



GLOBAL TASK FORCE ON
CHOLERA CONTROL

Performance of Vaccination Campaign using Oral Cholera Vaccine with & without Control-Temperature Chain, Zambia, 2021

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8th December, 2021

STUDY RATIONALE

- WHO recommends use of OCV in:
 - Endemic countries, humanitarian crises and response to outbreaks
- Timeliness is essential
 - CTC strategy reduces the logistics needs linked to cold chain and makes it possible to reach a large population in a shorter time period. This increases the vaccination impact by reducing morbidity & mortality
- Having strong evidence about the advantages of CTC will help to:
 - Inform and restructure our OCV programs to improve coverage
 - Highlight and prioritize additional areas of research

OBJECTIVES

Primary objective

- To demonstrate the superiority of the CTC strategy in terms of the average number of people vaccinated per day by a vaccination team compared with the standard cold chain holding all other resources constant

Secondary Objectives

- i. To compare the vaccine coverage achieved in areas vaccinated using CTC with the vaccine coverage achieved in areas vaccinated using the standard cold chain
- ii. To assess the perceptions of the CTC strategy among vaccination teams
- iii. To assess the knowledge, attitudes and practices towards vaccination among vaccinators and vaccine supervisors

METHODOLOGY

a) Study design

— Simple randomized, multistage interventional trial comparing performance of CTC Vs SCC + KAP survey (sub-study)

b) Study Setting

- 2 districts selected; similar climate, terrain, demographics & socioeconomic activities

c) Study Population

i. Main Study: Vaccinators & vaccine supervisors

- 2 study arms
 - Control arm—SCC
 - Intervention arm—CTC

ii. Sub-study : KAP

- Nested KAP conducted in main study population
- No blinding; all data anonymized

d) Sample Size: 59 vaccination teams per study district

e) Data collection & Management

- Data collected analysed using STATA SE V:13
- Baseline characteristics compared b/n study arms
- Bivariate analysis to determine statistical difference b/n two arms

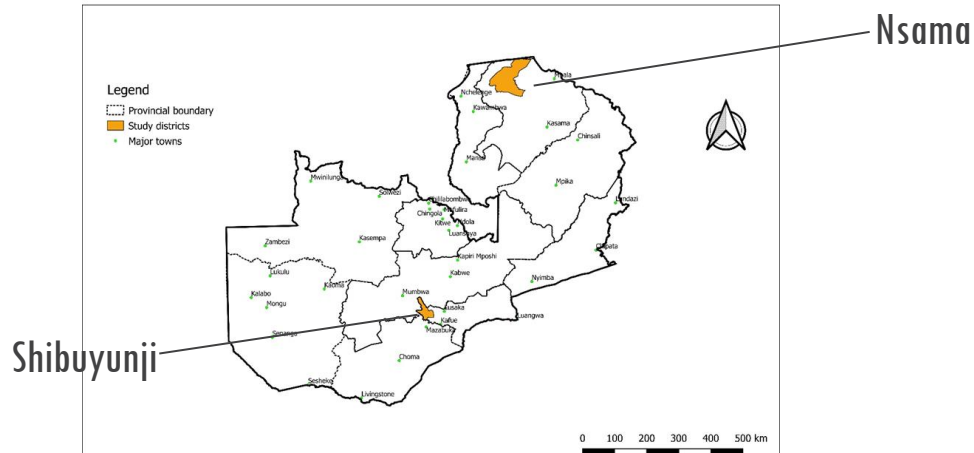


Fig1: Study sites, Zambia, 2021.

RESULTS

Table 1: Number of people vaccinated Using SCC and CTC for both rounds 1 & 2 in Nsama and Shibuyunji Districts, 2020-2021, Zambia

| District | Total Vaccinated | First Round | | Second Round | | |
|--------------|------------------|----------------------|---------------------|------------------|----------------------|----------------------|
| | | SCC n(%) | CTC n (%) | Total Vaccinated | SCC n(%) | CTC n(%) |
| Shibuyunji | 68,906 | 33,194 (48.2) | 35,712(51.8) | 51,620 | 23,257 (45.1) | 28,363 (54.9) |
| Nsama | 70,884 | 34,940 (49.3) | 35,944 (50.7) | 71,301 | 34,297(48.1) | 37,004 (51.9) |
| Total | 139,790 | 69,138 (49.5) | 70,652(50.5) | 122,921 | 57,554 (46.8) | 65,367 (53.2) |

In both rounds more people were vaccinated in the CTC arm than the SCC arm (R1;50.5% vs 49.5% ; R2; 53.2% vs 46.8%)

Table 2. Bivariate analysis of the number of persons vaccinated in the Cholera campaigns.

| Total | | Shibuyunji | | Nsama | | |
|---|-----------------|---------------------|---------------------|-----------------|---------------------|--------------------|
| First and Second Round vaccination | | N=69,972 | | N=70,884 | | |
| Vaccination arm | N | Mean(SD) | P-value | N | Median (IQR) | P-value |
| Control temperature chain | 35,712(51.8%) | 1,206 (429) | | 35,944(50.7%) | 165(87,280) | |
| Standard Cold chain | 33,194(48.2%) | 1, 165 (397) | 0.709 ^T | 34,940(49.3%) | 154(70,280) | 0.757 ^W |
| First and Second Round vaccination | | | | | | |
| Vaccination arm | N=51,620 | Median (IQR) | | N=71,301 | Median (IQR) | |
| Control temperature chain | 28,363(54.9%) | 123 (70, 197) | | 37,004(51.9%) | 133(48,203) | |
| Standard Cold chain | 23,257(45.1%) | 98 (39, 158) | | 34,297(48.1%) | 108(53,175) | |
| | | | 0.0017 ^W | | | 0.173 ^W |

T=student's t test, E=Fisher's exact test, W=Wilcoxon rank sum test

KAP STUDY

a) Knowledge about the CTC strategy

- In general participants were knowledgeable about CTC.
- More than 90% of participants had adequate knowledge about CTC stating that it was easy to implement at all levels of care and more so in rural areas.

b) Attitude & Practices

- Most participants expressed desire to roll out CTC to other districts.
- 100% expressed confidence in CTC and indicated that they would prefer CTC to SCC in future vaccination campaigns

c) Advantages of CTC strategy

- Higher vaccination coverages
- Easy to implement in rural areas with huge challenges with cold chain
- Reduced weight of vaccines when going for outreach

d) Challenges with the CTC strategy

- Managing the vaccine in very hot conditions

DISCUSSION & CONCLUSION

- Overall more people, in CTC, **65,365**(53.2%) than SCC, **57,554** (46.8%) vaccinated
- Vaccination Campaign implementers expressed confidence in CTC, found it easy to implement and almost 100% preferred use of CTC in future campaigns
- CTC is more beneficial in resource limited settings which have huge logistical challenges
- Conduct similar study with a larger sample size (more districts)

LIMITATIONS

- Small sample size-only two districts out of 116 districts in Zambia
- Exercise conducted during COVID-19 pandemic-overstretched qualified work force
- Introducing new strategy just before political elections- increased myths even among health workers

Thank you

Together we can
#endcholera



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