

Internal Consistency of the English translation of the Italian Spine Youth Quality-of-Life Scale (ISYQOL) compared to other Self-Image Questionnaires in Adolescents with Idiopathic Scoliosis

Eric Parent, Andrea Lin, Kathleen Shearer, Sarah Southon, Sabrina Donzelli, Stefano Negrini
University of Alberta, Alberta Health Services, ISICO, University of Brescia

Introduction. Existing QOL instruments recommended by research guidelines for adolescent with idiopathic scoliosis (AIS) present limitations. The SRS-22 was developed for surgical candidates and presents high ceiling effects in conservative care. The SAQ asks patients to express how they look from behind which they cannot see. Three questionnaires have been introduced recently to address these limitations. The Italian Spine Youth Quality-of-Life Scale (SYQOL) was developed in Italy based on concerns expressed by patients and was shown appropriate in patients with AIS treated non-surgically. The Trunk Anterior Asymmetry Scoliosis Questionnaire TAASQ was proposed to appraise anterior appearance. The Body Image Disturbance Questionnaire measures body image disturbance in general and was recently adapted for Scoliosis (BIDQS).

Objective. Our objective was to develop an English version of the ISYQOL questionnaire and compare its internal consistency to other self-appearance questionnaires.

Methods. The ISYQOL scale was translated to English by consensus of four team members and reviewed by three Italian developers for compatibility with the original version. Eighty-seven consecutive volunteer females with scoliosis, ages 10 to 18 years old, were recruited from a scoliosis clinic. Patients completed 5 questionnaires using REDCAP prior to specialist consult. (Table) These included three new self-image questionnaires: the English ISYQOL (one continuous scale), the BIDQS (one domain), and the TAASQ (8 domains). New questionnaires were compared to the following established questionnaires: The Scoliosis Research Society-22 (SRS-22r; 5 domains), and the Spinal Appearance Questionnaire (SAQ20 scored with 9 domains and SAQ20+3 scored with only 2 domains). Adequate internal consistency was determined using Cronbach alpha (over 0.7) in SPSS.

Results and discussion. The mean age of the participants was 13.8 ± 1.8 years. Their mean Largest Cobb angle was 30 ± 15 °. For 64% the largest curve was thoracic, 15% lumbar, 15% thoracolumbar and the rest had upper thoracic largest curves. Internal consistency met the recommended standard for all the questionnaires except the following: SAQ Shoulders ($\alpha=0.61$), SRS22r Function (0.58), TAASQ clothing general (0.67), breast location (0.69), Breast shape (0.48). Apart from these noted exceptions, Internal Consistency varied as follows among domains of each questionnaire: SAQ 20 (0.70-0.82), SAQ20+3(0.89-0.90), SRS-22r (0.82-0.88), BIDQS (0.83), TAASQ (0.79-0.88) and ISYQOL (0.79 to 0.84). There were no significant differences among the domains of the new questionnaires meeting the standard.

Conclusion and significance. The new English ISYQOL translation, the BIDS and the SAQ 20+3 were the only questionnaires to fully meet recommended internal consistency standards. The Breast-specific domains scores of the TAASQ did not meet standards. It may be best to only analyse the Breast summary score. Ongoing research is continuing to determine the validity, test-retest reliability and responsiveness of these new questionnaires.