

News & Comments

Polio, Once Almost Eradicated, is Resurfacing

Khalid UI Islam

A life-threatening disease known as poliomyelitis ("polio") has been crippling people for thousands of years. The US reported almost 60,000 cases with more than 3,000 deaths during the biggest outbreak in 1952. Global eradication of polio has been closed for years.

A decade-long attempt to halt the international spread of Polio is now being hampered by a combination of old and new challenges, including conflict, vaccine hesitancy, and the Covid-19 pandemic.

As a result of an unvaccinated man in New York revealing his case in July, the public is reminded that polio could resurface if the disease is not eradicated.

A live, attenuated strain of the poliovirus was used by Albert Sabin in the 1950s as the basis for the oral polio vaccine (OPV). In addition to the immunization's low cost, children who receive it passively infect others around them with the virus through their stools for as long as six weeks. In an under-vaccinated community, the weakened virus can undergo genetic changes if it is transmitted from person to person over a prolonged period. Children who have been immunized against OPV won't be hurt by it, but in areas with low hygiene rates and low immunization rates, it could spread to neighboring children. Although the variant is weaker than wild poliovirus, which exists only in Afghanistan and Pakistan, it can still cause serious illness and paralysis in unvaccinated individuals.

Jonas Salk developed a second polio vaccine that contains dead poliovirus that cannot cause paralysis. This inactivated vaccine is routinely administered to children between the ages of 2 months and 6 years in more than 120 countries, including the US. A patient from Rockland County, which borders New Jersey, contracted a poliovirus variant derived from the oral vaccine that has been genetically linked to samples collected from Rockland County, London, and Jerusalem.

In June, according to the Washington Post, the 20-year-old patient was hospitalized after traveling to Poland and Hungary. A source of the infection is being investigated by New York authorities, and wastewater is being tested to determine whether it has spread.

A recent New York Health Department study suggests the virus likely originated in a country where oral polio vaccines are still being administered. Only inactivated polio vaccines are used in the US, so it's likely the virus originated there. A type of poliovirus derived from vaccines was detected in London sewage samples last month, according to the World Health Organization and British health officials.



KEYWORDS

Public Health, Infectious Diseases, Bacteria, Viruses, Environment, Water, Pollution, Oral Polio Vaccine, OPV, polio, poliomyelitis, poliovirus, pandemic, contagious, World Health Organization, WHO

