

A Preliminary Outcome of the Effect of an Accumulating 10,000 Daily Steps on Blood Pressure and Diabetes in Overweight Thai Participants

Authors : Kornanong Yuenyongchaiwat, Duangnate Pepatsitipong, Panthip Sangprasert

Abstract : High blood pressure and diabetes have been suggested as being non-communicable disease (NCDs), and there is one of the components of the definition of metabolic syndrome. Therefore, the purpose of this study was to evaluate the effect of a 12-week pedometer based community walking intervention on change in resting blood pressure and blood glucose in participants with overweight in the community setting. Method: Participants were recruited both males and females who had a sedentary lifestyle aged 35-59 years (mean aged 49.67 years). A longitudinal quasi-experimental study was designed with 35 overweight participants who had body mass index ≥ 25 kg/m². These volunteers were assigned to the 12-week pedometer-based walking program (an accumulated at least 10,000 steps a day). Blood pressure and blood glucose were measured initially before and after 12-week intervention. Results: Systolic blood pressure and heart rate were significantly lower in 30 individuals who had accumulated 10,000 steps d-1 in the intervention group at 12 week follow-up (-13.74 mmHg and 5.3 bpm, respectively). In addition, reduction in blood glucose (-14.89 mmol) in the intervention participants was statistically significant ($p < .001$). A regression analysis indicated that reductions in systolic blood pressure were significantly related to the increase in steps per day. Conclusion: The accumulation of least 10,000 steps d-1 resulted in decreased resting systolic blood pressure and blood glucose in overweight participants. This has also shown that an increase in physical activity in overweight participants with sedentary lifestyle by accumulating at least 10,000 steps a day can reduce the risk of cardiovascular disease (e.g., hypertension and diabetes).

Keywords : blood glucose, blood pressure, diabetes, hypertension, physical activity, walking

Conference Title : ICTHDD 2017 : International Conference on Treatment of Hypertension, Dyslipidemia and Diabetes

Conference Location : London, United Kingdom

Conference Dates : April 24-25, 2017