

Author biography

Richard Hauer was born on September 4, 1981, in Vienna, Austria. He currently works at the Centre for Sport Science and University Sports, University of Vienna, where he also writes his doctoral thesis. He lectures in the field of Sport and Exercise Science, and Training Therapy. Although his research focus in the field of training science is on team sports he is very active in projects dealing with health-enhancing physical activity in school and club sports.

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Elementary school-based intervention to improve physical activity and dietary behavior

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Aim

Unhealthy lifestyles in early childhood resulting in a high prevalence of paediatric overweight and obesity are a major health challenge, as they are associated with an increasing number of children suffering from comorbidities and deficits in motor performance (1). This study aims to assess if a short-term multicomponent school-based intervention promoting healthful activity and nutritional habits would result in an improved exercise performance.

Methods

A total of 162 elementary school children were allocated in an intervention- (INT) and control-group (CON). The intervention-group received an eight-week intervention instructed by trained experts. Before (T1) and after (T2) the intervention motor abilities of all children were tested using the German–Motor-Test-Battery. Additionally, questionnaires were used to assess eating behaviours and nutritional knowledge. Comparison of all collected data between INT and CON has been conducted with statistical significance set at $P \leq 0.05$.

Results

At baseline, CON had significant better values in lateral-quick-jump ($P = 0.000$), sit and reach ($P = 0.007$), push-up ($P = 0.000$), and 6-minute-run ($P = 0.000$). After eight-week intervention a comparison of test result differences (T2-T1) showed significant improvement in lateral-quick-jump ($P = 0.000$; 4.72 ± 4.74 vs 0.23 ± 4.45 repetition INT and CON respectively), sit and reach ($P = 0.000$; 0.17 ± 3.98 vs -1.70 ± 3.27 cm INT and CON respectively), and push-up ($P = 0.000$; 7.11 ± 2.65 vs 1.94 ± 4.55 repetition INT and CON respectively) for INT.

Conclusions

The preliminary results of this study give evidence that an eight-week multicomponent intervention can improve motor performance in elementary school children. Results suggest that targeted training interventions at school can play an important role to improve physical development and lifespan physical activity in elementary school children.

References

(1) McClary-King, K., & Ling, J. (2015). Results of a 3-year nutrition and physical activity intervention for children in rural, low-socioeconomic status elementary schools. *Health Education Research*, 30(4), 647-659.