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Trends of Global Outbreak of Measles

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ABSTRACT

In recent months, the resurgence of measles has become a concerning global phenomenon. Once nearly eradicated in many parts of the world, measles outbreaks have reappeared, challenging public health systems and raising questions about vaccination policies and community immunity. This article aims to explore the causes, consequences, and strategies for containment of measles outbreaks.

1.Introduction

Measles is one of the most contagious viral infections in the world, characterized by a feverish rash that can cause significant consequences and even death. Measles is extremely contagious. Around 9 out of 10 people who are not protected will become infected following exposure to the measles virus (1). The Centers for Disease Control and Prevention (CDC) is issuing this Health Alert Network (HAN) Health Advisory to inform clinicians and public health officials of an increase in global and U.S. measles cases and to provide guidance on measles prevention for all international travelers aged ≥6 months and all children aged ≥12 months who do not plan to travel internationally.

2.1. Measles viruses

These are single-stranded, negative-sense RNA viruses belonging to the genus Morbillivirus, family Paramyxoviridae (2). MeV is the causative agent of measles, a highly contagious disease characterized by coryza, conjunctivitis, fever, malaise, cough, and exanthema (3). The incubation period of disease from exposure to fever is between 7-12 days, while rash onset is typically appearing around 14 days after initial exposure (3). However, there is a safe and effective vaccine available (4), that has prevented an estimated 23.2 million deaths between 2000 and 2018 (5). Despite various elimination (5, 6), MeV continue to circulate and cause outbreaks in various parts of the world, including in the European region

2.1The Resurgence of Measles

Measles, a highly contagious viral infection, spreads through respiratory droplets and can lead to severe complications, particularly in young children and individuals with compromised immune systems. Despite the availability of an effective vaccine, the World Health Organization (1, 7) reported a significant increase in measles cases worldwide in recent years. Factors contributing to this resurgence include vaccine hesitancy, gaps in vaccination coverage, and disruptions in immunization programs due to conflicts or health crises (8).

2.2. Causes of Vaccine Hesitancy

Vaccine hesitancy, defined as the delay in acceptance or refusal of vaccines despite their availability, plays a pivotal role in the resurgence of measles. Misinformation spread through social media and anti-vaccine movements has fueled skepticism about vaccine safety and efficacy. Additionally, complacency among populations with no recent experience of measles outbreaks has led to a decline in vaccination rates, leaving communities vulnerable to the reemergence of the disease (8, 9).

2.3. Consequences of Measles Outbreaks

COVID-19 has increased the risk of measles outbreaks due to COVID-19-related delays in supplemental vaccination activities, more than 61 million doses of the measles-containing vaccine were missed or postponed between 2020 and 2022. Greater epidemics elsewhere, including the US, are now more likely as a result (10).

The consequences of measles outbreaks extend beyond individual health impacts to strain healthcare systems, disrupt economies, and exacerbate social inequalities. Outbreaks can overwhelm medical facilities, leading to shortages of medical supplies and personnel. Moreover, the economic burden of treating measles cases and implementing control measures can be substantial, particularly in low-resource settings where healthcare infrastructure is already fragile. Furthermore, measles outbreaks disproportionately affect marginalized populations, highlighting existing disparities in access to healthcare and vaccination services (11).

2.4. Strategies for Containment

Containing measles outbreaks requires a multifaceted approach involving vaccination campaigns, surveillance systems, and public health interventions (12). Strengthening routine immunization programs, particularly in underserved communities, is crucial for achieving high vaccination coverage and herd immunity. Additionally, enhancing surveillance systems to detect and respond rapidly to outbreaks can help prevent further transmission. Moreover, targeted communication strategies aimed at addressing vaccine hesitancy and dispelling

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misinformation are essential for building trust in vaccines and promoting vaccine acceptance (13).

3. Conclusion

The resurgence of measles poses significant challenges to global public health and underscores the importance of sustained efforts to maintain high vaccination coverage and prevent outbreaks. Addressing vaccine hesitancy, strengthening immunization programs, and implementing timely control measures are essential steps in containing measles outbreaks and preventing their adverse consequences. By working together, governments, healthcare providers, and communities can mitigate the impact of measles and protect the health and well-being of populations worldwide

4. Recommendations

All residents traveling abroad, regardless of their final destination, have to have received their MMR shots up to date in order to avoid measles illness and lower the possibility of community transmission from importation. Healthcare professionals need to make sure kids have had all recommended vaccinations, including the MMR. There is currently little chance of a widespread outbreak because most American towns have a high level of population immunity to the measles. Nonetheless, certain groups are more vulnerable to epidemics due to areas with inadequate coverage.

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