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Rasch Analysis of the Psoriatic Arthritis Quality of Life and Dermatology Life Quality Index Measures in Psoriatic Arthritis

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Background
Psoriatic Arthritis Quality of Life (PsAQoL) and Dermatology Life Quality Index (DLQI) measures cover different aspects of health-related quality of life (HRQoL) in people with psoriatic arthritis (PsA). There is uncertainty about the ability of each instrument to capture HRQoL information about skin and joint disease simultaneously.

Objectives
I. To assess the validity of the PsAQoL and DLQI in people with PsA and to determine their invariance to different sub-groups of including culture.
II. To determine if the two measures can capture HRQoL domains relevant to both skin and joints in people with PsA.

Methods
Patients
Patients diagnosed with PsA recruited into GRACE project. GRACE was a longitudinal observational study carried out over 15 countries in Europe, N America, S America and Asia. PsAQoL and DLQI data from baseline visit was used, including: age, gender, disease duration, disease type (oligo/polyarthritis), extent of skin involvement (Psoriatic Area Severity Index - PASI score).

Analysis
Rasch analysis was used to assess the validity, reliability, and invariance of the tools to different subgroups of patients. Coverage was defined by targeting and the ability to discriminate between patients with different degrees of disease severity. Rasch analyses were undertaken using RUMM 2030 software.

Results
Total of 503 patients with PsA diagnosis (by a physician)
- Male = 287, female = 217
- Mean age = 50.8 years, SD = 13.1
- Psoriasis duration, mean = 18.4 years, SD = 13.1
- Psoriasis area and severity index (PASI), mean = 4.2, SD = 6.5

Objectives

I. To assess the validity of the PsAQoL and DLQI in people with PsA and to determine their invariance to different sub-groups of including culture.
II. To determine if the two measures can capture HRQoL domains relevant to both skin and joints in people with PsA.

Coverage of Joint Domain of HRQoL
No full coverage as some persons with severe HRQoL were not targeted by the items. However, DLQI was better than PsAQoL at targeting and discriminating between persons with oligoarthritis vs. those with polyarthritis.

Coverage of Skin Domain of HRQoL
No full coverage, as some persons with severe HRQoL were not covered by the items. DLQI was however better than PsAQoL at targeting discriminating between persons with mild skin disease (PASI <=10) vs. those with severe skin involvement (PASI >10).

Conclusion
- There is not enough evidence from this analysis to suggest the cross-cultural validity of the PsAQoL and DLQI.
- There is not enough evidence to suggest whether each measure captures fully the HRQoL domains that are relevant to both skin and joints. PsQoL and DLQI appear to complement each other in capturing both joint and skin domains of HRQoL in people with PsA.

References

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