

Metabolic Syndrome In Prepubertal Obese Children: Inclusion Of The Triglycerides/HDL Ratio As An Alternative Diagnostic Criterion



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All authors have nothing to disclose

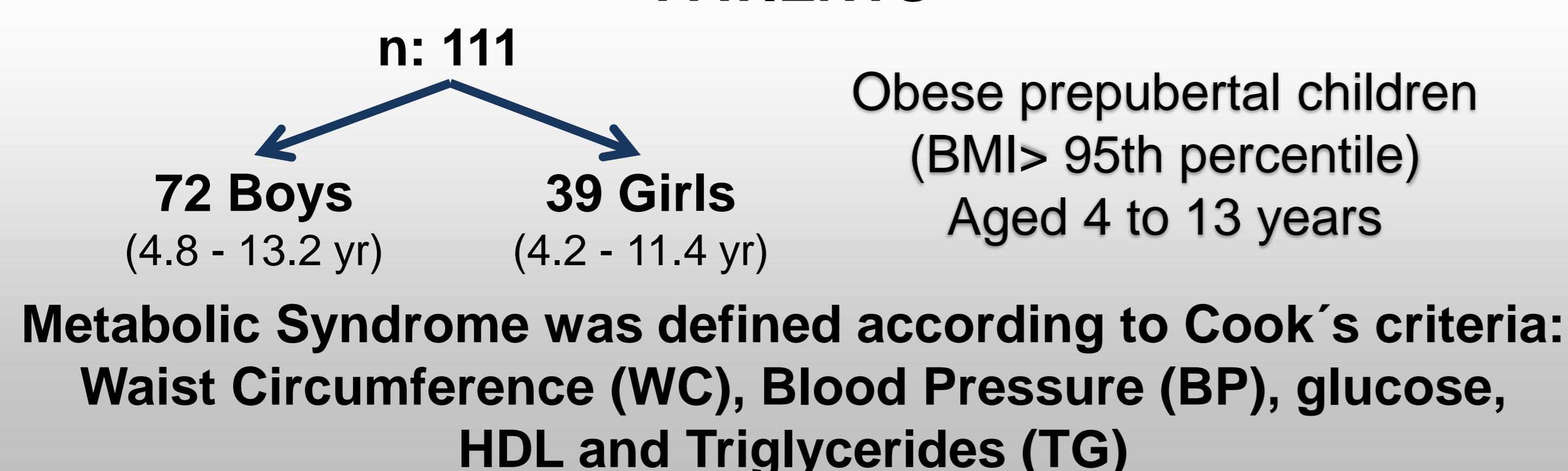
BACKGROUND

Although a large number of publications show a high prevalence of Metabolic Syndrome (MS) during childhood, to date, there is no uniform definition for evaluating this condition in children and adolescents. In the pediatric population, there are difficulties for characterizing this condition and the various criteria used might lead to underdiagnosis. In recent years, the Triglycerides/HDL (TG/HDL) ratio has been proposed as a new marker.

OBJECTIVE

To analyse the prevalence of MS in obese prepubertal children using Cook's diagnostic criteria and to evaluate the inclusion of the TG/HDL ratio as an alternative criterion for MS characterization in these patients.

PATIENTS

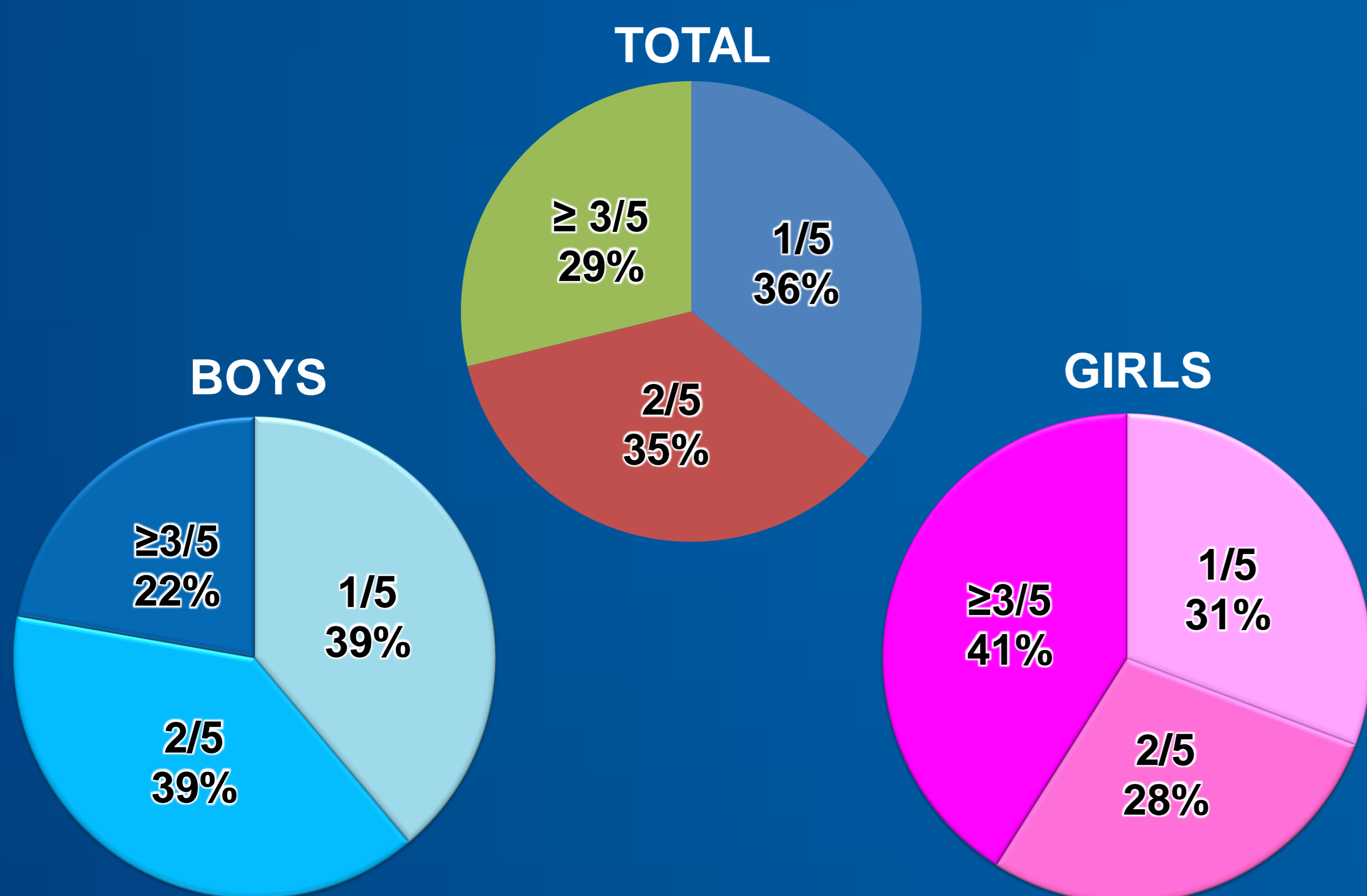


METHODS

- Measurement of WC, BP, insulin (Cobas E411, Roche Diagnostics GmbH, Mannheim), glucose and lipid profile were performed in all patients
- HOMA-IR and TG/HDL ratio were calculated
- TG/HDL ratio ≥ 2 was considered abnormal (Diabetes Care 2012)
- HOMA-IR ≥ 3 was considered abnormal (Arch Arg Ped 2011)

RESULTS

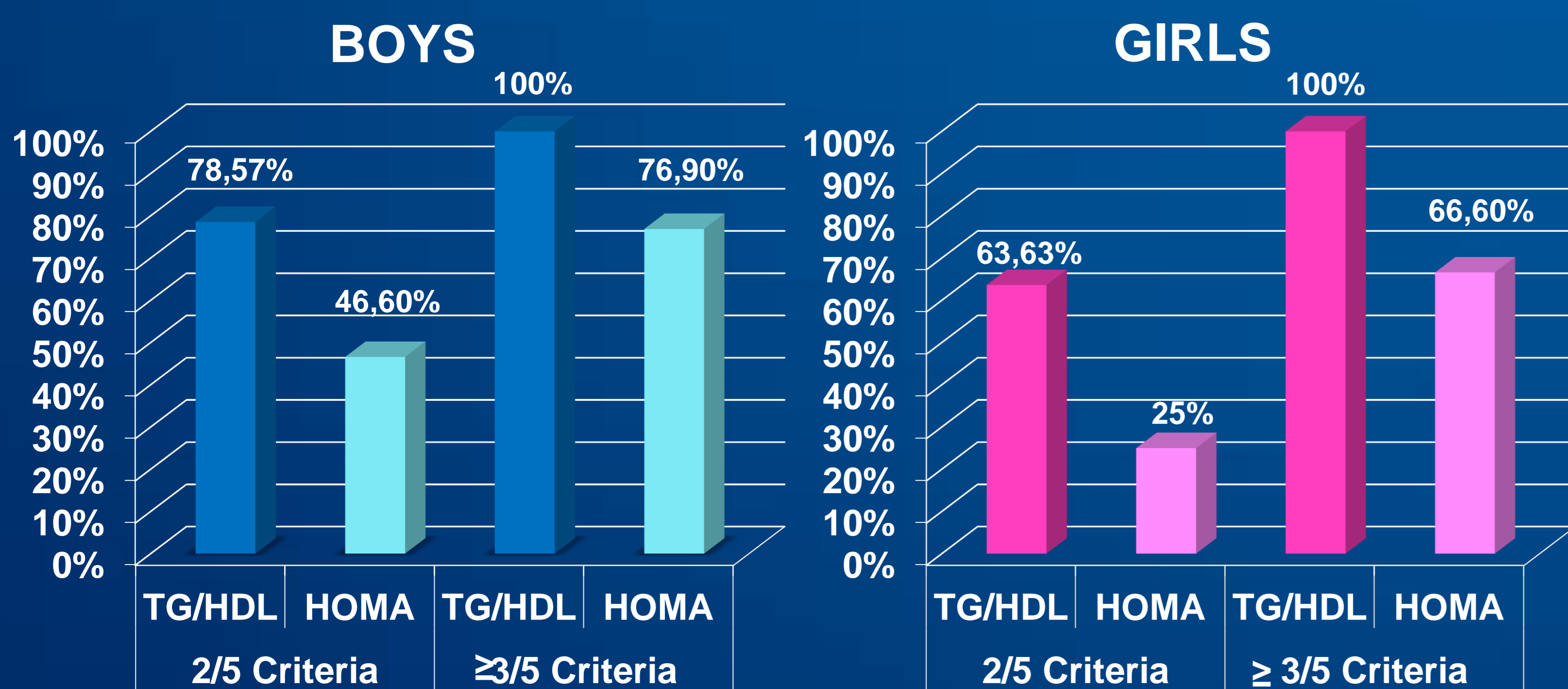
Total percentage of Cook's criteria



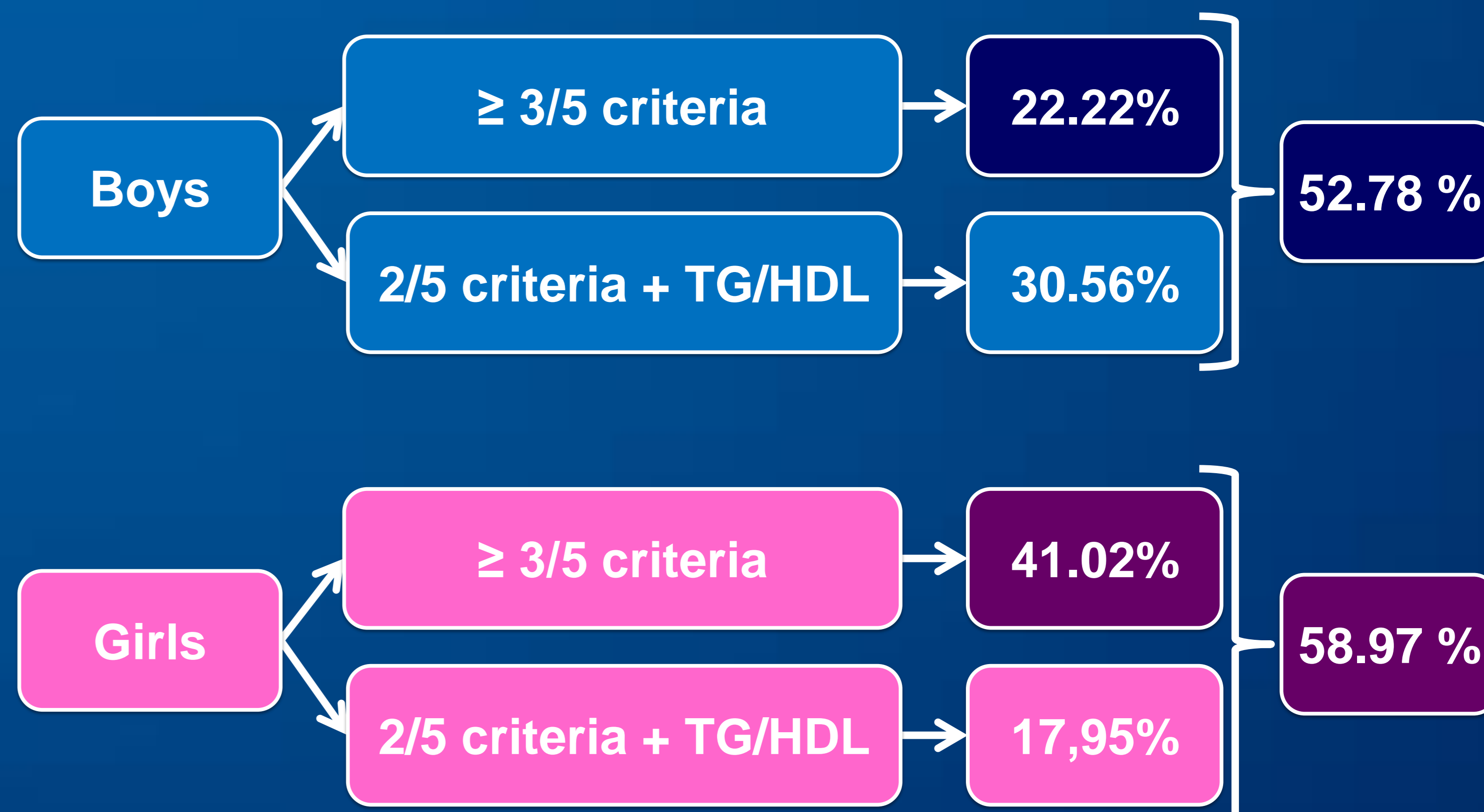
Discriminated percentage of Cook's criteria

Cook et al.	WC perc >90	BP perc >90	Glucose ≥ 110 mg/dL	HDL ≤ 40 mg/dL	TG ≥ 110 mg/dL
BOYS n= 72	100%	24,5%	1,4%	34,72%	38,9%
GIRLS n= 39	100%	40%	0%	46,1%	51,3%

TG/HDL ratio and HOMA-IR in patients with 2/5 and $\geq 3/5$ Cook's criteria



Prevalence of MS using different criteria



Conclusion

- In this study, using Cook's criteria, 29% of obese children had a diagnosis of MS; however, 35% children included had two components of MS.
- Based on our findings, we suggest including, as an alternative diagnostic criterion in the latter subgroup, the TG/HDL ratio for reducing underdiagnosis in MS in prepubertal patients of both genders.
- The lower detection of MS using classical criteria may underestimate cardiometabolic risk in children and delay the strengthening of preventive measures.

