

Neighborhood Income, Fast Food, Supermarkets and Health Outcomes in Public Housing Residents

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ABSTRACT

Purpose: The availability of fast food restaurants (FFRs) and supermarkets varies by neighborhood income level and may influence health outcomes such as body mass index (BMI) and blood pressure (BP). The purpose of this study was to determine whether neighborhood income moderates the association between fast food restaurant or supermarket availability and health outcomes in public housing residents. **Methods:** Number of FFRs and supermarkets on every street segment in neighborhoods surrounding public housing developments (N=12) in Houston, Texas were counted, then aggregated at the neighborhood level. Residents (N=213) completed measures of BMI (kg/m²) and resting BP. Median household income at the census block level for each housing development was obtained from the 2006-2010 American Community Survey. Linear regression models determined whether availability of fast food restaurants and supermarkets predicts BMI or BP after controlling for age and gender, and if neighborhood income moderated these associations. **Results:** Participants were middle aged (M=43.5±17.1 years) females (n=138) and males (n=75). BP did not differ by gender (M=121.5/74.0±17.5/12.8 mmHg), females were on average obese (MBMI=33.0±8.7kg/ m²) and males were overweight (MBMI=33.0±8.7kg/ m²). Neighborhood income ranged from \$9,226 to \$57,618. There were (M=.003±.03) FFRs per neighborhood and (M=.001±.008) supermarkets per neighborhood. Bivariate correlations found that neighborhood income was associated with fast food restaurant (r=.205, p<.01) and supermarket (r=.154, p<.05) availability. Fast food restaurant (r=.134, p<.05) and supermarket (r=.243, p<.01) availability were associated with systolic BP, and fast food restaurant availability was associated with diastolic BP (r=.146, p<.05). After controlling for age and gender, linear regression models showed that fast food restaurant and supermarket availability was not associated with BMI or BP (p>.05). Income did not moderate these associations (p>.05). **Conclusions:** BP changes with age, and BMI varies by gender. After controlling for these variables, fast food restaurant and supermarket availability did not predict BMI or BP in public housing

residents, and neighborhood income did not affect the direction of these associations. Actual consumption of the foods sold at these places may have a more direct relationship with health outcomes. Limited variability in the number of FFRs and supermarkets in each neighborhood may have diminished our ability to detect an effect of these neighborhood factors on BMI and BP.

KEY WORDS: Food Environment, Health, Income