EFFECTS OF COMBINED PHYSICAL ACTIVITY AND DIETARY INTERVENTION ON OBESITY AND METABOLIC PARAMETERS IN ADULTS WITH ABDOMINAL OBESITY

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Abstract. A twelve-week controlled intervention trial was carried out to evaluate the effects of combined physical activity and dietary intervention on obesity and metabolic risk factors among employees of Universiti Putra Malaysia. Participants consisted of adults aged 25-55 years with no reported chronic diseases but with abdominal obesity. They were assigned to either a combined physical activity and dietary intervention group or a control group. The final sample consisted of 56 participants, with an equal number of 28 for each study group. No significant group effect was observed for any variable except for hip circumference (HC) and fasting plasma glucose (FPG). There was a significant increase in HC ($p=0.007$) and reduction in FPG ($p=0.02$) in the intervention group compared to the control group. In the intervention group, HC ($p=0.002$), triglycerides (TG) ($p=0.0001$), total cholesterol (TC) ($p=0.0001$), LDL cholesterol (LDLC) ($p=0.0001$) and FPG ($p=0.005$) were significantly reduced, while waist circumference (WC) ($p=0.025$) and the waist-to-hip ratio (WHR) ($p=0.027$) were significantly reduced in the control group. No significant change in steps/day or calorie intake was observed in either group. Taken together, these data indicate that the combined physical activity and dietary intervention was not effective at improving diet or physical activity level. However, the intervention was effective in improving FPG among participants with abdominal obesity. The significant increase in HC in the interventions group warrants further study. These findings will be useful to further improve group-based intervention for the prevention and management of obesity.

Keywords: physical activity, dietary intervention, obesity, metabolic risk factors, Malaysia