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each age. We compared the following measures as a summary of BMI between 13 and 27 years of age: mean BMI; maximum BMI; obese years (number of units above the obesity cut-off from WHO growth reference, multiplied by the number of years lived at that BMI); and the BMlauc (the area under the curve given the observed BMI at each age, calculated using a cubic spline interpolation). Metabolic alterations at 27 years were defined as presenting at least one of the following risk factors: high blood pressure (systolic ≥ 130 mm Hg or diastolic ≥ 85 mm Hg); fasting glucose ≥ 100 mg/dl; triglycerides ≥ 150 mg/dl; or high-density lipoprotein-cholesterol <50 mg/dl in females or <40 mg/dl in males. The ability of each measure to predict metabolic alterations at 27 years was tested using receiver operating characteristic (ROC) curve analysis.

RESULTS: Thirty percent of the sample presented metabolic alterations at 27 years. Obese years presented the lowest area under the ROC curve (AUC): 0.523, 95% CI 0.507–0.539. The BMlauc (AUC: 0.640, 95% CI 0.603–0.677) performed better than the obese years, but was not superior to mean BMI (AUC: 0.648, 95% CI 0.612–0.685), maximum BMI (AUC: 0.650, 95% CI 0.614–0.687) between 13 and 27 years, or even only the final BMI at 27 years (AUC: 0.684, 95% CI 0.649–0.720).

CONCLUSION: Our results support that the BMlauc performs better than obese years to predict metabolic alterations in young adulthood, but using only the final BMI value at 27 years was similarly discriminative.

AD05-12 | Factors associated with childhood overweight and obesity in western Austria: A 12-year investigation in 39 641 kindergarten children

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INTRODUCTION: During the last few decades, there has been a worldwide increase in the number of obese children and adolescents with important consequences for public health. The aim of this study was to find out if and how the prevalence of overweight and obese kindergarten children has changed in western Austria over time and if there are any key factors that influence the occurrence of early childhood overweight and obesity.

METHODS: Between 2006 and 2017, anthropometric and sociodemographic data have been collected systematically from kindergarten children in western Austria. In total, measures of 39 641 children aged 4 to 5 years were included in this study. Overweight and obesity were determined according to the definition provided by Kromeyer-Hauschild. Linear and multinomial logistic regression analyses were used to evaluate time trends and to estimate odds ratios and their 95% confidence intervals (CIs) for factors such as sex, age,

migration background or residential area that may be associated with childhood overweight and obesity.

RESULTS: Prevalence of overweight and obesity in 4- and 5-year-old children did not increase significantly from 2006 to 2017. Of 39 641 children, 1511 (3.8%) children were overweight and 876 (2.2%) were obese. Migration background and urban residence were significantly associated with a higher risk for both overweight and obesity. Kindergarten children with a migration background were 2.3 (95% CI 2.1–2.6) times more likely to be overweight and 3.9 (95% CI 3.4–4.5) times more likely to be obese compared to native-born children. In this population of 4- to 5-year-old children, boys did not differ significantly from girls regarding excess weight.

CONCLUSION: Overall, the data show a relatively positive result of (1) a low combined prevalence of 6% for overweight and obesity, together with (2) no evident increase of excess weight in the last decade. However, negative associations between migration status, urban living and childhood overweight/obesity were observed. Migration status and urban living were identified as key indicators for weight-related health inequalities. Public health measures need to address the inequalities in childhood obesity in order to prevent childhood obesity for all children.

REFERENCE

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AD05-14 | Cost-effectiveness of an obesity management programme for 6- to 15-year-old children in Poland: Data from over three thousand participants

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BACKGROUND: Obesity and overweight, including childhood obesity and overweight, pose a public health challenge worldwide. According to available research findings, long-term interventions focusing on dietary behaviour, physical activity and psychological support are the most effective in reducing obesity in children aged 6–18 years. There are limited studies showing financial effectiveness of such interventions.

OBJECTIVE: The purpose of present study was to evaluate cost-effectiveness of the programme using pharmacoeconomic indicators—cost-effectiveness analysis (CEA) using incremental cost-effectiveness ratio (ICER).

METHODS: We used anthropometric data of 3081 children included in a 1-year long intervention with full financial cost assessment.