The Effect of Food Insecurity on Asthma Control in Adults During COVID-19

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BACKGROUND

Food insecurity is the inability of an individual, family, or community to obtain a sufficient amount of food or nutrition to meet basic needs due to lack of money or access to resources.

Throughout the COVID-19 pandemic, individual food insecurity numbers have risen significantly which has posed a threat to the health of individuals.[5]

The intersection of food insecurity and social determinants of health create a difficult and unhealthy system for individuals to thrive. Individuals who are food insecure are more likely to have asthma and other chronic conditions.[8]

Individuals who are food insecure are more likely to come from a lower socioeconomic status and have poorer access to healthcare. This population might have a hard time filling prescriptions for their asthma control, leading to worse Asthma Control Tests (ACTs) and more hospitalizations. This is a destructive cycle that leads to more accrued medical costs that these individuals cannot pay perpetuating the poor control and hospitalizations. [1-2,10]

Food insecurity increases the level of stress that individuals and households experience and this increased stress has been linked to childhood asthma & worse health outcomes (wheezing & exacerbations).[3,6]

There is an established link between food insecurity and an increased prevalence of asthma.[7,9] **Food insecurity is also linked to poor asthma control in children but research lacks in adult populations**.[4,11]

OBJECTIVES

To understand the effect of food insecurity on asthma control in adults during COVID-19.
To determine an area of intervention in asthma prevention and treatment.

METHODS

- An online cross-sectional survey study was conducted in US adults with asthma
- Survey questions included how worried or concerned participants were about food security since the pandemic.
- Asthma control was assessed using the asthma control test (ACT) with uncontrolled asthma defined as ACT <20.
- Self-report of food insecurity since the pandemic was assessed. Descriptive statistics and a bivariate analysis were performed.
- Food insecurity variables were dichotomized into high insecurity (≥3) or low insecurity (<3). Food insecurity was measured using the question: Since the COVID-19 Pandemic, to what extent have you worried about whether your food would run out because of a lack of money?

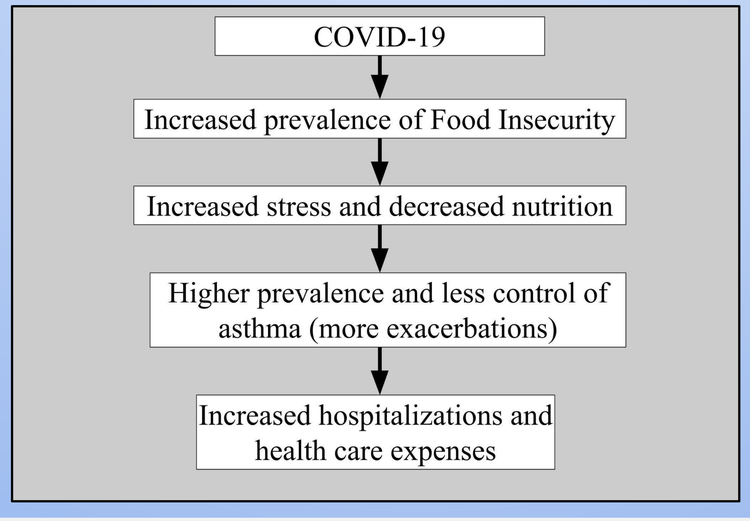

Figure 1: This shows one relationship between food insecurity and poor asthma control during the COVID-19 pandemic.

RESULTS

- Participants (N=873) were 82.6% female, mean age 43.9±15.2 years old, and mean ACT 19.2±4.6. 18.4% of the participants had high food insecurity.
- A series of odds ratios were performed to control for:
  - Age, sex, education, & race (3.145; 95% CI= 2.052-4.819)
  - stress & worry (2.035; 95% CI- 1.184-3.498)
  - BMI (2.230; 95% CI= 1.275-3.900).
- Using a bivariate analysis, w**e found that participants with greater food insecurity were more likely to have uncontrolled asthma (74.53%) compared to those with lower food insecurity** (35.53%; p<0.001).

CONCLUSIONS & NEXT STEPS

Our findings reveal that food insecurity can be a predictive measure in asthma control. As the pandemic continues, it is important to understand the negative health consequences associated with social determinants of health.

Providers should be asking patients about their access to food to mitigate poorer health outcomes in these populations of patients.

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