

Eur J Phys Rehabil Med. 2023 May 17. doi: 10.23736/S1973-9087.23.07586-X. Online ahead of print.

Cross-cultural validation of the Italian Spine Youth Quality of Life questionnaire: the ISYQOL international

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PMID: 37195649 DOI: [10.23736/S1973-9087.23.07586-X](https://doi.org/10.23736/S1973-9087.23.07586-X)

Abstract

Background: Adolescent idiopathic scoliosis and its treatments can severely impact health-related quality of life. The Italian Spine Youth Quality of Life (ISYQOL) questionnaire, initially developed in Italian and tested on Italian people, was created to measure quality of life in young persons with spine changes. ISYQOL was created using the Rasch analysis, a modern psychometric technique for questionnaires' assessment and development, which showed that the ordinal scores of the ISYQOL Italian version provide sound quality of life measures.

Aim: The current work aims to evaluate the cross-cultural equivalence of the ISYQOL questionnaire in seven different countries.

Design: Cross-sectional, international, multi-centre study.

Setting: Outpatient clinic.

Population: Five hundred fifty persons with adolescent idiopathic scoliosis from English Canada, French Canada, Greece, Italy, Spain, Poland, and Türkiye.

Methods: The ISYQOL Italian version was translated into six languages with the forward-backwards procedure. The conceptual equivalence of the items' content was verified, and any inconsistency was resolved by consensus. The Rasch analysis was used here to evaluate that ISYQOL translations retained the good measurement properties of the Italian version of the questionnaire. In addition, the Differential Item Functioning (DIF) was checked to assess the psychometric equivalence of the ISYQOL items in patients from different countries.

Results: Four items of the translated ISYQOL were dropped from the questionnaire since they did not contribute to measuring due to their poor fit to the model of Rasch. Seven items were affected by DIF for nationality, a finding pointing out that these items do not work the same (i.e. are not equivalent) in the different countries. Thanks to the Rasch analysis, the DIF for nationality was amended, and ISYQOL International was eventually obtained.

Conclusions: ISYQOL International returns interval quality of life measures in people with adolescent idiopathic scoliosis with high cross-cultural equivalence in the tested countries.

Clinical rehabilitation impact: Rigorous testing showed that ISYQOL International ordinal scores return quality of life measures cross-culturally equivalent in English and French Canada, Greece, Italy, Spain, Poland, and Türkiye. A new, psychometrically sound patient-reported outcome measure is thus available in rehabilitation medicine to measure health-related quality of life in idiopathic scoliosis.