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Investigating mortalities among children under five in Livingstone District, Zambia: June to July 2023

Ruth Muwema[1,2,3,&], Martin Mwansa[1,2,3], Danny Kabwe[1,2,3], Cheepa Haabeenzu[4], Lwito Mutale[5], James Zulu[1,2], Cephas Sialubanji[2,3], Dabwitso Banda[1,2], Nyambe Sinyange[2]

[1]Zambia Field Epidemiology Training Program, Lusaka, Zambia, [2]Zambia National Public Health Institute, Lusaka, Levy Mwanawasa Medical University, Lusaka, [3]Ministry of Health, University Teaching Hospital – Adult Infectious Disease Hospital, [4]Copperbelt Provincial Health Office, Ndola

[&]CORRESPONDING AUTHOR: Ruth Muwema, Zambia Field Epidemiology Training Program, Lusaka, Zambia
EMAIL: muwemar@gmail.com

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Background

Ninety percent of deaths among children under five in low- and lower-middle-income nations are related to diarrhea, a global public health concern. An estimated 15,000 children under-five years in Zambia die from diarrhea each year, making it the third leading cause of death. A rise in under-five fatalities was reported in the Livingstone district during June through July, 2023; the study investigated the reported increased mortality among children under-five years and proposed recommendations.

Methods

A retrospective observational study design was employed. We gathered information from the line list, laboratory test results, patient files, and the electronic Integrated Disease Surveillance and Response(eIDSR) system. We included all under-five children who had a history of diarrhoea and were admitted to a health facility from June to July 2023. Descriptive statistical analyses, including frequencies, and median, were conducted to characterize the demographic and clinical profiles of the under-five fatalities. Temporal trends in diarrheal disease rates and Rotavirus vaccination coverage were assessed using graphical methods. Mortality trends could not be assessed due to incomplete data.

Results

A total of 98 under-five children were included in the study, seven of which were mortalities, giving a case fatality rate (CFR) of 7.1%. The median age was 11 (IQR 7-14) months. The under-one children were 55(56%) and 33 (60%) were males. Rotavirus vaccination coverage for years 2021, 2022 and 2023 were 56%, 53%, and 39%, respectively, against a target of 80%. Rotavirus pathogen prevalence was at 70% among the cases of diarrhoea in the district. There was an upward trend in diarrhoea cases in 2023 from May to July as compared to the same period in 2021 and 2022.

Conclusion

An increase in mortalities could not be confirmed as data on previous trends of diarrhoea related deaths were incomplete. However, there was an increase in diarrhoea cases among the under-five children during the review period. Low vaccination coverage may be associated with a high incidence of rotavirus among cases with diarrhea, we

advocate for strong public health education, increased immunization, and outreach services. In addition, data management in health facilities should be a priority.