



## EMPHNET's Research Digest

# School-based Physical Activity Interventions among Children and Adolescents in the Middle East and Arabic Speaking Countries: A Systematic Review

### Introduction

The escalating prevalence of noncommunicable diseases globally is a pressing public health concern, with a substantial proportion attributable to the decline in physical activity (PA) levels. This trend is notably acute in the Arabic-speaking regions, where sociocultural and infrastructural factors significantly impede the facilitation of active lifestyles among the youth. The endemic nature of physical inactivity in Arabic-speaking regions, with some countries exhibiting alarmingly high rates among their adult and juvenile populations, underscores the necessity for early-stage behavioral modification. Educational institutions represent strategic vectors for intervention, given their capacity to consistently engage substantial segments of the youth population.

This study, Published in PLOS ONE, titled "[School-based Physical Activity Interventions among](#)

[Children and Adolescents in the Middle East and Arabic Speaking Countries: A Systematic Review](#)" critically examines the scope and efficacy of school-based interventions in bolstering PA among school-aged children within Arab-speaking countries. It synthesizes available evidence on school-based PA interventions, evaluating their effectiveness and sustainability. The review summarizes essential intervention components and identifies the optimal configurations of programmatic elements that are conducive to elevating PA levels. The overarching aim of this systematic review is to contribute to the formation of a robust framework for the development and implementation of culturally tailored, impactful PA initiatives.

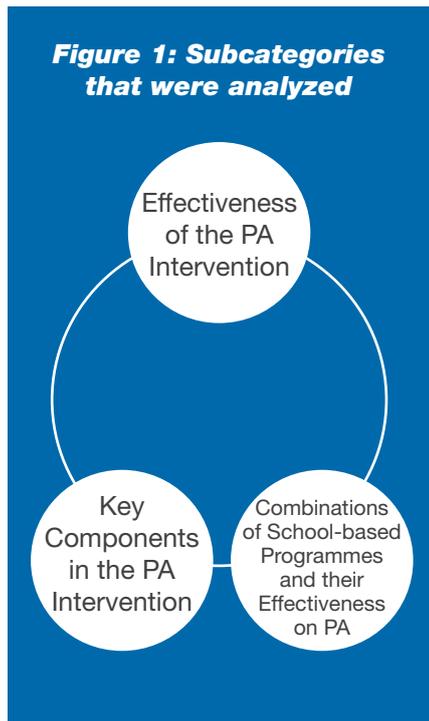
### Methods

The systematic review followed the PRISMA guidelines and utilized a comprehensive literature search across four databases (PubMed /

MEDLINE, Web of Science, Scopus, and CINAHL), from January 2000 to January 2023. It identified studies evaluating school-based physical activity interventions in 22 Arabic-speaking countries, members of the League of Arab States, along with countries in the Middle East that are not counted in the Arabic-speaking countries (i.e., Iran, Israel, Turkey, and Cyprus). The inclusion criteria focused on school-aged children (6–18 years) and encompassed a wide geographic scope within the Middle Eastern and Arabic-speaking countries. The search was conducted in English and Arabic.

Studies were methodically selected, and data were extracted using standardized tools. The risk of bias was assessed via two critical appraisal tools. Given the diverse nature of the interventions and outcomes, a narrative synthesis was deemed more appropriate than a meta-analysis, aiming to distill the efficacy of interventions and identify

key components and combinations that enhance physical activity outcomes.



## Results

The systematic review included and examined 17 quasi-experimental or randomized control trials from seven countries (Tunisia, Iran, Lebanon, Saudi Arabia, Egypt, Kuwait, and the United Arab Emirates), with no studies from the majority of MENA countries. The majority had more than 200 participants, with an age range of 8-16 years. Despite the varied nature of the educational systems and cultural contexts across these countries, the review found several common threads in successful school-based physical activity interventions.

The studies included in the review, while diverse in their methodologies and approaches, generally indicated positive outcomes when interventions were sustained over a period of time and tailored to the cultural context. These programs were often integrated into the school curriculum and involved a multi-faceted approach that included physical education enhancements, active breaks during academic

sessions, and extracurricular activities promoting physical engagement.

Overall, eleven studies reported statistically significant improvements in the levels of PA among their participants groups compared to the control groups. In terms of the magnitude of effect, six studies reported that students in intervention groups were three to six times more likely to be physically active both within and outside school compared to students in the control groups. The effect size for self-reported increase in physical activity ranged from 58%, to 72%. Overall, durations of not fewer than three months, and 60 to 90 minutes per day for at least three days a week, were the most effective.

The studies did not report any statistically significant differences when comparing schoolteachers and other professions in implementing the programs, but one study illustrated those schoolteachers with appropriate training and equipped with the right skills, resources, and information can have a positive influence on the behavior of students, and they can deliver the intervention with the highest fidelity.

This review found that most of the programs that have been evaluated were multi-component (lifestyle, diet, education) and few were focused solely on PA intervention, i.e., exercise and education about PA/exercise. Multi-component programs, i.e. those that take into consideration PA, health, and diet, were shown to ensure that students understand the significance of these three factors

One of the important findings of the review is the critical role of culturally sensitive adaptations. Interventions that were mindful of local cultural practices, and gender-specific preferences, and which actively involved the community, were consistently associated with better outcomes. This acknowledgment of the deep-rooted sociocultural factors that dictate lifestyle choices

in Arabic-speaking communities has been pivotal to the success of these programs.

The review also draws attention to the sustainability and scaling of physical activity interventions. While many studies reported immediate improvements in physical activity levels, there is an air of uncertainty about whether these interventions can promote and sustain active lifestyles over a long period. The initial boost in activity suggests potential, but there is a noted gap in understanding on how to keep children engaged with physical activity as part of their daily lives beyond the duration of the interventions.

In summarizing the findings, the review advocates for the strategic use of school-based programs as a vehicle for change in the fight against physical inactivity among children in the region. The success of such programs seems contingent upon their cultural alignment and long-term execution. However, the limited number of studies focusing on this population points to the fact that research into this topic in the region is still in its infancy. Further research is crucial to understand how to ensure that once established, these physical activity habits are sustained throughout the children's developmental stages.

In conclusion, the evidence from the systematic review points towards the necessity for long-term, culturally attuned, and multi-dimensional school-based strategies to address the sedentary lifestyles of children in Arabic-speaking regions. The review also suggests the potential value in adapting successful interventions from other contexts to these regions, with careful consideration of their unique sociocultural elements. This would help ensure that the initiatives not only lead to immediate improvements in physical activity levels but also contribute to the sustained health and well-being of the youth.

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