

Level of neighborhood deprivation predicts fruit & vegetable and sugar-sweetened beverage intake in children aged 12-24 months

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The first USDA *Dietary Guidelines for Americans* for children under 2 were released in December, 2020, and recommend a diverse diet rich in fruits and vegetables (FV), whole grains and lean protein and avoidance of sugar-sweetened beverages (SSB). We analyzed data for children 12-24 months enrolled in the CDC-funded PREVAIL Cohort in Cincinnati, OH to assess adherence to FV and SSB recommendations by the socioeconomic position (SEP) of their neighborhoods.

Diet was assessed using a validated food frequency questionnaire and daily servings of FV and SSB were calculated. Home addresses were geocoded and merged with the Deprivation Index, a validated measure of census tract-level SEP, with residence then classified as being High SEP (least deprived), Low SEP (most deprived) or the middle quartiles of deprivation score. Comparisons of FV and SSB intake were made using logistic or Poisson regression and generalized estimating equations (GEE).

Dietary data was available for N=207 children from research visits at 12 ($n=155$), 18 ($n=196$), and 24 ($n=171$) months. Residents in High SEP neighborhoods were 86% white with a median household income of $\geq \$50,000$; residents of Low SEP neighborhoods were 86% Black with a median income of $\leq \$25,000$. Children in High SEP consumed the most and those in Low SEP the least FV per day (mos. 12, 18, 24: High: 3.8, 3.8, 4.5; Low: 2.1, 2.7, 3.2; all $p < 0.05$). While only 16.8% of children consumed any SSB at month 12, Low SEP children were 13.4 times more likely to consume any SSB than High SEP (37.8% vs 4.4%, $p = 0.001$). At month 24, 27.4% of High SEP children consumed any SSB and 7.8% consumed SSB at least once daily compared to 58.4% and 27.8%, respectively, in Low SEP children ($p < 0.05$). In univariate GEE models, children in Low SEP neighborhoods averaged 1/3 fewer FV but 4.6-times more SSB (all $p < 0.01$) compared to children in High SEP neighborhoods. The middle quartiles of deprivation index were intermediate in their FV and SSB intake.

In the PREVAIL Cohort, children in more deprived neighborhoods consumed significantly fewer fruits and vegetables and more sugar-sweetened beverages than those in more affluent neighborhoods. Efforts to improve diet quality in should focus on promoting and enabling healthy food and beverage choices in low SEP neighborhoods.

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