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Measures of Health-Related Quality of Life in Psoriatic Arthritis: Are they Sensitive to Both Joint and Skin Aspects?

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Background/Purpose

Psoriatic Arthritis Quality of Life (PsAQoL), Ankylosing Spondylitis Quality of Life (ASQoL), and Dermatology Life Quality Index (DLQI) are tools that assess different aspects of health-related quality of life (HRQoL) in psoriatic arthritis (PsA). We aimed to determine if each of the three tools capture HRQoL domains relevant to both skin and joints.

Methods

Patients with PsA (physician diagnosed) completed PsAQoL, ASQoL, and DLQI in a 15-country longitudinal study [1] designed to develop new composite measure for PsA. We used Rasch analysis to determine the reliability and validity, including how well the tools targeted the skin and joint aspects of HRQoL.

We assessed the following: (i) fit to the Rasch model to determine different aspects of validity in PsA, (ii) person- separation index to determine internal consistency, (iii) differential item functioning (DIF) across five regions (Asia, Europe, N. America, S. America and the UK) to determine cross-cultural validity, and (iv) person-item threshold location maps to determine targeting of the tools to skin and joint aspects of HRQoL.

Results

The sample comprised 503 patients (male/female = 286/217) with mean (SD) age, 50.8 (13.1), and PSA duration, 9.8 (9.9) years.

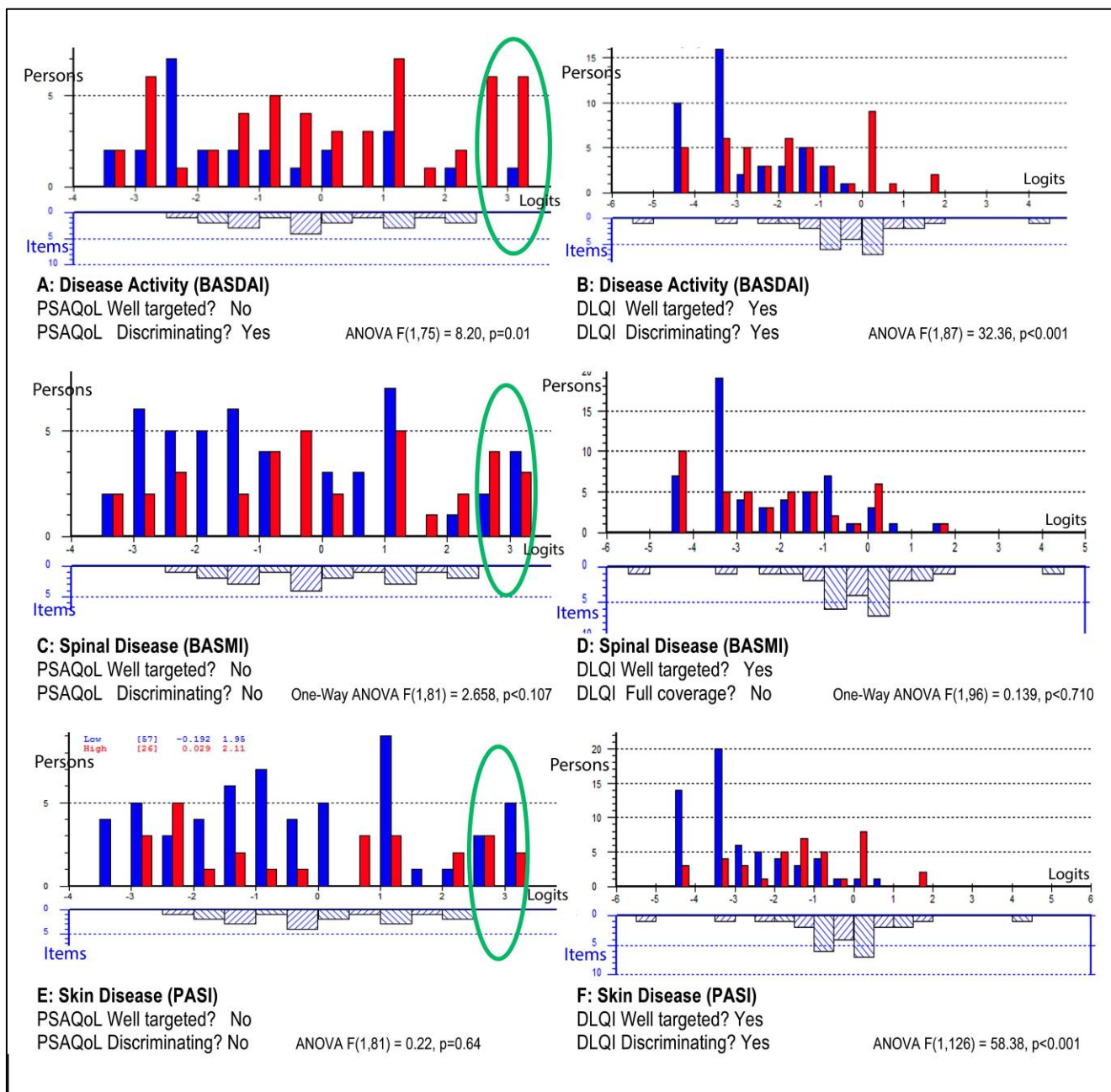
Expectations of the Rasch model were satisfied only in N America PsAQoL, UK ASQoL and both UK & N America DLQI datasets. Reliability was adequate and the measures were invariant to age and gender. There were not enough data in each country to reliably determine cross-cultural invariance, therefore targeting and discrimination properties of the tools were based on N. American dataset (Fig 1).

DLQI targeted better (than PsAQoL) articular and skin aspects of HRQoL. DLQI discriminated better HRQoL related to skin involvement (fig 1B and 1F) but not spinal involvement (fig 1D), where ASQoL was better at discriminating this aspect ($F(1,66) = 13.76, p < 0.001$).

Conclusions

The data suggest that PsAQoL does not cover the full spectrum of HRQoL in psoriasis. Conversely, DLQI does not cover the full spectrum of HRQoL of articular disease in PsA. PsAQoL, (or ASQoL) and DLQI complement each other in capturing both joint and skin aspects of HRQoL. This needs to be demonstrated in a larger dataset.

Figure 1. Targeting and discriminating properties



Blue plots represent low scores and red plots high scores. Significant ANOVA p-values suggest ability of the tool to discriminate between persons with low/high disease. Green circles mark persons with severe HRQoL not targeted by PSAQoL items.

References

1. Helliwell PS, et al. The development of candidate composite disease activity and responder indices for psoriatic arthritis (GRACE project). *Ann Rheum Dis* 2013;**72**(6):986-91.