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Rotavirus

During late April 2013, a dramatic increase in the number of diarrhoea cases was noted at a hospital in Upington (Siyanda district, Northern Cape Province); in early June, two hospitals in Ethekwini Metro, KwaZulu-Natal Province also reported dramatic increases in patients presenting with diarrhoea.

Upington, Siyanda District, Northern Cape Province

From 30 April 2013 to 20 May 2013, over 100 diarrhoea cases with at least four deaths were reported from Upington Hospital. The Northern Cape Provincial Department of Health and the National Outbreak Unit (NICD-NHLS and National Department of Health) assisted the District Outbreak Response Team in conducting an outbreak investigation. Active case finding at healthcare facilities was initiated and a recommendation was made for stool samples to be collected from all further cases presenting with acute diarrhoea, in order to test for epidemic-prone bacterial, parasitic and viral pathogens. Health promotion activities were strengthened, and potable water samples were collected at strategic sites within the municipality and submitted for laboratory testing.

As at 6 June 2013, over 800 cases including six deaths had been reported from 31 healthcare facilities in the district. Diarrhoea and vomiting were the most common symptoms reported. Children aged <5 years accounted for a higher proportion of cases (59.5%, 488/820), the majority of whom were those <1 year of age. An increase in the number of diarrhoea cases was documented from epidemiologic week 18 (week starting 29 April) with a peak occurring during epidemiologic week 22 (week starting 27 May 2013).

As at 19 June 2013, stool samples for 81 cases had been tested at the Centre for Enteric Diseases

(CED) virology laboratory at the NICD-NHLS. Rotavirus was detected in 36/81 (44%) samples; a few cases of other enteric viruses (including adenovirus, astrovirus, sapovirus and bocavirus) were also detected, but in many cases as co-infections with rotavirus.

Of the laboratory-confirmed rotavirus cases where age was recorded (n=31), 81% (25/31) were children aged ≤ 5 years, while those aged ≤ 9 months accounted for 55% (17/31) of all cases. Routine MCS and parasitological investigations excluded common epidemic-prone bacteria and parasites as cause/s of the outbreak. Potable water samples were tested for the presence of viruses at the University of Pretoria, and no outbreak-prone viruses were detected.

Ethwekini Metro, KZN

Towards the end of May 2013, an increase in the number of paediatric cases presenting with diarrhoea was reported from three public hospitals in the Ethekwini Metro; at least two diarrhoea-related deaths had also been reported. In response, an outbreak investigation was initiated and included a visit to the implicated health facilities by the District Outbreak Response Team, recommendation to collect stool samples from all cases presenting with acute diarrhoea in order to test for bacterial, parasitic and viral pathogens in an endeavor to identify the causative agent.

Routine stool MCS and microscopy for common enteric parasites excluded common outbreak-prone bacterial and parasitic causes.

Potable water samples were referred to the Enteric Virus and Environmental Research Group, Department of Medical Virology, Faculty of Health Sciences, University of Pretoria / NHLS TAD where they were tested for microbial indicators of faecal contamination, namely thermotolerant (faecal)

coliforms and *E. Coli*, and enteric viruses. Results indicated that the potable water supplies complied with the South African National Standard for drinking water (SANS 241-1: 2011 Edition 1 : ISBN 978-0-626-26115-3).

As at 19 June 2013, a total of 155 stool samples had been tested at the CED, NICD-NHLS. Rotavirus was detected in 83/155 (54%), along with a few detections of other enteric viruses (including adenovirus, norovirus GI and GII, astrovirus, sapovirus and bocavirus) – in many cases occurring as co-infections with rotavirus, as found with the Siyanda District cases.

Of the laboratory-confirmed rotavirus cases where age was recorded (n=63), 97% (61/63) were

children aged ≤ 5 years, while 49% (15/23) of cases were children ≤ 9 months of age.

According to data from the South African rotavirus surveillance programme, the annual rotavirus season began in epidemiologic week 19 (week ending 12 May 2013). The apparent increase in rotavirus cases reported in Siyanda District and Ethekwini Metro is currently under investigation.

Source: Division of Public Health Surveillance and Response, Centre for Enteric Diseases and SA-FELTP, NICD-NHLS; Department of Health, Northern Cape and KwaZulu-Natal provinces; Enteric Virus and Environmental Research Group, Department of Medical Virology, Faculty of Health Sciences, University of Pretoria / NHLS TAD