

2011 Masters Thesis

THE IMPACT OF FOOD, HOUSING, AND ENERGY INSECURITY ON ASTHMA CONTROL IN LOW-INCOME CHILDREN

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ABSTRACT

Background: Low-income children with asthma experience greater morbidity due to their asthma than their higher-income peers. Prior studies have examined the relationship between families' competing worries at home and the child's asthma morbidity, but little is known about how specific unmet material needs at home - such as food, housing and energy insecurity - impact upon asthma control.

Objective: We sought to examine the relationship between a set of financially linked, objectively-measured material needs- food, housing, and energy insecurity - and asthma control in a population of low-income, urban asthmatics.

Methods: We performed a cross-sectional analysis of 136 children aged 4-17 with a documented diagnosis of asthma presenting for an outpatient pulmonary appointment at an urban hospital where 80% of patients are insured through Medicaid. The Asthma Control Test, a validated instrument, was used to assess asthma control; unmet food, housing, and utility needs were measured using three previously validated scales.

Results: 88% of our sample's income fell below 200% of the FPL. A small majority of children (53%) had poorly controlled asthma. 60% of the sample endorsed energy insecurity; food and housing insecurity were endorsed by 30 and 18% respectively. In bivariate relationships, those with food insecurity and those with energy insecurity were more likely to have poorly controlled asthma ($p=0.04$ and $p=0.02$). In addition, those with two more unmet needs, as compared to those with fewer, were more likely to have poorly controlled asthma ($p=0.02$). In multivariate models, this relationship remained statistically significant after controlling for key demographic and disease factors ($R^2=0.21$, $p=0.0009$).

Conclusion: In our sample of low-income, urban, asthmatic children, those with unmet food and unmet energy needs were more likely to have poorly controlled asthma. Our findings suggest that the experience of unmet food and energy needs – which is not uniformly experienced among all low-income children – is an important factor in poorly controlled asthma. Further study is needed to understand the impact of clinical programs which aim to address these needs on asthma control.