

# An Overview on Respiratory Tract Infections

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## ABOUT THE STUDY

Respiratory Tract Infections (RTIs) are among the most prevalent and serious clinical issues. The situation is much more terrible in under developed nations, where Acute Respiratory Infections (ARI) is responsible with over 20% of child mortality under the age of five. The respiratory system of the body is comprised of the nose, sinuses, mouth, throat (pharynx), voice box (larynx), windpipe (trachea), and lungs. Upper respiratory infections impact the upper respiratory system, which includes the nose, sinuses, and throat, whereas lower respiratory infections affect the airways and lungs. Growing population combined with a changed lifestyle in the twenty-first century has opened the way for a wide range of illnesses that are now threatening human life across boundaries. Among them, respiratory illnesses were discovered to be the most prevalent, impacting huge populations in both middle and low income nations throughout the world [1]. Despite their enormous frequency, respiratory disorders are frequently overlooked or get much too little care. Human lungs are the only internal organ that is regularly exposed to a wide range of environmental pollutants, which are composed of organic, inorganic or any biological agents from various natural and anthropogenic sources, and are constantly at risk of developing simple to complex pulmonary disorders, which may compromise quality of life and eventually lead to death.

### Upper respiratory infections

The common cold, the moderate flu, tonsillitis, laryngitis, and sinus infection are all examples of upper respiratory infections. The most frequent upper respiratory infection symptom is a cough. A stuffy or runny nose, sore throat, sneezing, achy muscles, and headache are all symptoms of a lung infection. Upper respiratory diseases are highly contagious. They are transmitted from person to person by respiratory droplets or hand to hand contact. People with upper respiratory infections might spread the infection to others by sneezing or coughing without covering their nose and mouth. Germs are sprayed into the air as a result of this. Other people can inhale those germ infested droplets [2]. Sneezing or coughing into their hand and then touching another person's hand. The droplets have now been transferred to the other person's hand. The virus enters the body when that individual touches their nose, mouth, or eyes.

### Lower respiratory infections

Lower respiratory infections affect lungs or breathing passageways. They can be caused by viral diseases, such as the flu, or bacterial infections, such as TB. Lower respiratory infection symptoms include a strong cough with mucus, shortness of breath, chest tightness, and wheezing while exhaling. Lung illnesses are among the most frequent medical problems worldwide [3]. The majority of lung disorders are caused by smoking, infections, and genes. Lungs are part of a complicated system that expands and contracts hundreds of times every day to take in oxygen and expel carbon dioxide. Lung disease can occur when any portion of the respiratory system is compromised.

### Airways related lung diseases

The trachea (windpipe) divides into bronchi which branch into smaller tubes that run throughout lungs. Asthma is one of the many diseases that can damage the airways. Airways are inflamed all the time and may

spasm, producing wheezing and shortness of breath. Asthma symptoms might be aggravated by allergies, infections, or pollutants [4].

- **Emphysema:** This kind of COPD is characterised by lung deterioration, which permits air to become trapped in the lungs. Its defining characteristic is difficulty blowing out air.
- **Bronchitis:** A virus is often responsible for this unexpected infection of airways.
- **Cystic fibrosis:** It is a disease that affects the lungs by difficulty in removing mucus from bronchi and causes cystic fibrosis.
- **Pulmonary edema:** Fluid escapes from lungs tiny blood arteries into the air sacs and the surrounding region. One type is caused by heart failure and back pressure in the blood veins of lungs. In another case, fluid leakage is caused by lung damage.
- **Lung cancer:** It can manifest itself in a variety of ways and begin in any section of lungs. It usually occurs in the major region of lung, near or in the air sacs.

## CONCLUSION

The worldwide burden of Chronic Respiratory Diseases (CRDs) is substantial, owing mostly to ageing populations and a lack of effective interventions to lower the risk factors linked with the development, progression of these lung illnesses. Furthermore, the absence of effective medicines that may possibly be used for treating or preventing certain chronic lung illnesses adds to the societal and economic burden of chronic lung diseases. In addition to ongoing research into innovative therapies for CRDs, efforts should be made to ensure that medications are delivered to the source of disease, namely the airway epithelium, parenchyma, and bronchioles. Furthermore, the medicines should target specific cell types that may be important in the course of the illnesses.

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