



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Healthcare and Nutrition

231, de Saram Place, Colombo 01000, Sri Lanka

Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@sltnet.lk

Epidemiologist: +94 11 2681548, E mail: chepid@sltnet.lk

Web: <http://www.epid.gov.lk>

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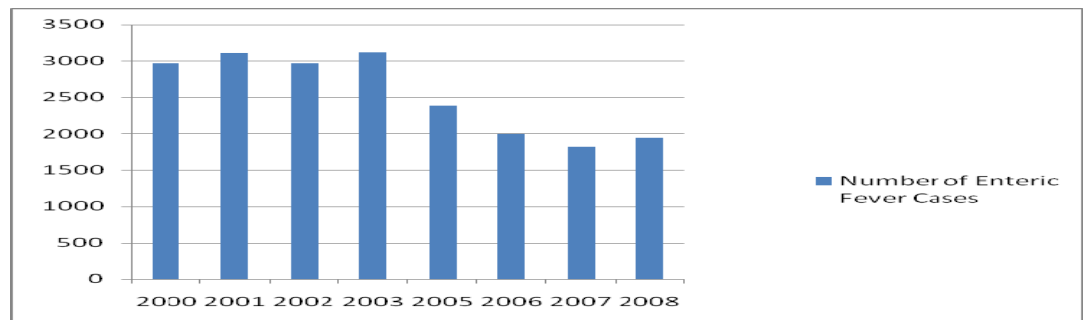
Combating Typhoid Fever

Typhoid fever is a serious systemic infection caused by the enteric pathogen *Salmonella enterica enterica* Typhi. Typhoid fever is characterized by a slowly progressive fever as high as 40 °C (104 °F), profuse sweating, gastroenteritis, and constipation followed by diarrhea. Less commonly a rash of flat, rose-colored spots may appear. It is transmitted by the ingestion of food or water contaminated with faeces from an infected person/carrier.

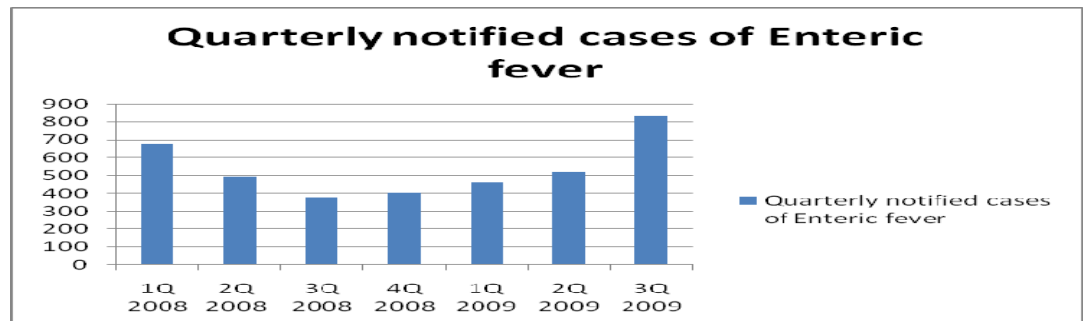
Sanitation and hygiene are the critical measures that can be taken to prevent typhoid. Typhoid does not affect animals and therefore transmission is only from human to human. Typhoid can only spread in environments where human faeces or urine are able to come into contact with food or drinking water. Careful food preparation and washing of hands are therefore crucial to prevent typhoid.

Epidemiology Unit receives notifications of Typhoid and Paratyphoid cases weekly as Enteric fever in Weekly Reporting of Communicable Diseases. From 2000 to 2008, there was a decreasing trend of notified enteric fever cases. However in year 2009 the notifications of typhoid are rising.

The following graph shows the annual distribution of enteric fever cases reported to the Epidemiology Unit from year 2000 to 2008.



The graph below summarizes the quarterly notified cases of enteric fever during 2008 and 2009 (up to third quarter).



Source: Epidemiology Unit, Ministry of Healthcare & Nutrition Sri Lanka

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WEEKLY EPIDEMIOLOGICAL REPORT SRI LANKA - 2009

Distribution of Enteric fever is particular to certain geographical areas in the country. High numbers of infections are reported from Vavuniya, Mannar, Jaffna, Nuwara Eliya and Puttlam districts. This is closely associated with consumption of the contaminated water and food. Scarcity of water is the main issue in the districts located in the dry zone (Mannar, Puttalam, Vavuniya), while contamination of natural water sources is the main problem in the hill country, where most springs come up. Various food habits and poor sanitary facilities also influence the diseases outbreaks in both localities. High vulnerability of intestinal infections is shown among children and elders, especially of people in the low income group. The highest number of cases reported from the 5-9 year age group and 2/3 of total cases were among 1-34 years of age.

The Diarrhoeal diseases control programme commenced in 1983 in Sri Lanka to reduce morbidity and mortality, hospital admission and to prevent malnutrition due to diarrhoeal diseases. In order to improve water and food hygiene of the public with a view to controlling and preventing intestinal infections including Enteric fever, following activities are being carried out.

- Educate the public and especially food handlers at the common kitchens, regarding the importance of hand washing with soap and water on all possible occasions
- Water supply to public, adequately treated with chlorine for drinking and preparation of food
- Persuading public to use boiled cool water for drinking purposes
- Train health staff and volunteers to educate public especially in disaster situation regarding personal hygienic measures and early identification of signs and symptoms of Typhoid Fever.
- Arrange isolation facilities in special situations such as the camps of internally displaced people.
- Identify at least one toilet facility for patients in an isolation area.
- Disposal of infected children's stools only to the identified toilet.
- Strict hand washing with soap and water after defecation.

Although Enteric fever is largely considered an endemic disease, epidemics do occur frequently as a result of breakdowns in water supplies and sanitation systems. Even though preventive measures are carried out throughout the country, Typhoid and Paratyphoid are still endemic in some areas of the country. As such, there is a risk of Typhoid fever spreading in epidemic level in special situations like flood, drought, landslide, Tsunami and in temporary camps where large numbers of persons are housed.

The vaccination for the typhoid fever is not a popular method for prevention of typhoid in the country. However the rising number of Typhoid cases in certain localities of the country indicates the inability to control the disease only by promoting health among the public. Hence, introduction of Typhoid vaccination especially for the high risk group should be considered to control the cases and prevent epidemics.

High risk categories are defined as follows;

- Food handlers: People involved in cooking at the hotels, and common community kitchens in IDP camp settings.
- People who do not use or do not have proper toilet facilities
- People who do not have access to clean water
- Close contacts of typhoid patients
- Children getting frequent episodes of diarrhoea
- People consuming water and food from unreliable sources
- Health care workers and other officials and workers who closely associate with typhoid patients

Typhoid Vaccines

There are two vaccines currently recommended by the World Health Organization for the prevention of typhoid i.e. the live, oral Ty21a vaccine (sold as *Vivotif Berna*) and the injectable Typhoid polysaccharide vaccine (sold as *Typhim Vi* by Sanofi Pasteur and *Typherix* by GlaxoSmithKline). Both are between 50 to 80% protective and are usually recommended for travelers to areas where typhoid is endemic.

Editor wishes to thank Dr Anura Jayasinghe, Consultant Epidemiologist for his contribution to this article.

Table 1: Vaccine-preventable Diseases & AFP

31st October- 06th November 2009 (45thWeek)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	01	01	00	00	00	01	01	00	00	04	01	61	87	-24.7%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	01	-
Measles	00	00	01	01	01	00	00	00	00	03	02	163	102	+59.8%
Tetanus	00	01 NE=1	00	00	00	00	00	00	01 KG=1	02	00	26	33	-21.2%
Whooping Cough	00	00	00	0	0	01	00	00	00	01	00	58	44	+31.8%
Tuberculosis	161	61	07	01	00	04	01	00	16	252	199	9012	7251	24.3%

Table 2: Newly Introduced Notifiable Disease

31st October- 06th November 2009 (45thWeek)

Disease	No. of Cases by Province									Number of cases during current week in 2009	Number of cases during same week in 2008	Total number of cases to date in 2009	Total number of cases to date in 2008	Difference between the number of cases to date in 2009 & 2008
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	18	06	06	01	11	03	03	4	21	73	70	13796	4785	+188.3%
Meningitis	25 CB=8 KT=9 GM=8	02 MT=1 NE=1	02 GL=1 MT=1	00	01 AM=1	12 KR=10 PU=2	16 PO=2 AP=14	02 BD=2	14 RP=11 KG=3	75	12	1351	1157	17.3%
Mumps	07	02	03	01	02	00	00	00	02	17	69	1562	2609	-40.1%
Leishmaniasis	00	00	08 HB=1 MT=7	00	00	00	08 AP=8	00	00	16	Not available*	611	Not available*	-

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.
 DPDHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matala, 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, Whooping Cough, Chickenpox, Meningitis, Mumps.

Special Surveillance: Acute Flaccid Paralysis.

Leishmaniasis is notifiable only after the General Circular No: 02/102/2008 issued on 23 September 2008.

Table 4: Surveillance of Communicable diseases among IDP's 31st Oct- 06th Nov 2009 (45thWeek)

Area	Disease	Dysentery	Enteric fever	Viral Hepatitis	Chicken Pox	Watery Diarrhoea
Vavunia		0	0	1	0	-
Chendikulam		0	6	1	31	211
Total		00	06	02	36	211

Table 4: Selected notifiable diseases reported by Medical Officers of Health
31st October- 06th November 2009 (45thWeek)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Received Timely**
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Colombo	94	3950	9	218	0	12	2	200	1	88	32	1034	0	6	5	137	0	5	92
Gampaha	36	3871	2	150	0	21	0	43	2	38	10	411	0	9	4	236	0	5	67
Kalutara	15	1433	7	331	0	13	0	55	0	44	18	478	0	1	1	83	0	3	92
Kandy	21	3905	5	274	1	8	0	29	1	59	4	201	0	156	3	131	1	1	84
Matale	28	1778	0	130	0	4	0	30	0	26	5	314	0	5	2	87	0	2	75
Nuwara Eliya	4	243	3	391	0	2	1	170	0	801	1	43	1	72	0	80	0	0	92
Galle	11	579	7	232	0	10	0	4	1	111	4	196	0	15	0	29	1	6	89
Hambantota	10	888	2	86	0	8	0	7	0	15	1	85	1	82	1	49	0	0	91
Matara	6	1105	1	256	1	8	3	9	0	20	3	194	3	139	0	63	0	1	94
Jaffna	5	40	1	120	0	3	5	254	0	30	0	0	0	125	1	181	0	3	38
Kilinochchi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mannar	0	5	0	99	0	1	1	115	4	23	0	0	0	0	1	68	0	0	100
Vavuniya	15	179	0	1633	0	25	0	678	1	3	0	7	0	5	1	3766	0	0	75
Mullaitivu	0	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Batticaloa	0	557	0	273	1	13	0	16	0	56	0	10	0	5	1	23	0	5	73
Ampara	2	224	4	88	0	1	0	12	0	8	0	14	0	2	2	39	0	0	100
Trincomalee	0	328	2	156	0	4	0	13	0	3	1	19	0	19	0	54	0	1	90
Kurunegala	24	2717	7	241	0	12	1	80	0	15	8	135	4	81	2	158	0	4	100
Puttalam	13	611	1	153	0	7	0	71	0	11	0	90	0	31	0	44	0	1	67
Anuradhapura	3	531	6	125	0	6	0	7	0	40	6	89	0	29	2	191	0	4	68
Polonnaruwa	4	177	6	111	0	4	0	21	0	10	2	64	0	9	2	88	0	0	71
Badulla	7	325	11	345	0	5	3	52	2	34	0	89	1	129	3	309	0	1	73
Monaragala	3	159	0	145	0	2	0	23	13	34	0	15	0	62	1	91	0	2	64
Ratnapura	9	1997	6	492	0	20	0	52	2	42	7	314	0	36	9	207	0	2	83
Kegalle	24	3685	2	175	0	9	2	54	0	7	12	285	2	35	5	249	0	1	91
Kalmunai	2	226	2	107	1	2	1	15	0	4	0	7	0	3	0	21	0	0	77
SRI LANKA	336	29513	84	6333	04	200	19	2011	27	1522	114	4094	12	1056	46	6384	02	47	80

Source: Weekly Returns of Communicable Diseases WRCD).

*Dengue Fever / DHF refers to Dengue Fever / Dengue Haemorrhagic Fever.

**Timely refers to returns received on or before 06th November, 2009 Total number of reporting units =311. Number of reporting units data provided for the current week: 249

A = Cases reported during the current week. B = Cumulative cases for the year.

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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.

ON STATE SERVICE

Dr. P. PALIHAWADANA
CHIEF EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10