

Purpose: To assess the self-image perception and the Quality-of-Life (QoL) in female adolescents, with Lenke 1C scoliosis curves, treated with selective versus non-selective posterior spinal instrumentation and fusion (PSF).

Methods:

Patients undergoing PSF for idiopathic adolescent scoliosis (AIS) were recruited and divided into two groups: patients managed with selective thoracic fusion (STF) were included in Group A, whereas patients treated with non-selective fusion (N-STF) in Group B. Each patient completed the Italian version of the Scoliosis Research Society-22R questionnaire (SRS-22R), the Quality-of-Life Profile for Spinal Deformities questionnaire (QLPSD) and the Spinal Appearance Questionnaire (SAQ), before surgery and at 24-month follow-up.

Results:

One hundred and fifty seven female patients (mean age 16.38) were included in this study. 80 patients underwent STF, while 77 patients received N-STF. At 24-month follow-up, patients managed with N-STF showed better SRS-22R self-image mean score ($p = .012$), SRS-22R satisfaction mean score ($p = .033$), QLPSD body image mean score ($p = .005$), but worse SRS-22 function mean score ($p = .006$) and QLPSD back flexibility mean score ($p = .007$), compared with patients who underwent STF. In terms of self-image perception, patients undergoing STF showed significantly worse SAQ total mean score ($p = .002$), SAQ appearance mean score ($p = .001$) and SAQ expectation ($p = .001$). We found a significant correlation between SAQ appearance mean score and SRS-22R self-image ($R = -0.721$), SRS-22 mental health ($R = -0.8$), QLPSD psychosocial functioning ($R = 0.7$) and QLPSD back flexibility ($R = 0.8$).

Conclusion:

Although the STF of Lenke 1C curves provides better functional outcomes, in the present study, female patients receiving STF revealed a worse perceived body image, compared with patients treated with N-STF, at 24-month follow-up. Particular attention should be addressed to the preoperative patient's mental health and body image perception, when choosing between STF and N-STF. **Keywords:** Adolescent idiopathic scoliosis; Posterior spinal instrumentation and fusion; Quality-of-life profile for spinal deformities (QLPSD); Revised scoliosis research society-22 questionnaire (SRS-22R); Selective fusion; Spinal appearance questionnaire (SAQ).