SCRENEING HIGH-RISK POPULATION FOR HYPERTENSION AND TYPE 2 DIABETES AMONG THAIS

Kulaya Narksawat\textsuperscript{1}, Natkalmol Chansatitporn\textsuperscript{2}, Panuwat Panket\textsuperscript{3}, Jariya Hangsantea\textsuperscript{1}

\textsuperscript{1} Department of Epidemiology, Faculty of Public Health, Mahidol University, Bangkok; Thailand
\textsuperscript{2} Department of Biostatistics, Faculty of Public Health, Mahidol University, Bangkok; Thailand
\textsuperscript{3} Bureau of Non Communicable Diseases, Department of Disease Control, Ministry of Public Health, Bangkok, Thailand

**Key words:** Waist circumference, body mass index, cutoffs, screening accuracy, hypertension, type 2 diabetes, Thailand.

**Background:** Waist circumference (WC) and body mass index (BMI) are simple screening tools for hypertension (HT) and type 2 diabetes (DM). Cutoffs of WC for BMI for Asians have been discussed. This study aimed to assess the accuracy of screening tools and associations of WC, BMI with HT and DM.

**Methods:** Data from the national screening programme for metabolic syndrome conducted 2010 in 21 provinces in the central region of Thailand were analysed. A total of 10748 participants aged > 35 years were included in the analysis with cutoffs of WC set at 90 cm. for men, 80 cm. for women, and BMI at 23 kg/m\textsuperscript{2} for both sexes.

**Results:** WC produced low sensitivity and high specificity among male participants, and moderate sensitivity and specificity among female participants, while BMI produced moderate sensitivity and specificity in both sexes. Significant associations were found among those who had high WC only, high BMI only, and both high WC and BMI with HT and DM in both sexes. (males for HT, OR = 1.63, 95%CI: 1.15-2.33, OR=1.22, 95%CI: 1.03-1.44 and OR=2.03, 95%CI: 1.07-2.42; males for DM OR=1.39, 95%CI: 1.05-1.83, OR=1.77, 95%CI: 1.07-2.94 and OR=2.05, 95%CI: 1.57-2.69 females for HT, OR=1.69: 95%CI: 1.38-2.07, OR=1.32; 95%CI: 1.09-1.60 and OR=2.54, 95%CI: 2.11-2.91; females for DM, OR=1.45, 95%CI: 1.08-1.94, OR=1.45, 95%CI: 1.09-1.91 and OR=1.70, 95%CI: 1.39-2.09). When the cutoff WC was lowered among male participants to 85 cm, sensitivity increased, and significant strengths of associations with HT and DM were nearly the same.
**Conclusion:** For Thailand, WC and BMI with appropriate cutoffs can be effective screening tools to recruit high-risk populations into health promotion programmes. However, WC and BMI should be implemented with other screening tools for other risk factors because of their moderate accuracy.

WHO South-East Asia Journal of Public Health 2012;1(3):320-32