



Letter to the Editor

A Report of Diarrhoeal Disease Outbreak at a Sub centre in Rural Health Unit and Training Centre (RHU &TC), Singur Block, Hooghly District, West Bengal.

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Madam ,

Diarrhoea is defined as the passage of loose, liquid or watery stools with sudden change in consistency of the stool¹. Diarrhoea may be due to various reasons but mostly infectious origin. Diarrhoeal disease is the second leading cause of death in children under five years old, and is responsible for killing around 525 000 children every year². Present outbreak occurred in one sub centre (**Balidipa**) area of RHU&TC, with clustering of cases.

On 19/2/2018, there was report of clustering of diarrhoea cases in two areas viz *Bagdanga* village and *Balidipa* villages under Balidipa Sub Centre in RHU&TC, Singur, Hooghly, which is the field practice area of All India Institute of Hygiene & Public Health (AIIPH&PH), Kolkata. The population of these two villages were 2225 and 909 respectively. As reported, there were 4 cases of diarrhoea on 18/2/2018 and another 31 cases on 19/2/2018. All cases reported with loose watery stool, nausea and sometimes vomiting and fever. So an outbreak investigation team was formed comprising of Public Health Specialist(doctor), Public Health Nurse Supervisor (PHNS), Field Assistant Male, Health worker female and Accredited Social Health Activists (ASHA) of the particular villages with the objectives of estimating the magnitude of incident, finding the source of infection, route of transmission and at the same

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time implement the control measures.

The team visited the affected area on 20/2/2018 and house to house visit was done with detection of another 30 cases. So a total of 65 cases were reported in three days from 18-20th February, 2018. No new case was reported between 21-23rd February, 2018 indicating that the outbreak had been controlled. Figure 1 describes the time distribution and Table 1 describes the age and sex distribution of 65 diarrhoeal cases.

Fig 1: Distribution of Diarrhoeal Cases with Time.

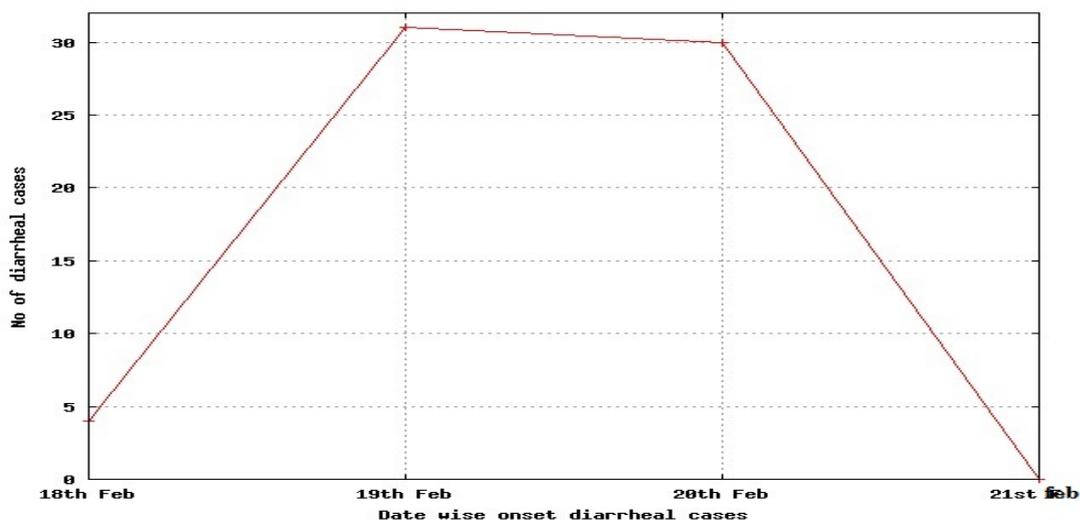


Table 1: Distribution of Diarrhoeal Cases according to age and sex..

Age category	Sex		Total
	Male	Female	
0-4 Years	03 (4.6)	05 (7.7)	08 (12.3)
≥ 5 Years	21 (32.3)	36 (55.4)	57 (87.7)
Total	24 (36.9)	41 (63.1)	65 (100)

Figures in parentheses indicate percentage.

During the investigation all the cases were interviewed, assessed for dehydration and given ORS and antibiotics (wherever indicated). It was observed that all the cases and their family members had consumed “*Prasadam*” served in some locally held “Hari Naam” chanting on evening of 16/02/2018. The prasadam comprised of flattened rice (*chira*), sweet (*batasa*) and water from river Ganges. All cases reported from the villagers who consumed that prasadam. The amount of prasadam consumed was said to be a handful which may be roughly between 50-100grams. There was a gap of one day from consumption of the prasadam to onset of first reported case on 18/02/2018. Food samples could not be inspected and tested as it was not available due to wrapping up of the “Hari Naam” chanting on 16/02/2018. Rapid assessment of sanitary and environmental condition was done by public health specialist. The affected households were advised to consume drinking water after properly boiling it and to maintain food and hand hygiene.

Testing of Water samples: Two water samples were collected on 21/2/2018 for microbiological assessment from two different drinking water sources (Hand Pumps) which were used by maximum of these 65 affected persons and a team from Sanitary Engineering Section, RHU &TC, Singur was deployed to disinfect all the drinking water sources of the affected area. All drinking water sources were treated with chlorine (super chlorinated as measure to prevent further spread of disease). The Micro Biological investigation of two water sample was done in Microbiology Department, of AIHH & PH, Kolkata by using Most Probable Number (MPN) count method. No Coliform was found in the drinking water samples.

Stool samples: Four stool samples were also collected for microbiological investigation at the laboratory of Anandanagar Primary Health Centre (APHC), under RHU & TC , Singur but nothing significant was found in the samples.

It was an acute diarrheal disease outbreak most likely due to polluted river Ganges water used for *prasadam* (as the usual drinking water sources of the community were tested negative) though the exact causative factor (agent) was not known. The outbreak was brought under control with the rapid and simple field epidemiological investigation and early initiation of control measures. Corresponding health education measures (to avoid river Ganges water for any such purpose) was initiated by RHU&TC personnel.

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References:

- 1) WHO .Diarrhoeal Disease .2013. Available from <http://www.who.int/mediacentre/factsheets/fs330/en/index.html>. Last accessed on 28.02.2018.
- 2) WHO, Diarrhoeal disease key facts dated 02.07.2017. Available from <http://www.who.int/en/news-room/fact-sheets/detail/diarrhoeal-disease>. Last accessed on 27.04.2018.