

METABOLIC SYNDROME AND ITS RELATION TO CHRONIC KIDNEY DISEASE IN A SOUTHEAST ASIAN POPULATION

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Abstract. The metabolic syndrome has been documented to increase the risk of cardiovascular disease and chronic kidney disease (CKD); however, there are few studies of this in developing countries. A total of 15,357 participants of a standardized check-up, included metabolic screening, were enrolled. Metabolic syndrome was defined using criteria modified from the National Cholesterol Education Program Adult Treatment Panel III (NCEP-ATP III) and the International Diabetes Federation (IDF). CKD was defined as a glomerular filtration rate <60 ml/min per 1.73 m^2 . Eighty point four percent of participants were men and 2,228 (14.5%) had CKD. Metabolic syndrome was more prevalent among CKD subjects than non-CKD subjects (modified NCEP-ATP III, 30.1% vs 24.4%; $p<0.001$; modified IDF 26.9% vs 23.1%; $p<0.001$, respectively). Abdominal obesity, high triglycerides, high blood pressure and impaired fasting glucose were significantly associated with an increased prevalence of CKD. There was also a significant graded relationship between the number of metabolic syndrome components and the prevalence of CKD. Participants with metabolic syndrome according to the modified NCEP-ATP III and modified IDF criteria had a 1.34-fold increase in adjusted odds ratio (95% CI 1.21-1.49) and a 1.20-fold increase in adjusted odds ratio (95% CI 1.08-1.33), respectively, compared to those without metabolic syndrome. Our study demonstrated metabolic syndrome defined with modified NCEP-ATP III and modified IDF criteria was significantly associated with increased prevalence of CKD in a Southeast Asian population.

Keywords: metabolic syndrome, chronic kidney disease, Southeast Asian population

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