

# Levels of physical activity in children and adolescents with asthma: A systematic review and meta-analysis

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## Abstract

**Background:** In children and adolescents with asthma, the disease may reduce the perceived capability to participate in physical activity (PA) contributing to an increase in the sedentary lifestyle. The literature is unclear as to whether children and adolescents with asthma differ their PA levels from their healthy peers. **Objective:** Our objective was to describe the different methods and instruments used to measure PA and to compare the PA levels of children and adolescents with asthma with those of their healthy peers. **Study Design:** We conducted a systematic review of five databases. We included studies that compared the PA measured by objective and subjective instruments in children and adolescents with asthma versus controls. Two independent reviewers analyzed the studies, extracted the data, and assessed the quality of evidence. **Results:** Of the 5966 reports returned by the initial search, 28 articles reporting on 3184 patients were included in the data synthesis. A forest plot showed that both groups had similar values of moderate to vigorous PA (MVPA; mean difference,  $-0.05$  h/day; 95% confidence interval [CI],  $-0.11$ – $0.01$ ;  $p = .13$ ), sedentary time (mean difference  $0.00$  h/day; 95% CI,  $-0.22$ – $0.23$  h/day;  $p = .99$ ) and steps/day (mean difference  $354$  steps/day; 95% CI,  $-563$ – $1270$  steps/day;  $p = .45$ ). **Conclusion:** Children and adolescents with asthma have similar MVPA, steps/day, and sedentary time compared to the controls. The main instruments used were questionnaires and accelerometers.

## Author keywords

Adolescents  
Asthma  
Children  
physical activity  
systematic review