



School-Based High-Intensity Interval Training (HIIT) Programs for Promoting Physical Activity and Fitness in Children and Adolescents: A Systematic Review

André Bento

Comprehensive Health Research Center, Spain

Abstract:

Background: HIIT is a powerful stimulus in improving body composition and cardiometabolic risk in adults, and preliminary data in adolescents are also promising. HIIT is presented as a time-efficient alternative.

Objectives: evaluate the utility of a HIIT program integrated in Physical Education (PE) classes on Physical Condition, PA and Motivation. Sources: Search through PubMed, MEDLINE, SPORTDiscus, CINAHL, MEDICLATINA, COCHRANE and Web of Science, was carried out during March 2019, considering studies since 2008. Eligibility criteria: (i) adolescents aged 10-19 years (ii) HIIT program applied in school (iii) outcomes on physical condition, PA and motivation (iv) intervention at least 4 weeks (v) RCT.

Results: of the 5872 studies found a total of 14 studies were included. All works present significant improvements in, at least, 2 of the dimensions evaluated: physical condition and PA. There does not seem to be any great advantage in protocols that last in total more than 10min/session. Improvements in body composition registered, at most, a moderate Effect Size. HIIT is presented as a powerful stimulus in improving physical fitness, mainly on CRF in most protocols, and in power and speed when modality is plyometrics. Improvements in PA had a moderate and large Effect Size.

Conclusions: the introduction of HIIT in the school context has great potential in improving physical fitness and PA, and a moderate effect on improving body composition in adolescents. HIIT efficiency (~10min), reflect the wide applicability that these protocols can have in PE classes, and great adaptation to the facilities (including classrooms)

Biography:

Invited lecturer in the areas of exercise and health. More than 10 years of professional experience in the Sport area, developing commitment in the field through impactful projects in the community, those combine scientific with empirical knowledge from a decade, as well as applications for funds, which have created and remodel sports facilities. Trainer in exercise medicine area with national accreditation, and with international accreditation at the national academy of sports medicine and athletics and fitness association of America. Participation in dozens of congresses, conferences and seminars with communications on Exercise and Health, more specifically: elderly people, diabetes and entrepreneurship.