Oral Cholera Vaccine (OCV) campaign in Bhasan Char, Noakhali and Bandar, Chattogram 2023 by using leftover vaccines

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Introduction

The Global Task Force on Cholera Control (GTFCC) has launched goals for reducing 90% cholera deaths by 2030 and eliminating cholera from at least 20 out of the 47 high-burden countries, including Bangladesh. Bangladesh has endorsed a National Cholera Control Plan (NCCP), which includes mass vaccination efforts and water and sanitation improvements between 2019 and 2030. In response to the sudden upsurge of AWD cases, reactive OCV campaign was carried out in 2022 in the five areas of both Dhaka city which include Jatrabari and Sabujbagh of Dhaka South City Corporation (DSCC), Mohammadpur, Mirpur, and Dhakshin khan of Dhaka North City Corporation (DNCC). In the first-round campaign, a total of 2,365,585 doses were delivered and during the second round 2,043,275 doses were delivered which comprised about 86% of the first dose. However, after completion of the campaign we had about 330,000 doses of vaccine (Euvichol-Plus) was left over. Based on the need, we decided to use these leftover vaccines for to cover the most prevalent areas. We planned for oral cholera vaccination campaign among Rohingya community in Bhasanchar and Bandar thana of Chattogram based on the history of upsurge of diarrheal cases in those areas.

Objective

This poster presentation aims to describe the implementation and delivery of oral cholera vaccination campaigns in Bhasan Char, Noakhali and Bandar, Chittagong 2023 by using leftover vaccines from Dhaka campaign

Recent history of outbreak

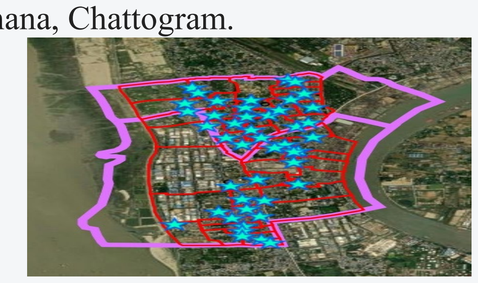
From December 2020 onwards ~30,000 Rohingya people were shifted to Bhasan Char. The diarrhoeal epidemic was also observed in Bhasan Char where 1,500 people were infected along with four deaths in 2021. In addition, there was an acute watery diarrhea outbreak in the Noakhali district where 10,000 cases were recorded along with fifteen deaths in ~one-month period (May, 2021). In August, 2022 another major Acute Watery Diarrhea outbreak was recorded in Chattogram, residents of Bandar, Halishahar, EPZ, Saltgola Crossing, and nearby areas of the city. The majority of the cases were reported from Bandar thana. During this outbreak, 32% (33/103) of cholera was detected in nationwide surveillance by using the rapid diagnostic test and 25% (13/52) were culture-confirmed cholera cases. Of the cholera cases 38% (5/13) were from Bandar thana residents. Vaccination in those high-risk areas of Bandar thana will be very important to control and prevent cholera transmission.

OCV campaign areas and target population

Bhasan Char: There are 120 clusters which was planned in the Bhasan Char area to accommodate ~100,000 people but till date ~30,000 people are shifted and residing in 58 clusters in scattered condition. There are 12 tin-shed houses in each cluster and 16 rooms are available in each house. A total of 30,000 doses were allocated for Bashan char to cover each round of vaccination (excluding children belonging to <1 year and pregnant women).

Bandar, Chittagong: Based on the detection rate of cholera and AWD upsurge we will carry out the vaccination in Bandar thana of Chattogram district. Two wards (38 and 39) of Bandar thana were included in this campaign. A total of ~135,000 high-risk people residing in these wards of Bandar thana was planned to be vaccinated in the OCV campaign.

The vaccination plan for these two wards was based on the updated GIS digital ward maps and population density. This map facilitated the major access routes in the vaccination areas, target structures/households, current vaccination sites, and additional sites and targeted required areas. The GIS activities are overseen by a GIS specialist. About 265,000 doses of leftover vaccines (Euvichol-plus) will be used for Bandar thana, Chattogram.



Vaccine delivery

***For Bhasan Char*:** The OCV campaign was carried out for 3 days in each dose. A finger marking was given on the left-hand small finger of each vaccinee for identification during the campaign. In addition, a vaccination card was issued to each vaccinee. A total 25 teams were engaged and each team consisted of 4 members- 1 vaccinators (vaccine delivery), 2 volunteers (vaccine card writer and mobilizer) and 1 record keeper (Tally sheet and finger marking). One vaccination team vaccinated approx. 600 persons per day. The vaccination was carried out for two days and one day mop up was carried out in each dose. The manpower was recruited from the people working in government and non-government organizations in vaccination programs, and FDMN's attained 18 years of age. BCC material (translated into Rohingya language) was provided to each vaccinee.

***For Bandar, Chattogram*:** There were 45 vaccination sites to cover the area. At each site, one team was involved in vaccine delivery and each team consisted of 5 members: 1 vaccinator, 2 volunteers (mobilizer and vaccine card writer), 1 record keeper, and 1 team leader. The vaccination was carried out for five days, from September 17th to September 21st, and the second dose will be carried out at least 14 days apart. The same team will work on the second dose campaign. All stakeholders, including the CDC, EPI, icddr,b, Chattogram City Corporation, and WHO were involved in this campaign.

Result

Bhasanchar: A total of 28,522 individuals received 1st dose of OCV, where 27,367 are from the Rohingya community which comprised 96% cumulative administrative coverage, and 1,155 were from Bangladeshi nationals. Among the vaccine recipients, 51% are male, and 49% are female.

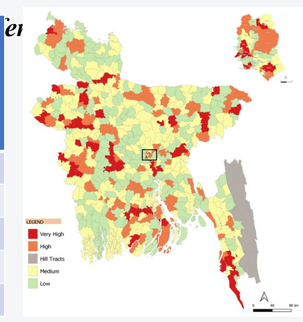
A total of 28,138 individuals received 2nd dose of OCV reaching to 99% coverage of the total target. A total of 27,364 Rohingya individuals and 774 Bangladeshi nationals received 2nd dose.

Bandar, Chittagong (1st dose): About 135,000 individuals received 1st dose of OCV, where ~22% were from children under 5 years of age. Among the vaccine recipients, 50% are female.

PAMIs

Priority Areas for Multi Sectoral Interventions (PAMI) analysis was conducted between November 2022 and February 2023. The PAMIs were selected based on the previous five years 'epidemiological data (Jan 2018-Dec 2022), at the upazila or thana level. Out of the 495 upazilas and 30 thanas (after merge), 144 geographical units were identified as PAMIs with 53 and 91 upazilas or thanas with a very high and high risk of cholera respectively.

Phase	Year	Number of Campaigns	Number of PAMIs targeted
1	2024	1	19
2	2025	2	27
3	2026	2	31
4	2027	2	31
5	2028	2	36



Bangladesh OCV prioritization result

Doses requirements and number of targeted hotspots

Year	Doses	Hotspot		
	Total requirement	# of PAMIs for first dose	# of PAMIs for second dose	# of PAMIs to be vaccinated
2024	15,237,827	19	19	19
2025	16,921,547	27	27	27
2026	21,118,585	31	31	31
2027	22,456,877	31	31	31
2028	24,933,898	36	36	36
Total	100,668,735	144	144	144

Conclusion

Bhasanchar (1st and 2nd dose) and Bandar vaccination (1st dose) was implemented by the icddr,b using the leftover vaccine of Dhaka campaign with support from CDC, EPI/DGHS, WHO and different government as well as national and international partners. All vaccination teams provided full support for the successful implementation of the campaign. The vaccination of a large population in Bhasan Char and Bandar, Chittagong proved to be feasible and acceptable and achieved high coverage. This is encouraging and is a way forward for reducing morbidity and mortality due to cholera among the vulnerable populations. In addition, multi year plan of action of OCV prioritization in Bangladesh which is crucial to be aligned with the global roadmap to end cholera by 2030.

Acknowledgement

World Health Organization · IFRC · Gavi The Vaccine Alliance · unicef · icddr,b