

LETTER TO THE EDITOR

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Is the COVID-19 vaccination a ray of hope for the elimination of prevalent infectious diseases in the future?

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Abstract

In recent years, many disease outbreaks and pandemics have been reported and have posed serious public health challenges. Therefore, vaccination on a large scale is the only hope to prevent and control these vaccine-preventable diseases. This letter discusses the COVID-19 vaccination's role in preventing other infectious diseases.

Keywords COVID-19, Disease, Pandemic, Vaccination

To the Editor,

The coronavirus disease 2019 (COVID-19) pandemic seriously affects the global health care system and has caused a huge number of morbidities and mortalities. The COVID-19 disease posed serious challenges over the years. Infectious diseases have been a serious public health issue in human history for centuries. The current COVID-19 pandemic doubled the negative impact of the most prevalent infectious diseases such as cholera, influenza, measles, pertussis, tuberculosis, etc. on animal, environmental, and human health. Worryingly, 44 territories or countries have reported a tenfold increase in the incidence of at least one of 13 infectious diseases since the beginning of 2022 compared with a pre-pandemic level [1].

Essential health care services and vaccination programs are disrupted, and thus put the countries or territories with weak healthcare systems or limited healthcare facilities to deal with major infectious disease outbreaks

at a breaking point. During the first six months of the COVID-19 pandemic, around 56 countries postponed their vaccination campaigns. As a result of this disruption, vaccine-preventable diseases have increased in incidence, which has put the lives of many at risk [2].

In May 2020, a total of 105 out of 183 (57%) of public health vaccination campaigns across 57 countries were disrupted due to the evolving COVID-19. An estimated total of 796 million vaccine doses were either postponed or completely missed [3]. The two vaccination campaigns most affected by postponement or cancellation were the polio and measles vaccination campaigns. Despite the commencement of the COVID-19 vaccination program in 2020, in December 2021, 77 of 472 vaccination campaigns in 54 countries were still either canceled or postponed [3]. The campaigns affected were predominately in the African region, possibly owing to the decreased availability of the COVID-19 vaccine in this region at that time.

The impact of such disruption to public health vaccination campaigns is likely to result in a significant increase in the incidence of vaccine-preventable illnesses or diseases, with an estimated 80 million children under one year of age at an increased risk of measles, polio, and diphtheria as a result [4]. Sadly, a decline in vaccine uptake was observed in several European countries in the years leading up to the COVID-19 pandemic. As

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a direct consequence, 500,000 cases of measles were recorded globally in 2019, the most since 2006, owing to the decreased uptake of the measles, mumps, and rubella (MMR) vaccine [5].

In the European Union (EU) countries, outbreaks of vaccine-preventable diseases continue to occur; thus, essential continuous efforts are urgently needed to identify immunity gaps among the population [6]. In 2023, the number of measles and pertussis began to rise in several EU countries. Approximately 5770 measles cases have been reported. Newborn babies and children younger than one year are at high risk of infection and death. It is essential to ensure all recommended vaccines for newborn babies and infants are given on time [6].

A question is, would COVID-19 vaccination play a role in eliminating or controlling other infectious diseases?

However, despite the initial negative impact of the COVID-19 pandemic on public health vaccination campaigns, the COVID-19 pandemic has significantly raised awareness of the effectiveness of vaccination in the prevention of the transmission of vaccine-preventable diseases and reducing the severity of the course of disease [7]. The raised awareness of vaccination due to the COVID-19 pandemic may help increase the uptake of public health vaccination campaigns in many countries. Interestingly, the global elimination of polio seems possible. It just requires strengthening surveillance, improving strategies, and effective vaccination coverage in both Afghanistan and Pakistan. As a result, despite the initial negative impact of a decrease in public health vaccination coverage during the COVID-19 pandemic, it is hoped that the end result may be an increase in the uptake of vaccinations worldwide. This may in turn aid in reaching the vaccination and infectious disease prevention targets of the World Health Organization (WHO) in the coming years. It is hoped that the resultant increased vaccination coverage worldwide will decrease the number of cases of vaccine-preventable diseases and the morbidity and mortality that go with such diseases. Therefore, there is hope that the increased awareness of the effectiveness of vaccination worldwide may result in increased vaccine uptake, which may finally lead us toward the eradication of prevalent infectious diseases such as polio and measles in the near future.

Authors' contributions

TA: Conceptualization, writing—original draft and editing. KFM: Writing and editing. All authors have read and agreed to the published version.

Funding

This work received no financial support.

Declarations

Ethics approval and consent to participate

Not applicable.

Competing interests

The authors declare that they have no conflict of interest.

Received: 10 July 2024 Accepted: 14 August 2024

Published online: 19 August 2024

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