

Promoting health-related cardiorespiratory fitness in physical education: A SYSTEMATIC REVIEW



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AIM

This systematic review has two principal objectives: to summarize findings from scientific literature on the contribution of physical exercise (PE) classes for improving cardiorespiratory fitness (CRF) in children and adolescents and, consequently, to define potentially relevant factors for promoting CRF in PE classes.

WHY IS IT IMPORTANT?

Cardiorespiratory fitness is considered an important health variable that is associated with several risk factors for cardiovascular diseases. Recent studies suggest that in the last decades CRF appears to have declined in children and adolescents worldwide. At the same time, the school system is viewed as an important means of promoting physical activity and health among children and adolescents. PE classes might play a significant role in CRF development.



METHODOLOGICAL APPROACH

The data used for this review has been extracted from four relevant electronic databases (PubMed, ERIC, SPORT-Discus, Web of Science), based on previously identified search terms and selection criteria. Primary source articles relating PE classes and CRF, published up to July 2019 in peer-reviewed journals were eligible for inclusion. Data extraction was performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies was used to appraise risk of bias.

KEY FINDINGS



A total of 582 articles were extracted of which 24 were identified as relevant and included in the analysis.

24

582

The selected articles include data from 14 countries, most of them with a mixed sex sample.

The years of publication ranges from 1969 to 2017, demonstrating that the **scientific interest in the contribution of PE classes to CRF** is close to 50 years old.



From the 24 selected articles 33 findings regarding the contribution of PE classes to students' CRF were detected, as some articles presented more than one relevant finding.



16 findings indicate that PE classes did contribute to the improvement of students' CRF, whereas 14 findings point to a neutral effect and 3 findings suggest that students' CRF decreased during a given time period in a PE program.



Three potentially relevant factors for promoting CRF in PE classes were identified: students' age, PE classes' intensity, and students' weight status.



PE MAY HAVE A BIGGER ROLE TO PLAY IN PROMOTING OLDER STUDENTS' CRF.



PE should not only provide sufficient intensity to promote health, but also be based on developmentally appropriate motor activities to nurture self-efficacy and enjoyment and encourage ongoing participation in physical activity.



IMPLICATION

Considering the connection between Physical Fitness and health and the opportunity that the school setting provides to assess fitness in children and adolescents, there is a need for standardization and a consensus of Physical Fitness assessments in this specific setting.

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Reference

Marques A, Henriques-Neto D, Peralta M, Martins J, Gomes F, Popovic S, Masanovic B, Demetriou Y, Schlund A and Ihle A (2021). Field-Based Health-Related Physical Fitness Tests in Children and Adolescents: A Systematic Review. *Front. Pediatr.* 9:640028. DOI: 10.3389/fped.2021.640028.