

## Outbreak of Cholera, Jalgaon District, Maharashtra, 2013

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**Abstract :** Background: India reports 3,600 cholera cases annually. In August 2013, a cholera outbreak was reported in Jalgaon district, Maharashtra state. We sought to describe the epidemiological characteristics, identify risk factors, and recommend control measures. Methods: We collected existing stool and water testing laboratory results, and conducted a 1:1 matched case-control study. A cholera case was defined as a resident of Vishnapur or Malapur village with onset of acute watery diarrhea on/ after 1-July-2013. Controls were matched by age, gender and village and had not experienced any diarrhea for 3 months. We collected socio-demographic characteristics, clinical presentation, and food/travel/water exposure history and conducted conditional logistic regression. Results: Of 50 people who met the cholera case definition, 40 (80%) were from Vishnapur village and 30 (60%) were female. The median age was 8.5 years (range; 0.3-75). Twenty (45%) cases were hospitalized, twelve (60%) with severe dehydration. Three of five stool samples revealed *Vibrio cholerae* 01 El Tor, Ogawa and samples from 7 of 14 Vishnapur water sources contained fecal coliforms. Cases from Vishnapur were significantly more likely to drink from identified contaminated water sources (matched odds ratio (MOR) 3.5; 95% confidence interval (CI): 1-13), or from a river/canal (MOR=18.4; 95%CI: 2-504). Cases from Malapur were more likely to drink from a river/canal (MOR=6.2; 95%CI: 0.6-196). Cases from both villages were significantly more likely to visit the forest (MOR 6.3; 95%CI: 2-30) or another village (MOR 3.5; 95%CI: 0.9-17). Conclusions: This outbreak was caused by *Vibrio cholerae*, likely through contamination of water in Vishnapur village and/or through drinking river/canal water. We recommended safe drinking water for forest visitors and all residents of these villages and use of regular water testing.

**Keywords :** cholera, case control study, contaminated water, river

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