



Nutrition Society Congress 2024, 2–5 July 2024

Does sociodemographic strata determine local access to plant-based meat alternatives?

D. McBey¹, B.J.J. McCormick¹, M. Hussain¹ and J.I. Macdiarmid¹

¹The Rowett Institute, University of Aberdeen, Aberdeen, UK

People with lower socio-demographic status (SES) tend to have less healthy diets, partly through access and affordability⁽¹⁾. As people are encouraged to reduce their meat consumption as part of a sustainable diet⁽²⁾, plant-based alternatives to meat are increasingly available. We hypothesised that lower SES populations may not be able to access plant-based meat alternatives (PBMA) from nearby shops.

A cross-sectional survey of food retailers in Aberdeen, a city of approximately 260,000 people with a wide range of SES, was conducted in 2023. For each decile of the nationally representative Scottish Index of Multiple Deprivation (SIMD)⁽³⁾, a postcode was randomly selected around the centroid of which a 0.5 mile area was identified and all food vendors were visited. All PBMA (e.g., plant-based sausages, cold cuts and chicken nugget replacements both frozen and chilled) were recorded along with descriptive characteristics of the shop (e.g., size, whether in a chain, proximity to public transport). Separately, to approximate the shopping habits of people in each SIMD decile, Kantar World Panel purchase data for the whole of Scotland (2017–2023) was used to model the proportion of monthly household visits to and spending in different food shops by household SIMD decile using a beta regression with mixed effects for repeated measures (n = 3054 households with median 30, IQR 1, 33 monthly observations).

Forty-one retailers were visited and a total of 267 different PBMA products identified. There was no association between the SIMD decile where a shop was located and the availability of PBMA. The only statistically significant predictor of PBMA sale was supermarket size (Chi-squared test, p = 0.002) and PBMA were only available in large or very large supermarkets (n = 12/41). Larger supermarkets tended to be positioned in accessible locations with middling SIMD deciles (4th and 6th), albeit access may be more limited for vulnerable groups who may be less likely to own a car. From the household purchase data, there was no statistical difference in the proportion of monthly household spending on food in large supermarkets between SIMD deciles (0.01, 95%CI 0.003,0.022, p = 0.14) and the proportion of visits to large supermarkets was not meaningfully different by SIMD (range 0.33 to 0.39), from which we infer that people from all SIMD deciles could access large supermarkets which stock PBMA.

We found no evidence to support our hypothesis that access to PBMA was driven by SIMD. Access was limited to large food shops, however, all SIMD deciles use large food retailers and could, in principle buy PBMA. We do not know, from these data, whether supermarkets are equally used by, or convenient for, consumers from different SIMDs, however, access to PBMA may not be one of the major barriers for consumers reducing meat consumption.

Acknowledgments

Funding Support: Scottish Government's Rural and Environment Science Analytical Services Strategic Research Programme

References

1. Krukowski RA, West DS, Harvey-Berino J *et al.* (2010) *J Community Health* **35**, 315–320.
2. Willett W, Rockström J, Loken B *et al.* (2019) *Lancet* **393**, 447–92.
3. Scottish Government (2020) *Scottish Index of Multiple Deprivation* [Available at: <https://simd.scot/>].