OP-02: The ability of Waist -Triglyceride Index to Identify Metabolic Syndrome among Adults from Jaffna

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Introduction: Metabolic syndrome (MetS) criteria include Waist Circumference (WC) and Triglycerides (TG). A combination of TG with WC may be useful to detect MetS instead of considering either TG or WC alone. This study was carried out to evaluate the ability of Waist -Triglyceride Index (WTI) to identify MetS, to compare with TG and WC, and to determine WTI cut-off values to predict MetS in adults from the Jaffna.

Methods: A total of 540 adults aged 18-65 years were recruited by random cluster sampling from four areas of the Jaffna peninsula. MetS was defined using the International Diabetes Federation (IDF) criteria. The WTI was calculated as Ln (TG (mg/dl) WC [cm]/2). The area under the curve (AUC) of the receiver operating characteristic (ROC) curve was used to assess the ability of WTI in screening for MetS.

Results: A total of 540 individuals were enrolled in this study, with a mean age of 42.18 ($\pm$ 13.89) years for males (n = 175) and 43.80 ($\pm$12.56) years for females (n = 365). The number of subjects who had MetS among the males was 57 and females was 147. The mean WTI of the total study population was 8.55 ($\pm$ 0.50). The mean WTI was significantly different between subjects with MetS (8.96 $\pm$ 0.35) and without MetS (8.30 $\pm$ 0.40) according to IDF criteria ($p<0.001$). The AUC of ROC revealed values of 0.889 [95% confidence interval (CI): 0.856, 0.923] for females with a cut-off value of 8.62, 0.912 [95% CI: 0.869, 0.955] for males with a cut-off of value 8.68, and 0.893 [95% CI: 0.866, 0.921] for the total study population with a cut-off value of 8.64 (sensitivity: 82.80% and specificity: 80.00%). The discriminative power of TG and WC to identify individuals with MetS was 0.874 (95% CI: 0.844, 0.904) and 0.747 [95% CI: 0.706, 0.788] respectively.

Conclusion: WTI had an excellent discriminative ability to identify MetS when compared with TG or WC alone. Individuals with higher WTI had a significantly higher risk of having MetS when compared with that of lower WTI.

Keywords: Metabolic syndrome, waist-triglyceride index, triglycerides, waist circumference, discriminative ability