



TRIPONDERAL MASS INDEX FOR THE CATEGORISATION OF CHILDHOOD OBESITY ON THE BASIS OF 58.364 OBSERVATIONS OF 7.792 PATIENTS

R. Corripio, L.E. Alder-Ortiz, J. Pérez-Sánchez, D. Sánchez-Garvín
Parc Taulí Hospital Universitari, Institut d'Investigació i Innovació Parc Taulí I3PT, Universitat Autònoma de Barcelona.



INTRODUCTION

Childhood obesity constitutes a relevant problem of public health. Body mass index (BMI) is the most used anthropometric parameter for its definition.

Triponderal mass index (TMI) could identify metabolic risk by obesity with the **advantage to be a constant value simplifying the calculations.**

AIM

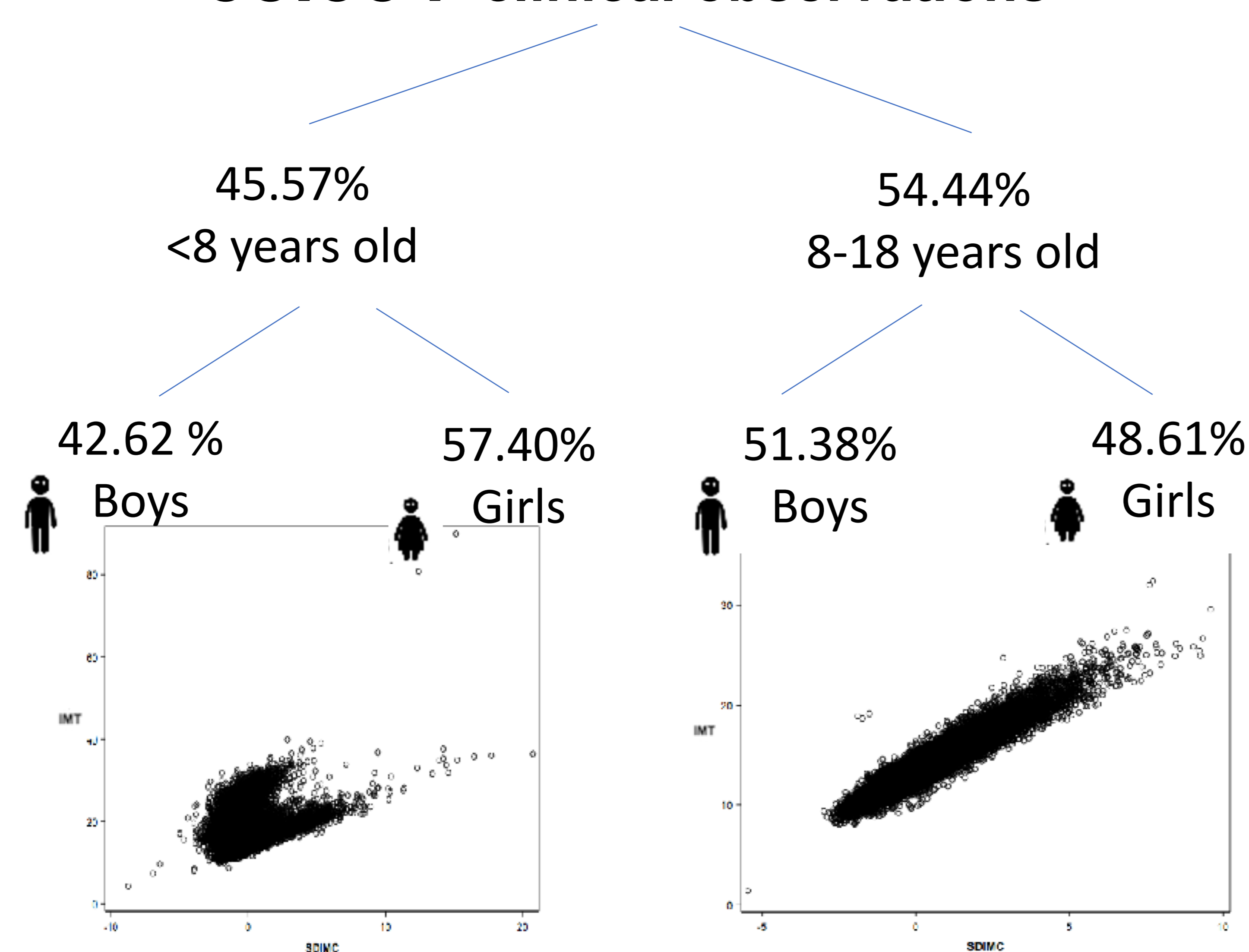
Determine the usefulness of triponderal mass index as a identifier of childhood obesity (0-18 years).

METHOD

- Sample:** 58.354 clinical observations from 7.792 boys and girls, 0-18 years old, of the Pediatric-Endocrine Department of a Tertiary Hospital
- Data:** sex, age, weight, size, BMI, TMI, Sensitivity, specificity, VPP and VPN for the values of TMI according to the values BMI-SD z score (<2, 2-3, 3-4, 4-5, >5 SD) for sex.
- ROC curve** to determine the optimum **cut-off point** that maximizes the sensitivity and specificity of **TMI in relation to the BMI z-score value.**
- Two groups of age (<8years and 8-18 years old)

RESULTS

58.354 clinical observations



No linear relation ($r < 0.4$)

Positive linear relation between BMI Z score and TMI values ($r > 0.95$)

BOYS 8-18 YEARS

GIRLS 8-18 YEARS

IMC (SD)	IMT	ROC curve	95% IC	IMC (SD)	IMT	ROC curve	95% IC
<=2	17.08	0.9026	0.8953-0.9098	<=2	16.87	0.8965	0.8900-0.9030
2-3	18.90	0.8029	0.7882-0.8177	2-3	18.48	0.8130	0.8004-0.8225
3-4	19.94	0.7757	0.7540-0.7974	3-4	19.64	0.7877	0.7699-0.8055
4-5	21.36	0.7479	0.7141-0.7816	4-5	21.18	0.8090	0.7842-0.8338
>=5	21.36	0.8854	0.8603-0.9104	>=5	21.18	0.8895	0.8705-0.9085

CONCLUSIONS

- TMI presents a strong linear correlation with BMI-SD values in children **8-18 years old.**
- TMI allows to describe the obesity degree **easier.**
- In children <8 years the relation between both variables does not seem to be so useful.

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CONTACT INFORMATION

rcorripio@tauli.cat

