

A school-based intervention improves physical fitness in Ecuadorian adolescents: a cluster-randomized controlled trial

Lower- and middle- income countries are experiencing high paediatric obesity rates. This coincides with a rise in sedentary behaviour and lack of physical activity, which is a risk factor for obesity and other non-communicable diseases. Much more research is needed into effective, rigorous, school-based obesity interventions, especially in lower- and middle-income countries, so limited resources can be used most effectively. These researchers developed a “school-based cluster randomized controlled trial with parental involvement called “ACTIVITAL,” aimed at improving the nutritional value of dietary intake and physical activity in a sample of school-going Ecuadorian adolescents.” After schools were deemed eligible, “two 8th grades and two 9th grades were randomly selected and all students in those grades were invited to participate in the study” unless they were pregnant or suffering from an injury or “concomitant disease” 1430 total children were enrolled in the study. The intervention consisted of the following:

- Two sets of curriculum materials. The first created “awareness regarding the importance of an adequate physical activity throughout adolescence.” The second was intended “to increase knowledge and enhance decision-making skills” and “encourage the adolescents to be physically active for at least 60 min per day and to spend maximum 2 hour per day on sedentary activities”
- Workshops for parents to “support healthy behaviour of adolescents at home” and “to increase the awareness of parents regarding the importance of regular physical activity for adolescents, how to be active during the day and how to deal with barriers to be physically active”
- Talks by five total professional athletes to encourage teens to be more active
- A walking trail on the playground with posters to motivate students
- “Five[sic] different posters with key messages on physical activity and pictures of the young athletes”

Researchers found that their ‘school-based intervention had a positive effect on physical fitness parameters and recommendations for moderate to vigorous activity of adolescents in an urban area of Ecuador’ but did not see any significant changes in BMI. The study is notable in that it took place over a comparatively long period (28 months), focused on both nutrition and physical activity and used a comprehensive assessment of physical fitness.” Additionally, it was well received by the community. Limitations included unusually high drop-out rates, inability to directly measure the impact of the walking trail intervention and low statistical power for both the shuttle run and bent arm hang fitness tests.

Reference: Andrade, S., Lachat, C., Ochoa-Aviles, A. et al. A school-based intervention improves physical fitness in Ecuadorian adolescents: a cluster-randomized controlled trial. *Int J Behav Nutr Phys Act* 11, 153 (2014). <https://doi.org/10.1186/s12966-014-0153-5>