Physical activity in children and adolescents with cystic fibrosis: A systematic review and meta-analysis

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Abstract

Background Exercise and physical activity (PA) are essential components of the care of cystic fibrosis (CF) patients. Lower PA levels have been associated with worse pulmonary function, aerobic fitness, glycemic control, and bone mineral density. Most people with CF do not engage in the recommended amounts of PA. Objective To determine the level of PA in children and adolescents with CF. Methods A systematic review with meta-analysis was conducted without language restrictions in five databases. Were included studies that analyzed PA measured by objective and subjective instruments in children and adolescents with CF. Two independent reviewers analyzed the studies, extracted the data, and assessed the quality of evidence. The risk of bias of the included studies was assessed with the National Heart, Lung, and Blood Institute's risk-of-bias tool. Results Of the 1535 reports returned by the initial search, 20 articles reporting on 785 patients were included in the data synthesis. The forest plot showed that the CF group had a similar moderate-to-vigorous PA (MVPA) (mean difference, -7.79; 95% CI, -15.65 to 0.08 min/d; P = .05) and sedentary time (mean difference, -50.81; 95% CI, -109.96 to 8.35 min/d; P = .09) to the control group. Conclusion Children and adolescents with CF have a similar MVPA and sedentary time compared to controls. There are many options, subjective and objective, for assessing PA in this population. Optimal tool selection should guarantee more valid results.

Palabras clave: adolescents; children; cystic fibrosis; physical activity; systematic review

KeyWords Plus: HABITUAL ACTIVITY; EXERCISE TOLERANCE; ENERGY-EXPENDITURE; SPANISH CHILDREN; SEDENTARY TIME; LUNG-FUNCTION; BONE HEALTH; PREVENTION; CAPACITY; QUALITY
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