

Abstract

Introduction and Background: Patients with asthma are often more susceptible to respiratory viruses than patients without asthma, and the present global pandemic is due to SARS-CoV-2 (COVID-19) – a respiratory virus. This study sought to analyze the frequency and outcomes of pediatric acute asthma exacerbations requiring emergency room or inpatient admission in spring 2020 compared to spring 2019 and spring 2018.

Methods: This was a retrospective study conducted through SSM Health Cardinal Glennon Children’s Hospital. The primary endpoint of this study was frequency of emergency department or inpatient admission for acute asthma exacerbations between January 1st and June 30th in 2020, 2019, and 2018. Patients 20 years old and younger who met the primary endpoint were included if they did not have any chronic lung disease other than asthma, mechanical ventilation or tracheotomy, or neurological conditions that could mimic asthma-like symptoms.

Results: There was a 21% decrease in the primary endpoint from spring 2018 to 2019 followed by a 35% decrease from 2019 to 2020. The frequency of the primary endpoint in spring 2020 was almost 50% of that in spring 2018. Approximately 89% of study subjects were discharged from the emergency department rather than being admitted as inpatients and not a single patient died from an acute asthma exacerbation.

Discussion: Regarding the primary endpoint, this study showed an apparent decrease in acute asthma exacerbations requiring emergency department or inpatient admission over time. The frequency of this continued to decrease with each year at an increasing rate.

Conclusion: This study showed a decrease in the frequency of pediatric asthma exacerbations requiring emergency department or inpatient admission between spring 2018 and spring 2020.

Pharmacists have many opportunities to serve their pediatric patients with asthma – as well as their families – amidst this global pandemic. Further research to quantify pharmacist impact is warranted.