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Scientific Abstract

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The Role of Scoliosis-Specific Exercise In Improving Vertebral Alignment In Patients With Adolescent Idiopathic Scoliosis : A Systematic Review

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Background and Objective

Adolescent Idiopathic Scoliosis (AIS) is the most common type of scoliosis, affecting 2-4% of adolescents worldwide. Some studies previously mentioned the effectiveness of exercise in delaying curve progression. However, we had not found substantial evidence on whether exercise could improve vertebral alignment in patients with AIS. Therefore, we conducted a systematic review to better understand the effects of exercise on vertebral alignment in AIS patients.

Methods

The article search was conducted on PubMed® and Cochrane Library®. The articles consist of 4 randomized clinical trials (RCT), 1 controlled trial, 3 prospective studies (with and without control), and 1 case series. Each article was appraised by 3 reviewers based on the criteria from PEDro scale.

Results

Five studies were marked as high-quality studies, the rest were of fair-quality. Generally, we found that a statistically significant improvement in Cobb’s angle could be achieved by a scoliosis-specific exercise performed 40-60 minutes for 3-5 times a week lasting a minimum of 10 weeks. One study reported that the group therapy had better results than the individual one.

Conclusion

Exercise can improve vertebral alignment in AIS patients. Further study is recommended in order to evaluate whether improvement in vertebral alignment from scoliosis specific exercise depends on the scoliosis type.