

The Epidemiologic Triangle

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Agent

COVID-19, a virus

SARS-CoV-2 or severe acute respiratory syndrome coronavirus 2, a virus that is the agent of COVID-19. It started in December 2019 in Wuhan, China. It could lead to being a very serious disease that rapidly escalates across the globe.

A Respiratory tract infection explained on how it caused the COVID-19 virus. “....a respiratory tract infection. It can affect your upper respiratory tract (sinuses, nose, and throat) or lower respiratory tract (windpipe and lungs). It spreads the same way other coronaviruses do, mainly through person-to-person contact. Infections range from mild to deadly. (Nazario, 2021)”

Host

All people who come from all ages meet the criteria of COVID-19. “People of all ages can be infected by the COVID-19 virus. Older people and younger people can be infected by the COVID-19 virus. Older people and people with pre-existing medical conditions such as asthma, diabetes, and heart disease appear to be more vulnerable to becoming severely ill with the virus. (World Health Organization, 2022)”

There are several symptoms to be diagnosed with COVID-19. “People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. Anyone can have mild to severe symptoms. People with these symptoms may have COVID-19: Fever or chills, cough, shortness of breath or difficulty breathing, fatigue, muscle or body aches, headache, new loss of taste or smell, sore throat, congestion or runny nose, nausea or vomiting, and diarrhea. (CDC, 2021)”

Environment

In United States, many participants took the COVID-19 Vaccine, seriously, which saved many lives. “More than 539 million doses of COVID-19 vaccine had been given in the United States from December 14, 2020, through January 31, 2022. (CDC, 2022)”

COVID-19 vaccine prevented the high-risk of COVID-19 “Vaccination reduced the overall attack rate to 4.6% (95% CrI: 4.3% – 5.0%) from 9.0% (95% CrI: 8.4% – 9.4%) without vaccination, over 300 days. The highest relative reduction (54–62%) was observed among individuals aged 65 and older. Vaccination markedly reduced adverse outcomes, with non-ICU hospitalizations, ICU hospitalizations, and deaths decreasing by 63.5% (95% CrI: 60.3% – 66.7%), 65.6% (95% CrI: 62.2% – 68.6%), and 69.3% (95% CrI: 65.5% – 73.1%), respectively, across the same period. (PMC, 2021)”

COVID-19 Vaccine became protective and successful. “COVID-19 vaccines are safe and effective. COVID-19 vaccines were evaluated in tens of thousands of participants in clinical trials. The vaccines met the Food and Drug Administration’s (FDA’s) rigorous scientific standards for safety, effectiveness, and manufacturing quality needed to support emergency use authorization (EUA). The Pfizer-BioNTech, Moderna, and Johnson & Johnson/Janssen COVID-19 vaccines will continue to undergo the most intensive safety monitoring in US history. (CDC, 2022)”

COVID-19 vaccine impacted the country. Our results indicate that vaccination can have a substantial impact on mitigating COVID-19 outbreaks, even with limited protection against infection. However, continued compliance with non-pharmaceutical interventions is essential to achieve this impact. (PMC, 2021)”

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