

Abstract

# Acute Watery Diarrhea (AWD) in a Chashma village of Ibrahim Hyderi, District Malir Karachi, Sindh, Pakistan - 2015

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## Abstract

**Background:** On 4th August 2015, electronic media reported unusual occurrence of acute watery diarrhea (AWD) cases and one death in Chashma village at Ibrahim Hyderi, District Malir, Karachi. On same day, District health authority deputed 3 members team to identify the source, risk factors and recommend preventive measures.

**Objective:** To estimate the extent and magnitude of the outbreak, to assess risk factors associated with the outbreak, to institute control measures, and to formulate recommendations for future prevention.

**Methods:** A matched case control study was conducted. Case was defined as any person living at Chashma village, who has 3 or more watery stools in last 24 hours from 2nd to-10 August 2015. Review of hospital records and active case finding was done. Age and sex matched controls (1:1) were taken to analyze risk factors. Environmental assessment was done. Six water samples and rectal swabs were collected to isolate the causative agent.

**Results:** A total of 189 diarrhea cases were identified out of which (56%) were female. Mean age was 32 years (range: 4- 64 years). Along-with diarrhea (100%), the abdominal pain (56%), Vomiting (54%), nausea (11%), blood in stool (6%), and fever (2%) were the predominant symptoms. Case fatality was 3.2 with Attack rate 1.4%. Drinking water from storage tank (OR 12.8, CI 1.5-14,  $P$  value <0.05) found strongly associated with the illness. Sanitary assessment revealed that usage of contaminated drinking water from storage tank resulted outbreak. The water samples were unfit for drinking due to presence of coliform bacteria. *Vibrio cholera* O1 El Tor Bio type isolated from 4 of 6 stool samples.

**Conclusions:** Contaminated storage tank water was possible source of outbreak. Immediately evacuate and contain the water tank. Poor personal hygiene and sanitation may be aggravating factors. Health education regarding hygienic practices and use of safe drinking water were imparted. Chlorinated tablets distributed. Washing and bathing was prohibited at drinking water source. Sustained health education and provision of purified water were recommended.

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