

**ORAL PRESENTATION**

**Open Access**

# The Trunk Appearance Perception Scale (TAPS): a new tool to evaluate subjective impression of trunk deformity in patients with idiopathic scoliosis

J Sánchez Raya<sup>1\*</sup>, J Bagó<sup>1</sup>, FJ Sánchez Perez-Gruoso<sup>2</sup>, JM Climent<sup>3</sup>

From 8th International Conference on Conservative Management of Spinal Deformities and SOSORT 2011 Annual Meeting  
Barcelona, Spain. 19-21 May 2011

## Background

Outcome assessment in idiopathic scoliosis should probably include patients' perception of their trunk deformity in addition to self-image. This can be accomplished with the Walter Reed Visual Assessment Scale (WRVAS) [1-4]. Nevertheless, this instrument has some shortcomings. These considerations prompted us to design the Trunk Appearance Perception Scale (TAPS).

## Material and methods

Patients with idiopathic scoliosis and no prior surgical treatment were included. Each patient completed the TAPS and SRS-22 questionnaire and underwent a complete radiographic study of the spine [5,6]. The magnitude of the upper thoracic, main thoracic, and thoracolumbar/lumbar structural curves was recorded. The TAPS includes 3 sets of figures that depict the trunk from 3 viewpoints: looking toward the back, looking toward the head with the patient bending over and looking toward the front. Drawings are scored from 1 (greatest deformity) to 5 (smallest deformity), and a mean score is obtained.

## Results

A total of 186 patients (86% females), with a mean age of 17.8 years participated. The mean of the largest curve (C<sub>MAX</sub>) was 40.2°. The median of TAPS sum score was 3.6. The floor effect was 1.6% and ceiling effect 3.8%. Cronbach's alpha coefficient was 0.89; the ICC for the mean sum score was 0.92. Correlation coefficient of the TAPS mean sum and C<sub>MAX</sub> was -0.55 ( $P < 0.01$ ). Correlation coefficients between TAPS mean sum score and

SRS-22 scales were all statistically significant, ranging from 0.45 to 0.52 ( $P < 0.05$ ).

## Conclusions

The TAPS is a valid instrument for evaluating the perception patients have of their trunk deformity.

## Author details

<sup>1</sup>Hospital de la Vall d' Hebron, Barcelona, Spain. <sup>2</sup>Hospital de La Paz, Madrid, Spain. <sup>3</sup>Hospital General de Alicante, Spain.

Published: 27 January 2012

## References

1. Sanders JO, Polly DW, Cats-Baril W, Jones JA, Lenke LG, O'Brien MF, et al: Analysis of patient and parent assessment of deformity in idiopathic scoliosis using the Walter-Reed Visual Assessment Scale. *Spine* 2003, **28**:2158-2163.
2. Sanders JO, Harrast JJ, Kuklo TR, Polly DW, Bridwell KH, Diab M, et al: The Spinal Appearance Questionnaire. Results of reliability, validity, and responsiveness testing in patients with idiopathic scoliosis. *Spine* 2007, **32**(24):2719-2722.
3. Pineda S, Bago J, Climent JM, Gilperez C: Validity of the Walter Reed Visual Assessment Scale to measure subjective perception of spine deformity in patients with idiopathic scoliosis. *Scoliosis* 2006, **1**:18.
4. Bago J, Climent JM, Pineda S, Gilperez C: Further evaluation of the Walter Reed Visual Assessment Scale: correlation with curve pattern and radiological deformity. *Scoliosis* 2007, **2**:12.
5. Asher MA, Lai SM, Burton D, Manna B: Discrimination validity of the scoliosis research society-22 patient questionnaire: relationship to idiopathic scoliosis curve pattern and curve size. *Spine* 2003, **28**(1):74-78.
6. Bago J, Climent JM, Ey A, Perez-Gruoso FJ, Izquierdo E: The Spanish version of the SRS-22 patient questionnaire for idiopathic scoliosis: transcultural adaptation and reliability analysis. *Spine* 2004, **29**(15):1676-1680.

doi:10.1186/1748-7161-7-S1-O1

**Cite this article as:** Sánchez Raya et al.: The Trunk Appearance Perception Scale (TAPS): a new tool to evaluate subjective impression of trunk deformity in patients with idiopathic scoliosis. *Scoliosis* 2012 **7**(Suppl 1):O1.

<sup>1</sup>Hospital de la Vall d' Hebron, Barcelona, Spain  
Full list of author information is available at the end of the article