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Outbreak of hepatitis E with bimodal peak in rural area of Bhavnagar, India, 2010

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Abstract

Contex : Rise in the number of jaundice cases were reported on 24 th of June 2010, in Dhola village, India. We investigated the outbreak to identify the source of infection and to facilitate control measures.

Materials and Methods: We confirmed the outbreak by reviewing the rate of acute viral hepatitis in the year 2009-10. We defined a case of acute hepatitis as an acute illness with (a) discrete onset of symptoms and (b) jaundice or elevated serum aminotransferase levels, since March 2010 in Dhola village. We described the outbreak in terms of time, place, and person. We tested 20 blood samples of the case patient for hepatitis B surface antigen (HBs Ag), and immunoglobulin M (IgM) antibody for hepatitis A and E. We collected water samples for the bacteriological examination, and to test free chlorine in the water.

Result : A total of 137 cases (attack rate 27.2/1000) were reported in this outbreak from March to August 2010. The attack rate was highest among the age group of 20-29 years. The attack rate was significantly higher in male (35/1000) than in female (18/1000). Out of 20 case-patients, 19 were found positive for hepatitis E virus (HEV) IgM antibodies. The water samples taken from households contained more than 10 coliforms in 100 ml sample. The relative risk of developing hepatitis E among people using pipeline water against those using ***ground water was 3.23 (95% CI of RR 1.59, 6.57).***

Conclusion: Outbreak that affected Dhola village was due to hepatitis E virus. Fecal contamination of water was the most likely source of this bimodal outbreak of hepatitis E.

Keywords: Bimodal outbreak, cohort study, hepatitis E, India

Reference

Tandon BN, Gandhi BM, Joshi YK, Irshad M, Gupta H. Hepatitis non-A, non-B: The cause of major public health problem in india. Bull WHO 1985;63:931-4.