



ISYQOL, a Rasch consistent tool for Quality-of-Life evaluation in scoliosis patients during adulthood: comparison with the gold standard

Zaina F.¹, Caronni A.², Donzelli S.¹, Di Felice F.¹, Negrini S.^{2,3}

¹ISICO (Italian Scientific Spine Institute), Milan, Italy;

²IRCCS Fondazione Don Carlo Gnocchi, Milan, Italy

³Clinical and Experimental Sciences Department, University of Brescia, Italy;

Introduction:

Scoliosis is a very frequent problem during adulthood. Surgery is a very common option for these patients, but there are relevant risks and side effects and not all patients are willing for such treatment. For these reasons many patients seek for a conservative treatment in rehabilitation centers. For the assessment of quality of life in patients with scoliosis the SRS-22 questionnaire was first developed, and more recently the ISYQOL questionnaire, with the latter tested only in youngsters. We previously performed a pilot comparison on a small sample of patients with satisfactory results.

Aim:

The aim of the present study is to test the properties of the ISYQOL in a group of adults with scoliosis and compare its properties to the SRS-22.

Materials and Methods:

We retrospectively review the record of all the adult patients (≥ 18 years) included in our prospective database. The inclusion criteria were: diagnosis of idiopathic scoliosis with a curve of 30° Cobb or more, no surgical treatment, availability of the SRS-22 and ISYQOL. The SRS-22 is based on 5 items (Function, Psychological wellbeing, Pain, Aesthetics and Satisfaction for treatment), with scores ranging from 5 (no impairment) to 0 (high impairment). The ISYQOL is a Rasch consistent questionnaire based on 13 questions that gives a continuous value of quality of life ranging from 0 to 100. The Cronbach alpha was used to check the internal validity, and a Rasch analysis was run to explore the features of the different tools.

Results:

350 patients (90 males) respected the inclusion criteria. The mean age: 51.7 ± 12.9 , the worst Cobb angle on average was $48.9 \pm 15.8^\circ$. The TRACE score was 6.2 ± 2.9 . The average scores were SRS22 total: 3.7 ± 0.6 and for ISYQOL measure: $51.0 \pm 12.4\%$. The Cronbach alpha value was above 0.70 for both questionnaires. This means that their internal consistency is good and allows their application in a clinical setting. About the Rasch analysis, the order of categories (0,1,2) fully respected for ISYQOL, and the questionnaire fit in the Rasch model with a reliability of 0.85.

Conclusion:

This study reports the general characteristics of patients affected by scoliosis attending a specialized rehabilitation center based on the SRS-22 and ISYQOL questionnaires. Both questionnaires can describe the population of adult with scoliosis and are able to assess the quality of life. Adult scoliosis patients need specific tools of evaluation mainly for quality of life and pain. The SRS-22 and the ISYQOL seem to be able to accomplish this task.