



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

231, de Saram Place, Colombo 01000, Sri Lanka
Tele: + 94 11 2695112, Fax: +94 11 2696583, E mail: epidunit@slt.net.lk
Epidemiologist: +94 11 2681548, E mail: chepid@slt.net.lk
Web: <http://www.epid.gov.lk>

Vol. 51 No. 16

13th – 19th Apr 2024

Understanding the factors that may contribute to deaths from leptospirosis in Sri Lanka:
Analysis of the 2023 mortality data

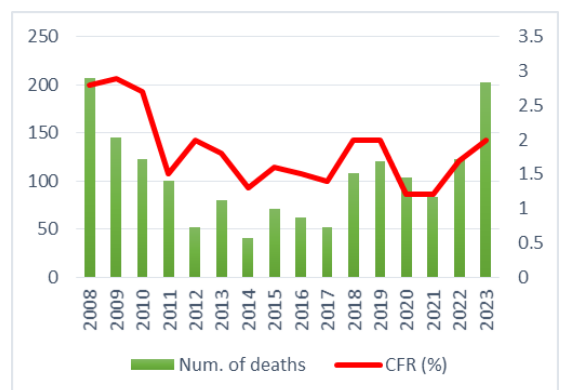
This is the first article of two in a series on “Understanding the factors that may contribute to deaths from leptospirosis in Sri Lanka: Analysis of the 2023 mortality data”

Leptospirosis, a spirochetal zoonosis, occurs in diverse epidemiological settings and affects vulnerable populations. Leptospirosis is a life-threatening disease for risk individuals and an important cause of pulmonary haemorrhage syndrome, it was estimated to cause 1.03 million cases and 58,900 deaths each year[1]. These estimates place leptospirosis as a leading zoonotic cause of morbidity and mortality. Additionally, morbidity and mortality are greatest in the poorest regions of the world and Sri Lanka is considered a hot spot for leptospirosis, with an annual incidence of 2 per 100,000 population and 203 deaths in 2023.

Successfully controlling leptospirosis hinges on key steps: clinicians must promptly consider it in the diagnoses and alert public health authorities; accurate reporting aids in understanding the disease burden and guiding prevention efforts. High-risk groups should be educated regarding prevention. Laboratory confirmation, ideally via MAT or PCR, and collaborative outbreak investigations are essential. Institutions must report suspected deaths for a thorough investigation by the preventive health staff. Awareness should extend beyond traditional exposures to include recreational activities, particularly post-disaster. Community education is vital, empowering individuals to recognize symptoms early, mitigate risks, and reduce illness severity. Understanding

the pattern of mortality due to leptospirosis is crucial for developing effective prevention and intervention strategies. By gaining insights into how and why people succumb to the disease, healthcare professionals can implement targeted measures to reduce deaths[2].

Trend of Leptospirosis Deaths in Sri Lanka



The spike in number of leptospirosis deaths recorded in 2023, the most significant since 2008, can be linked to several factors. These include the surge in agricultural activities due to the economic crises in Sri Lanka, as well as the shifting climate with increased rainfall. Moreover, advancements in laboratory facilities and improved surveillance likely play a role in detecting and reporting cases more effectively, revealing previously overlooked instances. Additionally, a lack of public awareness, along with the emergence of antibiotic-resistant strains, may further exacerbate the issue.

Contents

- | | Page |
|---|------|
| 1. Understanding the factors that may contribute to deaths from leptospirosis in Sri Lanka: Analysis of the 2023 mortality data | 1 |
| 2. Summary of selected notifiable diseases reported (06 th – 12 th April 2024) | 3 |
| 3. Surveillance of vaccine preventable diseases & AFP (06 th – 12 th April 2024) | 4 |

SRI LANKA 2024

NUMBER

While the Ministry of Health offers free Doxycycline prophylaxis to paddy farmers, there are concerns regarding compliance. It is essential to enhance the distribution of Doxycycline to farmers, ensuring consistent supply and reaching out effectively to high-risk groups.

Addressing these challenges demands collaborative efforts to enhance sanitation, healthcare accessibility, public education, and improved surveillance systems, with particular emphasis on expanding laboratory facilities and bolstering surveillance activities to effectively mitigate the impact of Leptospirosis and reduce mortality rates.

However, the data from 2008 to 2023 shows fluctuating case fatality rates (CFR) for leptospirosis in Sri Lanka, with rates ranging from a high of 2.9% in 2009 to a low of 1.2% in 2020 and 2021. However, the noticeable increase to 2% in 2023, with leptospirosis-related deaths totalling 203, is concerning and may require further investigation. Possible reasons for the rise in CFR include increased death surveillance and reporting post-COVID-19, as well as challenges in patient management due to the complications of the infection, insufficient ICU facilities, and health administration challenges when transferring patients for further management e.g., plasma paresis, dialysis. Analyzing data from institutional death reviews can help identify delays in treatment-seeking by the patients, resource shortages, and systemic issues, enabling targeted interventions to address these challenges and reduce CFRs.

Compiled by:

Dr.W.D.J K.Amarasena
Senior Registrar in Community Medicine, Epidemiology Unit

Dr.Thushani Dabrera
Consultant Community Physician, Epidemiology Unit

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[2] N. & I. M. Epidemiology Unit Ministry of Health, “WEEKLY EPIDEMIOLOGICAL REPORT Vol. 50 No. 19,” no. May, pp. 1–4, 2013, [Online]. Available: <http://www.epid.gov.lk>

**Table 1 : Water Quality Surveillance
Number of microbiological water samples March 2024**

District	MOH areas	No: Expected *	No: Received
Colombo	15	90	9
Gampaha	15	90	45
Kalutara	12	72	68
Kalutara NIHS	2	12	31
Kandy	23	138	16
Matale	13	78	0
Nuwara Eliya	13	78	50
Galle	20	120	223
Matara	17	102	81
Hambantota	12	72	34
Jaffna	12	72	NR
Kilinochchi	4	24	21
Mannar	5	30	0
Vavuniya	4	24	56
Mullatvu	5	30	18
Batticaloa	14	84	0
Ampara	7	42	NR
Trincomalee	11	66	NR
Kurunegala	29	174	62
Puttalam	13	78	NR
Anuradhapura	19	114	0
Polonnaruwa	7	42	1
Badulla	16	96	0
Moneragala	11	66	0
Rathnapura	18	108	NR
Kegalle	11	66	2
Kalmunai	13	78	0

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 1: Selected notifiable diseases reported by Medical Officers of Health 06th - 12th Apr 2024 (15th Week)

RDHS	Dengue Fever		Dysentery		Encephalitis		En. Fever		F. Poisoning		Leptospirosis		Typhus F.		Viral Hep.		H. Rabies		Chickenpox		Meningitis		Leishmania-		Tuberculosis		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	A	B	T*	C**
Colombo	68	4215	0	5	0	3	5	23	0	4	1	142	1	6	1	4	0	0	6	148	0	12	0	0	26	623	58	100
Gampaha	46	1812	0	7	0	4	0	3	0	1	1	201	0	2	0	1	0	0	3	99	1	35	2	8	23	360	27	100
Kalutara	35	1208	0	11	0	1	1	16	0	5	10	236	1	5	0	5	0	0	18	221	2	25	0	3	199	33	100	
Kandy	44	1608	1	6	0	0	1	4	0	3	3	91	0	9	0	4	0	0	4	189	1	5	0	16	37	212	87	100
Matale	6	313	0	1	0	0	1	1	0	8	0	41	0	1	0	4	0	0	0	31	0	5	0	82	3	40	38	100
Nuwara Eliya	1	173	1	28	0	3	0	3	11	127	1	73	0	16	0	3	0	0	2	69	0	3	0	0	7	90	100	100
Galle	18	1011	0	17	0	7	2	5	2	21	6	275	2	45	1	5	0	1	14	223	3	28	0	3	8	141	20	100
Hambantota	10	428	0	8	0	1	2	3	1	33	1	238	2	16	0	2	0	0	2	104	0	12	4	166	0	38	17	100
Matara	11	371	0	2	0	3	0	2	0	4	7	117	1	8	0	2	0	0	9	114	0	38	1	31	1	34	12	100
Jaffna	42	4852	1	25	0	1	0	3	0	15	0	12	2	345	0	3	0	1	5	100	0	6	0	0	6	72	64	93
Kilinochchi	3	264	0	2	0	0	0	2	0	1	0	12	0	7	0	0	0	0	2	4	1	3	0	0	0	7	100	100
Mannar	2	172	0	0	0	0	0	1	0	0	0	16	0	6	0	0	0	0	0	4	1	3	0	1	0	22	20	100
Vavuniya	0	125	0	0	0	0	0	0	0	5	2	54	0	2	0	4	0	0	2	14	0	6	0	5	0	7	50	100
Mullaitivu	2	174	1	4	0	0	0	0	0	2	0	47	1	10	0	0	0	0	0	2	0	0	0	4	0	11	50	100
Batticaloa	20	1018	3	51	0	5	0	4	0	12	1	24	0	1	0	6	0	0	5	38	0	19	0	1	2	38	57	100
Ampara	2	138	0	14	0	1	0	0	1	8	2	105	0	1	0	3	0	0	1	51	0	19	0	6	0	68	29	100
Trincomalee	9	405	0	8	0	0	0	1	0	1	2	89	0	9	0	0	0	0	1	22	0	3	0	8	0	18	25	100
Kurunegala	6	1191	1	11	0	11	0	0	0	339	5	238	0	15	0	2	0	2	4	151	1	77	12	168	11	163	8	96
Puttalam	8	601	0	1	0	1	0	3	0	0	0	121	0	5	0	0	0	0	0	50	1	17	0	8	3	61	15	100
Anuradhapura	5	470	0	4	0	2	0	0	0	3	6	191	0	22	0	6	0	0	2	71	0	18	13	265	4	81	43	100
Polonnaruwa	4	182	1	9	0	0	0	1	0	2	2	117	0	1	0	2	0	0	4	61	0	12	2	155	0	27	33	100
Badulla	3	484	0	9	0	3	0	0	0	16	3	210	0	9	0	7	0	0	5	98	0	10	1	10	2	66	50	100
Monaragala	12	362	0	5	0	1	0	1	34	68	9	402	1	14	0	7	0	0	2	37	2	41	3	77	2	31	36	100
Ratnapura	39	896	0	30	1	3	0	2	1	4	17	559	0	10	0	11	0	2	6	105	4	47	0	63	1	64	25	100
Kegalle	25	933	0	3	1	4	2	5	0	3	7	218	0	8	0	5	0	0	11	255	2	23	0	12	6	100	36	100
Kalmunai	6	498	0	9	0	0	0	0	0	2	0	34	0	1	0	1	0	0	1	69	0	6	0	0	1	43	0	100
SRILANKA	427	23904	9	270	2	54	13	83	15	687	86	3863	11	574	2	87	0	6	109	2330	19	473	38	1089	146	2616	40	99

Source: Weekly Returns of Communicable Diseases (esurveillance.epid.gov.lk). T=Timeliness refers to returns received on or before 12th April, 2024. Total number of reporting units 368. Number of reporting units data provided for the current week: 355. C**=Completeness. A = Cases reported during the current week. B = Cumulative cases for the year.

Table 2: Vaccine-Preventable Diseases & AFP

06th – 12th Apr 2024 (15th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2024	Number of cases during same week in 2023	Total number of cases to date in 2024	Total number of cases to date in 2023	Difference between the number of cases to date in 2024 & 2023
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	01	00	00	00	00	00	01	00	02	00	28	24	16.6 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	01	00	00	00	00	00	00	00	01	02	05	80	68	17.6 %
Measles	02	00	00	01	00	01	00	00	00	04	00	186	00	0 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	01	01	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	01	00	00	00	00	00	00	00	00	01	00	02	01	100 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	00	01	02	-50 %
Whooping Cough	01	00	00	00	00	00	00	00	00	00	00	02	03	-33.3 %

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
NA = Not Available

Take prophylaxis medications for leptospirosis during the paddy cultivation and harvesting seasons.

It is provided free by the MOH office / Public Health Inspectors.

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@slt.net.lk. **Prior approval should be obtained from the Epidemiology Unit before publishing data in this publication**

ON STATE SERVICE

Dr. Samitha Ginige
 Actg. CHIEF EPIDEMIOLOGIST
 EPIDEMIOLOGY UNIT
 231, DE SARAM PLACE
 COLOMBO 10