

OP_P002**LIFESTYLE INTERVENTION IMPROVES CARDIOMETABOLIC PROFILES AMONG CHILDREN WITH OBESITY**

<https://doi.org/10.15605/jafes.039.S1.207>

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INTRODUCTION

There has recently been a surge of interest in the metabolic phenotype among children with obesity characterized by the absence of associated cardiometabolic risk factors (CRFs), known as metabolically healthy obesity (MHO), as opposed to those with metabolically unhealthy obesity (MUO). This study investigated the effect of lifestyle intervention on CRFs among children with MHO and MUO.

METHODOLOGY

A total of 102 school-age children with obesity age 8 to 16 years completed a 16-week school-based lifestyle modification intervention program, MyBFF@school phase I. The intervention consisted of physical activity, healthy eating promotion, and psychological empowerment. MHO and MUO statuses were defined based on the 2018 consensus-based criteria.

RESULT

After the intervention, the CRFs of the children with MUO improved with significant decreases in systolic ($p < 0.001$) and diastolic ($p = 0.01$) blood pressure and a significant increase in high-density lipoprotein cholesterol ($p = 0.005$), while the CRFs of the children with MHO had a significant decrease in uric acid ($p = 0.04$). Additionally, 51.6% of the children with MHO transitioned to the MUO, while 26.8% of the children with MUO crossed over to the MHO at the end of the intervention. Furthermore, the odds of having high systolic blood pressure among children with MUO were 59% lower at week 16 compared to baseline [OR 0.41, 95%CI (0.18, 0.92)] ($p = 0.03$).

CONCLUSION

Our findings demonstrated that CRFs improved more prominently among children with MUO following the intervention. More important, our findings indicate that MHO in children is transient, hence, strategies to protect children against MUO are warranted.