



WEEKLY EPIDEMIOLOGICAL REPORT

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Melioidosis in Sri Lanka

Melioidosis, also called Whitmore's disease, is an infectious disease caused by a soil saprophytic bacterium, that can infect humans or animals. Sri Lanka is considered non-endemic for melioidosis but the disease incidence shows an increasing trend.

It mainly affects countries with tropical climates worldwide, especially in Southeast Asia and northern Australia where it is primarily seen. The greatest numbers of melioidosis patients are reported in Malaysia, Northern Australia, Singapore and Thailand (essentially tropical areas between latitudes 20 degrees north and south³). Frequent reports of patients are also seen in Cambodia, India, Sri Lanka, Indonesia, Hong Kong, Laos, Myanmar, Southern China, Taiwan and Vietnam. Outside of Asia and Australia, cases have been reported in parts of Africa and the Middle East, Brazil, British Virgin Islands, Ecuador, El Salvador, Guadeloupe, Guyana, Martinique, Mexico, Panama, Peru, Puerto Rico, The South Pacific, United States and the U.S. Virgin Islands.

Sri Lanka, a tropical island nation situated 5-10° North of the equator and has similar climatic and environmental conditions as melioidosis endemic countries. Melioidosis was first identified in Sri Lanka in 1927 by a European tea broker residing in Sri Lanka⁵. It was subsequently reported only in 1994, from a lung abscess in a tourist returning to Holland from Sri Lanka. In 2005, *Burkholderia pseudomallei* was isolated in Sri Lanka for the first time from specimens extracted from a person who died from sepsis. Subsequently, after identifying several more patients infected with *Burkholderia pseudomallei*, a portable molecular diagnostic library was acquired in Sri Lanka and preliminary molecular identification of isolates was carried out⁵. A study conducted in 1976 among hospital-associated patient groups in Colombo established the preva-

lence rate of antibodies to *Burkholderia pseudomallei* to be 2% and therefore concluded that melioidosis was not a major public health issue in Sri Lanka. More than four decades later, we are now seeing increased numbers of melioidosis cases, probably due to enhanced diagnostics, but are unaware of the true burden of the disease. Epidemiological studies/ surveillance and sero-epidemiological testing with genotyping and environmental bacteriological testing of an island-wide nature are required to establish the true burden of the disease.

Causative agent and Transmission

The disease is caused by bacteria, which is found in contaminated soil and water. It is spread to humans and animals by direct contact through inhalation of contaminated dust or water droplets, ingestion of contaminated water, and ingestion of soil-contaminated food or other contacts with contaminated soil, especially through skin abrasions. Human-to-human transmission of melioidosis is very rare. Sheep, goats, pigs, horses, cats and dogs are also susceptible to melioidosis.

With a predominantly agricultural economy⁴ and occupational, recreational and incidental exposure (inoculation or inhalation) to contaminated soil and/or water, Sri Lankans are at risk of melioidosis infection.

Signs and symptoms

Melioidosis has a wide range of signs and symptoms. It can be mistaken for other diseases, such as tuberculosis or more common forms of pneumonia. Melioidosis infection usually manifests as pneumonia/ lower respiratory tract infection, although multisystem involvement is common.

Melioidosis can be categorized as an acute or localized infection, acute pulmonary infection, acute bloodstream infection, or

Contents	Page
1. Melioidosis in Sri Lanka	1
2. Summary of selected notifiable diseases reported (01 st – 07 th October 2022)	3
3. Surveillance of vaccine preventable diseases & AFP (01 st – 07 th October 2022)	4

disseminated infection. Sub-clinical infections are also possible. The incubation period (time between exposure and appearance of clinical symptoms) is not clearly defined but may range from one day to many years; generally, symptoms appear 2–4 weeks after exposure. Although healthy people may get melioidosis, individuals with diabetes, liver disease, renal disease, thalassemia, cancer, another immune-suppressing condition not related to HIV, and those with chronic lung disease (such as cystic fibrosis, chronic obstructive pulmonary disease (COPD), and bronchiectasis) are at increased risk.

■ Localized Infection

This form generally presents as an ulcer, nodule, or skin abscess and may result from inoculation through a break in the skin and may produce fever and general muscle aches. The infection may remain localized or may progress rapidly through the bloodstream.

■ Pulmonary Infection

This is the most common form of presentation of the disease and can produce a clinical picture of mild bronchitis to severe pneumonia. The onset of pulmonary melioidosis typically is marked by a high fever, headache, anorexia, and general muscle soreness. Chest pain is common, but a nonproductive or productive cough with normal sputum is the hallmark of this form of melioidosis. Cavitory lesions may be seen on chest X-rays, like those seen in pulmonary tuberculosis.

■ Septicaemia/ Bloodstream Infection

Patients with underlying risk factors such as diabetes and renal insufficiency are more likely to develop this form of the disease, which usually results in septic shock. The symptoms of bloodstream infection may include fever, headache, respiratory distress, abdominal discomfort, joint pain, muscle tenderness, and disorientation. This is typically an infection with rapid onset, and abscesses may be found throughout the body, most notably in the liver, spleen, or prostate.

■ Disseminated Infection

Disseminated melioidosis presents with abscess formation in various organs of the body and may or may not be associated with

sepsis. Organs involved typically include the liver, lung, spleen, and prostate; involvement of joints, bones, viscera, lymph nodes, skin, or brain may also occur. Disseminated infection may be seen in acute or chronic me-

lioidosis. Signs and symptoms, in addition to fever, may include weight loss, stomach or chest pain, muscle or joint pain, and headache or seizure

Diagnosis

Melioidosis is diagnosed by isolating *Burkholderia pseudomallei* from blood, urine, sputum, skin lesions, or abscesses; or by detecting an antibody response to the bacteria.

Treatment

When a melioidosis infection is diagnosed, the disease can be treated with the use of appropriate medication.

The type of infection and the course of treatment will impact the long-term outcome. Treatment generally starts with intravenous antimicrobial therapy for a minimum of 2 weeks (up to 8 weeks depending on the extent of infection), followed by 3–6 months of oral antimicrobial therapy.

Prevention

Contact with contaminated soil or water, in areas where the disease is widespread, increases the risk of melioidosis.

Precautionary actions to minimize the risk of exposure include:

- Avoidance of contact with soil and standing water for individuals with open skin wounds and those with diabetes or chronic renal disease who are at increased risk for melioidosis.
- Using personal protective equipment such as boots when performing agricultural work to prevent infection through the feet and lower legs. Using standard precautions when treating patients with melioidosis to help prevent infection.

References

[Centres for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases \(NCEZID\), Division of High-Consequence Pathogens and Pathology \(DHCPP\), \(2022, July 27\), Melioidosis, <https://www.cdc.gov/melioidosis/index.html>](#)

Corea EM, de Silva AD, Thevanesam V. Melioidosis in Sri Lanka. *Trop Med Infect Dis.* 2018 Feb 21;3(1):22. doi: 10.3390/tropicalmed3010022. PMID: 30274420; PMCID: PMC6136624.

Paul P Rega, Glanders and Melioidosis. *CBRNE.* 25 Jan, 2022 <https://emedicine.medscape.com/article/830235-overview#a1>

Shand, Ric Irrigation and Agriculture in Sri Lanka/ Ric Shand.- Colombo: Institute of Policy Studies, 2002.- 210p. ; 25 c.m. https://www.ips.lk/wp-content/uploads/2017/01/04_Irrigation-and-Agriculture-in-sri-lanka-ips.pdf

Melioidosis in Sri Lanka: an emerging infection E Corea,1 V Thevanesam,2 S Perera,3 I Jayasinghe,2 A Ekanayake,2 J Masakorala,1 TJJ Inglis.4 *Sri Lanka Journal of Infectious Diseases* 2012 Vol.1(2):2-8 DOI: <http://dx.doi.org/10.4038/sljid.v2i1.3801>

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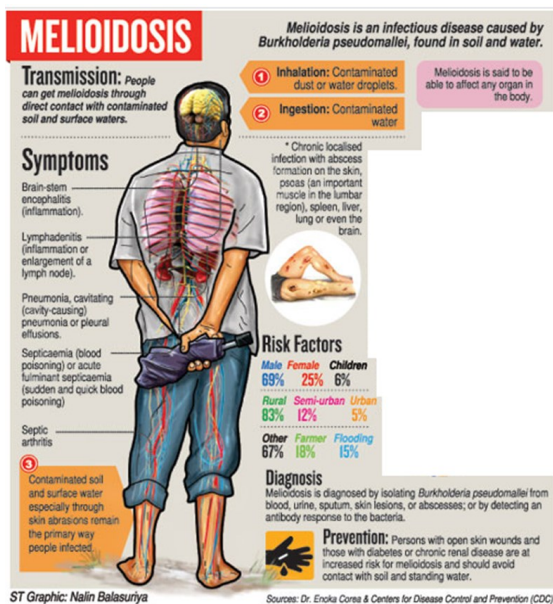


Table 1: Selected notifiable diseases reported by Medical Officers of Health 01st-07th Oct 2022 (40th Week)

RDHS	Dengue Fever		Dysentery		Encephaliti		Enteric Fever		Food Poi-		Leptospirosis		Typhus		Viral Hepa-		Human		Chickenpox		Meningitis		Leishmania-		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	12	10265	0	4	0	3	0	1	1	7	10	172	0	1	0	5	0	2	3	40	0	11	0	2	15	96
Gampaha	70	6619	0	5	0	1	0	1	0	12	5	201	0	0	0	11	0	4	2	50	0	34	0	31	6	85
Kalutara	50	3277	1	26	0	1	0	2	0	6	22	373	0	4	0	5	0	4	6	71	1	24	0	2	3	52
Kandy	11	4460	1	20	1	1	0	3	0	11	5	147	0	31	0	8	0	0	3	66	0	10	1	34	13	98
Matale	35	1009	0	8	0	0	0	0	0	0	2	87	0	5	1	6	0	1	2	39	0	1	16	280	19	100
NuwareEliya	4	198	2	24	0	0	0	3	0	5	3	79	1	15	0	7	0	0	1	36	0	6	0	0	29	93
Galle	33	3138	0	10	0	1	0	0	0	1	28	397	0	32	0	6	0	0	2	65	0	22	0	0	14	100
Hambantota	13	1407	0	32	0	0	0	0	0	2	6	205	2	46	0	6	0	0	1	31	0	17	7	445	17	100
Matara	29	1484	1	14	0	2	0	0	0	1	6	228	0	12	1	2	0	0	3	44	0	8	0	225	31	100
Jaffna	52	2752	15	91	0	3	4	63	1	62	1	22	18	460	1	8	0	4	2	96	1	12	0	1	65	93
Kilinochchi	1	111	0	8	0	0	0	3	0	24	0	11	0	12	0	0	0	0	0	4	0	3	0	2	25	99
Mannar	3	185	0	2	0	0	0	0	0	0	1	26	1	4	0	2	0	0	0	6	0	15	0	0	18	80
Vavuniya	3	79	0	3	0	1	0	2	2	2	0	18	0	1	0	0	0	0	0	29	0	0	0	4	1	100
Mullaitivu	1	57	0	5	0	0	0	2	0	6	0	25	0	5	0	0	0	0	0	7	0	2	0	1	22	90
Batticaloa	7	1068	1	65	0	8	0	0	0	21	0	38	0	0	0	1	0	1	2	29	1	31	0	2	39	99
Ampara	0	157	0	13	0	2	0	0	0	17	3	96	0	1	0	1	0	0	1	45	1	36	0	13	9	100
Trincomalee	7	1015	0	25	0	0	0	1	0	2	0	26	0	3	0	4	0	0	2	41	0	8	0	1	16	87
Kurunegala	19	2312	0	20	0	2	0	0	0	4	1	134	0	27	1	2	0	3	1	78	2	40	8	393	10	98
Puttalam	44	1830	1	4	0	1	0	1	0	0	1	28	0	8	0	1	0	0	0	19	1	28	0	5	16	90
Anuradhapur	1	407	0	11	0	2	0	1	0	7	1	156	0	24	0	2	0	1	3	65	0	47	2	323	9	97
Polonnaruwa	3	135	0	6	0	1	0	0	0	2	2	106	0	1	0	5	0	0	1	20	0	5	7	419	15	96
Badulla	23	925	0	24	1	3	0	1	0	14	8	232	3	53	1	129	0	0	4	55	0	13	3	24	18	100
Monaragala	8	430	1	8	0	1	0	4	0	3	0	246	0	31	1	53	0	0	0	57	2	51	7	128	12	100
Ratnapura	29	2553	0	42	0	6	0	3	1	32	19	846	0	22	0	26	0	1	1	68	4	59	2	180	14	93
Kegalle	30	2478	0	15	0	8	0	1	0	8	13	447	1	19	0	8	0	0	3	93	0	41	0	18	10	96
Kalmune	31	1015	0	31	0	1	1	3	0	6	1	25	0	1	0	1	0	0	4	57	1	35	0	0	31	100
SRI LANKA	72	49366	23	516	2	48	5	95	5	255	138	4371	26	818	6	299	0	21	47	1211	14	559	53	2533	18	95

Source: Weekly Returns of Communicable Diseases (esurveillance.epid.gov.lk). T=Timeliness refers to returns received on or before 07th Oct., 2022 Total number of reporting units 367 Number of reporting units data provided for the current week 242 C**=Completeness

Table 2: Vaccine-Preventable Diseases & AFP

01st– 07th Oct 2022 (40th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2022	Number of cases during same week in 2021	Total number of cases to date in 2022	Total number of cases to date in 2021	Difference between the number of cases to date in 2022 & 2021
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	02	00	00	01	00	00	00	00	00	03	02	63	51	23.5 %
Diphtheria	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Mumps	00	00	00	02	00	00	00	00	00	02	00	72	59	22.0 %
Measles	00	01	00	00	00	00	00	00	01	02	00	19	11	72.7 %
Rubella	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
CRS**	00	00	00	00	00	00	00	00	00	00	00	00	00	0 %
Tetanus	00	00	00	00	00	00	00	00	00	00	00	05	02	150 %
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	04	- 75 %
Whooping Cough	00	00	00	00	00	00	00	00	00	00	00	01	00	0 %
Tuberculosis	00	19	72	14	09	17	00	00	24	155	46	5255	3802	38.2 %

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

Covid-19 Prevention & Control

For everyone's health & safety, maintain physical distance, often wash hands, wear a face mask and stay home.

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**

ON STATE SERVICE

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