



Vaccine Coverage: Resurgence of Measles Outbreak in Ghana

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Measles is a highly contagious viral disease that can lead to severe complications and even death, especially in young children. Children who are not vaccinated against measles are at a higher risk of contracting the disease. In the first 5 weeks of 2023, a total of 209 suspected cases were reported in 11 districts and they were all later confirmed to be positive by laboratory investigations. The low vaccination coverage rates have contributed to the recent measles outbreak in Ghana, which has had devastating consequences on children's health. The outbreak has been linked to several factors, including low immunization coverage, poor healthcare infrastructure, and inadequate disease surveillance systems. Improving vaccination coverage and strengthening surveillance and monitoring systems are critical steps in controlling and preventing the spread of measles.

Keywords: Measles; public health; viral disease; vaccine.

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1. INTRODUCTION

Measles is a highly contagious viral disease that can lead to severe complications and even death, especially in young children. Measles can spread through coughing and sneezing, and it can lead to severe complications, including pneumonia, blindness, and even death [1]. Children who are not vaccinated against measles are at a higher risk of contracting the disease, and they may suffer from long-term health problems even after recovery [2].

A study in England suggested that vaccine hesitancy is responsible for measles outbreaks in countries where measles had previously been eliminated [2]. Global measles death have reduced to 73% from an estimated number of 536, 000 to 142, 000 2018 [1]. Measles is a vaccine-preventable disease, yet many children in Ghana remain unvaccinated due to several factors, including lack of access to healthcare services, misinformation about vaccines, inadequate vaccine, under-resourced healthcare system and delay in response to the disease outbreak [3,4]. In Ghana, the measles vaccine is included in the routine immunization schedule, with the first dose given at nine months of age and the second dose at 18 months [5]. Before the outbreak of the novel coronary disease, there was a drastic reduction of measles as a result of an accelerated immunization activities. In the year 2000-2008, measles vaccination prevented an estimated 23.2 million deaths globally [1]. During the covid-19 outbreak, about 79% of children received the measles and rubella vaccinations in the year 2020 [6]. However, in the same year 2020, 88 cases of measles were reported in Ghana. Also, in 2021, an estimated number of 1, 274 cases were confirmed and registered [5].

Recently, on the 7th of February, 2023, there has been a report concerning resurgence of measles outbreaks in the northern part of the country by the Ghana Broadcasting Cooperation [7]. According to the World Health Organization [6], there is a continuing outbreak of measles in Ghana's Northern Region. In the first 5 weeks of 2023, a total of 209 suspected cases were reported in 11 districts and 50 were later confirmed to be positive through laboratory investigations [3,7]. The low vaccination coverage rates have contributed to the recent measles outbreak in Ghana, which has had devastating consequences on children's health. The outbreak has been linked to several factors,

including low immunization coverage, poor healthcare infrastructure, and inadequate disease surveillance systems.

2. CONTRIBUTING FACTORS

There are several factors contributing to the resurgence of measles in Ghana.

1. Low vaccination coverage: Availability of safe and effective measles vaccines, is the cause of many children in Ghana not being vaccinated. This low vaccination coverage has created a pool of susceptible children who are at risk of contracting measles and spreading it to others.
2. Poor surveillance and monitoring systems: Measles is a notifiable disease, meaning that health facilities are required to report all suspected cases to the appropriate authorities. However, many cases of measles go unreported or are misdiagnosed, leading to delays in the response to outbreaks and allowing the disease to spread further.
3. Lack of awareness about the disease and its prevention: Many parents in rural areas do not understand the importance of vaccination and may not have access to information about the disease. Additionally, there have been reports of vaccine hesitancy and distrust among some communities in Ghana, which has contributed to low vaccination rates. WHO recommends that at least 95% of the population should be vaccinated to prevent outbreaks. However, in Ghana, only 55% of children received the measles vaccine in 2021, which is significantly lower than the WHO's target.
4. A lack of outbreak preparedness: The absence of emergency plans or inadequate implementation of plans that should ensure implementation of measles-specific interventions, such as having adequate vaccines and devices, vaccinating infants from 6 months of age as well as training and supplies for adequate case management and infection, prevention and control (IPC) measures.

Vaccine hesitancy, or the reluctance or refusal to vaccinate despite the availability of vaccines, has been identified as a significant contributor to low

vaccination coverage rates [8]. Measles can have severe consequences on children's health, including pneumonia, encephalitis, blindness, and even death [1]. These complications are preventable through timely immunization and effective disease surveillance systems.

3. THE WAY FORWARD

To address the resurgence of measles in Ghana, requires a multisectoral approach involving the government, healthcare providers, communities, and other stakeholders.

Firstly, the government of Ghana can take several measures to improve vaccination coverage. These include increasing the availability and accessibility of vaccines, especially in hard-to-reach areas; strengthening routine immunization services; and conducting targeted vaccination campaigns in areas with low coverage.

Secondly, healthcare providers can play a crucial role in improving vaccination coverage by educating parents about the importance of vaccination and addressing any concerns or misconceptions they may have. They can also improve surveillance and monitoring by promptly reporting all suspected cases of measles and implementing appropriate infection prevention and control measures to prevent further transmission.

Thirdly, there is a need for accurate and timely information on the safety and efficacy of vaccines to be disseminated to communities through multiple channels, including traditional and social media. This can be achieved through the engagement of trusted community leaders and influencers, who can provide credible information about vaccines and address concerns and misconceptions.

Fourthly, the government can work with international organizations such as the WHO and UNICEF to secure funding for the vaccination program and improve access to healthcare services in rural areas. The government can also partner with mobile network operators to use mobile technology to disseminate information about vaccination and measles prevention to remote communities.

4. CONCLUSION

The resurgence of measles in Ghana is a major public health concern that requires urgent action. The consequences of inaction are dire, with children's health and well-being at risk. Improving vaccination coverage and strengthening surveillance and monitoring systems are critical steps in controlling and preventing the spread of measles. A concerted effort from the government, healthcare providers, communities, and other stakeholders must work together to achieve these goals and protect the health of children in Ghana. Effort is needed from all stakeholders to ensure that children in Ghana and other low- and middle-income countries are protected from vaccine-preventable diseases such as measles.

CONSENT AND ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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