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Effectiveness of Physiotherapeutic Scoliosis-Specific Exercises Versus General Exercises in Adolescent Idiopathic Scoliosis: A Systematic Review and Meta-Analysis

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Abstract

Introduction: The effectiveness of physiotherapeutic scoliosis-specific exercises (PSSE) over general exercises (GE) in adolescents' idiopathic scoliosis (AIS) is a topic of much debate.

Method: PubMed, Scopus, Cochrane, Embase, and PEDro databases were systematically searched for studies comparing PSSE versus GE and reported the outcomes of Cobb angle (CA), Anterior Trung Rotation (ATR), and Quality of life (QoL). Mean differences (MD) and 95% confidence intervals (CI) were pooled using a random- effects model. Heterogeneity was examined with I2 statistics.

Results:We included 6 RCTs and 3 observational studies with 749 patients with AIS, of whom 442 (59.1%) patients received PSSE therapy and 307 (40.9%) were assigned to GE. The mean age was 13.57 years. Mean follow-up ranged from 3 to 54 months. Risser signs 0-5. PSSE significantly reduced Cobb angle (MD -3.10˚; 95%CI [- 5.55,-0.66]; I2=91%; p=0.01) and ATR (MD -2.13˚; 95%CI [-3.05, -1.22]; I^2=89%; p<0.001) as compared with GE. There was no statistical difference between groups in QoL analyzed by the Scoliosis Research Society Questionnaire 22 total score (MD 0.06˚; 95%CI [-0.21, 0.34]; I^2=88%; p=0.64).

Conclusions: These findings suggest that PSSE promoted a higher reduction in Cobb angle and ATR than GE in patients with AIS without a significant impact in QoL.

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