

Body Mass Index (BMI) and Healthcare Utilization among US Adults with Asthma in 2016

Abstract

Background: Obesity is a major cause of preventable mortalities and morbidities. In the United States, the prevalence of obesity was 39.8%, or about 93.3 million adults, in 2016. Although obesity is associated with more utilization of healthcare services and medical costs, the relationship between obesity and utilization of healthcare services is less clear. According to the CDC in 2016, asthma was one of the nation's most-common and costly chronic conditions. Since a convincing body of literature links obesity with a higher risk for developing adult-onset asthma, this paper will focus on the impact of obesity on asthma healthcare utilization among adults with asthma in 2016.

Objective: To assess the impact of body mass index (BMI) on the utilization of healthcare services including; any care utilization, utilizing only Non-Urgent care visits, or utilizing both Non-Urgent and emergency department or urgent care (Non-Urgent & ED/Urgent) among adults with asthma.

Methods and Procedures: This study is a cross-sectional study design using the Adult Asthma Call-Back Survey (AACBS) of 2016 dataset. The sample included 13,922 adults age 18 years or older living in 32 US states and territories. A logistic regression model was applied to measure the utilization of each healthcare service independently.

Results: The analysis identified 9,393 adults with asthma with BMI status. Across each healthcare services, adults with asthma who were classified as obese, and overweight had the highest among all healthcare services.

Among group utilized Both Non-Urgent & ED/Urgent visits, (50.30%) were obese, and (26.30%) overweight. Among group utilized Non-Urgent visits, (43.09%) were obese, and (26.89%) overweight. When using a logistic regression, analysis found a statistically significance association ($p \leq 0.05$) for utilizing Both Non-Urgent & ED/Urgent care visits among overweight ($p=0.036$) [aOR 1.53 ; 95% CI (1.02 , 2.29)], and among obese ($p=0.028$) [aOR 1.51 ; 95% CI (1.04 ,2.19)].

Discussion: It was found that adults with asthma utilizing Both Non-Urgent & ED/Urgent services were more likely to be overweight or obese than normal-weight adults with asthma, compared to participants who had no care visits to Both Non-Urgent & ED/Urgent services. Analyses suggest that proper weight management if treated in different settings, like Non-Urgent during asthma follow up visits, can potentially avoid excess ED and urgent care services utilization among obese, and overweight adults with asthma who utilized Both Non-Urgent & ED/Urgent visits by (50.30%), and (26.30%), respectively, compared to adults with asthma who had no care utilization, or utilized only Non-Urgent services.

Conclusion: Overweight and obese adults with asthma were statistically significant ($p \leq 0.05$) to utilize more of Both Non-Urgent & ED/Urgent care services in 2016 than normal-weight adults with asthma. This may be an opportunity to open doors for real-time surveillance analyzing and addressing healthcare services utilization which might lead to managing and controlling any healthcare facility driven by patients based on the demographics, behaviors, or socioeconomic statuses of those people who are at risk to utilize more healthcare services.