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Perspective

Measles outbreak in sub-Saharan Africa amidst COVID-19: A rising concern, efforts, challenges, and future recommendations

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ABSTRACT

In Sub-Saharan Africa, the number cases of Measles have spiked by 400%, some of the countries affected being Ethiopia, Somalia and Democratic Republic of the Congo. This is due to the emergence of COVID-19 which has disrupted the global fight against Measles by impairing the routine immunization programs. This has led to suspension of the measles vaccination drive, where about 23 million children missed out on all basic childhood vaccines including Measles-Mumps-Rubella vaccine in Sub-Saharan Africa. Despite the efforts to conduct mass immunization campaign for Measles in some countries, there is a need to build stronger health systems that would provide education to promote awareness and commitment to routine Measles vaccination and provide Vitamin A supplements to boost immunity.

1. Introduction

Sub Saharan Africa (SSA) accounts for the region of Africa that lies South of the Sahara Desert, comprising of 46 of the 54 African states. As of 2019, Saharan Africa had a population of 1.1 billion and growth rate of 2.3% which is expected to increase to 2.5 billion people by 2050 [1]. With a population size of this much, Sub Saharan Africa still has high health burden, with numerous health problems including vaccine preventable diseases [2]. In the last 2 decades, the global cases of measles have been declining before the emergence of COVID-19 pandemic. As from 2019, there was an increase in number of measles cases to 869 770 cases and 207 500 deaths, which indicate the highest burden of measles since 1996 [3]. In addition, countries such as Democratic Republic of the Congo (DRC) have the highest records of deaths due to measles during the pandemic compared to the pre-COVID-19 era, where more than 6000 people died in the early month of 2020 [4].

Recently, Sub Saharan Africa faces a spike of Measles where a total of 17 500 cases of Measles have been reported in the region as of January 2022, signifying an increase of 400% compared to cases reported in 2021 [5]. Some countries that have new cases of measles include Angola, Burundi, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, Ethiopia, Somalia, South Sudan, and Togo [6]. In the Sub-Saharan region, the current measles vaccine recommendations emphasize on routine administration of Measles-Mumps-Rubella (MMR) vaccine; two doses, administered to children, first dose at 12–15 months and the second dose at 4–6 years [7]. This outbreak comes as an after effect of the COVID-19 pandemic, that has resulted in immunization gaps in most parts of the region [6]. Mass administration of Measles Vaccine to children is a National Campaign in most parts of the region, with an expected coverage of 95% as stipulated by World Health Organization. COVID-19 disruptions have resulted in huge strain on the heavy burdened health system, impairing the routine immunization programs leading to suspension of the vaccination drive, where about 23 million children missed out on all basic childhood vaccines in 2020 [5,8].

2. Epidemiology

Measles outbreaks are still present in Sub-Saharan Africa and the world as a whole, despite the preventive measures taken. Child vaccination campaigns throughout the world have greatly been disrupted by COVID-19 hence UNICEF and WHO have reported an increase of 79% in cases of measles in the first two months of 2022 compared to 2021 [6,9]. Somalia, Liberia, and Ivory Coast are among the countries with the highest frequency of measles, where 21 major outbreaks have been reported collectively [6].

In Sub Saharan Africa Measles is endemic in Somalia and Ethiopia with increasing cases reported every year. In the first 9 weeks of 2022 a cumulative of 3509 suspected measles cases have been reported from 18 regions of Somalia [10] and in March 2022, WHO in Africa reported measles outbreak in Ethiopia, where for the first 12 weeks of 2022, 2755 cases were suspected, among which 2156 confirmed for measles [11].

3. Etiology of measles

Measles is caused by a single stranded enveloped RNA virus present with 1 serotype. The virus is a member of genus Morbillivirus found in the family of Paramyxoviridae. Humans are regarded as the only natural hosts of this virus [12]. It is a highly contagious, and it spreads through contaminated droplets spread through air when person the infected person cough, sneeze, or talk. Other factors that can spread measles are like through sharing drinks, shaking hands, hugging someone with measles, kissing someone with measles and from pregnant mothers to their babies during pregnancy, or at delivery, or on nursing [12].

4. Efforts and recommendations

Since the outbreak of Measles during this Pandemic era in the Sub-

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Saharan countries several efforts have been employed in fighting against it. Ethiopia administrative body has routinely administered Measles-Containing Vaccination (MCV) covering 87.49% for MCV1 and 70.56% for MCV2 in 2021 as a continuous program every year [13]. However, Ethiopia didn't meet the coverage target of 95% projected by WHO in achieving high coverage of vaccination [14].

In Somalia, Measles-Containing Vaccination first dose (MCV1) has been in use for the last 10 years in fighting against the infection. This vaccination was able to reach the coverage of around 46% of the country [15]. However, since the introduction of the second dose (MCV2) Somalia has not introduced it yet [13,14]. This might be due to several reasons which are not disclosed yet by the administrative body.

Ethiopia was the first large country to conduct mass immunization campaign for Measles in 2020 following COVID-19 outbreak. Over 14.5 million children in the country were vaccinated. This was enabled by the government of Ethiopia with the help of global partners, United States (Center Disease and Control) [16]. In addition, between August and September 2020, the Somalia's Federal Ministry of Health with the support from WHO and UNICEF conducted a first Measles immunization campaign since the outbreak of the pandemic in their country. The program succeeded in vaccinating 92% of the targeted children aged between 6 months and 5 years [17]. WHO has kept the coverage target for routine immunization with both MCV1 and MCV2 at least 95% meanwhile urging eradication of acute malnutrition since it plays a role in causing immunodeficiency affecting mostly infants and children [15]. Children under 5 in SSA countries are at 45% risk of death due to undernutrition [18]. WHO has urged the administration of Vitamin A supplements to all children between 6 month and 5 years diagnosed with Measles infection to reduce chances of deaths and other complications [15,19].

However, the large population affected are pastoralists who face food insecurity leading to prevalent malnutrition. It is recommended that authorities in SSA should build stronger health systems which will be able to conduct activities to increase coverage for vaccination, also provision of education and counseling about routine Measles vaccinations to mothers with children infected by Measles. In addition, to improve the nutritional status is vital in fighting against Measles.

5. Conclusion

The COVID-19 pandemic has proved to be a stumbling block to global health systems and a catalyst for the outbreak of Measles in Sub-Saharan Africa. The COVID-19 pandemic has led to the disruption of measles immunization programs leading to immunization gaps due to the initiation of lockdown in several countries, with pastoralists being a group that is highly affected. This calls for increased efforts to build stronger health systems that would increase vaccination coverage, provide education to promote awareness and commitment to routine Measles vaccination and provide Vitamin A supplements to boost immunity.

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The authors have no competing interests to declare.

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