

Abstract

# Investigation of Cholera Outbreak at Rawalpindi, Pakistan - August 2017

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## Abstract

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**Background:** Cholera is endemic in Pakistan with many outbreaks during the summer season. On July 29, 2017, two suspected cholera cases were reported from a tertiary care hospital in Rawalpindi. On the request of District Health Authorities, a team was constituted.

**Objective:** To assess the magnitude of the outbreak, evaluate possible risk factors and recommend control measures.

**Methods:** Investigation was carried out from Aug 01-15, 2017. Hospital records were reviewed, and active case-finding was conducted. A case was defined as sudden onset of loose watery stools (3 in past 24 hours) with any of the symptoms like vomiting, nausea, abdominal cramps or fever in a resident of Dhok-Paracha, Amarpura & Dhok-Chaudhriyan, Rawalpindi, from July 19-August 07, 2017. Age and sex-matched neighborhood controls were enrolled. Data was collected using a structured questionnaire. Four stool samples and three water samples were sent to National Institute of Health for microbiological analysis

**Results:** A total of 30 cases with 02 deaths (CFR 2.2%) were identified out of which 28 cases were detected through active case-search. There was a male predominance (n=20, 66%) with mean age of 13.7 years (range: 02 months-55 years). Overall AR was 0.68% with 16-20 years being the most severely affected age group (AR 1.8%). Out of 30 cases, 14 were consuming well-water (OR 10.37, 95% CI 3.61-29.74) and 12 were consuming tap water (OR 3.94, 95% CI 1.54-10.08). Water samples showed presence of coliforms (240 CFU/100 ml). *Vibrio Cholera* Serotype Inaba isolated from stool samples. Heavy rainfall was recorded (455.5 ml) from June 26 to August 6, 2017.

**Conclusions:** Consumption of contaminated water was the most probable cause of the outbreak. Contamination of water sources during recent flash floods was the source of contamination. Chlorination of water sources was conducted. Health awareness sessions on safe drinking water were conducted in the community.

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