SHORT COMMUNICATION

Sex Differences in Dermatology Life Quality Index (DLQI) among Patients with Psoriasis

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Psoriasis is a chronic inflammatory condition of the skin that affects 0.14–1.99% of the population (1). It can significantly impact patients' quality of life, leading to difficulties in daily activities. The disease causes skin changes that can affect appearance and contribute to feelings of stigmatization.

Due to its persistent and variable nature, psoriasis consistently generates stress that can affect social interactions and daily tasks (2). The impact on quality of life (QoL) is often captured using the Dermatology Life Quality Index (DLQI), which stands as the general health-related QoL assessment tool for patients with skin diseases (3). Patients with psoriasis often have a severity-dependent impact on QoL, although at a certain severity level an increase in severity does not necessarily result in a corresponding increase on the DLQI (4, 5). However, psoriasis might influence QoL differently between the sexes. Women are more likely to experience a greater disease burden than men, despite men presenting higher psoriasis activity and severity index (PASI) (6). This sex disparity is acknowledged by many clinicians. However, there is a paucity of empirical evidence that can be used to illustrate the correlation between the sexes, particularly in cases where women report higher DLQI than men with equivalent PASI. While the DLQI is often interpreted as an overall score, the individual sub-questions may be of importance in understanding this discrepancy. Therefore, the aim of this study was to investigate the sex differences in the DLQI, controlling for the PASI.

MATERIALS AND METHODS

This study analysed data from patients initiating biologic treatment for psoriasis from our department at baseline (visit 1) and after 3 months (±45 days) (visit 2). The dataset contained information on sex, age, weight, total PASI, total DLQI, and for each sub-question (see Table SI). Independent *t*-tests were used for each visit to examine the difference in means for each sub-question of the DLQI between sexes. Analyses were conducted using R statistical software (R Foundation for Statistical Computing, Vienna, Austria). A p-value of <0.05 was considered statistically significant.

RESULTS

We included 389 individuals and the proportion of men (254, 65.3%) was higher than women. The median age of the individuals was 44 years with a range (IQR) of 23.8 years, with no statistical differences between the sexes. At baseline, men had a significantly higher mean PASI than women, 11.6 compared with 8.5 ($p<0.001$), with no differences in the total DLQI at 11.8 and 12.5 ($p=0.33$) (**Table I**). However, upon examining the sub-questions, gender-based differences were observed. Specially for questions (Q) 2, 4, and 7 regarding embarrassment or self-consciousness, choice of clothes, and school or work, women reported a higher impact of their skin than men. In addition, women reported that their skin symptoms affected their sexual life to a greater extent than men (Q 9) (**Fig. 1**A). After 3 months, there was no significant difference in the total DLQI. However, women still reported a greater impact on embarrassment or self-consciousness (Q 2) and sexual life (Q 9) than men. The difference in choice of clothes (Q 4) observed at baseline was no longer evident after 3 months, while a difference in itching (Q 1) emerged between the sexes (Fig. 1B).

DISCUSSION

Initially, our research showed no significant sex-based differences in the total DLQI at baseline. However, closer examination of specific sub-questions revealed notable disparities. This is despite the fact that there was a statistical difference in PASI, with women having a lower score. After 3 months, significant sex differences became apparent not only in the overall DLQI but also

Table. I. Demographic background information

	Visit 1			Visit 2		
Factor	Men	Women	*p*-value	Men	Women	*p*-value
Individuals	254	135	–	254	135	–
Mean age (SD)	43.6 (14.6)	43.2 (17.1)	0.81	–	–	–
BMI (SD)	28.8 (5.8)	27.3 (7.8)	0.07	28.9 (5.6)	27.4 (27.4)	0.16
PASI (SD)	11.6 (6.09)	8.5 (4.7)	<0.0001	3.0 (3.8)	2.3 (2.3)	0.04
DLQI (SD)	11.8 (7.3)	12.5 (7.0)	0.33	3.4 (4.4)	4.8 (5.1)	0.007

Demographic background information for visits 1 and 2. The table presents the sex distribution, mean age, BMI, PASI, and total DLQI for each visit. Independent *t*-tests are performed between sexes for each visit. There is a significant difference in PASI at visits 1 and 2. At visit 2, there is a significant difference in DLQI.

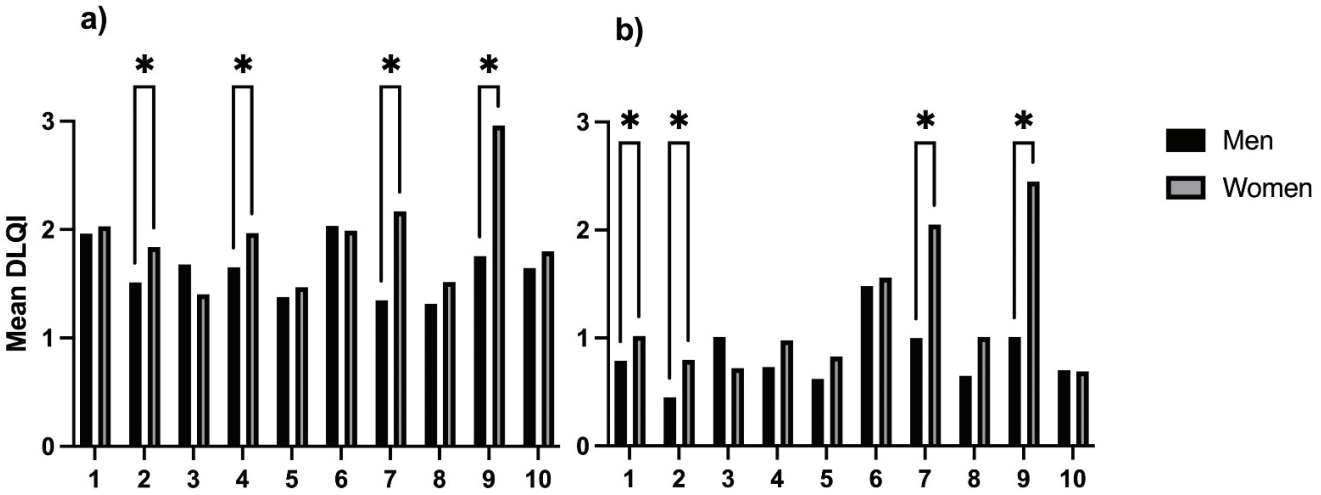

Fig. 1. DLQI Sub-questions at baseline (visit 1) and after 3 months (visit 2). (A–B) DLQI questions at (A) baseline (visit 1) and (B) after 3 months (visit 2) with mean DLQI for men and women. Independent *t*-tests were performed with *p*-values < 0.05 marked with *. The questionnaire consists of 10 items and covers 6 domains: symptoms and feelings (1–2), daily activities (3–4), leisure (5–6), work and school (7), personal relationships (8–9), and treatment (10). At baseline, there were significant differences in the results for Q 2, 4, 7, and 9. After 3 months, significant differences were observed for Q 1, 2, 7, and 9.

in several specific sub-questions, highlighting areas of concern where women are disproportionately affected. In particular, issues related to appearance and feelings of shame showed marked differences. Notably, women more frequently reported that their skin conditions negatively impacted their work performance and posed challenges in their sexual lives.

The observed differences in DLQI between men and women, despite similar PASI, may be influenced by sociocultural factors. Women often encounter more intense societal pressure regarding their physical appearance. Consequently, skin conditions, often viewed as stigmatizing deviations from accepted beauty norms, can lead to greater psychological and social distress among women (7). This increased distress might significantly affect their QoL, as reflected in their DLQI values. Our study found that, even after 3 months, women with relatively low PASI scores still reported high scores on Q 7 and Q 9 of the DLQI, indicating that the condition continues to have a substantial impact on their QoL.

Our study's findings align with previous research indicating significant sex differences in DLQI scores (8, 9). Maul et al. (8) observed that men experienced less impairment than women in total DLQI scores within their registry cohort. Similarly, Mabuchi et al. (9) found that female patients reported significantly higher mean total DLQI scores than male patients, indicating a more severe impact on females' quality of life. Notably, female patients scored higher in all dimensions of the DLQI except for the treatment domain (9). These findings are consistent with our results, which also show no sex difference in the treatment domain.

A limitation of this study is its focus on the relationship between PASI, DLQI, and sex during statistical analysis. This approach may overlook other factors that could impact both DLQI and PASI. The strength of the study lies in the routine collection of data in the hospital setting with validated measures including both DLQI and PASI.

This study underscores the importance of incorporating DLQI sub-questions into clinical discussions beyond their use in selecting treatments. Clinicians should engage patients in conversations about what matters to them and how their condition affects their daily life (10). Our study highlights the need to focus on areas such as clothing choices, appearance, work life, and sexuality, where sex differences in the impact of skin conditions are particularly evident.

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The authors have no conflicts of interest to declare.

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