



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

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Food Poisoning in Nuwara-Eliya

Background

A large number of Patients who had symptoms such as vomiting, diarrhoea, headache, abdominal pain and faintishness came to Dickoya Base Hospital (located in Nuwaraeliya District) for treatments on 2013.10.09. Thirty four (34) patients were admitted to the hospital and nearly 100 patients were treated as out patients. These patients were from Dikoya Estate – Dikoya, where all of them have participated in a religious function held in the area on the previous day . Food poisoning was suspected as patients who became ill did so after consuming same food items distributed at the religious function.

Methods

Descriptive epidemiology

A case definition was developed and a person who developed one or more symptoms like diarrhoea, abdominal pain, vomiting following ingestion of food distributed at the religious ceremony as a case. A field investigation was conducted and a total of 208 patients were identified as cases.

Laboratory investigations

Specimens were collected but it was not possible to proceed with laboratory analysis.

Results

Description of the outbreak

More females were affected than males (Table 1)

Table 1-Gender of patients

Gender	No of patients (%)
Male	86 (41.35%)
Female	122 (58.65%)
Total	208

Nearly 56% of the patients were above 20 years of age (Table 2)

Consumption of Samba rice had the highest attack rate (44.5%) followed by brinjals (37.1%), potatoes (36.4%) and dhal (36.1%) (Table 3). Therefore, consumption of Samba rice probably gave rise to this problem. Pongal rice and Nadu rice unlikely to be the source of infection as attack rates were comparatively low (18% and 22.5% respectively).

Discussion

Important facts

- Preparation of food had been done under unhygienic conditions.
- Food preparation was started at 4.30 am .The first batch of food was prepared by 7.30 am.
- Distribution of food had been completed at 4.30 p.m.
- Packets of rice were made and stored at room temperature for 9 hours.
- Pongal rice (special rice prepared by adding jaggery, sugar, green gram and dates to rice) was prepared at 10.30-11.30 am and it was distributed to people at 4.30- 5.00 pm.
- The same water source was used for preparing all food items.

Table 2-Age distribution of patients

Age	No of patients (%)
0-5	11 (5.28%)
6-10	39 (18.75%)
11-15	33 (15.86%)
16-20	09 (4.3%)
21-25	15 (7.21%)
26-30	15 (7.21%)
Above 30	86 (41.34%)
Total	208

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Samba rice and curry were identified as the causative factor and according to the epidemic curve, the incubation period is 1 -15.30 hrs. The causative agent can be identified on the basis of the incubation period (Table 4), symptoms (Table 5) and consumption of food and methods of preparing food.

This food poisoning case can be suspected as *Bacillus cereus* gastroenteritis. It causes two types of food-borne illnesses. One type is characterized by nausea and vomiting and abdominal cramps and has a short-incubation period of 1 to 6 hours.

The second type manifests primarily by abdominal cramps and diarrhea following an incubation period of 8 to 16 hours. In either type, the illness usually lasts less than 24 hours after onset.

The suspected organism grows fast (within 2 hours) if food items (especially rice) are kept at room temperature. Therefore, this food poisoning outbreak was probably caused by *Bacillus cereus*

Recommendations

- Awareness regarding maintenance of good health habits and personal hygiene among food handlers should be promoted.
- Every food supplying centre should be inaugurated only with proper permission from the Medical Officer of Health (MOH) and these should be conducted under continuous supervision of the Medical Officer of Health and his Public Health

Inspectors (PHII). This is especially applicable to occasions like festivals.

- A secure water supply system should be available and people should be encouraged to consume boiled / safe water.

Compiled by Dr. J.M. Harsha Kumara, Regional Epidemiologist- Nuwara-Eliya

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Table 5-Symptoms

Symptom	No of patients (%)
Vomiting	163 (78.3)
Diarrhoea	203 (97.5)
Abdominal pain	193 (92.7)
Headache	92 (44.2)
Fainting attack	32 (15.3)

Table 3-Specific attack rates by food items consumed

Type of Food	Consumed and		Total	Attack Rate
	Diseased	Not affected		
Samba rice	169	210	379	44.5%
Nadu rice	48	165	213	22.5%
Brinjals	203	344	547	37.1%
Dhal	208	368	576	36.1%
Potato	204	355	559	36.4%
Pongal rice	46	209	255	18%

Table 4-Epidemic Curve

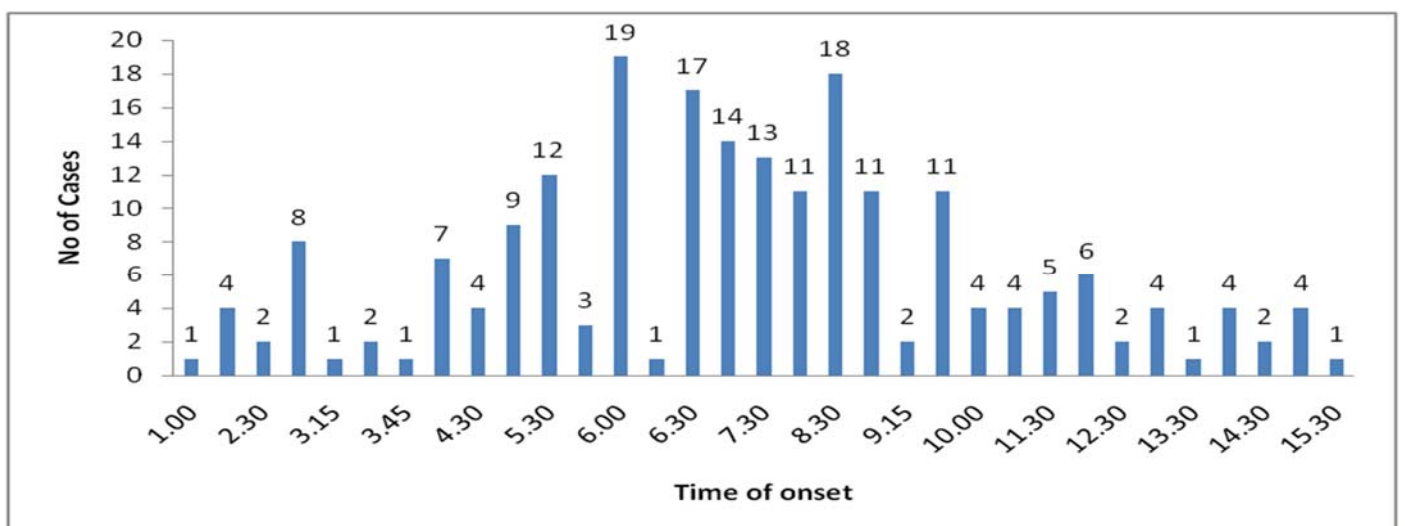


Table 4: Selected notifiable diseases reported by Medical Officers of Health 30th - 06th Dec 2013 (49th Week)

RDHS Division	Dengue Fever		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	254	9752	1	219	0	17	1	165	0	59	3	212	0	9	1	88	0	1	1	447	1	69	0	1	69	31
Gampaha	40	3561	2	212	0	23	0	51	0	40	2	467	1	23	1	190	0	0	2	173	1	96	0	5	53	47
Kalutara	37	1744	0	187	0	20	0	83	0	27	18	422	0	6	1	29	0	0	3	270	5	84	0	0	54	46
Kandy	9	1671	0	163	0	12	1	31	2	16	1	79	1	102	3	127	0	0	5	153	1	20	0	5	74	26
Matale	11	461	3	112	0	4	0	25	0	10	1	67	0	4	2	60	0	0	2	48	3	38	0	13	85	15
NuwaraEliya	9	254	1	166	2	4	0	17	0	217	2	33	2	65	0	25	0	0	3	152	0	14	0	0	62	38
Galle	10	835	2	127	0	19	0	7	0	89	7	229	0	66	1	17	0	2	5	325	0	47	0	2	79	21
Hambantota	2	322	2	66	0	3	0	16	0	38	2	172	0	64	1	93	0	0	1	101	2	55	15	347	92	8
Matara	11	460	1	94	1	16	0	29	1	30	6	165	1	95	2	152	0	2	4	262	3	87	0	100	94	6
Jaffna	25	702	13	444	1	11	6	329	0	114	0	9	13	365	0	17	1	2	2	149	1	58	0	0	92	8
Kilinochchi	0	62	3	50	0	0	1	16	0	5	0	9	0	17	0	0	0	2	0	2	0	7	0	13	75	25
Mannar	0	68	0	75	0	3	0	71	0	36	0	15	0	20	0	2	0	0	0	12	1	7	0	4	40	60
Vavuniya	0	76	0	70	0	13	0	14	0	20	0	51	0	3	0	4	0	2	0	23	0	35	0	16	25	75
Mullaitivu	0	121	1	30	1	3	0	10	0	47	0	38	0	7	0	2	0	2	0	8	0	7	0	15	60	40
Batticaloa	6	536	5	376	0	5	0	11	0	74	6	40	0	2	0	15	0	3	0	46	0	8	0	0	79	21
Ampara	3	204	5	198	0	1	0	5	0	12	0	39	0	1	1	11	0	0	1	102	0	19	0	3	57	43
Trincomalee	0	192	1	74	0	3	0	6	0	3	1	61	0	15	0	4	0	1	0	41	0	4	0	30	67	33
Kurunegala	21	2669	5	219	0	43	0	42	0	26	3	375	0	50	0	63	0	1	3	362	0	103	0	59	67	33
Puttalam	8	877	1	78	0	7	0	17	0	36	0	44	0	14	0	7	0	2	0	88	0	35	1	12	62	38
Anuradhapura	9	511	1	111	0	17	0	3	1	71	5	320	0	25	1	28	0	2	1	172	3	103	3	419	79	21
Polonnaruwa	10	471	0	93	0	3	0	14	1	73	2	174	0	3	0	36	0	2	1	143	0	23	1	166	86	14
Badulla	7	512	1	209	0	5	0	22	0	12	1	61	4	94	1	47	0	1	1	135	0	73	0	7	76	24
Monaragala	4	259	1	123	0	6	0	26	0	38	1	202	1	69	0	187	0	2	0	64	0	27	4	14	64	36
Ratnapura	7	1677	1	388	0	84	1	42	0	20	8	397	0	74	5	567	0	1	3	200	1	87	0	14	67	33
Kegalle	12	1155	1	139	0	17	0	33	0	11	3	293	0	74	2	243	0	0	8	341	1	111	0	2	73	27
Kalmune	1	502	6	181	0	3	0	6	0	130	0	11	0	3	0	5	0	0	2	101	0	13	0	1	69	31
SRI LANKA	496	29654	57	4204	5	342	10	1091	5	1254	72	3985	23	1270	22	2019	1	28	48	3920	23	1230	24	1248	72	28

Source: Weekly Returns of Communicable Diseases (WRCD).
 *T=Timeliness refers to returns received on or before 30th November, 2013 Total number of reporting units 337. Number of reporting units data provided for the current week 241 C**=Completeness
 A = Cases reported during the current week. B = Cumulative cases for the year.

Table 1: Vaccine-Preventable Diseases & AFP

30th - 06th Dec 2013 (49th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2013	Number of cases during same week in 2012	Total number of cases to date in 2013	Total number of cases to date in 2012	Difference between the number of cases to date in 2013 & 2012
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	02	00	00	00	00	01	00	03	00	100	72	+ 38.9%
Diphtheria	00	00	00	00	00	00	00	00	00	00	-	03	-	-
Mumps	01	03	02	01	00	01	03	00	00	11	28	1436	4180	- 65.7%
Measles	12	04	13	00	02	04	00	01	12	48	01	3823	66	+ 5692.2%
Rubella	00	00	00	00	00	00	00	00	00	00	-	27	-	-
CRS**	00	00	00	00	00	00	00	00	00	-	-	-	-	-
Tetanus	00	01	00	00	00	00	00	00	00	01	01	24	13	+ 84.6%
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	-	-	-	-	-
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	-	68	-	-
Whooping Cough	01	00	00	00	00	00	01	00	00	02	02	84	98	- 14.3%
Tuberculosis	31	62	21	22	13	16	27	23	33	248	245	7896	8243	- 4.3 %

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.
 RDHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matale, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

Data Sources: Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS, Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis
 CRS** =Congenital Rubella Syndrome
 AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

Look for plants such as bamboo, bohemia, rampe and banana in your surroundings and maintain them

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Comments and contributions for publication in the WER Sri Lanka are welcome. However, the editor reserves the right to accept or reject items for publication. All correspondence should be mailed to The Editor, WER Sri Lanka, Epidemiological Unit, P.O. Box 1567, Colombo or sent by E-mail to chepid@sltnet.lk. **Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

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