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Original Research

Low Back Pain in Adolescents: A Comparison of Clinical Outcomes in Sports Participants and Nonparticipants

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Abstract

Context: Back pain is common in adolescents. Participation in sports has been identified as a risk factor for the development of back pain in adolescents, but the influence of sports participation on treatment outcomes in adolescents has not been adequately examined.

Objective: To examine the clinical outcomes of rehabilitation for adolescents with low back pain (LBP) and to evaluate the influence of sports participation on outcomes.

Design: Observational study.

Setting: Outpatient physical therapy clinics.

Patients or Other Participants: Fifty-eight adolescents (age = 15.40 ± 1.44 years; 56.90% female) with LBP referred for treatment. Twenty-three patients (39.66%) had developed back pain from sports participation.

Intervention(s): Patients completed the Modified Oswestry Disability Questionnaire and numeric pain rating before and after treatment. Treatment duration and content were at the clinician's discretion. Adolescents were categorized as *sports participants* if the onset of back pain was linked to organized sports. Additional data collected included diagnostic imaging before referral, clinical characteristics, and medical diagnosis.

Main Outcome Measure(s): Baseline characteristics were compared based on sports participation. The influence of sports participation on outcomes was examined using a repeated-measures analysis of covariance with the Oswestry and pain scores as dependent variables. The number of sessions and duration of care were compared using *t* tests.

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Results: Many adolescents with LBP receiving outpatient physical therapy treatment were involved in sports and cited sports participation as a causative factor for their LBP. Some differences in baseline characteristics and clinical treatment outcomes were noted between sports participants and nonparticipants. Sports participants were more likely to undergo magnetic resonance imaging before referral ($P = .013$), attended more sessions (mean difference = 1.40, 95% confidence interval [CI] = 0.21, 2.59, $P = .022$) over a longer duration (mean difference = 12.44 days, 95% CI = 1.28, 23.10, $P = .024$), and experienced less improvement in disability (mean Oswestry difference = 6.66, 95% CI = 0.53, 12.78, $P = .048$) than nonparticipants. Overall, the pattern of clinical outcomes in this sample of adolescents with LBP was similar to that of adults with LBP.

Conclusions: Adolescents with LBP due to sports participation received more treatment but experienced less improvement in disability than nonparticipants. This may indicate a worse prognosis for sports participants. Further research is required.

Keywords: [spine](#), [athletes](#), [disability](#)

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