

Assessment of Dermatology Life Quality Index Relevant (DLQI-R) in Psoriasis: A Practical Tool for Measuring Quality of Life in Elderly Populations

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Objectives

The Dermatology Life Quality Index (DLQI) is the most used tool for assessing Health-related quality (QoL) of life in patients with skin disease (1). The DLQI-Relevant (DLQI-R) is a modified version which adjusts score based on the number of "not relevant" responses (NRRs), preventing underestimation of disease impact, common in elderly psoriasis patients (Pso) (2). However, further evidence is needed to support its use in clinical practice. We assessed the convenience of the DLQI-R and its correlation with disease severity in this population.

Methods

A retrospective, multicenter, descriptive study was conducted on elderly (≥ 65) patients with moderate-severe Pso in Spain. Data were collected from clinical records from dermatology visit within the year before November 2023, excluding clinical trials participants. The study was approved by the Ethics Committee of Alcoy Hospital (reference 2023.04).

Physicians collected sociodemographic and clinical data by reviewing the medical history, which included the Psoriasis Severity Index (PASI). Patients reported QoL using EuroQol-5D and DLQI (Table 1).

Descriptive analysis of the collected data was performed using STATA software version 14.

DLQI-R score was obtained from the following formula, where NRR refers to the number of "Not Relevant" responses:

$$DLQI - R = DLQI * \frac{10}{10 - NRR}$$

The convenience of the DLQI was evaluated by counting the NRRs, and correlations between the DLQI, DLQI-R, and the PASI score were assessed using Spearman's correlation coefficient (including p-value).

1	Over the last week, how itchy, sore, painful, or stinging has your skin been?	<input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	
2	Over the last week, how embarrassed or self-conscious have you been because of your skin?	<input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	
3	Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?	<input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	<input type="checkbox"/> Not relevant
4	Over the last week, how much has your skin influenced the clothes you wear?	<input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	<input type="checkbox"/> Not relevant
5	Over the last week, how much has your skin affected any social or leisure activities?	<input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	<input type="checkbox"/> Not relevant
6	Over the last week, how much has your skin made it difficult for you to do any sport?	<input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	<input type="checkbox"/> Not relevant
7	Over the last week, has your skin prevented you from working or studying? 7.1 If "No", over the last week how much has your skin been a problem at work or studying?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	<input type="checkbox"/> Not relevant
8	Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?	<input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	<input type="checkbox"/> Not relevant
9	Over the last week, how much has your skin caused any sexual difficulties?	<input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	<input type="checkbox"/> Not relevant
10	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?	<input type="checkbox"/> Very much <input type="checkbox"/> A lot <input type="checkbox"/> A little <input type="checkbox"/> Not at all	<input type="checkbox"/> Not relevant

Table 1: Dermatology Life Quality Index (DLQI)

Results

We included 950 patients: 55.9% women, mean age of 72.6 years (Table 2). Over 83.3% (n=782) completed the DLQI independently; the rest needed help mainly due to visual impairment (68.9%). Over half (52.1%) reported one or more items as NRRs (Figure 1)

Variable	Data
Age (years), mean (SD) (n=949)	72.6 (6.1)
BMI, mean (SD) (n=835)	29.5 (5.9)
Number of comorbidities mean (SD) (n=950)	4.6 (2.6)
Polypharmac (≥ 5), n (%) (n=882)	404 (45.8)
DLQI	
Patients completed the DLQI questionnaires autonomously (n=939)	83.3% (782)
Reasons for the lack of autonomy (multi-response), % (n)	
Understanding problems	34.4% (54)
Language barrier	20.4% (32)
Visual problems	68.8% (108)
Cognitive deficit	12.7% (20)
Others*	14.6% (23)
Reported one or more items as NRRs (n=950)	52.1% (n=495)

Table 2: Population characteristics and DLQI responses

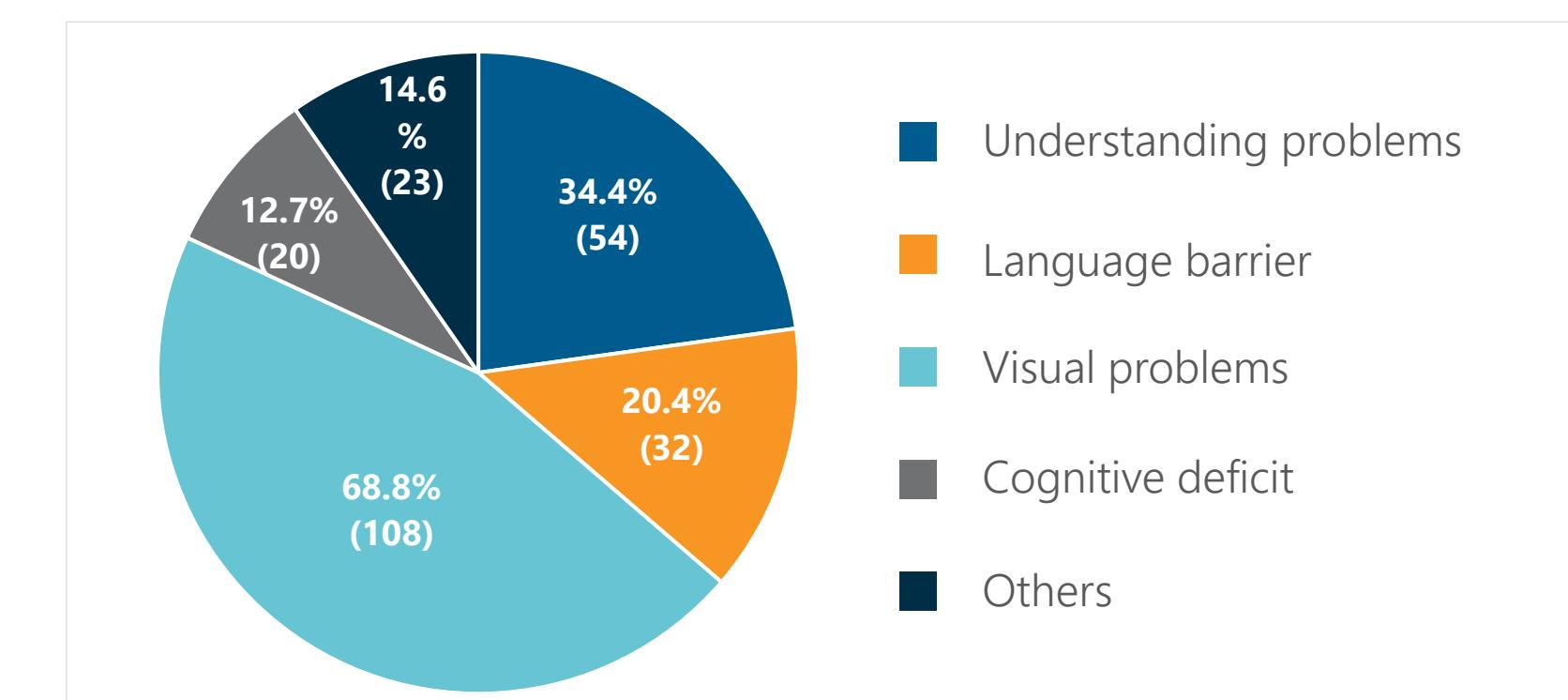


Figure 1: Reasons for the lack of autonomy (multi-response)

	% (n)
Item 3	5.8 (53)
Item 4	4.8 (44)
Item 5	6.6 (60)
Item 6	38.5 (352)
Item 7.1	48.8 (443)
Item 8	8.2 (75)
Item 9	26.7 (244)
Item 10	6.5 (89)

Table 3: Percentage of patients showing an NRR in each item of the DLQI questionnaire.

A strong correlation between DLQI and DLQI-R ($r=0.987$, $p<0.001$) was found, being DLQI scores significantly lower (mean difference -0.7, $p=0.000$) (Figure 2A). Spearman correlations between DLQI ($p\text{-value}=0.6612$) and DLQI-R ($p\text{-value}=0.6739$) with PASI were similar (Figure 2B and 2C).

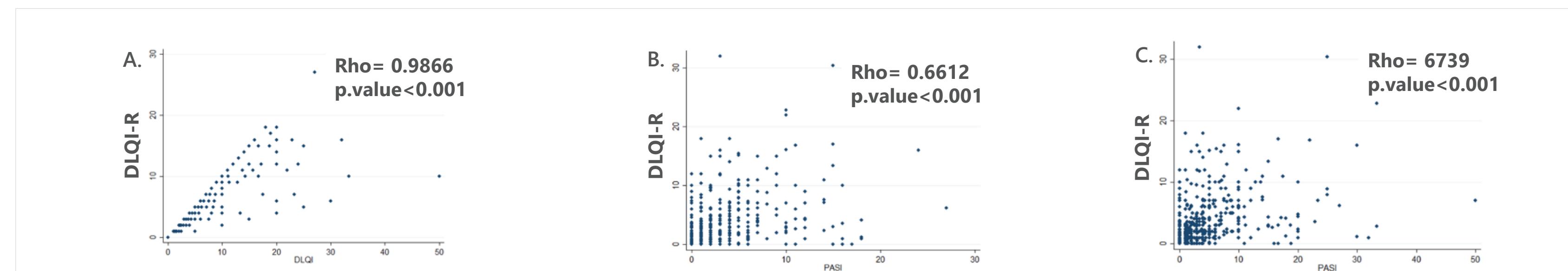


Figure 2: (A) Correlation between DLQI and DLQI-R; (B) Correlation between DLQI and PASI; (C) Correlation between DLQI-R and PASI.

In our study population, it was observed that patients were classified very similarly using both scoring systems. However, it was noted that with the DLQI score adjusted for NRR, a slightly higher number of patients were classified in the extremely and very large effect categories (Figure 3).

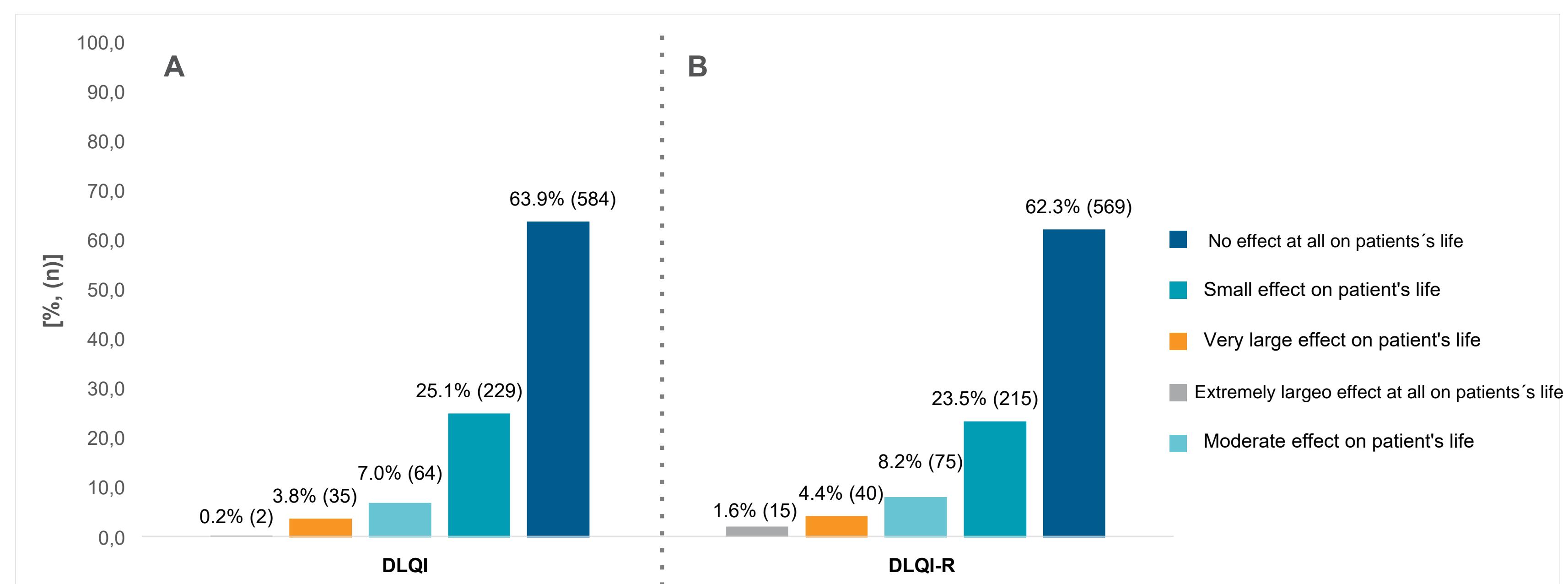


Figure 3: Bar chart depicting the percentage of patients classified according to the DLQI and DLQI-R scores. Panel A represents classification using DLQI, while Panel B shows classification after adjusting for NRR, resulting in DLQI-R.

Conclusion

The DLQI-R is a suitable tool that strongly correlates with both the original DLQI and PASI. By providing a more realistic perception of disease impact in elderly—since DLQI tends to underestimate it—it is valuable for guiding treatment decisions in clinical practice. It may be worth considering the potential to reduce the number of items of the questionnaire specifically tailored for the elderly population.

REFERENCES

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