

Title: Factors Associated with Asthma for Adults with Intellectual and Developmental Disabilities

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Introduction: Literature has identified factors for developing asthma that include having mental health conditions, being a smoker, being racial minority particularly Black or Puerto Rican, and living in poor environmental health neighborhoods among the general population (Center for Disease Control, 2017; Bhan, Kawachi, Glymour, & Subramanian, 2015). However, limited studies have examined factors associated with asthma among people with intellectual and developmental disabilities (IDD). It is unknown how asthma can be complicated by having IDD, and whether those factors identified among the general population also associate significantly with asthma among the IDD population. This paper is an attempt to explore what factors are associated with asthma in adults with IDD.

Methods: Participants of the current study are 1878 adults with IDD. This study analyzed baseline data of the Longitudinal Health and Intellectual and Developmental Disability Study (LHIDDS). Informants (e.g., family caregivers, case managers, health professionals, and residential staff) who were familiar with adults with IDD completed a survey regarding health and function, chronic health conditions, health behaviors and sociodemographic of adults with IDD. A series of bivariate logistic regression analyses were conducted to identify potential associated factors, then multiple logistic regression models were conducted adjusting for confounders to identify significant associated factors and interaction effects. Dependent variable is whether or not the individual has a diagnosis of asthma and also taking medication for it. Independent variables for the first multiple logistic regression include race, gender, age, physical activity, weight status (underweight or normal weight, overweight and obese, current smoking status (smoker vs non-smoker), having a mental health condition or not (schizophrenia, bipolar, anxiety disorder), and residence (living alone, living in group home, or living with family). Several multiple logistic regressions were performed to examine interaction term between independent variables to identify significant interaction terms.

Results: Results of the final multiple logistic regression show that being Black (OR = 1.74, $p < .05$), living alone (OR = 2.09, $p < .01$), comorbid bipolar disorder (OR = 2.03, $p < .05$) and schizophrenia (OR = 3.45, $p < .01$) were significantly associated with having a diagnosis of asthma. Adults with Down syndrome (OR = 0.47, $p < .05$), and who lack physical activity (OR = 0.67, $p < .05$) were less likely to have asthma.

Discussion: Our findings confirmed that similar to the general population, mental health conditions such as bipolar disorder and schizophrenia, and being Black do have significant association with asthma among people with IDD. Unique to the IDD population, we found that type of residence is also significantly linked with asthma. Controlling other factors, people who are living alone are about two times more likely to have asthma compared to people who are living at a group home or foster home. These findings provide practical implications for asthma management interventions for individuals with IDD.

References/Citations:

- Center for Disease Control (2017) Most Recent National Asthma Data. Retrieved from: https://www.cdc.gov/asthma/most_recent_national_asthma_data.htm
- Bhan, N., Kawachi, I., Glymour, M. M., & Subramanian, S. V. (2015). Time trends in racial and ethnic disparities in asthma prevalence in the United States from the Behavioral Risk Factor Surveillance System (BRFSS) Study (1999–2011). *American journal of public health*, 105(6), 1269-1275.

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