

## **Prevalence of the metabolic syndrome among extremely obese adolescents in Italy and Germany.**

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Juvenile metabolic syndrome (MetS) is a growing major medical problem in industrialised countries. We estimated its prevalence among two similar clinic-based sequentially recruited cohorts of extremely obese adolescents (age: 12-18 years) from Italy (N = 665, males = 271, females = 394) and Germany (N = 661, males = 261, females = 400) using the recent IDF paediatric criteria. The prevalence of the MetS was 23.3% among the Italians and 40.4% among the Germans. A multivariate logistic regression revealed an increased risk related to age (adjusted odd ratio (AOR): 2.24; 95% confidence interval (CI): 1.59-3.16;  $p < 0.001$ ), BMI SDS (AOR: 3.61; 95% CI: 2.33-5.60;  $p < 0.001$ ), male gender (AOR: 2.36; 95% CI: 1.80-3.10;  $p < 0.001$ ), and in German adolescents (AOR: 2.56; 95% CI: 1.98-3.31;  $p < 0.001$ ). Among Italian adolescents having the MetS, 83% had 3 abnormalities, 16% had 4 abnormalities while less than 1% had all the 5 abnormalities. In the German cohort, 67%, 28% and 5% of affected individuals had 3, 4 and 5 abnormalities, respectively. These results indicate that MetS is highly prevalent among extremely obese adolescents, and suggest that (besides age, obesity and gender) national sociocultural factors, as alimentary trends, could be important. Further tools should be developed to understand international epidemiological differences concerning obesity and its comorbidities in relation to lifestyles in the countries of European Union.

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