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Effects of a 6-week healthy-life exercise program in obese children according to gender

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Background & Aim: Healthy lifestyle changes are the first line of treatment for metabolic syndrome. Lifestyle changes include losing weight, being physically active, and following a metabolic healthy diet. The aim of this study was to evaluate the effect of a 6-week, moderate-intensity, game-based intervention on physical and laboratory findings in obese children according to gender.

Methods: A total of 43 children with obesity (body mass index [BMI] ≥ 95th percentile) were included. These children were categorized according to gender, and participated in a once-weekly, 90-min active games intervention. We analyzed physical and laboratory parameters between pre- and post-6-week intervention.

Results: In all, 43 children (n=23 boys, 20 girls), aged 9-15 years, volunteered to participate in the study. Although there was no change in BMI, a decrease in waist circumference and an increase in muscle mass were observed in all children between pre- and post-intervention. Agility and muscle strength also improved. However, there were no changes in lipid profile, serum glucose levels, the percentage of body fat, or the hip circumference in all children. The female group demonstrated more favorable results than the male group with regard to lipid profile level, increased muscle strength, and decreased hip circumference. Flexibility improved greatly in the male group compared to that in the female group. In the female group, the hip circumference, the serum glucose level, the total cholesterol level, and the results of the standing long jump improved significantly after the 6-week intervention. Total muscle mass, waist circumference, and the strength of grasp improved significantly in the male group.

Conclusion: A 6-week, moderate-intensity exercise program proved to be beneficial in obese children. The metabolic response of the obese female group showed more rapid improvement than that of the obese male group. Therefore, exercise therapy based on gender will be needed to treat obesity in children.

Biography

Min Sun Kim has completed PhD at 2009 from Chonbuk National University in South Korea. She is Associate Professor in the division of endocrinology, Department of Pediatrics at Chonbuk National University Medical School and Hospital in Korea. She has published 45 papers and has been serving as an editorial board member of Annals of Pediatric Endocrinology & metabolism.

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