0'. The DLQI was calculated by summing the score of each question, resulting in a maximum of 30 and a minimum of 0. The higher the score, the greater the impairment of QOL<sup>[5]</sup>. Grade 1 (0-1) means no impact on the patient's quality of life. Similarly, grade 2 (2-5) means little impact, grade 3 (6-10) means medium impact, grade 4 (11-20) means high impact, and grade 5 (21-30) means very high impact on the patient's quality of life.<sup>[6]</sup>

Statistical analysis: Data was tabulated in Microsoft Excel and was analyzed in the trial version of SPSS software. A chi-square test was employed for qualitative analyses. Results were expressed as means  $\pm$  SD. The statistical significance was determined as a p-value of  $< 0.05$ .

Ethical approval: Ethical approval for the study was obtained from the Institutional Ethics Committee with reference no IEC/HIMS/RR 461/ 05-09-2023.

## RESULTS

Out of 44 patients, 31(70.5%) were females and 13(29.5%) were males, with a mean age of  $53.2 \pm$

13.1 years ranging from 21 to 78 years. The mean age of the pemphigoid group and pemphigus group were  $69.2 \pm 10.9$  years and  $52.1 \pm 11.5$  years respectively. The age of onset of diseases was depicted in Table 1.

An equal number of patients were included in the pemphigus group and pemphigoid group that is 22 in each group. In the pemphigus group, 15(68.2%) were females 7 (31.8%) were males. In the pemphigoid group, 16 (72.7%) were females and 6 (27.3%) were males in the pemphigoid group, however, there is no significant difference observed in the occurrence of disease in relation to gender. In our study, 30 (68.2%) had secondary education, 8 (18.2%) were illiterates and 6 (13.7%) had higher education.

The mean duration of disease was  $12 \pm 9.3$  months in the pemphigus group and  $7.4 \pm 3.8$  months in the pemphigoid group. There was a significant difference in the mean duration of disease between the 2 groups (p-value  $< 0.038$ ).

The comorbidities noted in the study participants were diabetes mellitus (9, 20.5%), hypertension (10, 22.7%), and Asthma (1, 2.3%). Twenty-six patients (59.1%) had no comorbidities.

Overall mean DLQI score was  $16.05 \pm 7.3$  and individual mean DLQI scores were  $11.6 \pm 5.1$  and  $17.8 \pm 4.8$  for bullous pemphigoid group and pemphigus vulgaris group respectively. P value was  $< 0.001$  which indicates a significant difference in mean DLQI scores between the two groups. [Table 2]

There was no significant correlation observed between DLQI and the age of the individual, and the same was observed with gender too. The mean DLQI index of patients with the recent-onset ( $< 6$  months) disease was  $16.42 \pm 3.8$ , while the same was  $11.2 \pm 3.1$  in those with old onset ( $> 6$  months) disease. The difference was statistically significant (P = 0.02). duration of illness had a bigger impact on QOL than the age of onset or gender of an individual.

The mean DLQI in illiterates was  $14.5 \pm 2.8$ , in secondary education patients it was  $15.3 \pm 7.1$  and in higher educated patients it was  $15.9 \pm 3.6$ . there was no statistically significant difference observed between the level of education and QOL. The same was observed between the pemphigoid and pemphigus groups.

Over all 24 patients had a high impact, 7 patients had a very high impact, 7 patients had a medium impact, and 6 patients had little impact on QOL. Impact on QOL was higher in the pemphigus group when compared to the bullous pemphigoid group. [Table 3]

The DLQI questionnaire was subdivided into 6 categories and the mean DLQI category scores were mentioned for both the groups in table-4. The most compromised elements of QOL were clinical symptoms, feelings, and daily activities, while treatment was the least affected in both groups. patients with pemphigus vulgaris were more

compromised in all elements of QOL when compared to bullous pemphigoid.

**Table 1: Age of onset**

Age groups	Bullous pemphigoid group	Pemphigus vulgaris group	P value
<40 years	1 (4.5%)	2 (9%)	0.0004
41-60 years	4 (18.2%)	16 (72.7%)	
60-80 years	17 (77.3%)	4 (18.2%)	
Total	22	22	

**Table 2: Mean DLQI score among groups**

Mean DLQI score		
Overall	Bullous pemphigoid group	Pemphigus vulgaris group
16.05 ± 7.3	11.6 ± 5.1	17.8 ± 4.8
P value <0.001, Significant		

**Table 3: Impact on QOL among groups**

	Bullous pemphigoid group	Pemphigus vulgaris group	P value
Very High Impact	1 (4.5%)	6 (27.3%)	0.015
High Impact	10 (45.5%)	14 (63.6%)	
Medium Impact	6 (27.3%)	1 (4.5%)	
Little Impact	5 (22.7%)	1 (4.5%)	

**Table 4: Mean DLQI category values among groups**

	Group	Mean	Std. Deviation	P- Value
Symptoms and feeling	Bullous pemphigoid	3.00	1.41	<0.001
	Pemphigus vulgaris	4.81	1.40	
Daily Activities	Bullous pemphigoid	2.40	1.53	<0.001
	Pemphigus vulgaris	4.77	1.47	
Leisure	Bullous pemphigoid	1.09	.75	<0.001
	Pemphigus vulgaris	2.18	.85	
Work and school	Bullous pemphigoid	1.22	.81	0.002
	Pemphigus vulgaris	.40	.79	
Personal relationship	Bullous pemphigoid	2.27	1.42	0.012
	Pemphigus vulgaris	3.36	1.32	
Treatment	Bullous pemphigoid	1.63	.58	0.096
	Pemphigus vulgaris	2.00	.81	

## DISCUSSION

According to the research by El Hafeez et al., there was a female gender predominance in each group and no discernible gender distribution difference between the pemphigus vulgaris and bullous pemphigoid groups.<sup>[7]</sup>

The detrimental effects of bullous pemphigoid and pemphigus vulgaris on the afflicted person's quality of life have been highlighted by earlier writers<sup>[8]</sup>.

There are specialized instruments available to evaluate the quality of life in autoimmune bullous diseases. The DLQI questionnaire was not disease-specific, despite the fact that we used it.<sup>[9,10]</sup> Ferris et al. did not discover any additional benefit for autoimmune bullous disease-specific tools over DLQI, however, following their prospective analysis of the correlation between disease severity scores in various autoimmune bullous diseases and quality of life assessed by different tools.<sup>[11]</sup>

In our study, there was no statistically significant difference in educational status with QOL among groups. In contrast, Arbabi et al. documented that those with higher levels of education enjoyed a better quality of life.<sup>[12]</sup>

In line with the findings of Ghodsi et al.,<sup>[4]</sup> Tabolli et al.,<sup>[13]</sup> and James et al.,<sup>[14]</sup> who reported the same but in opposition to the observation of Paradisi et

al.,<sup>[14]</sup> there was no correlation found between the age, gender of the affected, and the quality of life in our study. However, according to Paradisi et al., male patients had a higher quality of life than female patients.<sup>[2]</sup>

The literature supported the significant correlation found between a high DLQI and a disease with a recent onset<sup>[4]</sup>. A patient with a long-lasting illness is thought to be more adapted to it, whereas a patient with a disease that just recently manifested might find it challenging to accept and cope with the reality of a chronic illness. Patients with chronic diseases would benefit more from medication-assisted disease management because doctors may have had more time to adjust drug dosages based on each patient's unique needs.<sup>[14,15]</sup> However, Tee CT et al. found no correlation between the length of a patient's illness and their quality of life when they had pemphigus.<sup>[16]</sup>

According to the study by Penha et al.,<sup>[17]</sup> the mean DLQI score for the pemphigus vulgaris group was higher than that of the Bullous pemphigoid group.

The main limitations were the cross-sectional study carried out in a single centre, the small number of cases, and the analysis of pemphigus vulgaris and bullous pemphigoid as a single entity (Immunobullous disease).

## CONCLUSION

The quality of life of individuals with Immunobullous Disorders was significantly impacted negatively in terms of their health. The group of patients with bullous pemphigoid disease were less affected than those with pemphigus vulgaris. Large sample sizes and prospective, multicenter studies are required to learn more about the effects of Immunobullous diseases on quality of life, which could aid clinicians in providing patients with comprehensive care.

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