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Title: *E-cigarette Use among Adults with Asthma*

Background: E-cigarette use has increased dramatically in the United States among adults and adolescents. Patients with asthma may be most vulnerable to the chemical components of e-cigarettes as they may be a potential asthma trigger. Therefore, there is a need to assess the prevalence of e-cigarette use in the asthmatic population.

Objective: To assess the prevalence of e-cigarette use among adult asthmatics and to evaluate the factors associated with e-cigarette use.

Methods: This was a retrospective, cross-sectional study that used data from the 2014-2017 National Health Interview Survey (NHIS) database. The study sample included current asthmatics who were 18-85 years old. The outcome variable was ever-use of an e-cigarette (Yes/No). The Andersen Behavioral Model of Health Services Utilization was used to identify independent variables with the potential to influence the patient's decision to try e-cigarettes. Descriptive statistics were used to describe the sample. Factors associated with e-cigarette use were assessed using logistic regression stratified by age group. Appropriate survey weights were used to account for the complex survey design.

Results: The study sample included 10,578 (weighted: 37 million) adults with current asthma. A majority of the respondents were female (65.7%), Non-Hispanic White (67.9%), and never smoked (57.9%). From 2014 to 2017, the e-cigarette use among the 18-24 year old age group increased the most from 20.3% to 29.1%. Current smokers were more likely to have tried e-cigarettes than former/never smokers (18-24 years OR: 11.5 CI: 7.4 - 18.0). This trend was significant among all age groups. Non-Hispanic Blacks were less likely to have tried e-cigarettes than non-Hispanic Whites (50-64 years OR: 0.34 CI: 0.22 - 0.52).

Conclusion: The prevalence of e-cigarette use has continued to increase over time. Smoking status was the most consistent predictor of e-cigarette use among all age groups in this asthmatic population.