

A Foodborne Cholera Outbreak in a School Caused by Eating Contaminated Fried Fish: Hoima Municipality, Uganda, February 2018

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Abstract : Background: Cholera is a severe gastrointestinal disease caused by *Vibrio cholera*. It has caused several pandemics. On 26 February 2018, a suspected cholera outbreak, with one death, occurred in School X in Hoima Municipality, western Uganda. We investigated to identify the scope and mode of transmission of the outbreak, and recommend evidence-based control measures. Methods: We defined a suspected case as onset of diarrhea, vomiting, or abdominal pain in a student or staff of School X or their family members during 14 February-10 March. A confirmed case was a suspected case with *V. cholerae* cultured from stool. We reviewed medical records at Hoima Hospital and searched for cases at School X. We conducted descriptive epidemiologic analysis and hypothesis-generating interviews of 15 case-patients. In a retrospective cohort study, we compared attack rates between exposed and unexposed persons. Results: We identified 15 cases among 75 students and staff of School X and their family members (attack rate=20%), with onset from 25-28 February. One patient died (case-fatality rate=6.6%). The epidemic curve indicated a point-source exposure. On 24 February, a student brought fried fish from her home in a fishing village, where a cholera outbreak was ongoing. Of the 21 persons who ate the fish, 57% developed cholera, compared with 5.6% of 54 persons who did not eat (RR=10; 95% CI=3.2-33). None of 4 persons who recooked the fish before eating, compared with 71% of 17 who did not recook it, developed cholera (RR=0.0, 95% CI Fisher exact=0.0-0.95). Of 12 stool specimens cultured, 6 yielded *V. cholerae*. Conclusion: This cholera outbreak was caused by eating fried fish, which might have been contaminated with *V. cholerae* in a village with an ongoing outbreak. Lack of thorough cooking of the fish might have facilitated the outbreak. We recommended thoroughly cooking fish before consumption.

Keywords : cholera, disease outbreak, foodborne, global health security, Uganda

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