

Asthma and the Impact of the Disease during COVID-19

Rahul C. Parekh '26

Introduction

Asthma has been a prevalent and common disease throughout history. Asthma symptoms are so similar to other infections, that it can be mistaken for a common cold. The constant unease of COVID-19 has overshadowed diseases such as Asthma, making it not as significant as before. Asthma is just as prevalent and fatal as COVID-19. Asthma must be recognized as a disease that holds great fatality to anyone who has the condition. This essay recognizes and highlights just how significant this disease is and how its pre-existing conditions can still be fatal within this generation.

Asthma's prevalence and mortality

Asthma on its own is a very prevalent and fatal disease: "about 10 people die from asthma each day in the United States" (Howard, 2019). Asthma's biological breakdown consists of "the inability to get air out due to inflammation and narrowing of your airways for important gas exchange – trading carbon dioxide for oxygen – that your body needs to oxygenate your body," said Dr. Purvi Parikh" (Howard, 2019). The fatality of Asthma can be developed by a trigger that can cause a patient to have an asthma attack, "inhalation of allergens may cause sudden-onset asthma attacks. In one study, exposure to castor bean dust from an oil-processing factory resulted in such episodes" (Sur et al., 1994). Asthma can develop carbon dioxide in your blood and cause you to stop breathing (Howard, 2019) making it severely fatal for an individual to do anything 'normal' in their daily lives, so much to the point where their triggers can be caused by anything like, "smoke, dust, allergies, infections or physical exercise" (Howard, 2019). Asthma is extremely fatal and cannot be ignored regardless of the severity. This paper will talk about Asthma and COVID, and the significance of Asthma's fatality during the pandemic. Ted Dolby and others, from BMJ journals claim this piece of evidence to show that Asthma has not changed much as "there was no difference in COVID-19 hospitalization and death between adults with asthma" (Dolby et al., 2022). The disease has continued to show similar responses before, through, and after the fall in cases during the pandemic, showing just how prevalent and fatal Asthma is on its own.

Asthma's worsening conditions during COVID-19.

The worsening conditions of Asthma during COVID-19 happen when an individual does not take care of oneself by following the appropriate steps, "you don't take your preventer medicines every day as prescribed, your asthma is uncontrolled, you have

other conditions, alongside your asthma, such as heart disease or diabetes, you smoke, you're very overweight (obese), you're older, you have non-allergic asthma" (If You Get COVID 19 and Have Asthma, n.d.-b). These worsening conditions make the risk of COVID-19 much greater than before. The threat for worsening conditions start with the most common symptoms, "Shortness of breath, Chest tightness or pain, Wheezing when exhaling, which is a common sign of asthma in children, Trouble sleeping caused by shortness of breath, coughing or wheezing, Coughing or wheezing attacks that are worsened by a respiratory virus, such as a cold or the flu." (Asthma - Symptoms and Causes - Mayo Clinic, 2022) Do these symptoms look familiar? COVID-19 has the same symptoms, showing just how dangerous Asthmatic cases can be. The symptoms of Asthma are like other diseases such as Cystic Fibrosis, Lung Cancer, and Chronic Obstructive Pulmonary Disease, and these diseases often prove fatal. These underlying conditions can not only trigger something that may seem minute but can lead to immense fatality. Asthmatic patients must realize the threat posed if they do not fully grasp the idea of their disease and the fatality it has towards them.

Why is Asthma so fatal during the COVID-19 period?

During the COVID-19 period, Asthma has been shown to be a factor for patients that have suffered the most damage. BMJ Open Respiratory Research has done several surveys in the UK analyzing the significance of Asthma and how it's impacted during the pandemic. Though there has not been substantial research done to identify how COVID-19 has worsened Asthmatic patients, surveys from certain individuals that were in contact with COVID-19 show that, "people with asthma may be particularly susceptible to protracted symptoms due to COVID-19, though this would require confirmation in further studies including non-asthmatic populations for comparison" (Quint et al., 2022b). Despite the lack of research, testimony from patients with both asthma and COVID-19 may prove useful in showing how both illnesses affect a person; "I have NEVER had such problems with my asthma or with my oxygen levels. Seven months on, my asthma has still not returned to normal levels and I am still on very high dose of my combined inhaler (female, aged 40–49), I had an unusual serious asthma attack in January it knocked me out for a few weeks, with significant cough with a dry feeling, loss of taste and smell. Prednisolone and antibiotics helped (male, aged 40–49), The symptoms have exacerbated my anxiety which in turn affects my

asthma (female, aged 50–59)” (Quint et al., 2022b). As stated above, the common age for fatal attacks of COVID-19 and Asthma is noted to be anywhere from 40-59, as their respiratory system has already been compromised due to the Asthmatic symptoms add to their weak immune system, making it very difficult for patients fight both diseases while attacking their system. Unfortunately, I could not find enough research to back-up my claim that “COVID-19 worsens Asthmatic symptoms” to identify how COVID-19 worsens Asthmatic patients systems, though there is no thorough reasoning as to why scientists have not considered research on the two diseases, there is a high possibility that scientists are still battling COVID and trying to end its pandemic. I highly encourage scientists to consider/further their research on the two diseases and underline just how significant the two diseases are when they encounter each other.

Can you develop Asthma after COVID-19?

What if you never had Asthma, is it possible to develop the disease after fighting COVID-19? The answer is yes. “Many think of asthma as a disease that develops in youth, but the truth is that anyone can develop asthma.” (Thompson, 2022b) An explain given by Thompson explains exactly how Asthma can be developed, “Asthma affects the airways of the lungs. At times, these airways can become inflamed or narrowed, which makes breathing difficult. According to the Centers for Disease Control and Prevention (CDC), asthma affects about 1 in 13 Americans. Asthma can be triggered by allergens such as pollen, or by exercise or cold air. Asthma also can be triggered by colds and viruses.” (Thompson, 2022b) Asthma can easily be triggered by COVID-19, from a medical standpoint, “When the immune system comes in contact with a foreign substance like a virus, it can launch an inflammatory response. This causes airways to narrow, swell and produce excess mucus, and the muscles around them to tighten up. Mucus then builds up, resulting in the onset of associated symptoms — cough, chest pains, wheezing, etc.” (Thompson, 2022b) explaining just how Asthma can develop after COVID-19.

Conclusion

Although there is no way of accurately preventing Asthma from occurring, there are some measures that can be taken to have the least risk, some of those include: identifying asthmatic triggers, avoiding smoke, preventing colds, allergy proofing your home, getting vaccinations, etc. (Tips for Asthma Prevention, 2007b) By identifying as many risks as possible earlier on in your case, may best support you to prevention for Asthma. In the case of Asthmatic

cases, the best way to avoid severe Asthma is to keep taking usual asthmatic medications, following your asthma action plan, and staying away from triggers. (If You Get COVID 19 and Have Asthma, n.d.-b)

Asthma has been revealed to be just as prevalent as COVID-19, its relevance in fatality, symptoms, and after-effects have shown to be harsh and extremely frightening. The constant unease of COVID-19 has overshadowed diseases such as Asthma, making it not as significant as before. The correlation between the two diseases shows the fatality once mixed and finally underlines the causes for why COVID-19 impacts those with Asthma so negatively.

REFERENCES

- Asthma - Symptoms and causes - Mayo Clinic. (2022, March 5). Mayo Clinic. <https://www.mayoclinic.org/diseases-conditions/asthma/symptoms-causes/syc-20369653>
- COVID-19 and Asthma: What Patients Need to Know. (n.d.). <https://www.aaaai.org/Tools-for-the-Public/Conditions-Library/Asthma/covid-prevent>
- Dolby, T., Nafilyan, V., Morgan, A. W., Kallis, C., Sheikh, A., & Quint, J. K. (2022, March 30). Relationship between asthma and severe COVID-19: a national cohort study. *Thorax; BMJ*. <https://doi.org/10.1136/thoraxjnl-2021-218629>
- Howard, J. (2019, November 11). Asthma can turn deadly in rare cases. Here's how. CNN. <https://www.cnn.com/2019/11/11/health/asthma-deaths-explainer/index.html#:~:text=While%20most%20parents%20see%20asthma.day%20in%20the%20United%20States>
- If you get COVID 19 and have asthma. (n.d.). Asthma + Lung UK. <https://www.asthma.org.uk/advice/triggers/coronavirus-covid-19/covid-19-and-asthma/>
- Quint, J. K., Cumella, A., Hopkinson, N. S., Buttery, S., Philip, K. E. J., Johnston, S. L., Williams, P. J., Vijayakumar, B., Tonkin, J. A., Renwick, L., & Ogden, L. (2022). Impact of COVID-19 on people with asthma: a mixed methods analysis from a UK wide survey. *BMJ Open Respiratory Research*, 9(1), e001056. <https://doi.org/10.1136/bmjresp-2021-001056>
- Sur, S., Hunt, L. W., Crotty, T. B., & Gleich, G. J. (1994, May 1). Sudden-Onset Fatal Asthma. *Mayo Clinic Proceedings*; Elsevier BV.

[https://doi.org/10.1016/s0025-6196\(12\)61651-6](https://doi.org/10.1016/s0025-6196(12)61651-6)

Thompson, S. (2022, August 17). Can you get asthma after COVID-19? Norton Healthcare. <https://nortonhealthcare.com/news/asthma-after-covid/>

Tips for Asthma Prevention. (2007, August 30). WebMD. <https://www.webmd.com/asthma/guide/asthma-prevention>