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Introduction

The common ailment known as pneumonia has more than 30 different causes and symptoms. It is a particularly contagious lung infection, with inflamed air sacs in one or else both lungs. The air sacs fill up with liquid or pus and get blocked, resulting in fever, chills, coughing, and difficulty breathing. Pneumonia is a serious lung condition caused by several bacteria, viruses, and fungi. It might be insignificant or even fatal in some circumstances (Mandell and Niedeman 2019). It affects those with weakened immune systems, people over 65 years old, infants, and young children. It is possible to develop bacterial, viral, or mycoplasma pneumonia. It is a significant health issue that requires adequate attention. It's possible for pneumonia to infect one or both lungs. It grounds the air sacs, or alveoli, in the lungs to block up fluid or pus. Microorganisms like bacteria, viruses, or fungi are all potential causes of pneumonia. A cough that generates mucus or another sticky material, a fever, chills, and breathing difficulties might be mild to severe symptoms (Papazian et al. 2020). The severity of pneumonia is contingent on a number of influences, counting age, overall health, and place of origin. The most common causes of acute respiratory infections, including pneumonia, are bacteria or viruses. It can cause moderate to severe disease in persons of various ages. It is the leading infectious killer of kids globally (Gattinoni et al. 2020). More than 808 000 children under the age of five died from pneumonia in 2017, which accounted for 15% of all pediatric fatalities. Other groups of people who are susceptible to pneumonia include those over the age of 65 and those with pre-existing medical issues. In 2012, 345 out of every 100,000 people were afflicted with pneumonia, down from 307 out of every 100,000 in 2004 (Lanks et al. 2019). In 2009, a pandemic of the flu caused this to rise to 409 cases per 100,000 persons. About 220,000 people are diagnosed with pneumonia each year. 90% of COVID-19-related deaths in the UK in the spring of 2020 and the early part of 2021 were attributable to the illness, whereas only 62% of those deaths happened in the week ending April 1st, 2022. Although some persons receive several diagnoses

each year, researchers have focused on the overall number of illnesses rather than the overall number of occurrences.

Discussion

Public health measures

Pneumonia may be lethal or severely serious. One can do a variety of things to try to stop it. Vaccines are available to protect against some influenza and pneumonia viruses. With the doctor, one should discuss getting these injections. Even if people are aware that they have had a pneumococcal vaccine in the past, the doctor should be informed of the vaccination history because vaccination guidelines have changed over time (Zhu et al. 2020). Doctors prescribe a separate pneumonia immunization for offspring below the age of 2 and for individuals between the ages of 2 and 5 who are more vulnerable to pneumococcal infection. Children who go to a facility for group childcare must also receive the vaccination. Clinicians also recommended flu vaccinations for kids older than six months. Injections can aid to avoid some kinds of pneumonia. Other preventative steps to lower the risk of contracting pneumonia include maintaining excellent cleanliness, such as often washing hands, quitting smoking, and boosting immunity via regular exercise and a healthy diet (Stephen et al. 2019). Both influenza-related pneumonia and pneumococcus pneumonia can be prevented with vaccines. Immunization cannot stop all cases of pneumonia. But those who get the vaccination and have pneumonia are more likely to have minor side effects, milder illnesses, and shorter-lasting pneumonia than people who don't get the vaccine. There are two vaccines available for pneumococcus, the most mutual kind of bacteria that grounds pneumonia (Lu et al. 2020). Immunization against pneumococcus is essential for people who are more likely to acquire pneumonia. The yearly flu vaccination can help to stop the virus's ability to cause pneumonia. The flu shot is normally given between September and October, just before the onset of flu season. Hib, a bacterium that can cause meningitis and pneumonia, is a member of the influenza family. All young

children under the age of five should have Hib immunization, according to several governments' recommendations. When a baby is 2 months old, the vaccine is commonly started. Usage of a proper sanitizer or thorough washing of hands helps to prevent an individual from any harmful infections (Guo et al. 2019). When a person smokes and consumes alcohol, their immune system is compromised and more prone to illnesses. Giving up these habits is necessary if an individual wants to maintain a strong immune system and protect themselves from such diseases.

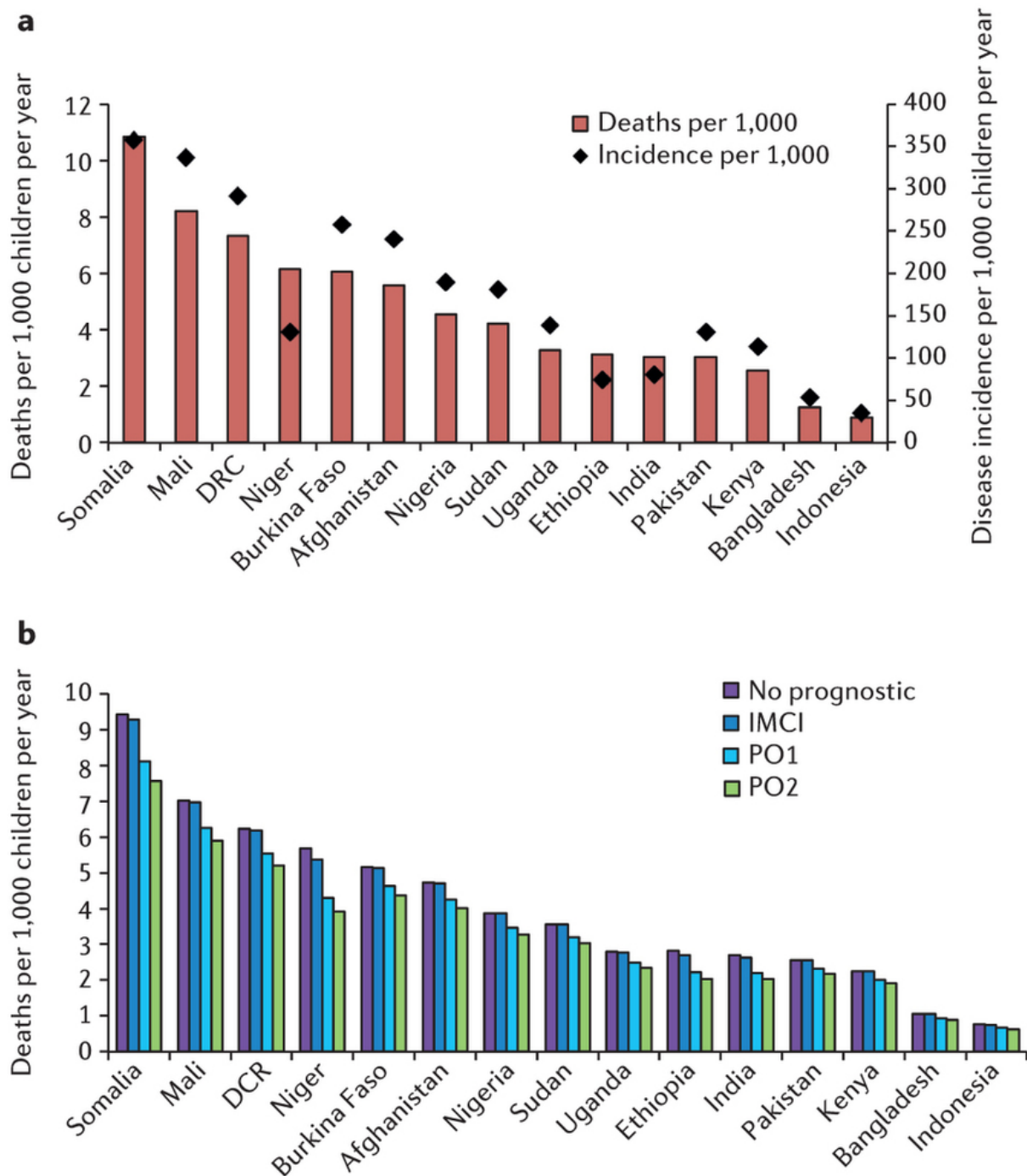


Figure 1: Map showing data for pneumonia cases globally

(Source: BBC 2021)

Key determinants of the chosen diseases

Pneumonia is a lung infection that can affect people of any age with mild to severe symptoms. However, certain people are more susceptible to developing pneumonia. With age, certain medical conditions, and smoking comes a potential increase in the risk of having pneumonia.

Pneumonia may affect anybody. However, the two age groups most in danger are children under two and those 65 years of age and older (Lanks et al. 2019). People run an increased risk of getting pneumonia in a clinic's critical care unit, particularly if one uses a breathing apparatus (a ventilator). People are more probably to get pneumonia if people have asthma, a heart condition, or chronic obstructive pulmonary disease (COPD). Smoking habits impair the body's normal defenses in contradiction to the viruses and bacteria that source pneumonia. People at risk include those with HIV/AIDS, organ transplantations, long-standing steroid use, chemotherapy, and organ transplantation (Varshni et al. 2019). Some individuals who are hospitalized for one illness occasionally get pneumonia. Hospital-acquired pneumonia could be dangerous because the public who contract it are previously unwell and since the bacterium that grounds it may be more resilient to medicines. Patients who use ventilators, which are widespread in intensive care units, are more likely to get this kind of pneumonia. Patients getting treatment at outpatient hospitals, like renal dialysis centers, or who dwell in enduring care homes, are susceptible to the bacterial infection known as "healthcare-acquired pneumonia (Shi et al. 2020). More antibiotic-resistant bacteria than those that cause hospital-acquired pneumonia can also cause healthcare-acquired pneumonia.

Flu and pneumonia deaths since 1990 compared to 2020 Covid-19 deaths

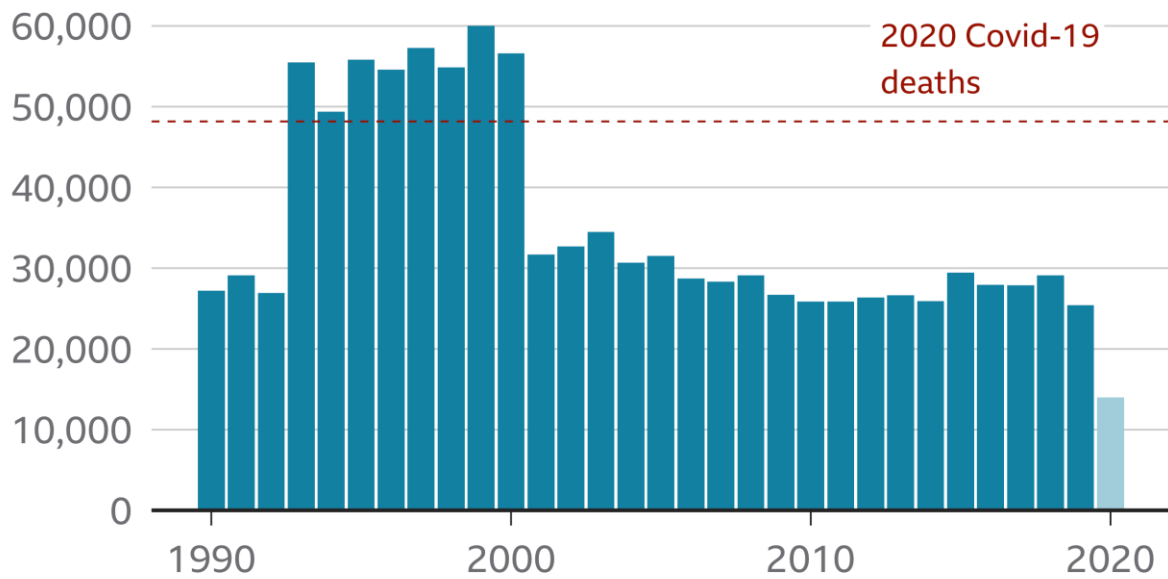


Figure 2: Death rate of people due to pneumonia in the UK

(Source: BBC 2021)

The most archetypal kind of pneumonia is community-acquired pneumonia. It occurs away from hospitals and other medical facilities. Streptococcus is the most common cause of bacterial pneumonia in the UK (Yin et al. 2021). This specific type of pneumonia may progress self-reliantly or subsequently a cold or the flu. Only lobar pneumonia can disturb one lobe of the lung. Pneumonia may be brought on by Mycoplasma pneumoniae. Often, it has milder symptoms than other varieties of pneumonia. This kind of pneumonia, which frequently does not require bed rest, is sometimes referred to as "walking pneumonia." This kind of pneumonia is more public in those with weakened immune systems, long-lasting health issues, and people who have inhaled significant levels of the germs (Lanks et al. 2019). The fungus that causes it may be found in bird excreta or dirt, dependent on the area. Pneumonia may be transported by several viruses that also produce colds and the flu. The most common causes of pneumonia in infants are viruses. Typical viral pneumonia is not dangerous. But on occasion, things may go

extremely awful. The 2019 coronavirus (COVID-19) pneumonia may become a severe condition. These are the key determinants of pneumonia that might cause serious issues for the population.

Short-term health consequences of the disease

Pneumonia as well as cardiac disorders are the leading causes of both morbidity and mortality on a worldwide basis. This means that community-acquired pneumonia (health and social care setting) affects more than a million hospital admissions and causes the death of 60,000 people per year. Researchers have shown that a higher-level cardiac complication incidence at the course of community acquired pneumonia has provided evidence of short-term mortality (Semenov, Starmer, and Gourin 2012). The researchers have shown that there has been a 60% increase in pneumonia-associated short-term mortality (Corrales-Medina *et al.* 2013). This issue results in readmissions after getting hospitalized for pneumonia. However, the reason behind acute cardiac syndromes as a short-term consequence after pneumonia is still under research. Another short-term cause of mortality of Pneumonia is acute kidney injury. A research study has shown that 34% of the total number of pneumonia patients suffer from acute kidney injury as a short-term consequence. Another short-term consequence of pneumonia is the postoperative complications from Head and Neck Cancer Surgery (Corrales-Medina *et al.* 2013). This consequence is associated with increased complications, mortality, and increased length of the hospital and hospital-associated costs in surgical patients. This consequence is directly connected to the healthcare setting (surgical setting). Thus, on a summarizing note, it can be said that precautions must be taken in order to neutralize the increase in opportunistic post-surgical infections (Stephen et al. 2019). The vulnerable population should be actively taken care of in order to reduce the short-term consequences of becoming the major cause of mortality in health or social care settings. Preoperative identification in an aggressive pattern

and identification as well as treatment of the underlying respiratory diseases, loss of weight, and dysphagia can reduce mortality and morbidity.

Long-term health consequences of the disease

The most dangerous long term health consequences of Pneumonia in health or social care are mainly associated with children. During the foetal development and in the first 3-4 years of the rapid pre-natal growth, development of lungs is in a compromised state. During this time, lungs are mostly vulnerable to infections by various types of external pathogens. During the post-natal period, alveoli are still in the developmental stage and this midway stage of lung development gives rise to long-term pneumonia effects (Grimwood and Chang 2015). The long-term effect of pneumonia infections in children is an obstructive lung disease. This effect has been found to be associated with lung infections which occur in the peak periods of somatic lung growth. Another long-term consequence of pneumonia is the damage of ciliated airway epithelium in the growing lung as well as disabled airway clearance defenses and finally setting up the place for repeated infections. Therefore, it can be said that the long-term consequences are mainly associated with the increase in the risk of re-infections with the slightest changes in surroundings and lifestyle (Grimwood and Chang 2015). The main difference between short-term and long-term public health consequences is the situation in which the infection occurs. In the case of short-term consequences, pneumonia is mainly acquired through surgical processes or from the health or social care setting. On the other hand, for the long-term public health consequences of Pneumonia, the infection is acquired during the post-natal period. By the end of 2030, it has been predicted that COPD (chronic obstructive pulmonary disorder) will become the third death cause on a global basis (Grimwood and Chang 2015). Thus, the disease is needed to be managed at both individual and population levels.

Conclusion

More than 30 distinct causes and symptoms exist for the widespread illness known as pneumonia. With inflamed air sacs in one or both lungs, it is a lung infection that is extremely infectious. Fever, chills, coughing, and trouble breathing are symptoms of obstructed or liquid-filled air sacs. Several bacteria, viruses, and fungi can cause pneumonia, a dangerous lungs illness. It might be unimportant or even fatal in some situations. A frequent cause of morbidity and mortality is pneumonia. It can appear in a variety of clinical ways and provide a diagnostic challenge, particularly in the case of critically sick patients who have several comorbid conditions and fundamental lung diseases. For enhancing patient consequences, it is crucial for surgeons, the ICU squad, treatment operators, druggists, and radiotherapists to effort well composed as an interprofessional squad. The treatment staff is crucial in keeping track of infection variations and other key symbols that the doctor requires beforehand to manufacture an analysis. Maintaining clean and sanitary ventilator settings and limiting patient aspiration are crucial nursing staff responsibilities, particularly in the ICU environment.

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