

## **Effect of a Multidimensional Physical Activity Intervention on Body Mass Index, Skinfolds and Fitness in South African Children: Results from a Cluster-Randomised Controlled Trial**

While “socioeconomically deprived communities with a high burden of infectious diseases persist in South Africa,” the country is also dealing with an obesity epidemic. Previous studies have demonstrated South Africans drink triple the number of sugar-sweetened beverages than average. As poor diets are a major risk factor for obesity, it is important to provide physical activity and nutrition education in schools. The aim of this study was to “investigate the dual burden of disease (i.e., non-communicable diseases and infectious diseases) among children in primary schools in disadvantaged neighbourhoods.” The intervention enrolled 1009 healthy children who gave informed consent from the eight selected schools. “During the study, students in the intervention group participated in the following:”

- “Two 40 min physical education lessons per week”
- “One weekly 40 min moving-to-music lesson”
- “Regular in-class physical activity breaks incorporated into the main school curriculum”
- “Enhancement of the school environment to be more physical activity friendly”
- “A health and hygiene education programme meant to increase children’s awareness for communicable diseases
- “A nutrition education and supplementation programme to contribute to the awareness of healthy diet”

The intervention slowed increases in BMI and skin fold thickness, although it did not change fitness in the long term. Interestingly, “girls benefited more from the intervention in terms of skinfold thickness, [but] they profited less regarding BMI.” This study was notable for targeting disadvantaged groups in a middle-income country and implementing a successful, acceptable and sustainable intervention. However, it would be improved by standardizing physical education teachers and class sizes, involving parents and communities to a larger extent, increasing sample size, using an objective measure of physical activity and lengthening the study. Additionally, the study design precludes a blinded study.

Reference: Müller I, Schindler C, Adams L, Endes K, Gall S, Gerber M, Htun NSN, Nqweniso S, Joubert N, Probst-Hensch N, du Randt R, Seelig H, Smith D, Steinmann P, Utzinger J, Yap P, Walter C, Pühse U. Effect of a Multidimensional Physical Activity Intervention on Body Mass Index, Skinfolds and Fitness in South African Children: Results from a Cluster-Randomised Controlled Trial. *Int J Environ Res Public Health*. 2019 Jan 15;16(2). doi: 10.3390/ijerph16020232.