

【Original Article】

Change of Children's Physical Activity during Recess with Building Turf Playground

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Abstract

Objective: The purpose of the present study was to examine the influence of turf playground on children's physical activity during recess.

Methods: The participants were fifty boys and thirty six girls from the grade 3 to 6 of primary school. Their physical activity was examined using accelerometry before and after implementation of turf playground (about 2500 m² on the inside of the track) for seven consecutive days respectively. Time spent in sedentary, light, moderate, and vigorous physical activity during 25 minutes break and 15 minutes lunch recess was evaluated. Repeated measures analysis of covariance, with grade as the covariate, was used to examine differences in physical activity between pre-and post-implementation of turf playground.

Results: Data of fifty five children (35 boys) during break and fifty six children (35 boys) during lunch recess were available for analyses. During break, girl's moderate physical activity significantly increased after implementation of turf playground (from 1.3 ± 0.7 to 1.6 ± 0.7 ; $p = 0.04$). However, children's sedentary time significantly increased (boys: from 3.6 ± 2.7 to 6.8 ± 3.1 ; $p < 0.001$, girls: from 3.9 ± 2.3 to 7.5 ± 2.4 ; $p = 0.02$) and light physical activity significantly decreased (boys: from 9.0 ± 2.7 to 5.6 ± 2.1 ; $p = 0.01$, girls: from 9.5 ± 2.4 to 6.6 ± 1.9 ; $p = 0.01$) during lunch recess.

Conclusion: Turf playground had an influence on physical activity increased in girls during break, although decreased physical activity in both gender during lunch recess. It is needed to examine qualitative change of physical activity by observation and to develop approaches which improve the effectiveness of turf playground on recess physical activity among children.

Key words: turf, children, physical activity, recess, environment

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