

Cholera outbreak in Nsama District, Zambia August 2023 - An unmatched case control study

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CITATION: Patricia Simuzingili et al. Cholera outbreak in Nsama District, Zambia August 2023 - An unmatched case control study. Journal of Interventional Epidemiology and Public Health. 2025; 8 (Conf Proc 4): 3.

DOI: <https://doi.org/10.37432/JIEPH-CONFPRO4-00003>

LINK: <https://afenet-journal.org/cholera-outbreak-in-nsama-district-zambia-august-2023-an-unmatched-case-control-study/>

RECEIVED: 03/06/24 **ACCEPTED:** 11/08/24 **PUBLISHED:** 11/07/25

KEYWORDS: Cholera, Diarrhoea, Outbreak, Nsama, Zambia

This is part of the proceedings of Zambia Field Epidemiology Training Program Alumni Conference, September 11 – 13, 2024

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Introduction

In August 2023, Nsumbu Rural Health Centre reported an increase in the number of clients who presented with acute watery diarrhea, vomiting, and dehydration. By 3rd September 2023, 171 patients and one death were reported. The district experiences recurrent cholera outbreaks due to inadequate access to safe drinking water and appropriate sanitation facilities within the fishing camps situated around Lake Tanganyika. We investigated the cases to establish the existence of an outbreak and identify its cause.

Methods

We conducted a case-control study among people who presented with vomiting, acute watery diarrhea and dehydration at Nsumbu RHC between 5th August and 3rd September, 2023. Controls were people without symptoms from the same household. We collected stool samples from 44 suspect cases which were tested for cholera. We reviewed health facility records and conducted an active case search; 17 additional cases were found. We administered a structured questionnaire to patients and non-patient household which included questions about food, water and sanitation exposures. We analyzed the data using frequencies,

percentages, and the median. Logistic regression was used to calculate the odds of having the illness.

Results

The median age was 35 years (IQR: 17–49), Majority 88% (480/545) resided in urban areas. *Vibrio Cholerae* was detected in 66% (29/44) of patients with laboratory results. Faecal coliforms of 2 colons/100ml level were detected in the drinking water source samples (acceptable limit: <1 colon/100 ml). Consumption of untreated water was found to be associated with the outbreak (OR=2.05; 95% CI=1.22–3.44).

Conclusion

A cholera outbreak occurred in Nsumbu district between August and September 2023. The outbreak was associated with ingestion of untreated water. The Local Authorities should provide safe drinking water, adequate sanitation and sensitize the community on prevention of Cholera.