OBJECTIVE:

STUDY DESIGN: This was a cross-sectional study with convenience sample of 112 adolescent competitive swimmers (62 females) compared with 217 students (106 females) of the same age (12.5 years). We designed a questionnaire to collect data on LBP and measured the angle of trunk rotation with a Bunnell scoliometer to screen for scoliosis, along with the plumbline distances for kyphosis and lordosis. Clinical cutoffs defined in the literature for detection of spinal deformities were applied. Analyses were performed using the t test and $\chi^2$ test, and ORs and 95% CIs were calculated.

RESULTS: Swimming was found to increase the risk of trunk asymmetries (OR, 1.86; 95% CI, 1.08-3.20). Swimming also increased the risk of hyperkyphosis (OR, 2.26; 95% CI, 1.35-3.77) and hyperlordosis (OR, 2.24; 95% CI, 1.06-4.73), and increased LBP in females by 2.1-fold (95% CI, 1.08-4.06).

CONCLUSION: Swimming is associated with an increased risk of trunk asymmetries and hyperkyphosis. Although swimming has been considered a complete sport and a treatment option for scoliosis, our data contradict that approach, and also show a higher prevalence of LBP in females.


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Author information

Abstract

To compare the prevalence of spinal deformities and low back pain (LBP) in adolescent competitive swimmers and normal controls.

Swimming was found to increase the risk of trunk asymmetries (OR, 1.86; 95% CI, 1.08-3.20). Swimming also increased the risk of hyperkyphosis (OR, 2.26; 95% CI, 1.35-3.77) and hyperlordosis (OR, 2.24; 95% CI, 1.06-4.73), and increased LBP in females by 2.1-fold (95% CI, 1.08-4.06).

Swimming is associated with an increased risk of trunk asymmetries and hyperkyphosis. Although swimming has been considered a complete sport and a treatment option for scoliosis, our data contradict that approach, and also show a higher prevalence of LBP in females.

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PMID: 25444007 [PubMed - as supplied by publisher]