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A Follow-up Study of 8-10 age pupil's physical activity status and related factor

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Objective Regular physical activity in children has many benefits, including reducing the occurrence of obesity and lower levels of cardiovascular disease risk factors, promote bone mass deposition, improve health. Our research in order to using accelerometer survey children daily PA status in our country, and analyzes its characteristic.

Methods Our research assessed the PA of the same group of children in Beijing Yuxin Primary school for three consecutive years using ActiGraph accelerometers. The total available valid data are 183 children (male 94, female 89).

Results (1) The average total PA is 627.2 ± 134.5 counts/min (boy accrued 665.6 ± 139.1 counts/min and girl 579.8 ± 112.2 counts/min), among them boy accrued 59.0min/d and girl 48.1min/d of MVPA. 35% of participants could meet the WHO PA guideline (boys =49%, girls = 18%).

(2) MVPA increased significantly from 8 to 9 years of age (MVPA of 8-year-old children: 53.2min/d, 9-year-old children: 56.1min/d) and MVPA decline slightly from 9 to 10 (10 year-old children: 55.8min/d). And both boys and girls meet this regular.

(3) Both in weekdays and weekend, the MVPA time of boys (60.2min/d, 57.8min/d) are outstandingly higher than girls (49.7min/d, 46.5min/d).

(4) Two-way (gender *BMI category) ANOVA revealed that girls were less active than boys.

(5) The moderate and vigorous physical activity time of obese children in weekends are 42.3 min/d while those of normal children are 49.7 min/d, ($p < 0.05$).

(6) The total PA level, VPA, MVPA are negatively correlated with body fat percentage while LPA is positively correlated with BMI.

Conclusions Objective data indicated that Chinese youth are generally not physically active enough, and lower levels of PA were observed in girls, and during weekend days. The findings of this study will better inform the development of PA-related policies in schools, the design of PA intervention programs.