

Comparing Effectiveness of Anthropometric and Biochemical Markers as Predictors of Cardiometabolic Risk among Bangladeshi Doctors

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Abstract

Background: “Cardiometabolic risk,” in simple terms, refer to the higher chances of developing Type 2 DM, cardiovascular and cerebrovascular events in an adult. Obesity, insulin resistance and dyslipidemia are the major contributing factors for this risk. The risk increases two to threefold with long-term stress, smoking and sedentary lifestyle.

Objectives: Doctors, all over the world in general and Bangladesh in particular, lead very stressful lives due to their immense professional pressure. Most of them succumb to unhealthy lifestyles while trying to cope with the academic and work-life burden. This study aimed to compare effectiveness of the Anthropometric marker Waist-to-height ratio (WHtR) and the Biochemical marker Triglyceride to High-density lipoprotein-cholesterol (TG/HDL-C) ratio, as predictors of cardiometabolic risk among the Bangladeshi doctors.

Methods: This cross-sectional study was conducted on 200 doctors of Bangladesh Medical University (BMU), aged 30-50 years, from March 2019 to February 2020, selected through purposive sampling. Anthropometric measurements (waist circumference and height, both in cm) of the study subjects were recorded in preformed data sheets. Then their fasting serum Triglyceride & fasting serum HDL-C concentrations were estimated. All the data were then entered and processed by SPSS.

Results: Sensitivity, specificity, positive predictive value and negative predictive value of WHtR, as a diagnostic marker were 88.1%, 23.2%, 53.9% and 66.7% respectively. Sensitivity, specificity, positive predictive value and negative predictive value of TG/HDL-C ratio, as a diagnostic marker were 72.3%, 75.8%, 53.9% and 66.7% respectively. According to the cut-off value of WHtR, 85.6% of the study subjects were found to have cardiometabolic risk. Cardiometabolic risk was present in 51.5% of the male study subjects and 32% of the female study subjects, based on the cut-off value of WHtR. According to the cut-off value of TG/HDL-C ratio, 63.5% of the study subjects were found to have cardiometabolic risk. Cardiometabolic risk was present in 66.3% of the male study subjects and 57.5% of the female study subjects, based on the cut-off value of TG/HDL-C ratio.

Conclusion: The biochemical marker (TG/HDL-C ratio) was found to be a better predictor than the Anthropometric marker (WHtR) in predicting cardiometabolic risk among Bangladeshi doctors. [*J Assoc Clin Endocrinol Diabetol Bangladesh*, 2025;4(Suppl 1): S35]

Keywords: Cardiometabolic risk, Anthropometric and biochemical markers, Waist-to-height ratio (WHtR), Triglyceride to High-density lipoprotein-cholesterol (TG/HDL-C) ratio.

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