WEEKLY EPIDEMIOLOGICAL REPORT

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Ministry of Health & Mass Media

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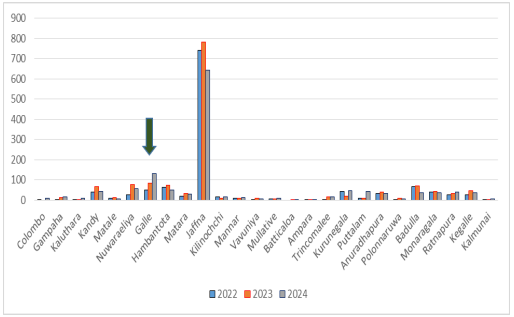
Typhus Fever - Part II

This is the second article of two in a series on "Typhus Fever"

Geographic Distribution of Typhus Cases in Sri Lanka

The number of typhus cases varies across districts in Sri Lanka, showing changing trends from 2022 to 2024. Jaffna consistently reported the highest number of cases, with 742 in 2022, rising to 782 in 2023 before slightly declining to 645 in 2024, indicating persistent transmission in the region. Galle experienced a sharp increase, from 49 cases in 2022 to 85 in 2023, and further rising to 132 in 2024, suggesting an increasing outbreak. Puttlam also showed a notable rise, with cases increasing from 10 in both 2022 and 2023 to 44 in 2024. Some districts, such as Kandy and Nuwara Eliya, displayed fluctuating trends, while others, including Hambantota and Badulla, showed a decline in cases. Colombo, which had only one case in 2022 and none in 2023, saw a rise to 10 cases in 2024, indicating a possible emerging risk in urban areas.



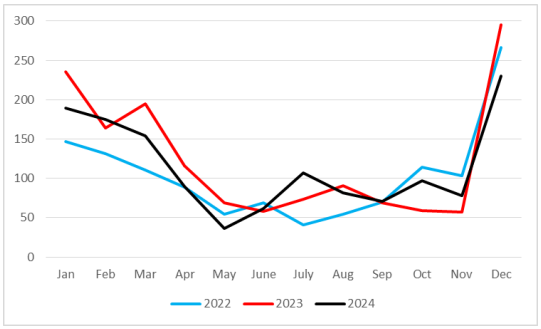
Typhus Cases in Sri Lanka by District for the Years 2022, 2023, and 2024- Source: Epidemiology Unit.

Seasonal Trends in Typhus Cases in Sri Lanka

The seasonal pattern of typhus cases in Sri Lanka over the past three years shows a clear increase in cases during December, January, and February. Each year, the highest number of cases was recorded in December, with 266 cases in 2022, 295 in 2023, and 230 in 2024. The trend continued into January and February, with cases remaining relatively high.

Following this peak, cases gradually declined from March onward, reaching the lowest levels between May and July. May consistently recorded the fewest cases, with a sharp drop to just 36 cases in 2024. However, from August onwards, cases began to rise again, leading up to another peak in December.

This pattern indicates that typhus transmission is higher during the cooler months and declines during mid-year before increasing again. Understanding this seasonal variation is important for implementing timely prevention and control measures.



Typhus Cases Seasonal Pattern in the Last Three Years- Source: Epidemiology Unit.

Signs and Symptoms

The incubation period of scrub typhus ranges from 6 to 20 days, with an average of 10 days. Symptoms typically appear within this period and include fever, chills, headache, body aches, muscle pain, anorexia, lymphadenopathy, and conjunctival injection. Fever often rises during the first week, reaching 40 to 40.5°C. A characteristic rash may develop around the 5th to 8th day of fever, starting as a small, painless papule that gradually enlarges, progresses to central necrosis, and forms an eschar at the site of the

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chigger bite. The rash may begin as macular and extend to the arms and legs, sometimes becoming maculopapular and intensely coloured.

In severe cases, mental changes such as confusion or coma can occur, along with organ damage, severe bleeding, and potentially fatal outcomes if left untreated. Additionally, cough is common during the first week of fever, and pneumonitis may develop by the second week.

Eschar: *Images courtesy of Yoshiki Taniguchi, MD. From Taniguchi, Y: Eschar, fever, and rash in a 43-year-old man. Dermatology Online Journal 3(2), 1997*

Diagnosis

The diagnosis of scrub typhus is primarily based on clinical suspicion, supported by laboratory tests. Common laboratory findings include early lymphopenia followed by late lymphocytosis, a decreased CD4:CD8 lymphocyte ratio, and thrombocytopenia. These hematologic abnormalities may resemble those seen in dengue infection, making differential diagnosis essential. Additionally, elevated transaminase levels are observed in 75–95% of patients, while hypoalbuminemia occurs in approximately 50% of cases.

Serologic tests are commonly used to detect antibodies against Orientia tsutsugamushi. These include the indirect immunoperoxidase test, indirect fluorescent antibody test, dot immunoassay, and rapid immunochromatographic tests for IgM and IgG detection. Molecular techniques, such as polymerase chain reaction (PCR) assays, provide a more precise diagnosis by detecting bacterial DNA. Other diagnostic tools include the Weil-Felix OX-K strain agglutination reaction and rapid diagnostic reagents for scrub typhus.

Imaging studies, such as chest radiography, may reveal pneumonitis, particularly in the lower lung fields, indicating possible respiratory involvement in severe cases.

Treatment

The recommended treatment for scrub typhus is the antibiotic doxycycline, which can be used in individuals of all ages. For the best outcomes, antibiotics should be administered as soon as symptoms appear, as early treatment significantly improves recovery. Most patients who receive timely doxycycline treatment recover quickly, reducing the risk of complications associated with the disease.

Prevention

Currently, no vaccine is available to prevent scrub typhus. The best way to reduce the risk of infection is to avoid contact with infected chiggers. Travellers to areas where scrub typhus is common should stay away from dense vegetation and brush, as these environments are likely to harbour chiggers.

When spending time outdoors, using insect repellents containing DEET (N, N-Diethyl-meta-toluamide) or other approved ingredients can provide protection. Repellents should be applied to exposed skin and clothing, following product instructions carefully.

For babies and young children, additional precautions are necessary. Dressing them in clothing that fully covers their arms and legs can help prevent bites. Insect repellent should not be applied to a child's hands, eyes, mouth, or any cuts or irritated skin. Instead, repellent should be sprayed onto an adult's hands before being gently applied to the child's face.

Another effective preventive measure is treating clothing and gear with 0.5% permethrin. Permethrin kills chiggers and provides long-lasting protection for boots, clothing, and camping gear, even after multiple washes. However, permethrin products should never be applied directly to the skin, as they are designed solely for treating fabrics.

Chemoprophylaxis for scrub typhus has been explored with several regimens to prevent infection, particularly in high-risk areas. One approach involves administering a single dose of doxycycline weekly, starting before exposure and continuing for six weeks after exposure. Another regimen consists of a single oral dose of chloramphenicol or tetracycline, given every five days for a total of 35 days, with five-day intervals between doses when no treatment is given. These prophylactic strategies aim to reduce the risk of contracting scrub typhus in endemic areas.

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Table 1: Selected notifiable diseases reported by Medical Officers of Health 15th – 21st Feb 2025 (08th Week)

RDHS	Dengue Fever		Dysentery		Encephalitis		En. Fever		F. Poisoning		Leptospirosis		Typhus F.		Viral Hep.		H. Rabiies		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	217	1912	0	4	1	3	0	0	3	4	24	84	0	3	1	3	0	0	21	89	8	12	0	1	57	291	100	100
Gampaha	132	1302	1	8	3	11	0	1	0	39	17	134	0	2	0	2	0	0	23	141	2	25	0	8	17	180	87	100
Kalutara	44	311	1	8	0	1	1	1	2	12	15	122	0	0	0	2	0	0	14	101	2	7	0	0	5	106	75	75
Kandy	63	550	1	15	0	2	0	1	0	6	4	67	0	18	1	4	0	0	11	73	0	5	1	11	15	142	96	100
Matale	40	318	0	7	0	1	0	0	0	5	1	40	0	1	0	4	0	0	2	14	1	1	4	36	6	23	100	100
Nuwara Eliya	6	45	0	14	1	2	0	2	1	44	2	31	0	15	0	0	0	0	3	41	4	6	0	0	5	54	100	100
Galle	43	409	7	16	0	2	0	0	0	17	20	137	3	24	1	1	0	0	15	129	3	29	0	0	8	81	100	100
Hambantota	10	187	0	5	0	2	0	0	0	2	11	77	1	9	0	1	0	0	10	65	0	2	5	52	5	36	100	100
Matara	35	296	2	4	0	2	0	0	0	3	12	95	1	6	0	2	0	0	13	58	5	13	3	21	3	37	94	100
Jaffna	30	351	1	17	0	1	1	3	0	10	6	104	20	160	0	0	0	1	2	43	1	5	0	0	4	32	93	93
Kilinochchi	2	29	0	4	0	0	1	2	0	1	5	28	0	5	0	1	0	0	0	0	0	0	0	0	0	7	100	100
Mannar	4	70	0	0	0	0	0	0	0	0	1	8	1	2	0	0	0	0	0	4	0	7	0	0	1	5	100	100
Vavuniya	0	17	0	4	0	0	0	0	0	1	4	24	0	2	0	0	0	0	2	3	0	3	3	5	0	6	100	100
Mullaitivu	0	19	0	1	0	0	0	1	0	0	2	30	0	2	0	0	0	0	2	5	0	2	0	0	3	5	100	100
Batticaloa	81	518	6	51	1	6	0	0	2	5	4	19	0	1	0	7	0	0	12	55	4	11	0	1	3	22	100	100
Ampara	5	38	1	3	0	1	0	0	0	1	8	34	0	1	0	1	0	0	5	17	0	2	1	5	2	10	100	100
Trincomalee	29	232	1	18	0	1	0	0	0	13	7	41	2	5	0	1	0	0	4	26	0	7	0	3	11	19	92	100
Kurunegala	20	219	1	6	0	4	0	1	1	18	24	177	3	14	0	1	0	0	24	145	1	27	16	104	4	62	100	100
Puttalam	24	187	0	4	0	0	0	0	4	4	7	90	1	11	0	1	0	0	2	35	0	19	0	5	5	39	100	100
Anuradhapura	24	186	3	8	2	5	0	0	0	7	17	130	1	9	0	4	0	0	9	52	10	21	13	162	6	46	83	100
Polonnaruwa	9	50	1	7	0	1	0	0	0	1	1	48	0	0	0	7	0	0	2	35	1	1	9	58	1	10	100	93
Badulla	8	167	0	2	0	1	0	0	0	0	7	73	0	5	1	9	0	0	12	77	2	18	0	3	7	39	94	100
Monaragala	15	167	0	5	0	1	0	0	0	2	14	116	0	16	0	2	0	0	8	23	0	15	1	19	4	20	100	100
Ratnapura	50	432	1	19	0	2	1	3	1	7	42	304	0	8	1	2	0	0	9	77	2	28	0	9	6	69	90	100
Kegalle	35	258	4	18	0	3	0	0	0	12	26	132	1	2	0	4	0	0	29	147	1	10	3	11	6	49	100	100
Kalmunai	10	105	0	5	0	0	0	0	2	6	3	26	0	0	0	1	0	0	2	41	0	4	0	0	0	18	77	100
SRILANKA	**936**	**8375**	**31**	**253**	**8**	**52**	**4**	**15**	**16**	**220**	**284**	**2171**	**34**	**321**	**5**	**60**	**0**	**1**	**236**	**1496**	**47**	**280**	**59**	**514**	**184**	**1408**	**95**	**99**

Source: Weekly Returns of Communicable Diseases (esurvillance.epid.gov.lk). T=Timeliness refers to returns received on or before 21st Feb, 2025 Total number of reporting units 361 Number of reporting units data provided for the current week: 358 C**-Completeness

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

Table 2: Vaccine-Preventable Diseases & AFP

15th – 21st Feb 2025 (08th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2025	Number of cases during same week in 2024	Total number of cases to date in 2025	Total number of cases to date in 2024	Difference between the number of cases to date in 2025 & 2024
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	00	00	00	00	00	01	00	00	00	01	01	11	12	-8.3%
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	02	02	03	00	00	00	00	00	02	09	10	38	47	-19.1 %
Measles	00	00	00	00	00	00	00	00	00	00	07	01	134	-99.2%
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	01	-100%
CRS**	00	00	01	00	00	00	00	00	00	01	00	01	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	01	00	0 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Japanese Enceph-alitis	00	00	00	00	00	00	00	00	00	00	00	04	01	300 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	05	01	400 %

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

Number of Malaria Cases Up to End of February 2025,

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All are Imported!!!

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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