



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Healthcare and Nutrition

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Prevention and control of Leptospirosis

Leptospirosis is a zoonotic disease of great public health importance in Sri Lanka. Hence, the disease burden, clinical features and epidemiology especially in relation to weather pattern and exposure groups have been discussed in the previous episode. This article aims to emphasize the importance of taking prompt prevention and control measures for Leptospirosis.

Preventive measures must be based on knowledge of the high risk groups and the local epidemiological factors. It is very important to raise awareness about the disease among the risk groups, health care providers and general population, so that the disease can be recognized early and treated as soon as possible. Prevention and control of Leptospirosis is discussed in relation to activities conducted in a MOH area.

Prevention and control action should be targeted in relation to

- (a) The source of infection
- (b) Interruption of transmission
- (c) Infection in the human host

Control of source of infection

Since current data suggest the rats to be the main source of infection in Sri Lanka in relation to Human Leptospirosis, the MOH of the area needs to establish measures to control the rat population of the area. This is especially important in relation to paddy fields as our main exposure group is the people engaged in paddy cultivation.

Control/reduction of the animals is primarily done by denying rodents access to their food and shelter and by reducing them through physical and chemical methods.

Cleaning the dykes and reducing the size of bunds (Niyara) in paddy fields to a minimum level, thereby making less space for rats to live in are good physical measures to reduce the rat population.

After harvesting, proper management of straw by removing them completely from the paddy fields or dispersing them across the land evenly rather than piling up should be done. Before starting a cultivating session, it is important to drain the whole paddy field in order to flush the existing water which may contain rat urine.

Interruption of transmission

Knowing the risk factors for human infection and the infection source is very important in interrupting the transmission.

The main mode of Human leptospiral infections is exposure to the urine of infected rats. Leptospire can gain entry into human through cuts and abrasions in the skin, through intact mucous membranes (nose, mouth, eyes) and in some instances through waterlogged skin.

Risk of infection is minimized by avoiding direct or indirect contact with animal urine, infected animals or an infected environment.

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People having wounds and abrasions should avoid muddy water as much as possible, if not they should cover the Wounds with water proof materials.

Avoiding washing the face and mouth with water in the paddy field or muddy water is strongly advised.

The water used for drinking should be boiled or purified with chlorine as there is a possibility of infection through the mucous membrane of the gut.

Workers in flooded fields should be cautioned against direct contact with contaminated water or mud and where appropriate, protective clothing (especially Boots) should be worn and wounds covered with waterproof dressings to reduce the chance of infection if exposure is likely, e.g. occupational or recreational exposure.

In addition, slow-moving water or ponds can become heavily contaminated with rat urine, making it hazardous for people, particularly children who swim in such places. These areas of potential risk should be identified and publicized specially during pilgrimage seasons.

Prevention of infection in Human

Preventive measures are dependent on detailed knowledge of how, where and when humans may become infected in a particular area. Increasing awareness among the population, risk groups and health care providers will help in recognizing and treating the disease promptly.

Administration of prophylaxis treatment is a strategy implemented by the Ministry of Health for Leptospirosis control.

It is recommended only for well recognized high risk groups. Identification of high risk localities at divisional level (e.g. clustering of cases in a particular area) will help to identify high risk groups. If a decision to give prophylaxis is made, it should be closely monitored by the MOH and the field public health staff. Prescribing Doxycycline as a chemo prophylaxis agent has been reported to give some protection against infection and disease. It is very important that prophylaxis is not made a substitute for primary prevention activities. Primary prevention activities such as rat control measures and interrupting transmission are the most important activities for control of Leptospirosis.

For further information on Leptospirosis, please refer the circular on Prevention and Control of Leptospirosis issued by Ministry of Health (Circular No- 01-31/2008)

Increasing community awareness

All stakeholders including local government authorities and officials from agriculture, irrigation, veterinary fields must be involved in decision making and planning awareness programs in local settings.

Before conducting awareness programs on Leptospirosis the disease burden of the area should be identified. Education of farmers and others in risk groups needs to be carried out by Health staff. Leaflets with information, written clearly in non-technical language, could also be distributed directly to people who may be at risk. Risk communication to farmers and villagers by health officers, with the cooperation of other sectors especially the agriculture sector will help to raise the level of awareness in the community.

At village level, community should be aware of the existence of Leptospirosis as a cause of febrile illness in people and they should be aware of the initial symptoms of Leptospirosis and importance of seeking early treatment. Increased awareness of Leptospirosis among medical Officers should be established for improving early detection and management of the disease.

Surveillance

Surveillance plays a key role in controlling Leptospirosis. All clinicians need to be educated regarding the importance of prompt notification of suspected Leptospirosis patients. Once the notification is received, the MOH should ensure field investigation and necessary measures should be taken promptly. Analyzing the surveillance data need to be done at local, regional and central level to identify the disease pattern in relation to time, place and person. Such analysis would help in planning prevention and control measures.

Further IEC materials on Leptospirosis including Power-Point presentations for education of farming community on Leptospirosis are available in the Epidemiology Unit website (www.epid.gov.lk)

Reference

- ☑ Human leptospirosis : guidance for diagnosis, surveillance and control. World Health Organization 2003, Geneva.
- ☑ Leptospirosis Fact Sheet, Epidemiology Unit. Ministry of Health, Sri Lanka.

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Table 1: Vaccine-preventable Diseases & AFP

19th – 25th February 2011(08th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2011	Number of cases during same week in 2010	Total number of cases to date in 2011	Total number of cases to date in 2010	Difference between the number of cases to date in 2011 & 2010
	W	C	S	N	E	NW	NC	U	Sab					
Acute Flaccid Paralysis	00	00	01	00	00	01	00	00	00	02	02	17	18	- 05.5 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	-
Measles	01	01	00	00	00	01	00	00	00	03	01	13	20	- 35.0 %
Tetanus	00	00	00	00	01	00	00	00	00	01	05	04	16	- 25.0 %
Whooping Cough	00	00	00	00	00	01	00	00	00	01	00	06	14	- 57.1 %
Tuberculosis	67	01	06	17	15	16	10	01	02	135	229	1340	1227	+ 09.2 %

Table 2: Newly Introduced Notifiable Disease

19th – 25th February 2011(08th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2011	Number of cases during same week in 2010	Total number of cases to date in 2011	Total number of cases to date in 2010	Difference between the number of cases to date in 2011 & 2010
	W	C	S	N	E	NW	NC	U	Sab					
Chickenpox	22	07	13	00	10	22	06	03	07	90	76	744	580	+ 28.3 %
Meningitis	07 CB=3 GM=4	00	02 GL=1 HB=1	01 VU=1	05 BT=2 TR=2 KM=1	05 KN=5	01 AP=1	00	05 RP=4 KG=1	26	24	161	299	- 46.1 %
Mumps	04	02	05	01	08	03	01	01	07	32	13	319	134	+ 138.0 %
Leishmaniasis	01 CB=1	00	10 MT=5 HB=5	00	00	00	01 AP=1	00	00	12	05	98	59	+ 66.1 %

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: 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, 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. .

Dengue Prevention and Control Health Messages

Check the roof gutters regularly for water collection where dengue mosquitoes could breed.

Table 4: Selected notifiable diseases reported by Medical Officers of Health
19th - 25th February 2011(08th Week)

DPDHS Division	Dengue Fever / DHF*		Dysentery		Encephalitis		Enteric Fever		Food Poisoning		Leptospirosis		Typhus Fever		Viral Hepatitis		Human Rabies		Returns Re-
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Colombo	101	686	4	41	0	2	4	37	0	4	8	50	0	1	4	10	0	1	77
Gampaha	36	237	1	17	0	2	2	12	0	8	18	47	2	6	2	14	0	0	87
Kalutara	7	95	2	27	0	2	0	13	0	6	2	21	0	0	0	1	0	0	50
Kandy	10	52	11	86	1	3	2	9	0	2	3	18	2	20	1	7	0	0	83
Matale	7	27	5	20	2	2	1	3	0	3	5	23	0	1	1	1	0	0	83
Nuwara	0	11	5	38	0	1	2	10	0	12	1	7	1	18	1	2	0	0	69
Galle	7	25	5	16	0	0	0	1	0	4	0	13	0	9	0	4	0	0	89
Hambantota	2	23	0	7	0	2	0	1	1	1	8	16	1	13	0	0	0	0	82
Matara	6	29	0	7	0	0	0	4	0	0	3	18	2	15	0	1	0	0	71
Jaffna	1	88	7	22	0	1	6	55	3	9	0	1	17	78	0	9	0	1	91
Kilinochchi	0	6	0	3	0	1	0	3	0	0	0	1	0	3	0	1	0	0	50
Mannar	0	12	1	3	0	0	0	5	0	0	1	5	2	23	0	0	0	0	80
Vavuniya	0	16	0	5	1	3	0	4	0	0	3	16	0	1	0	0	0	0	100
Mullaitivu	0	3	0	3	0	0	0	1	0	0	0	2	0	0	0	0	0	0	25
Batticaloa	12	70	1	77	0	1	0	2	0	0	2	5	0	0	1	1	1	1	71
Ampara	2	16	1	23	0	0	0	5	2	15	0	19	0	0	0	1	0	0	71
Trincomalee	8	22	8	56	0	0	0	1	0	4	8	30	0	1	1	3	0	0	73
Kurunegala	18	75	1	59	2	4	4	24	10	22	178	224	2	17	3	9	0	0	82
Puttalam	13	136	6	43	0	0	0	5	0	1	4	13	1	3	0	1	0	1	100
Anuradhapu	6	37	1	26	0	1	0	2	0	2	23	55	1	4	0	3	0	0	58
Polonnaruw	2	37	0	19	0	1	0	1	0	8	1	24	0	0	1	1	0	0	71
Badulla	0	40	1	22	0	0	1	12	0	0	0	5	0	3	2	9	0	0	60
Monaragala	1	38	3	17	0	0	0	4	0	0	0	19	1	12	0	6	0	0	64
Ratnapura	7	75	11	76	0	2	1	6	1	5	4	43	1	12	0	12	0	0	67
Kegalle	0	34	1	17	0	4	1	15	0	4	4	29	0	1	2	17	0	0	64
Kalmunai	0	4	11	74	0	0	0	0	0	0	0	2	0	0	1	1	0	0	85
SRI LANKA	246	1894	86	804	06	32	24	235	17	110	276	706	33	241	20	114	01	04	74

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 25th February, 2011 Total number of reporting units =320. Number of reporting units data provided for the current week: 267

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.

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