

# The NCEP ATP III criteria may overestimate the diagnosis of metabolic syndrome in obese and overweight adolescents

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## OBJECTIVES

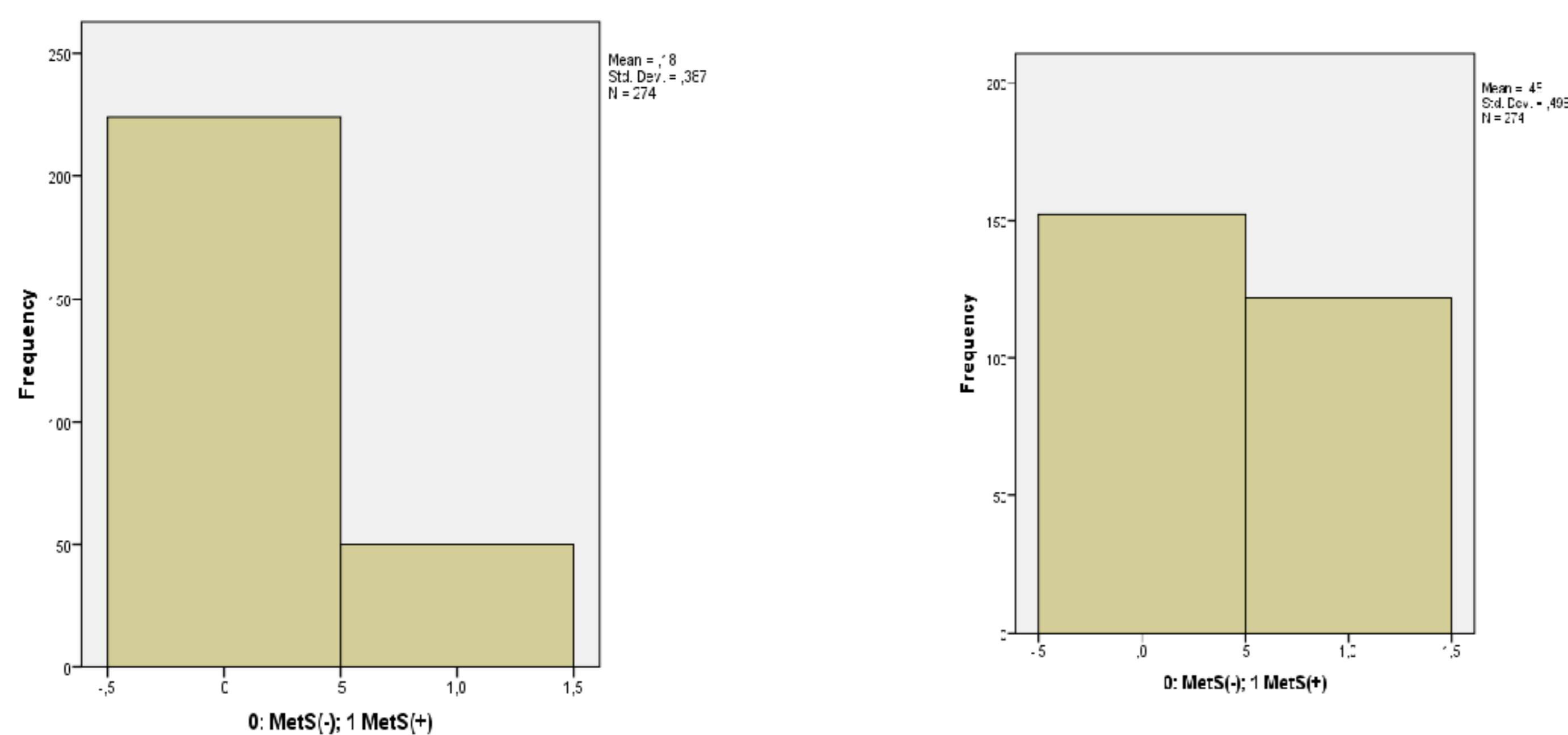
The optimum definition of the metabolic syndrome (MetS) is a matter of debate in children. In this study we aimed to compare the previously reported international definitions of MetS according to the National Cholesterol Education Program, Adult Treatment Panel III (NCEP, ATP III) and International Diabetes Federation (IDF) in a cohort of obese and overweight children and adolescents.

## METHODS

We included 320 subjects in our study. We measured the subjects' plasma glucose, high density lipoprotein cholesterol, triglycerides in a fasting serum sample. We measured the height to the nearest centimeter and weight to the nearest kilogram. The subjects' blood pressure was measured via a sphygmomanometer. The body mass index was calculated by dividing the weight in kilograms to the height in centimeters squared. The waist circumference was measured by a tape over the umbilicus to the nearest centimeter when the subject was standing in upright position.

## RESULTS

The age ranged between 9.33 and 16 years in the study group. The mean age of the study group was 13.74 years. According to standard percentiles 46 were overweight and 274 were obese. 156 (48.8%) of the study group were female and 164 (52.2%) were male. Out of the 46 overweight subjects 17.4% and 28.9% of subjects were diagnosed as MetS according to the IDF criteria and NCEP ATP III criteria respectively. Similar in the obese group of 274 subjects 18.2% and 44.5% were diagnosed as MetS according to the IDF criteria and NCEP ATP III criteria respectively. The comparisons were statistically significant ( $p < 0.05$ ).



Histograms of the prevalence of MetS according To IDF and NCEP ATP III criteria respectively

## CONCLUSIONS

Similar to previous studies the NCEP ATP III criteria may overestimate the prevalence of MetS in overweight and obese adolescents.

