

Res Dev Disabil. 2014 Apr;35(4):784-99. doi: 10.1016/j.ridd.2014.01.020. Epub 2014 Feb 9.

Improving the measurement of health-related quality of life in adolescent with idiopathic scoliosis: the SRS-7, a Rasch-developed short form of the SRS-22 questionnaire.

[Caronni A](#)¹, [Zaina F](#)², [Negrini S](#)³.

Author information

Abstract

Scoliosis Research Society-22 (SRS-22) questionnaire was developed to evaluate health-related quality of life (HRQL) in adolescent idiopathic scoliosis (AIS) patients. Rasch analysis (RA) is a statistical procedure which turns questionnaire ordinal scores into interval measures. Measures from Rasch-compatible questionnaires can be used, similar to body temperature or blood pressure, to quantify disease severity progression and treatment efficacy. Purpose of the current work is to present Rasch analysis (RA) of the SRS-22 questionnaire and to develop an SRS-22 Rasch-approved short form. 300 SRS-22 were randomly collected from 2447 consecutive IS adolescents at their first evaluation (229 females; 13.9 ± 1.9 years; 26.9 ± 14.7 Cobb°) in a scoliosis outpatient clinic. RA showed both disordered thresholds and overall misfit of the SRS-22. Sixteen items were re-scored and two misfitting items (6 and 14) removed to obtain a Rasch-compatible questionnaire. Participants HRQL measured too high with the rearranged questionnaire, indicating a severe SRS-22 ceiling effect. RA also highlighted SRS-22 multidimensionality, with pain/function not merging with self-image/mental health items. Item 3 showed differential item functioning (DIF) for both curve and hump amplitude. A 7-item questionnaire (SRS-7) was prepared by selecting single items from the original SRS-22. SRS-7 showed fit to the model, unidimensionality and no DIF. Compared with the SRS-22, the short form scale shows better targeting of the participants' population. RA shows that SRS-22 has poor clinimetric properties; moreover, when used with AIS at first evaluation, SRS-22 is affected by a severe ceiling effect. SRS-7, an SRS-22 7-item short form questionnaire, provides an HRQL interval measure better tailored to these participants.

Copyright © 2014 Elsevier Ltd. All rights reserved.

KEYWORDS: Adolescent idiopathic scoliosis, Health-related quality of life, Psychometrics, Questionnaire, Rasch analysis

PMID: 24521663 [PubMed - in process]

LinkOut - more resources

