



Correspondence

Cholera outbreak amidst an economic crisis and Covid-19 pandemic in Pakistan

Dear Editor

According to the World Health Organization [WHO], cholera is an acute diarrheal infection that is caused by *Vibrio Cholerae* (*V.Cholerae*) through contaminated food and water [1]. Recently, a cholera outbreak has been reported in Karachi, a city in Sindh Province. 129 cases of cholera recorded from six public and private hospitals were confirmed by an official of the Sindh health department. He further explained that 5 cases were recorded in January 2022, 14 in February, 54 in March, and 56 in April [2]. According to the Field Epidemiology and Disease Surveillance Division (FEDSD) National Institute of Health (NIH) Pakistan, the total cases reported of AWD (Cholera) from 21st to 27th February 2022 were 511; among these cases, 182 were from Punjab, 167 were from Khyber Pakhtunkhwa, and 143 were from Sindh. Reporting of cases of acute watery diarrhea AWD (Cholera) from KP, Sindh, Punjab, and Balochistan is significantly increasing [3]. Pakistan has faced cholera outbreaks many times in past years too. The main factors which contribute to the recurrence of cholera outbreaks in Pakistan include unhygienic practices, overpopulation with increasing poverty, and poor sanitation. The economic crisis has always, directly or indirectly, contributed to a cholera outbreak in Pakistan. A considerable number of people in Pakistan still do not practice hand-washing with soap because they cannot afford soaps. Soaps should be distributed in the pharmacies of rural hospital in free of costs. Government can also distribute soaps in the cholera endemic areas. Poor disposal system of sewage water contaminates groundwater especially during the rainfall season because the government does not have adequate funds for proper maintenance of the sanitary system. 91% of Karachi's water source is unhealthy for consumption with increased levels of microbial contamination including cholera, shigella, and E.coli [4]. Each year the poverty rate is increasing in Pakistan, which leads to malnourishment and immunity among the population is decreasing. This typically affects children and can even lead to death in children due to the fatal complications of diarrhea. Recently, the COVID-19 pandemic has had devastating effects on the already weakened healthcare system of Pakistan. Although there has been awareness about vaccination during the COVID-19 pandemic, the present rise in cholera cases can be attributed to the disruption of vaccination programs including cholera along with the present trend of unwillingness for vaccination in the major population of the country [5]. The burden of patients in emergency departments of hospitals due to the recent surge of cholera in endemic areas is becoming a major challenge for the government. Government should provide the cholera test in every rural hospitals. Adequate amount of ORS, Normal Saline and other medicines should be present in the affected areas. On the basis of cases and deaths, the states can be colored as red, yellow, green. Red areas should get all the medications at first. With this color-coding techniques, managing the situation will be easier.

Complete eradication of cholera amidst the ongoing epidemic of

COVID-19 needs well-implemented strategies aimed at controlling risk factors, reducing disease burden, implementing disease management protocols, and preventing complications. The initiatives should be outlined based on different factors like the functional status of the health department, population dynamics, sanitation, literacy, and development rates of major cities where the population is at major risk of contracting the disease. The development of new and improved diagnostic strategies which, with high quality and accuracy, enable fast detection of disease in susceptible populations must be ensured. The availability of adequate trained personnel and lab equipment should also be ensured by the government for accurate detection and diagnosis of cholera. Cholera test should be done in all rural hospitals in free of costs. All the positive case should be registered in the Cholera disease database which will be controlled by the government. This is possible if there are sufficient funds for health departments at local levels. Awareness is an important factor in prevention. It should be carried out at national, provincial, and local levels to demonstrate disinfection techniques, danger signs of dehydration, symptoms of cholera, and appropriate management after disease onset. Both print as well as electronic media, which can be very influential in the present time, should be engaged to play their part in encouraging vaccination, hand-washing, etc. Individual roles are pivotal in this aspect. People related to the medical field such as doctors, nurses, and paramedical staff should personally take the stand of conveying knowledge and methods of prevention in their surroundings. Awareness regarding the significance of oral rehydration therapy (ORT) to prevent dehydration and associated complications can be a breakthrough in preventing disease progression and acute complications. Measures have to be taken by experts and campaigners to spread knowledge about the formation, indications, and usage of oral rehydration solution (ORS).

Overcrowding and lack of sanitation are one of the great risk factors in the transmission of disease. Effective implementation of Water, Sanitation, and Hygiene (WASH) programs will help attain control and prevention of cholera transmission [6]. Sanitation can be ensured by encouraging hand-washing, disinfecting water sources, and implementing programs to dump industrial, household, and agricultural wastes to prevent contamination of water supplies. As far the immunization status is concerned, Oral Cholera Vaccines (OCV) can work wonders in decreasing the surge of Cholera [7]. Community awareness programs for vaccination should be launched so that people may not develop myths against the vaccines as they did with COVID-19 vaccines. Cholera vaccines can be given in the COVID 19 vaccines centers. To boost the immunity status of people, proper diet and prevention of malnutrition are equally significant. Optimization of dosage and timing of vaccines is necessary, as is devising strategies for community engagement to guarantee that the demands of marginalized people are met [8].

The world's retaliation against the COVID-19 pandemic teaches

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valuable lessons to bolster Pakistan's battle against cholera – the most important one being the significance of research to conquer frequent outbreaks. There is a strong need for evidence-based research for decision-making at every level of control and prevention against cholera. This is the reason that Global Task Force on Cholera Control started the Cholera Roadmap Research Agenda in 2021. Thoroughly organized and collaborative research should be carried out to launch new plans for vaccine distribution, community engagement, sustainability of measures, implementation of interventions, monitoring surveillance systems, and determination of high-risk communities. Considering current economic conditions in Pakistan, cost-effectiveness must be taken into account while formulating control programs. Cholera usually spread through contaminated water. Clean drinking water should be served among every household. Otherwise, people should drink boiled water. From government level, regular surveillance on drinking water should be conducted. World is already disturbed with COVID 19 and monkey pox [9]. Several other diseases are also emerging in the world [10]. An expert committee should be prepared to make the needful Standard Operating procedures. [SOPs]. Other countries should also be cautious about the non-COVID 19 infectious diseases. So early action is important to combat the whole situation.

Lastly, not just developing strategies but also knowing when, where, and how to deploy them, while combatting cholera, is equally crucial. Only then the goal to decrease the incidence of outbreaks of cholera in Pakistan will be achieved.

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