

The impact of lifestyle modification on metabolic syndrome among staffs in Hospital Shah Alam

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ABSTRACT

Introduction: Metabolic syndrome (MetS) represents a pressing global public health concern, marked by a constellation of metabolic irregularities such as elevated blood pressure, dyslipidemia, raised fasting blood glucose, and central obesity, heightening the risk for type 2 diabetes mellitus and cardiovascular disease. Despite evidence endorsing lifestyle interventions, local data on their effectiveness in Malaysia are scarce. This study aims to explore the impact of lifestyle modifications on MetS among Ministry of Health (MOH) staff at Hospital Shah Alam (HSAS) to guide policy-level interventions for improved public health outcomes. **Materials and Methods:** Using data from KOSPEN 2020 at HSAS, this cohort study focused on lifestyle modifications from July 2021 to July 2022, comprising four arms: the diet group, exercise group, exercise + diet group, and control group. Due to challenges with recruitment and adherence, the sample size was limited, and the follow-up period was abbreviated. **Results:** With 36 participants recruited (30.6% males, 69.4% females; mean age: 40.28 years), no significant differences in key parameters were noted at 3 and 6 months. However, during the 9-month reassessment, the diet group demonstrated a significant mean reduction in SBP ($p = 0.005$), while the diet + exercise group exhibited decreased FBS compared to the diet ($p = 0.037$) and control groups ($p < 0.001$). **Conclusion:** Despite the constrained statistical significance likely due to high dropout rates and adherence issues, our study suggests that dietary control, exercise, or their combination can be effective in managing metabolic syndrome. While further methodically structured research is necessary to deepen our understanding of these relationships, our findings still indicate that long-term interventions can improve blood pressure and fasting blood sugar levels.