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Influence of Physical Activity on Aerobic Endurance Capacity on Primary School Students

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Objective The physical fitness of primary school students is not optimistic in recent years. The obesity rate and myopia rate have continuously increased, and the aerobic endurance capacity has insistently declined. The aerobic endurance capacity is an important indicator to evaluate the physical fitness of students. This article explores the effects of physical activity (PA) designed by NSPEL on the improvement of aerobic endurance by intervening in the fourth grade students of Shifoying Primary School in Chaoyang District in Beijing, and provides a reference for students' physical fitness promotion.

Methods 155 fourth-grade students from Shifoying primary School in Beijing were selected as subjects. They were subjected to PA intervention for 16 weeks and their physical fitness related indicators were evaluated. PA intervention includes in-class and extracurricular sports activities. Physical education was guided by the syllabus. Extracurricular sports activities were mainly activities in break and after-school sports interest classes. The final analysis of the physical fitness assessment scores, BMI, 50m run, 50-meter shuttle run, skipping and sit-up were performed before and after the intervention.

Results The average score of physical fitness assessment of students was 79.79 before PA intervention, and the score was significantly increased and increased to 88.12 (10.43%) after the intervention. Physical shape of the students changed significantly after PA intervention. The mean of BMI was within the normal range before and after intervention, and the obesity rate was reduced by 1.29%. The student's speed capacity improved significantly after the intervention, the average score of the 50-meter race increased from 10.22 seconds to 7.90 seconds, the difference was very significant, with an increase of 2.32 seconds after the intervention. The student's aerobic endurance capacity was significantly improved before and after PA intervention. The average score of the 50 meter shuttle run was increased from 2.01 min to 1.74 min, and the result was significantly improved by 13.43%. The average score of sit-up was 21.64, and it increased to 42.30 after the intervention, with an average increase of 20.66.

Conclusions Students' physical fitness assessment scores improved significantly after PA in and out of class, suggesting that PA effectively improved the physical fitness status of 11-year-old pupils. Students' 50-meter run, 50 meter shuttle run, skipping, and sit-ups were all significantly improved after PA interventions, suggesting that PA is of great significance for improving aerobic endurance. The combination of activities inside and outside class can be used as a reference mode to improve students' physical fitness (NSFC31401018, SKXJX2014014, Corresponding_houlj@bnu.edu.cn).