Cardiometabolic risk factors differ among adolescents with obesity in three European countries - a cross-sectional study.

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Aim: We aimed to compare modifiable cardiometabolic risk factors among treatment seeking adolescents with obesity in Italy, Germany and Norway.

Methods: This retrospective, registry-based, cross-sectional cohort study included 2.327 (59% girls) 12-18 year-old adolescents with obesity from three tertiary care outpatient clinics in Europe, between 1999 and 2015. The prevalence of cardiometabolic risk factors was compared between clinics, and multivariate logistic regression models including gender, age, waist circumference and body mass index were used to assess the associations between population and cardiometabolic risk. Results: In total, 1.396 adolescents (60% girls) from Italy, 654 (58% girls) from Germany and 277 (51% girls) from Norway were included. The mean ± SD age was 15.2 ± 1.6 years, body mass index 38.8 ± 6.5 kg/m^2 and body mass index standard deviation score 3.21 ± 0.43. The prevalence of elevated non high-density lipoprotein cholesterol in Norway, Germany and Italy was 60%, 54% and 45%, while the prevalence of high systolic or diastolic blood pressure (≥130 or ≥85 mmHg) were 15%, 46% and 66%, respectively.

Conclusion: Cardiometabolic risk factors among treatment-seeking adolescents with obesity from Italy, Germany and Norway differed across the populations in this study, which might imply that preventive clinical work should reflect such differences.