



## AREA-LEVEL MATERIAL DEPRIVATION IS ASSOCIATED WITH LOWER DIET QUALITY IN THE NUTRIQUÉBEC PROJECT

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**Introduction:** In order to inform future diet-focused public health policies, quantifying how neighborhood deprivation is associated with diet quality is essential. The present study aimed to assess relationships between social and material area-level deprivation and diet quality, accounting for other individual determinants of overall diet quality.

**Methods:** This cross-sectional study used data from 4430 participants of the NutriQuébec project. Area-level deprivation was computed from postal codes and derived from Québec's dissemination areas provided by Statistics Canada. Dissemination areas were classified into material and social deprivation quintiles. Material deprivation represents the deprivation of goods and conveniences and social deprivation reflects poor social network within dissemination areas. Dietary intakes were assessed using a validated web-based 24h recall tool (R24W) completed one to three times by all participants. Diet quality was estimated using the Healthy Eating Food Index (HEFI-2019, scored on 80 points), which measures alignment of dietary patterns with the 2019 Canada's Food Guide recommendations on healthy food choices. Linear regression models were used to evaluate the relationships between area-level deprivation quintiles and HEFI-2019 scores (mean differences between quintiles and 95% CI). Sex, age, household income and education level were further added as individual-level covariates in the model.

**Results:** HEFI-2019 scores were lower in the most deprived quintile compared to the least deprived quintile of material deprivation (-3.8 points, 95% CI: -4.9, -2.6). After adjustment for individual-level covariates, the relationship remained significant (Q5 vs Q1 difference -1.8 points, 95% CI: -2.9, -0.6). HEFI-2019 scores were also lower in the most deprived quintile compared to the least deprived quintile of social deprivation (-1.1 points, 95% CI: -2.1, -0.1) but this difference was greatly attenuated after adjustment for covariates (-0.0 points, 95% CI: -1.1, 1.0).

**Conclusion:** These results suggest that material deprivation at the neighborhood level may be an important determinant of diet quality, regardless of the socioeconomic status, age and sex of individuals. This reinforces the influence of external barriers affecting particular subgroups of individuals in achieving healthier eating habits and that efforts at the environmental level in deprived neighborhoods are needed to reduce social inequalities in health in Québec.