

## Pain and function in adult patients with scoliosis attending a rehabilitation center

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### Background

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 these patients the SRS-22 questionnaire was first developed, and more recently the SRS-7, a shorter unidimensional questionnaire based on the Rasch analysis, was created. No comparison of these tools is available in a rehabilitation setting for adult with scoliosis.

The aim of the present study is to provide an overview of the clinical characteristics of adult patients seeking for a clinical evaluation at a rehabilitation center specialized in scoliosis conservative treatment based on the SRS-22 and the SRS-7 questionnaires.

### Methods

We retrospectively review the record of all the adult patients included in our prospective database running between 2003 and 2017. 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 SRS-7 questionnaires. 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 SRS-7 gives a comprehensive score of quality of life. Patients were divided by sex. We separately analyzed the 5 items of the SRS-22 and we looked for correlation with the clinical features including Cobb angle, BMI, Angle of Trunk Rotation, age.

### Results

244 patients (37 males) respected the inclusion criteria. The mean Cobb angle was 48±14°, Age 37±15.

All the items the SRS-22 showed reduced values of: Function 3.8±0.6, Psychological wellbeing 3.5±0.8, Pain 3.6±0.8, Aesthetics 3.1±0.6 with respect to normative values for healthy adults (ranging from 4.1 to 4.6). There were no differences for sex. The global score for the SRS-22 was 3.5±0.5 (range 0-5) while for the SRS-7 was 36±13 (range 0-100). The correlation was moderate (0.53). No relevant ceiling effect was noted. The Cobb angle correlated with the SRS-22 and SRS-7 global value and with pain, but the strength was very low (0.17 and 0.18 respectively). A slightly higher correlation was found between Cobb and Aesthetics (0.26). 28% reported to use drugs for pain control, 4.5% on a weekly base, 2% on a daily base.

### Discussion

This is the first study reporting the general characteristics of patients affected by scoliosis attending a specialized rehabilitation center based on the SRS-22 and SRS-7 questionnaires. Both questionnaire can describe the population of adult with scoliosis, being the SRS-7 shorter to fill. Adult scoliosis patients poorly performed globally and in all the analyzed items. The clinical characteristics of patients are not good predictors of pain, disability and aesthetics.