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Cross-cultural French-Canadian Adaptation and Psychometric Assessment of the Italian Spine Youth Quality of Life (ISYQOL) Questionnaire

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Abstract

Background context: Idiopathic scoliosis (IS) can significantly alter the quality of life of adolescents. Some of the available questionnaires in French measuring the quality of life in this population show weak psychometric properties. The newly developed Italian Spine Youth Quality of Life (ISYQOL) questionnaire promises better properties.

Purpose: To provide a French-Canadian version of the ISYQOL and to verify its psychometric characteristics.

Study design: Prospective validation of a cross-cultural adaptation of the ISYQOL questionnaire.

Patient sample: A total of 111 participants with idiopathic scoliosis (77.5% female, 10-18 years old, mean Cobb angle=28°) were included in the study.

Outcome measure: The French-Canadian version of Italian Spine Youth Quality of Life (ISYQOL-F) questionnaire.

Materials and methods: The ISYQOL was translated into French using a forward-backward approach. We then verified the understanding of the translated items with two scoliosis experts and 10 adolescents. Afterwards, 111 adolescents with IS were recruited by convenience at the scoliosis clinic and they completed the ISYQOL on three occasions (before seeing the specialist, 1 week and 2 weeks after). Cronbach's alpha, intra-class (ICC) and Pearson correlation coefficients were used to respectively determine internal consistency, test-retest reliability, and concurrent validity with the SRS-22r and SF-12. The standard error of measurement (SEM) and 95% confidence minimal detectable change (MDC_{95}) were also calculated. The ceiling effect was quantified as the percentage of participants who scored the maximum on ISYQOL-F.

Results: The ISYQOL-F showed good internal consistency with a Cronbach alpha of 0.81 and 0.85 respectively for items 1 to 13 (n=55; ISYQOL-F mean score ± SD = 63.9±13.5) and 1 to 20 (n=56; ISYQOL-F mean score ± SD = 60.7±10.3). Test-retest reliability was excellent ($ICC_{3,1}$ =0.94). The SEM is 3.1 and the MDC_{95} is 8.6. Correlations between ISYQOL-F and SRS-22r and between ISYQOL-F and SF-12 were moderate for total scores (r=0.56 and 0.50 respectively, p<0.001), but low for each domain (between 0.20 and 0.48, p<0.05). No significant ceiling effects were observed for ISYQOL-F (≤2.5%). In contrast, ceiling effects ranged from 3.6 to 30.6% for SRS-22r and 0 to 68.5% for SF-12.

Conclusions: The internal consistency and reliability of ISYQOL-F are good. The total score correlates moderately with the SRS-22r and SF-12. Unlike SRS-22r, the ISYQOL-F does not appear to have a ceiling effect. The ISYQOL-F may thus be suitable to assess quality of life in a population of French-Canadian adolescents with IS.

Keywords: Cross-cultural adaptation; Health-related quality of life; Idiopathic scoliosis; Italian Spine Youth Quality of Life Questionnaire; Psychometrics.