Online Supplement

Food Insecurity is Associated With COPD Morbidity and Perceived Stress

Daniel C. Belz, MD, MPH[1] Han Woo, PhD[1] Mariah K. Jackson, RD[2] Nirupama Putcha, MD, MHS[1] Ashraf Fawzy, MD, MPH[1] Wendy Lorizio, MD, MPH[1] Meredith C. McCormack, MD, MHS[1] Michelle N. Eakin, PhD, MA[1] Corrine K. Hanson, PhD, RD[2] Nadia N. Hansel, MD, MPH[1]

[1] Division of Pulmonary and Critical Care Medicine, Johns Hopkins University, Baltimore, Maryland, United States

[2] Medical Nutrition Program, College of Allied Health Professions, University of Nebraska, Omaha, Nebraska, United States

Encatchment Area for Inclusion Criteria

Initial encatchment area was restricted to Baltimore city and defined by zip codes with median yearly income below US $60,000 from East Baltimore. This was expanded to include Baltimore city and the greater Baltimore–Washington metropolitan area in census tract where more than 10% of households had income below the federal poverty level. The poverty rate definition was derived from the Department of Treasury New Markets Tax Credit Program evaluation Final Report from 2013. (http://www.urban.org/sites/default/files/alfresco/publication-pdfs/412958-New-Markets-Tax-Credit-NMTC-Program-Evaluation.PDF), and referenced by the USDA Economic Research Service.**Data on poverty by census block groups (n=647) for Baltimore City (source: 2013 ACS survey (5 year)).*

Participant compensation

Acknowledging the burden on participants of multiple and lengthy study visits, participants were compensated up to a total of $570 for completion of all study activities and referral of another eligible participant.

Exclusion criteria

Individuals were excluded from the study were those who were taking chronic systemic corticosteroids (i.e., >10 mg daily prednisone during three months in the prior year), had another chronic lung disease excepting a diagnosis of asthma, were living in a facility or planning to move within the study period (given that one of the primary aims of CURE COPD was to measure indoor air pollutants longitudinally), or were underweight (body mass index [BMI] <18.5)

Treatment of food insecurity variable

Per guidelines,[20] both a categorical and a continuous indicator of food insecurity were separately constructed. For the categorical indicator, participant's household was classified as either 1) food secure, 2) mildly insecure, 3) moderately insecure, or 4) severely insecure. For the continuous indicator, the scale ranged from 0 to 27, with the higher score indicating greater severity of food insecurity. Given the skewed distribution of HFIAS as a continuous indicator—due to a large majority of participants reporting as food secure at each visit (~>85%)—the primary analysis used HFIAS as a categorical indicator with just two categories: food secure vs food insecure (of any severity). Additionally, given the temporal rigidity of those who are food secure to remain secure from one visit to next (>90%), the primary analysis operationalized food insecurity as either food secure at all times or else insecure (i.e., if falling into food insecurity at least once during the 6-month study).