

## The Family as an Agent for Change in Aerobic Activity and Obesity in Grade 2-3 Schoolchildren

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**Abstract :** Background and Aim: The prevalence of obesity is increasing worldwide and in Israel. To meet this challenge, our study tests a new educational approach through a controlled school-based trial to achieve an improvement in eating habits, aerobic activity, and reduced obesity in Grades 2-3. Methods and Design: A cluster randomized controlled trial allocated 4 elementary schools (3rd and 2nd-grade classes each) to intervention or control groups. This allocation was switched with the next cohort of children. Recruitment was in first grade, randomization at the beginning of second grade, evaluation of results at the end of second grade and the beginning of third grade — intervention: 5 joint parent-children classroom activities on health topics and 5 educational workshops for parents only. Alfred Adler's concepts were guiding principles. Subjects: Of 743 children in 23-second grade classes, parents provided informed consent for 508 (68%). Information of retention health habits continued for third grade. Additional parental approvals were required. Parents provided informed consent for third-grade follow-up for 432. Results: At the end of 2nd grade, the amount of aerobic activity increased in the intervention group in comparison with the control group, the difference being marginally statistically significant ( $p=0.061$ ). There is a significant difference between the groups in the percentage of "no activity being done" reported at the end of second grade when in the experimental group, the percentage is lower than the control. There are differences between genders in the percentage of aerobic activity at the end of second grade ( $p=0.044$ ) and in the third grade ( $p < 0.0001$ ). Height increased significantly ( $p=0.030$ ), and waist circumference declined significantly ( $p=0.021$ ) in the intervention compared with the control group. There were no significant between-group differences in BMI and weight. Conclusion: There were encouraging changes in aerobic activity and in anthropometric measurements. To maintain changes over longer periods, refreshing these nutrition and activity themes annually in school using the model is required.

**Keywords :** aerobic activity, child obesity, Alfred Adler, schoolchildren

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