

## **Prevalence and risk factors of prehypertension in university students in Sabah, Borneo Island of East Malaysia**

### **ABSTRACT**

Unhealthy lifestyle contributes mainly to an increased prevalence of non-communicable diseases including hypertension and cardiovascular diseases tend to increase in Malaysia. These diseases lead to an increased risk of end organ damage and cardiovascular complications. In this study, the prevalence of prehypertension and its associated risk factors among a cohort of university students in Sabah was determined.

This is a prospective, cross-sectional study conducted among 365 undergraduate students irrespective of faculties at Universiti Malaysia Sabah (UMS). Standardized and validated World Health Organization (WHO) STEPS questionnaires were used to collect sociodemographic data. Additionally, clinical and anthropometric data were measured and recorded by a trained staff, followed by descriptive and logistic regression analyses.

A total of 365 UMS undergraduate students aged 18 years and above participated in the study. The prevalence of prehypertension among university students was high (31%) (95% CI [29.1%, 34.3%]). Well-known risk factors for hypertension including family history of hypertension, reduced sleep duration, reduced physical activity, smoking, being overweight or obese were significantly associated with the risk of developing prehypertension ( $P < .05$ ) among UMS students. However, no association was observed between ethnicity, age, and gender with prehypertension.

A worryingly high percentage of UMS students are prehypertensive, indicating the need of early preventive strategies aimed at increasing awareness, early screening, and lifestyle modification to reduce the rising burden of the disease and the associated complications in this age group.