Sanitation and Hygiene Practices among Typhoid Fever Cases in Neno, Malawi

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Background: Typhoid fever, a fecal oral disease caused by *Salmonella* Typhi, is common in areas where hygiene and sanitation is very poor. We investigated the hygiene and sanitation practices among Typhoid cases in Neno, Malawi, from July to October 2016.The district, which has about 150,000 people, has an ongoing Typhoid epidemic currently in its 13th week.

Methods: During community contact tracing of Typhoid fever cases, we administered a structured questionnaire to the head of the household to assess hygiene and sanitation practices. The data was entered in Microsoft excel 2013 and analyzed using stataIC version 14.

Results: We followed 63 cases living in 54 households with a diagnosis based on fever for at least 3 days and a positive Typhoid serological rapid test. Each household had median 5 people (range 2-13). Although all households have a pit latrine, about 72% share the pit latrine with other households. Water is obtained both from borehole (n=49, 92%) and the nearby river (n=39, 74%) and both water sources are within 30 minutes walking distance (n=51, 98%). Apart from chlorine, households do not use any other methods of treating water. During the visits, 41% of households had no chlorine available for use and among those getting water direct from river (n=39), 54% had no chlorine. 64% (n=34) reported using water and soap for handwashing, followed by water only (n=18,34%) and water and ash(n=1,2%). 72% (n=39) of the households had no soap available for handwashing during the visit.

Conclusions: Our ability to contain the epidemic depends on addressing the poor hygiene and sanitation within the villages. Based on these findings, we started 1) community, household, and school-based education on hygiene and sanitation 2) routine weekly distribution of chlorine 3) intensified contact tracing 4) diversified methods of treating water in the households.