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

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INTRODUCTION

Neck circumference (NC) is a novel simple and stable body measurement, a 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 special in military forces members. The aim was to determine NC cutoffs best associated with the MetS in a Brazilian soldiers.

METHODS

271male soldiers of the Brazilian Army were evaluated from 2017 to 2018. Characteristics
age = 36.7 (± 7.3) years and BMI = 27.48 (± 3.41) kg/m2. Waist circumference and NC were collected with blood pressure measure, fasting blood sugar level, triglyceride levels, and HDL-C. The parameter of the Joint Scientific Statement were used for MetS diagnosis. The Receiver Operating Characterist Curve (ROC), with a 95% confidence interval, and Youden index were used to determinate the cuto 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 ≥40.2 cm to be the optimal cutoff point f 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 o soldiers. It seems that physical training exerts a protective factor in the cardiometabolic health on the military, which is reflected in a higher cutoff value when compared to the general population. NC contributed 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 predic the MetS in a Brazilian Army members.

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CONFICT OF INTEREST

There is no potential conflicts of interest