

# The Impact of COVID-19 on patients with asthma

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## Abstract-

**Background:** An association between the severity of COVID-19 and the presence of certain chronic conditions has been suggested. However, unlike influenza and other viruses, the disease burden in patients with asthma has been less evident.

**Objective:** To understand the impact of COVID-19 in patients with asthma.

**Methods:** Using big data analytics and artificial intelligence through the SAVANA Manager® clinical platform, we analysed clinical data from patients with asthma from January 1st to May 10th, 2020.

**Results:** Out of 71,182 patients with asthma, 1006 (1.41%) suffered from COVID-19. Compared to asthmatic individuals without COVID-19, patients with asthma and COVID-19 were significantly older (55 versus 42 years), predominantly female (66% versus 59%), smoked more frequently, and had higher prevalence of hypertension, dyslipidemias, diabetes, and obesity. Allergy-related factors such as rhinitis and eczema were less common in asthmatic patients with COVID-19 ( $p < .001$ ). Higher prevalence of these comorbidities was also observed in patients with COVID-19 who required hospital admission. The use of inhaled corticosteroids (ICS) was lower in patients who required hospitalisation due to COVID-19, as compared to non-hospitalised patients (48.3% versus 61.5%; OR: 0.58; 95% CI 0.44-0.77). Although patients treated with biologics ( $n=865$ ; 1.21%) showed increased severity and more comorbidities at the ENT level, COVID-19-related hospitalisations in these patients were relatively low (0.23%).

**Conclusion:** Patients with asthma and COVID-19 were older and at increased risk due to comorbidity-related factors. ICS and biologics are generally safe and may be associated with a protective effect against severe COVID-19 infection.

## Index Terms-

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