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THE INFLUENCE OF URBAN GREEN SPACES AND SOCIAL ENVIRONMENT ON PRESCHOOL-AGE CHILDREN OVERWEIGHT

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Background: Recent research has found that residential environment can have impacts on child development and body mass index (1-3), however, the available evidence of simultaneous investigating the associations of low socioeconomic status and residential green spaces with childhood obesity is scarce (4-6). The aim of this study was to assess the associations between urban green spaces, social environment and risk for overweight/obesity among 4–6 year old children.

Methods: This epidemiological study included 1,489 Kaunas children followed-up from birth. Body mass index (BMI) was evaluated according to International Obesity Task Force (IOTF) criteria for children. We compared two child's BMI groups: The overweight/obesity group (BMI ≥18 kg/m2) and the reference group (BMI <18 kg/m2). Individual exposure to greenness levels was assigned as the average of satellite-derived Normalized Difference Vegetation Index (NDVI) of each participant home, and residential distance to nearest City Park was assessed by GIS. We used logistic regression models to estimate associations as odds ratios (OR).

Results: About 7.5% of the 4–6 aged children were overweight/obese. The lower neighborhood greenness exposure (NDVI-100 m< median) during pregnancy and over 4 years was associated with increased children's overweight/obesity risk. Low maternal education, smoking, and sedentary behavior were also statistically significant risk factors associated with children's overweight/obesity in the univariate and multivariate models. Children from lower SES families residing in low greenness exposure area had 3-fold increased risk of overweight/obesity.

Conclusion: Low residential greenness exposure of low SES families is associated with increase the risk of overweight/obesity in preschool-age children. The usage of city green spaces for increasing physical activity has been recommended as a measure to prevent overweight/obesity among children.

Biography

Sandra Andrusaityte is working as a researcher in Department of Environmental Sciences Vytautas Magnus University, Lithuania. For the last 5 years she has been involved in the epidemiological research of studding environmental exposure impacts on human health. In 2015 she gained a Doctor's degree in Biomedical sciences, Ecology and Environmental sciences. She is trained as an Epidemiologist and Biostatistician in the Emory Health and Exposome Research Center in Atlanta, USA. Her Areas of research are Biomedical Sciences, Environmental Epidemiology, Public Health, focusing on impact of natural environment and social environment on children health. She has been involved in the EC 7FP projects: PHENOTYPE and HELIX.

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