Emergency Department Recurring Visits for Adult Patients with Asthma and Asthma-COPD

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Background: Breathing difficulty (BD) is one of the most common reasons for emergency departments (ED) encounters. As part of an initiative to advance health equity, Sutter Health, a large not-for-profit healthcare system in Northern California, implemented an educational intervention program for African-American adult ED patients with a chief complaint of BD and history of asthma. Early evaluation showed that enrolled asthma patients with a comorbidity of chronic obstructive pulmonary disease (COPD) were more likely to return to the ED after intervention than those with asthma alone. We studied these two subgroups of ED patients in an attempt to identify their patterns of ED utilizations that could inform the development of interventions to reduce repeated ED utilization.

Methods: We extracted data from electronic health records (EHR) of adult asthma patients with ED encounters for BD at four Sutter Health hospitals in two counties in Northern California. Patients were classified as AC for those with a discharge diagnosis or a history of COPD (COPD, chronic Bronchitis or Emphysema) and SA for those without. We identified those who returned to the ED with similar chief complaints within 30 days. We compared demographics and ED utilization between patients with SA and AC by return status.

Results: Among 3625 patients who met criteria during 2017, 2364(65%) had SA and 1261(35%) had AC. Return status differed by group, with 295(12%) of SA and 321(25%) of AC returning to the ED within 30 days (P<.01). For both types of asthma patients, those who returned were more likely to be African American (AA) than those who did not (49% vs 45% for SA, P=.07; 54% vs 46% for AC, P=.01). Those with AC who returned were significantly older (61±14.3) than those with SA (44±17.9)(P<.01), while gender patterns were similar.

Conclusions: Patients with AC were more likely to have recurring ED visits than those with SA. Further, those with AC who returned to the ED were more likely to be AA, and older than their SA counterparts. An adaptive approach to designing intervention programs for these different subgroups should include more customized education for patients with comorbid COPD who also differ culturally.