Sources of water deterioration in the rural department of Yoro, area of Honduras

G.E. Halder 1, G. Bearman 2,∗, K. Sanogo 3, M.P. Stevens 3

1 Virginia Commonwealth University School of Medicine, Richmond, USA
2 Richmond, VA, USA
3 Virginia Commonwealth University, Richmond, Va, USA

Background: The contamination of tested fecal-free drinking water following its collection from improved water sources has been documented. Post-collection water deterioration has been linked to fecal contaminated fingertips and storage containers. The published WHO Guidelines for Drinking Water Quality emphasizes a holistic approach - from the point of distribution to the point of consumption – as a means of increasing the safety of drinking water. This study aimed to compare and contrast the sanitation of water containers, lid-use and hand sanitation among the three communities (<0.01). Coyoles most commonly employed chlorine for sanitizing water transport (68.8%) and storage (73.9%) containers. La Hicaca and Lomitias most commonly used soap for sanitizing both container types. Although 86% of participants in Lomitias identified using a lid on their water storage containers, lid-use in this community was significantly less compared to the communities of Coyoles and La Hicaca, where over 95% of participants identified their use (p<0.02). Lomitias also had the fewest respondents (29.5%) placing a lid on water containers at the water source site (p<0.01). Over 97% of all individuals at each site identified washing their hands with soap and water prior to filling water containers (p=0.57).

Conclusion: Across the three Honduran communities, water container sanitation method and lid usage varied, while hand sanitation remained relatively constant. These data suggest that sanitation practice interventions are of least importance in the most suburban area of Coyoles, and in most need in the remote and rural communities of La Hicaca and Lomitias.

http://dx.doi.org/10.1016/j.ijid.2014.03.926

Type: Poster Presentation

Final Abstract Number: 52.009
Session: Epidemiology and Public Health II
Date: Friday, April 4, 2014
Time: 12:45-14:15
Room: Ballroom

Suspected outbreak of shigellosis in Nelson Mandela Bay Health District, Eastern Cape Province - South Africa, November 2012 to February 2013

G.M. Ntshoe 1,∗, J. Thomas 1, A. Cengimbo 1, N. Muvhango 2, P. Ekermans 3, F. Foure 4

1 National Institute for Communicable Diseases (NICD) of the National Health Laboratory Service (NHLS), Johannesburg, South Africa
2 University of Pretoria, Pretoria, South Africa
3 National Health Laboratory Service, Port Elizabeth, South Africa
4 Department of Health, Nelson Mandela Bay Health District, Port Elizabeth, South Africa

Background: In November 2012 a sudden increase of Shigella cases was reported in Nelson Mandela Bay Health District, with 12 cases reported between 23 and 26 November 2012. The National Outbreak Unit (NOU) assisted the District Outbreak Response Team (DORT) with the outbreak investigation and response.

Methods & Materials: Public and private healthcare facilities instituted active case finding and stool specimen collection from patients with illness suggestive of shigellosis. A subset of cases was interviewed to interrogate possible common risk factors. Stool specimens underwent routine bacteriology testing and Shigella spp isolates were referred to the Centre for Enteric Diseases (NICD-NHLS) for characterisation. Water samples collected at strategic sites were serially tested for quality indicators.

Results: From 1 November 2012 to 28 February 2013, a total of 69 cases (63 laboratory-confirmed, 1 probable, and 5 possible) with one death was reported. Children <5 years accounted for the highest proportion (35%) of cases. The median age was 13 years (range 7 days to 83 years). The majority (48%) of cases resided in two neighbouring suburbs but shared no other common risk exposures. Diarrhoea was reported in 98% of cases, which in 38% was bloody. Of laboratory-confirmed cases, 90% were Shigella flexneri, 68% of which were Shigella flexneri type 1b. Water testing conducted on 19 November 2012 in the two suburbs with most cases showed higher than acceptable E. coli counts and sub-standard chlorine levels. Following intensified efforts to improve water chlorination, a