

## ABSTRACT

### The Nature and Prevalence of the Metabolic Syndrome amongst Afro- and Indo-Trinidadians with Type 2 Diabetes Mellitus

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The scourge of non-communicable diseases such as obesity, type 2 diabetes (T2DM) and hypertension has long been associated with developed countries. It is now being realised that these conditions are also prevalent in developing countries such as Trinidad and Tobago. Each of these conditions is a risk factor for cardiovascular disease (CVD) and, together with hypertriglyceridaemia and decreased high-density lipoprotein cholesterol, comprise the metabolic syndrome (MetS). This unique clustering of factors confers increased risk for CVD in those who present with the constellation.

A clinic-based stratified sample of persons who presented with T2DM was chosen from health centres in Trinidad. Standard venipuncture procedures were employed to draw fasting blood samples to assay for leptin, adiponectin, C-reactive protein, homocysteine and a lipid profile. Anthropometric measurements were taken to allow for calculation of three weight status assessors.

Criteria by the International Diabetes Federation highlighted a higher prevalence of the MetS in persons of African and East Indian descent (77.3% and 70.5%, respectively) as compared to the prevalence obtained with the modified World Health Organisation criteria (68.2% and 62.2%, respectively). The IDF criteria highlighted a higher prevalence of the MetS in females of African and East Indian descent (79.8% and 69.1%, respectively) and males of African and mixed/other descent (71.1% and 85.7%, respectively) as compared to the WHO criteria. By these same IDF criteria, females exhibited a higher prevalence of the MetS and the presence of three and five traits, as compared to males in the cohort.

The prevalence of the MetS and its components in this clinic-based Trinidadian population with T2DM, especially amongst females, suggests that emphasis should be placed on adopting measures to significantly reduce the risk for future cardiovascular events. Known inflammatory markers and adipokines could also be of prognostic value for early identification of cardiovascular risk and should be considered for assessment during clinic visits.

Keywords: Metabolic syndrome, type 2 diabetes, obesity, cardiovascular risk, Trinidad