Gac Sanit. 2026;40(S4):182

Gaceta Sanitaria

https://www.gacetasanitaria.org

822 - UNHEALTHY FOOD OUTLETS DENSITY AROUND SCHOOLS IN TEN CITIES ACROSS EUROPE: AN OBCT STUDY

L. Carmona-Rosado, J. Díez, M. Raju, R. Valiente, N. Patel, M. Franco, J. Lakerveld

Universidad de Alcalá; Amsterdam UMC; Basque Centre for Climate Change; Ikerbasque.

Resumen

Background/Objectives: Obesogenic school food environments promote diets and contribute to childhood obesity. We assessed the spatial distribution and density of unhealthy food outlets surrounding primary and secondary schools in ten European cities.

Methods: We conducted an ecological study in Amsterdam, Madrid, Berlin, Budapest, Helsinki, Lisbon, London, Oslo, Vienna and Warsaw. We used Geographic Information Systems to geolocate all schools (N = 7,338) and unhealthy food outlets (N = 21,640) in each study site. We defined unhealthy food outlets as those selling any unhealthy foods or non-alcoholic drinks for consumption on-site or elsewhere, such as bakeries, fast food outlets, convenience stores or supermarkets. We obtained data on school locations from local administrative datasets, and on unhealthy food outlets from Google Maps, for June 2025. We measured counts of unhealthy food outlets within a 400 m street network buffer every school, approximating a 5-minute walking distance. We used QGIS and Python for spatial analyses and R (version 4.5.2) for statistical analyses. We report descriptive results, median and interquartile range (IQR), globally and by city. In addition, we stratified results by primary and secondary schools.

Results: Overall, schools in European cities had a median of four (IQR = 9]) unhealthy food outlets within a 400 m from schools. Among cities, Vienna had the highest density of unhealthy food outlets (median = 9, IQR = 18), followed by Warsaw (median = 9, IQR = 14) and Madrid (median = 8, IQR = 15). In contrast, cities with the least unhealthy school food environments were London (median = 2, IQR = 6), Helsinki (median = 1, IQR = 3), and Oslo (median = 1, IQR = 5). We also observed higher median values for secondary schools (median = 4, IQR = 12) compared to primary schools (median = 3, IQR = 9). However, London and Lisbon showed the opposite pattern, with higher median values for primary schools than for secondary schools.

Conclusions/Recommendations: The distribution and density of unhealthy food outlets around schools varies between cities, with some (e.g., Vienna, Warsaw and Madrid) showing a worrisomely unhealthy food environment. These findings may serve to promote evidence-based policy recommendations to redesign and transform food environments around schools.