



Title

Neck circumference as a simple tool for identifying the metabolic syndrome in Brazilian army soldiers

Abstract

INTRODUCTION: Neck circumference (NC) is a novel simple and stable body measurement, and an increasing number of studies indicates its value to diagnose obesity and metabolic syndrome (MetS). However, data relating to the association between NC and MetS in Brazilian population are scarce, especially in military forces members. The aim was to determine NC cutoffs best associated with the MetS in Brazilian soldiers.

METHODS: 271 male soldiers of the Brazilian Army were evaluated from 2017 to 2018. Characteristics: age = 36.7 (\pm 7.3) years and BMI = 27.48 (\pm 3.41) kg/m². Waist circumference and NC were collected, with blood pressure measure, fasting blood sugar level, triglyceride levels, and HDL-C. The parameters of the Joint Scientific Statement were used for MetS diagnosis. The Receiver Operating Characteristic Curve (ROC), with a 95% confidence interval, and Youden index were used to determine the cutoff value of NC to identify MetS.

RESULTS: 54 of the subjects who were diagnosed with MS were young (19.9%), the areas under the curve of NC for MetS was 0.783. ROC analysis revealed NC \geq 40.2 cm to be the optimal cutoff point for MetS in Brazilian soldiers.

DISCUSSION AND CONCLUSION: It is observed that the value found is higher than those reported in other studies. A possible explanation could be the characteristic of our sample, made up exclusively of soldiers. It seems that physical training exerts a protective factor in the cardiometabolic health of the military, which is reflected in a higher cutoff value when compared to the general population. NC did not contribute to determining metabolic syndrome risk beyond the classical anthropometric indices among Brazilian soldiers.

Practical Implications

ROC NC cut-point demonstrated that NC may be used as an additional anthropometric marker to predict the MetS in Brazilian Army members.

References

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Figures and tables

Conflict of interest

There is no potential conflicts of interest

CV

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