

Letter to the Editor

Pakistan's healthcare preparedness after the NIH warned of a new diphtheria strain and Covid-19 variation



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Abstract

Objective: In this paper, we examine the current crisis of regarding preparedness of healthcare industries in Pakistan, analyzing the causes, effects, and potential recommendations to this problem.

Methods: Highlighting the efforts and issues surrounding this topic is necessary for developing and implementing research-based solutions that accurately reflect the current state of the healthcare industry. This short overview is prepared in accordance with accepted practices in published studies around the world. Our findings were based on a search of the literature databases PubMed, Google Scholar, Journals Online, and the Internet Library.

Results: Searching for "Healthcare Preparedness in Pakistan" yielded the expected results. Particularly of interest to the researchers was the question of why, despite efforts to boost vaccination rates and emergency immunization response capacities in the event of epidemics, progress on SDG3 immunization indicators has been minimal. Immunization is critically important

because vaccine-preventable diseases pose a significant risk to the general population. Pakistan's authorities and government should take deliberate action to increase immunization rates.

Conclusion: Particularly disadvantaged countries and regions are hit the worst by climate change. Pakistan continues to be hit hard by diseases like acute watery diarrhea, dengue fever, malaria, and COVID-19 are on the rise as a result of the flooding, especially in shelters and areas where water and sanitation systems have been affected. After devastating floods in KP, Sindh, and Punjab, over 70 suspected cases of diphtheria were reported. Diphtheria epidemics illustrate the precarious position of flood victims. It would be catastrophic if the newly found diphtheria strain or the covid-19 variation reached the underserved flood victims. Immunization protects against life-threatening illnesses so its government responsibility to improve immunization rates in Pakistan.

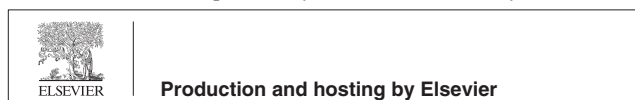
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Introduction

Health care providers around the world are already reacting to the health risks posed by climate change. While no one is completely immune to these dangers, the people in low-income particularly impoverished countries and

communities are experiencing the worst health impacts from the climate catastrophe.¹ The monsoon season of 2022 saw rainfall levels approximately 2.9 times the national 30-year average of Pakistan, leading to catastrophic flooding and landslides that had devastating effects on people's lives, their possessions, and the nation's infrastructure. The government of Pakistan has declared 94 districts to be in a "calamity stricken" status. A vast portion of the worst-affected areas are also some of the most at-risk regions in all of Pakistan.²

As a result of the severity of the damage and the likelihood of extremely cold weather, 35 areas across the country have been recognized as being particularly vulnerable to the harsh winter in the flood affected zones. People who are displaced within their own country, as well as the entire country itself, will be negatively impacted by the reintroduction of additional strains and variants of illness that hit the system in a devastating way. People living in self-settlement sites or informal camps, or wherever else forced to make do with temporary, improvised accommodation are particularly vulnerable to the winter's chill. In some cases, those who have returned to flood-affected areas or stayed behind to continue living in damaged homes have been left with nothing more than the minimum essentials in terms of insulation, leaving them unprepared to survive the winter's chill.³

After the devastating floods of previous seasons, the country is finally beginning to recover and move forward. A new strain of diphtheria and a new variant of Covid-19 have laid an unfair disadvantage on Pakistan's already struggling economy. People who have been enduring dreadful conditions in temporary shelters since floods are returning home as the cold weather sets in. Conditions of poor sanitation and cold will compound their misery as they are abandoned to care for themselves. Due to the prevalence of respiratory illnesses in the winter, this will make these communities more vulnerable to disease. The load of a new diphtheria strain and the new Covid-19 variant on Pakistan's already suffering healthcare system, is too extra for the country to bear alone. The NIH in Islamabad has 'recommended' the Drug Regulatory Authority of Pakistan (DRAP) to ensure the availability of Diphtheria Antitoxin in the country after the disease killed dozens of youngsters across the country. The Ministry of National Health Services, Regulations and Coordination reported that more than 45 children died from diphtheria in Pakistan in 2022, and that hundreds of suspected cases have been reported from different provinces of Pakistan.⁴

According to WHO reports that XBB subvariant of Omnicron has spread to 70 countries and caused outbreaks in India and Singapore (WHO). The virus's spike protein has been mutated in this new subvariant, making it more efficient in binding to cells and spreading. As a result of these factors, it might spread much more quickly.⁵ Extensive studies of the Covid-19 virus have shown that its infectiousness and rate of transmission are both lower in the summer and higher in the winter. Covid-19's seasonality is consistent with that of prior influenza pandemics, suggesting that it will likely spread during the winter months. The

findings of this research shows that environmental factors in Pakistan significantly affect the transmission of COVID-19.⁶

The examined literature indicates that Pakistan has an immediate need for a variety of reforms, including attempts to improve the quality and accessibility of healthcare for the people who have been affected by the recent floods. They're more susceptible to illness and are likely to be epicenters for the development of outbreaks. Given the magnitude of the problem, and the fact that the country is still in its developmental stages, these changes are essential.

Challenges

Pakistan is still experiencing illness epidemics. Diseases like acute watery diarrhea, dengue fever, malaria, and COVID-19 are being exacerbated, especially in camps and in areas where water and sanitation infrastructure have been damaged, and this is something that should have been taken care of earlier for flood-affected communities.⁷

More than six months after the terrible floods in Pakistan began, people still do not have their basic necessities covered in the worst hit districts. Communities that have been hit hard are suffering from widespread starvation due to a shortage of food, water, and medical attention.⁸

Approximately 70 instances of possible diphtheria were reported in November 2022 in the flood-stricken provinces of KP, Sindh, and Punjab. The frequency at which diphtheria has spread demonstrates how vulnerable those impacted by the floods have been. It will be difficult for clinicians to recognize a case of Covid-19 and diphtheria this winter, when flu-like symptoms are common.

The World Health Organization has warned that the Omicron subvariant XBB type is a particularly dangerous form of the virus. People in flood-affected areas may be an important focus because of the prevalence of malnutrition, the difficulty of gaining access to adequate healthcare, and the rapidity with which infectious diseases can spread due to the deterioration of living conditions. The government of Pakistan needs to conduct thorough investigation, review, and monitoring of this situation.⁹

Recommendations

Implications of the pandemic on routine immunization are crucial. Those countries with low vaccination rates could see an increase in Vaccine Preventable Disease related morbidity and mortality. Also, there is high incidence rate of "zero-dose" children in Pakistan.¹⁰

Too far, 66% of children in Pakistan have been completely immunized (Fully Immunized Child is considered that child who has received all recommended vaccination doses as per immunization schedule).¹¹ Even though it was difficult, getting immunization to children's who hadn't gotten it during the pandemic was possible. To increase vaccination rates and decrease the spread of COVID-19, Gavi's Civil Society Human and Institutional Development Program (CHIP) in Pakistan partnered with community groups to educate parents on the importance of getting their

kids vaccinated and encourage them to bring their children to vaccination clinics. As urgent as the problem is, we need such an intervention immediately. People in flood-affected areas are especially susceptible to illness, therefore it's crucial to quickly deploy aid. United Nations Population Fund (UNFPA) estimates that about 650,000 pregnant women in flood-affected areas require maternal health services to ensure a safe pregnancy and childbirth, and this was stated in a report on 30 August. There could be as many as 73,000 births in the last few months of 2022, all of which will require the services of trained medical personnel. The health of babies born into such environments is also severely compromised.¹²

Immunization has a direct effect on health (Sustainable Development Goal 3) and contributes significantly to other (SDGs). The importance of immunization in achieving the SDGs, particularly in low and middle-income countries, is widely acknowledged. Progress on SDG3 immunization indicators has been slow despite ongoing efforts to improve vaccination coverage and emergency immunization response capabilities in the face of epidemics. It would be disastrous if the recently found diphtheria strain and the newly discovered covid-19 variant made their way to the underserved group of flood victims. Immunization against preventable diseases is an urgent public health priority, and the Pakistan government and authorities should implement targeted measures to increase vaccination rates.

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Conflict of interest

The authors have no conflict of interest to declare.

Ethical approval

No ethical approval required.

Authors' contribution

MM conceptualized the study and gathered all of the supporting literature. This paper initial draft was written by MM and SN. HM and WO did the reviewing, and SN did the final editing. Everyone who contributed has reviewed the final version of draft and approved it. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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