



WWJMRD 2023; 9(07): 1-2  
www.wwjmr.com  
International Journal  
Peer Reviewed Journal  
Refereed Journal  
Indexed Journal  
Impact Factor SJIF 2017:  
5.182 2018: 5.51, (ISI) 2020-  
2021: 1.361  
E-ISSN: 2454-6615

**Dr. Ananya Ray Laskar**  
Dept. Community Medicine,  
New Delhi, India.

## Suspected Waterborne Disease Outbreak Investigation in JNU in response to a Media Scanning Alert

**Authors: Ray Laskar A, Saini A, Kumar N, Kumar H, Singh DP**

### Abstract

Waterborne disease may occur in institutions such as hostels, schools owing to lack of maintenance and regular cleaning of water coolers and may flare up into outbreaks if timely action is not taken by the concerned authorities. An outbreak investigation was conducted by a multidisciplinary team in response to Media Scanning Alert from IDSP ID-6819 titled "Dead Lizard in the Water Cooler- student falls sick at JNU demand clean facilities, Delhi". The team interviewed the affected students and their representatives retrospectively. Inspected the hostels, mess and collected drinking water samples from the various sources like water coolers of all hostels. There were some cases of non-specific symptoms suggestive of mild gastroenteritis but cannot be labelled as an outbreak and the cases during the month of June-July may be attributed to several causes as a single point source of contamination could not be identified. All the water coolers were also found to be clean with tight lid and the surrounding areas were clean, residual chlorine was low (as attached to RO purifiers) and coliform count was 0. However the hostel authorities were instructed to carry out regular maintenance of water coolers and improve the overall hygienic conditions of the mess and hostel.

**Keywords:** Water; Pollution; Quality; Indicators; JNU Hostels

### Introduction

An outbreak investigation was carried out in response to an email communication dated 18 July 2022 received from Dr. Archana Saini, DSO (NDD), IDSP in connection with Media Scanning Alert from IDSP ID-6819 titled "Dead Lizard in the Water Cooler- student falls sick at JNU demand clean facilities, Delhi". A multidisciplinary team was constituted which comprised of the following members:

1. Dr. Ananya Ray Laskar, Associate Professor, Dept. Community Medicine, Lady Hardinge Medical College, New Delhi
2. Dr. Archana Saini, DSO, IDSP
3. Dr. D.P Singh (ACWA) Delhi Jal Board
4. Dr. Naveen Kumar, State IDSP Cell
5. Dr. Hemant Kumar, MCD South Zone
6. Ms. Poonam Phuloria, Assistant Chemist and Ms. Tara Lab Assistant and field staff from Delhi Jal Board

The team was accompanied by male and female wardens and caretakers of the dormitory and hostel. The team conducted an investigation in the Narmada Dormitory and Narmada Hostel situated in Jawahar Lal Nehru University (JNU) from which the maximum cases were reported. All blocks A, B and C were inspected along with thorough investigation of the water coolers, the main source of drinking water to all the residents of the dormitory. The tankers supplying the water coolers were also inspected and water samples from 6 sites: water coolers located in the three blocks of dormitory, common mess area and water tanker were also taken for testing residual chlorine, TDS and detailed bacteriological examination. Few interviews with the affected and non-affected students were conducted. Most of the students who had complained of falling sick were not available at the time of the visit and the OPD cards /hospital records could not be scrutinized. Student Representative of Mess

**Correspondence:**  
**Dr. Ananya Ray Laskar**  
Associate Prof, Community  
Medicine, LHMC, New Delhi,  
India.

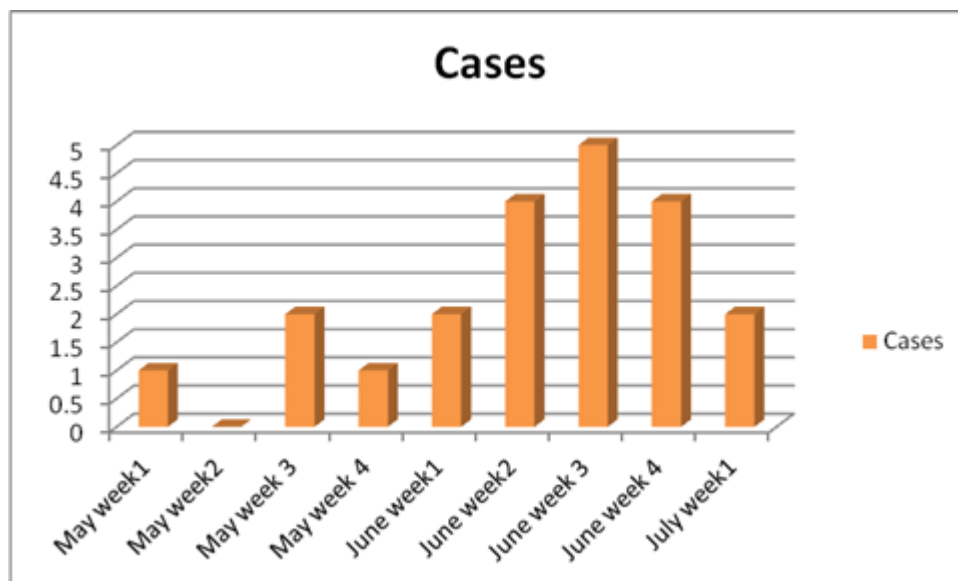
Welfare Committee was also interviewed. The potential breeding sites for *Aedes* were also examined in and around the dormitory and hostel.

### Key Observations and Findings

The interview with affected students revealed that 17 students had fallen sick with chief complaints of nausea, abdominal discomfort, loss of appetite and few episodes of vomiting during the period of June (first week) till July 2022 with a few sporadic cases in the month of May 2022 as reported by student representatives, as depicted in the figure 1.

Most of the students had consulted the OPD of AIIMS, Safdarjung or Health centre in the campus, but none were admitted. No confirmed cases of jaundice were reported by any of the cases. This time corresponds to the time when a dead lizard was found in the water cooler of block A of Narmada Dormitory (30 June). However, no history of

diarrhoea was reported from any of the student available. They also gave history of consuming food from common Hostel mess and occasionally from outside. One was also taken to the Safdarjung emergency due to complaints of abdominal cramps and vomiting. Also, some of the students who had fallen sick were not permanent residents of the hostel and visited hostel off and on. So, the attack rates could not be calculated. The Student Representative of Mess Welfare Committee reported that the quality of the food was below satisfactory level till June and now concerted efforts are being made to improve its quality in terms of hygiene, content and taste. On thorough inspection of the mess (cooking area, washing area and stores) it was observed that the mess is in a deplorable condition and the hygiene was also unsatisfactory. The report of the water samples has been attached herewith. *Aedes* breeding was also found in 3 sites.



### Conclusion and recommendations

There were some cases of non-specific symptoms suggestive of mild gastroenteritis but cannot be labelled as an outbreak and the cases during the month of June-July may be attributed to several causes as a single point source of contamination could not be identified. All the water coolers were also found to be clean with tight lid and the surrounding areas were clean, residual chlorine was low (as attached to RO purifiers) and coliform count was 0. However, in view of the observations in the mess area, the mess needs to be repaired urgently and training and sensitization of the food handlers and mess staff needs to be conducted from time to time. It was suggested by the team members that periodic sampling of the food and water needs to be conducted in liaison with MCD authorities and AMC of water coolers to ensure regular checks on drinking water quality.

Figure 1: Distribution of Cases in the month of May- July 2022

### References

1. Dead lizard in water cooler - Students fall sick at JNU, demand clean facilities, Delhi. Media Scanning and Verification Cell IDSP Delhi; Alert ID:6819 published on 7 July 2022. Available at [//idsp.nic.in/](http://idsp.nic.in/)

WriteReadData/1892s/1247394143165775 5329.pdf accessed on 16 July 2022.

- Gupta A, Venkatesh Reddy A, Bali S, Kokane A M. Outbreak of gastroenteritis among medical students, Madhya Pradesh, Central India. *J Nat Sci Biol Med*; 2015 Aug;6(Suppl 1): S25-8. doi: 10.4103/0976-9668.166057
- Arias C, Sala MR, Dominguez A, Bartolome R et al. Waterborne epidemic outbreak of *Shigella sonnei* gastroenteritis in Santa Maria de Palautordera, Catalonia, Spain. *Epidemiol Infect.* 2006 Jun; 134(3): 598-604 Published online 2005 Sep 30. doi: 10.1017/S0950268805005121
- Tambekar DH, Tambekar SD, Dhote SV, Solanke RS. Drinking Water quality deterioration in hostels in Amravati city. *Indian Journal of Applied Research*, 2017; 7(4):231-233
- Akoto O, Samuel A, Gladys L, Adda O S, Apau J, Opoku F. Assessment of groundwater quality from some hostels around Kwame Nkrumah University of Science and Technology. *Scientific African* September 2022 ;17, e01361:1-12