

How could vaccine hesitancy affect the prevalence of hearing disorders?

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Hearing disorders are a common cause of disability and affect an estimated 14% of the world's population, according to the World Health Organisation (WHO). These disorders may occur from birth or gradually develop over the course of life. Factors that can increase a person's susceptibility to hearing disorders include genetic predispositions, advanced age, frequent exposure to loud noises and some infectious diseases.

Measles, rubella and meningitis are examples of infectious diseases that can lead to hearing loss. A lack of access to vaccines that prevent these diseases remains a major obstacle for millions of people living in impoverished environments around the world. In recent years, however, measles outbreaks have even affected developed countries such as the US, UK, New Zealand, and Israel.

Reluctance or refusal to receive vaccinations against infectious diseases is becoming a widespread issue in communities where distrust of scientific information is prevalent. Reasons for vaccine hesitancy include the belief that vaccines are harmful or ineffective in preventing the contraction of contagious diseases.

Hearing-related health consequences of infectious diseases can be caused by tympanitis (inflammation of the eardrum) and damage to the auditory nerve. The physical symptoms of hearing loss are not the only source of distress for patients. Common psychosocial difficulties include loneliness, depression and anxiety. These issues are often caused by the inability of sufferers to communicate with other people. Children with untreated hearing loss may suffer from a decreased ability to complete schoolwork and develop problems with socialising with peers.

Families who fail to adhere to childhood immunisation programmes are punished in some countries, but mandatory vaccination policies are difficult to enforce and can cause further distrust of healthcare services and medical professionals. One of the most important benefits of mass vaccination is the concept of herd immunity. In herd immunity, a large percentage of the population is resistant to a particular disease-causing agent. This indirectly protects people who are immunocompromised or otherwise unable to receive a vaccination for a particular communicable disease.

Another leading cause of hearing loss in young infants is cytomegalovirus (CMV) infection, which rarely impacts healthy adults but can cross the placenta and cause disease in a growing fetus. As of this month, a number of messenger RNA (mRNA) vaccines are being developed by Moderna to prevent CMV infection.

Outbreaks of infectious diseases that can be controlled through the effective implementation of immunisation programs present a current threat to the wellbeing of vulnerable individuals. It is therefore of critical importance that people are made aware of how straightforward it can be to prevent the destruction that infectious diseases can inflict on the sensory organs.