Background In the UK, migrants bring different cultural norms and eating patterns that contribute to the diversity of foods and consumers, which can be lost through a process of acculturation or shared with their host community. Previous studies have documented the transition in immigrants’ ‘healthy’ eating habits towards ‘unhealthy’ habits, but the influence of immigration on the local-level community’s food habits is not well understood.

This study aims to examine the association between the local prevalence of immigrants born outside the UK and food purchasing patterns of households.

Methods Using a linkage of the UK 2012 Kantar fast moving consumer goods (FMCG) panel to the 2011 Census survey for England and Wales, descriptive and linear (complete-case) regression analyses were conducted on annual purchases of 11,457 regularly purchasing households.

The outcome was the proportion of energy (kilocalories) obtained from household purchases classed as ‘healthier’ using the Department of Health and Social Care Nutrient Profile model for high fat, sugar and salt content.

Immigrant density was defined as the proportion of non-UK born residents within a post code district (aggregated lower supper output areas). Potential confounders that comprised individual (e.g. age, ethnicity of the main shopper), household (e.g. household size, income, education, tenure) and area-level confounders (e.g. weighted index of multiple deprivation score, migrant length of stay, region) were included in the adjusted model.

Results The analytical sample (24% of the 2012 panel) had an immigrant density that ranged between 2% and 63%. The mean proportion of ‘healthier’ calories purchased was 50% (range: 11 – 94%); the average household size was 3.

In the preliminary analyses of the data, the unadjusted models suggested an association between increasing migrant density and the purchase of healthier calories (Unadjusted model: p=0.003; coefficients [95% confidence interval]: 0.023 [0.008 – 0.038]; adjusted R²: 0.0007). However this association was not retained in the adjusted model, which found no association between migrant density and the purchase of ‘healthier’ calories in the panel (Adjusted model: p=0.246; coefficients [95% confidence interval]: 0.012 [-0.008 – 0.032]; adjusted R²: 0.049). There was some variation in the findings for sub-group analyses of migrant density by country of origin.

Conclusion There was no evidence of association between migrant density and the healthiness of household food purchases. The study was limited by the available data, operationalisation of migrant exposure and cross-sectional design. Future work will explore the nuanced relationship between clusters of immigrant characteristics and food purchasing patterns.

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