

# Motor Performance in Children and Adolescents with Attention Deficit Hyperactivity Disorder. Systematic Review

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**ADMINISTRATIVE INFORMATION****Support** - Universidad de Las Américas.**Review Stage at time of this submission** - The review has not yet started.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202370105**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 July 2023 and was last updated on 25 July 2023.**INTRODUCTION**

**Review question / Objective** Q= In children and adolescents diagnosed with ADHD, how does the practice of physical activity or physical exercise or play or sports or physical education interventions benefit motor performance? OB.= To analyze the effects of physical activity or physical exercise or play or sport or physical education interventions on motor performance in children and adolescents diagnosed with attention deficit hyperactivity disorder.

**Rationale** Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder manifested by inattention, impulsivity and/or hyperactivity in children before the age of 12 (APA, 2013). ADHD generates poor neurocognitive functioning expressed in low attention span, working memory and inhibitory control (Alderson, Rapport, & Kofler, 2007). The worldwide

prevalence rate in children and adolescents with ADHD is valued between 5% to 10% (Thomas et al., 2015), it is estimated that 57% of those affected by the disorder maintain symptomatology in adulthood (Fayyad et al., 2017).

Poor motor coordination or motor performance is another daily obstacle in children and adolescents with ADHD (Fliers et al., 2008), commonly when those affected have motor difficulties they also show problems in tasks that require high coordination of fine motor movements (Mokobane, Pillay, & Meyer, 2019) such as, for example, writing (Lin et al., 2017). It has been stated that from 30% to 50% of those affected with ADHD, possess high motor coordination problems (Villa, Ruiz, & Barriopedro, 2019).

**Condition being studied** The persistence of motor problems in children with ADHD generates a difficulty in daily life, poor performance in games and sports (Polanczyk et al., 2007), they are a condition of school popularity and self-esteem of

the child (Skinner and Piek, 2001). These problems can lead to serious difficulties in written communication, social interaction and poor performance in physical/sports activities (Mokobane, Pillay, & Meyer, 2019).

## METHODS

**Search strategy** ("Children") OR ("Adolescent") AND ("ADHD") OR ("attention-deficit/hyperactivity disorder") OR ("Attention Deficit Hyperactivity Disorder") AND ("Motors skills") OR ("Motor coordination") OR ("Motor Performance") OR ("Motor impairment") AND ("Physical activity") OR ("Exercise") OR ("Physical Education") OR ("Play") OR ("Pretend play") OR ("Sports").

**Participant or population** ("Children") OR ("Adolescent").

**Intervention** ("Physical activity") OR ("Exercise") OR ("Physical Education") OR ("Play") OR ("Pretend play") OR ("Sports").

**Comparator** Not applicable.

**Study designs to be included** Experimental, Clinical Trial, Randomized Controlled Trial.

**Eligibility criteria** Physical activity or exercise or physical education or physical education or play or sport or pretend play interventions in children or adolescents diagnosed with ADHD.

**Information sources** PubMed; Scopus, SciELO, WoS.

**Main outcome(s)** Improvements in motor performance, improvements in motor skills, improvements in motor proficiency.

**Data management** Microsoft Excel, Microsoft Word.

**Quality assessment / Risk of bias analysis** PEDro.

**Strategy of data synthesis** PRISMA.

**Subgroup analysis** Not applicable.

**Sensitivity analysis** Not applicable.

**Language restriction** Only articles written in English or Spanish will be selected.

**Country(ies) involved** Chile.

**Keywords** Motor skills; Motor Performance; Attention Deficit Hyperactivity Disorder.

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