

Obesity indices predict hypertension among indigenous adults in Krau Wildlife Reserve, Peninsular Malaysia

ABSTRACT

Background

The disease burden of indigenous peoples has been augmented by the rising prevalence of obesity and hypertension in this population. This study assessed the ability of obesity indices to predict hypertension among indigenous adults of Peninsular Malaysia.

Methods

In this cross-sectional study, 482 adults (223 men, 259 women) aged ≥ 18 years old were measured for body mass index (BMI), waist circumference (WC), waist-height ratio (WHtR), waist-hip ratio (WHR), and blood pressure. Receiver operating characteristic (ROC) analysis was used to determine the predictive ability of obesity indices for hypertension in men and women. Gender-specific logistic regression analyses were done to examine the association between obesity, defined by BMI, WC, WHtR and WHR, and hypertension.

Results

Prevalence of hypertension was 25.5%. Overall, WHtR was the best predictor of the presence of hypertension, in both men and women. The optimal WHtR cut-off values for hypertension were 0.45 and 0.52 in men and women, respectively. Obese adults with WHtR ≥ 0.5 had about two times increased odds of having hypertension compared to non-obese adults.

Conclusions

WHtR may serve as a simple and inexpensive screening tool to identify individuals with hypertension in this relatively difficult to reach population.

Keyword: Obesity indices; Hypertension; Indigenous peoples; Waist-height ratio; Predictor