# WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health & Mass Media


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## Primary Amoebic Meningitis (PAM) - Part II

***This is the second article of two in a series on "Primary Amoebic Meningitis (PAM)"***

A few Primary amoebic encephalitis cases had been reported in Sri Lanka, and only a limited number of studies had been conducted in Sri Lanka on Naegleria species, mainly in the North Western province in selected water bodies. According to them, this species had been isolated from water bodies located in four Divisional Secretariat (DS) divisions in the Kurunegala district, namely Maho, Nikaweratiya, Kotawehera and Abanpola DS divisions. These were selected for the study based on the density of water bodies. Of 20 tanks, 10 were positive for Naegleria species. However, a study conducted from 2013 to 2018 had shown the prevalence of *Naegleria* species in the surface water and deep water were 4.48% and 3.20%, respectively. It had also revealed the prevalence of *Naegleria* speciesis 23.07% and *N. fowleri* in the study area was 1.92%.

This is a unicellular organism and can be isolated from soil, air and in water systems such as natural, industrial and domestic. The usual habitat of this single-celled organism is warm, fresh water environments like lakes, rivers, hot springs and untreated swimming pools. When the contaminated water is forced up the nose to the brain, the organism can enter the brain through the nasal cavity and adhere to the olfactory nerves and cross the cribriform plate, ending up in the olfactory bulb. The infection is more common in young adults and children as they have a more porous cribriform plate.

Early symptoms of the infection include headache, fever, nausea and in the later stages, the symptoms worsen rapidly. The later symptoms include neck stiffness, confusion, hallucinations, seizures and coma. However, clinically, it is difficult to differentiate from bacterial meningitis. Diagnosis is made by examination of cerebrospinal fluid (CSF) wet mounts for motile trophozites. PAM generally results in death within 3- 7 days of symptom onset.

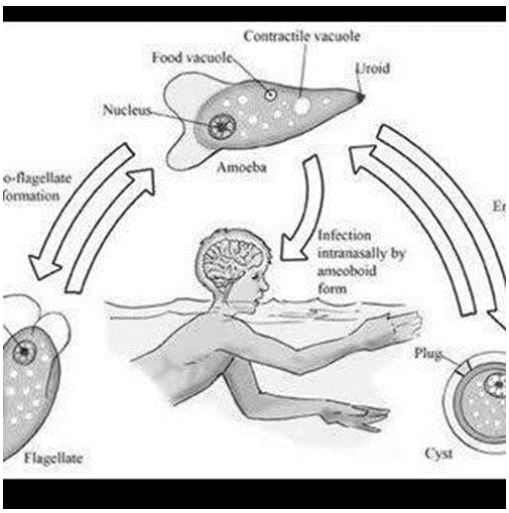
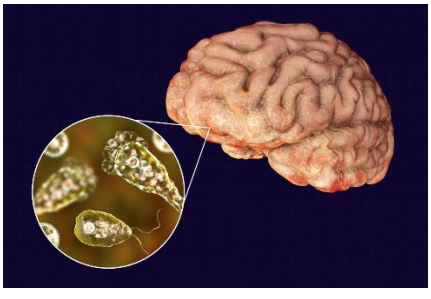



*Figure 4: Life cycle of N. fowleri*



Amphotericin B is the most widely used drug for treating *N. fowleri* infection, generally administered as a 14-day course. Aazithromycin and Miltefosine have presented limited success. However, existing information on potential therapies is largely derived from a handful of case reports and experimental studies in laboratory and animal models. Unfortunately, the rarity of cases and the swift progression of the disease severely limit the feasibility of conducting clinical trials to evaluate the effectiveness and safety of these treatment options.

**Prevention**

Proper chlorination and disinfection of pools water supply is an essential preventive strategy. Free chlorine levels of at least 2.0 mg/L in water storage tanks can effectively eliminate the pathogen. Additionally, boiled or sterilised water should always be used for rinsing, flushing, or irrigating nasal passages to prevent infection. Maintaining a high index of suspicion by healthcare professionals may help early diagnosis and timely initiation of multi-drug therapy. Strong efforts are required to advance the healthcare system capacity, particularly in developing countries, to facilitate early diagnosis and appropriate treatment to enhance the prognosis of PAM cases.

Future outbreaks of *N. fowleri* can also be averted by adhering to cleaning regulations for freshwater sources, conducting routine testing, and repairing water pipelines, especially in the warmer months. We recommend broader surveillance worldwide, the establishment of a genetic data bank, the development of prompt diagnostic techniques, exploration of potential therapeutic options, and development of vaccines to prevent *N. fowleri* outbreaks.

**Compiled by:**

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Table 1: Selected notifiable diseases reported by Medical Officers of Health 25th – 31st Oct 2025 (44th 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 | 153 | 9782 | 3 | 32 | 1 | 17 | 1 | 15 | 0 | 36 | 13 | 390 | 0 | 5 | 0 | 32 | 0 | 0 | 21 | 511 | 2 | 67 | 1 | 5 | 40 | 1775 | 89 | 100 |
| Gampaha | 112 | 6322 | 2 | 48 | 1 | 33 | 0 | 4 | 0 | 151 | 36 | 732 | 0 | 11 | 1 | 18 | 0 | 0 | 18 | 756 | 15 | 163 | 1 | 41 | 27 | 1019 | 93 | 100 |
| Kalutara | 32 | 2128 | 2 | 38 | 0 | 6 | 0 | 20 | 6 | 99 | 11 | 562 | 0 | 3 | 0 | 7 | 0 | 0 | 21 | 774 | 1 | 46 | 0 | 3 | 16 | 505 | 94 | 95 |
| Kandy | 58 | 3820 | 1 | 46 | 0 | 3 | 0 | 8 | 1 | 56 | 5 | 268 | 0 | 48 | 0 | 10 | 0 | 0 | 18 | 554 | 1 | 23 | 3 | 68 | 17 | 560 | 74 | 100 |
| Matale | 22 | 1124 | 0 | 25 | 0 | 3 | 0 | 2 | 0 | 86 | 0 | 226 | 0 | 6 | 0 | 9 | 0 | 0 | 3 | 128 | 0 | 9 | 20 | 313 | 1 | 130 | 77 | 100 |
| Nuwara Eliya | 5 | 309 | 2 | 78 | 0 | 6 | 0 | 7 | 2 | 76 | 3 | 173 | 1 | 56 | 0 | 9 | 0 | 0 | 11 | 295 | 1 | 36 | 0 | 0 | 5 | 251 | 90 | 100 |
| Galle | 30 | 1860 | 1 | 55 | 1 | 9 | 1 | 8 | 3 | 95 | 18 | 761 | 1 | 78 | 1 | 13 | 0 | 2 | 18 | 704 | 1 | 151 | 0 | 3 | 8 | 453 | 100 | 100 |
| Hambantota | 14 | 800 | 2 | 41 | 0 | 7 | 0 | 2 | 28 | 37 | 3 | 333 | 0 | 30 | 0 | 16 | 0 | 0 | 19 | 291 | 3 | 28 | 4 | 308 | 1 | 127 | 100 | 100 |
| Matara | 23 | 1381 | 1 | 17 | 0 | 3 | 0 | 1 | 4 | 25 | 7 | 422 | 0 | 15 | 2 | 21 | 0 | 1 | 10 | 397 | 2 | 47 | 2 | 103 | 1 | 153 | 94 | 100 |
| Jaffna | 55 | 1115 | 1 | 84 | 0 | 3 | 0 | 18 | 0 | 46 | 3 | 142 | 15 | 462 | 0 | 3 | 0 | 2 | 3 | 304 | 4 | 31 | 0 | 0 | 3 | 183 | 100 | 93 |
| Kilinochchi | 2 | 89 | 0 | 14 | 0 | 1 | 0 | 4 | 0 | 7 | 0 | 64 | 0 | 12 | 0 | 1 | 0 | 0 | 0 | 10 | 0 | 1 | 0 | 2 | 1 | 43 | 100 | 100 |
| Mannar | 7 | 155 | 0 | 6 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 31 | 0 | 18 | 0 | 2 | 0 | 0 | 0 | 19 | 0 | 15 | 0 | 9 | 1 | 44 | 100 | 100 |
| Vavuniya | 1 | 80 | 0 | 10 | 0 | 0 | 0 | 1 | 2 | 40 | 1 | 83 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 47 | 0 | 21 | 1 | 20 | 1 | 55 | 100 | 100 |
| Mullaitivu | 1 | 55 | 1 | 7 | 0 | 0 | 0 | 1 | 0 | 26 | 2 | 55 | 0 | 10 | 0 | 1 | 0 | 0 | 0 | 32 | 0 | 8 | 0 | 4 | 2 | 31 | 100 | 100 |
| Batticaloa | 19 | 1653 | 0 | 130 | 1 | 16 | 0 | 4 | 1 | 202 | 2 | 110 | 0 | 2 | 1 | 27 | 0 | 0 | 4 | 175 | 0 | 33 | 0 | 1 | 2 | 123 | 86 | 100 |
| Ampara | 5 | 224 | 0 | 54 | 0 | 11 | 0 | 3 | 2 | 43 | 8 | 210 | 0 | 3 | 0 | 13 | 0 | 1 | 10 | 216 | 5 | 52 | 1 | 24 | 2 | 56 | 86 | 100 |
| Trincomalee | 15 | 951 | 1 | 41 | 0 | 4 | 0 | 2 | 0 | 78 | 3 | 128 | 0 | 9 | 1 | 6 | 0 | 1 | 5 | 125 | 0 | 12 | 0 | 9 | 1 | 117 | 100 | 100 |
| Kurunegala | 15 | 1432 | 0 | 43 | 0 | 18 | 0 | 2 | 3 | 63 | 14 | 648 | 1 | 26 | 1 | 8 | 0 | 1 | 13 | 804 | 7 | 157 | 16 | 550 | 13 | 328 | 86 | 100 |
| Puttalam | 11 | 568 | 1 | 34 | 0 | 3 | 0 | 0 | 0 | 15 | 13 | 273 | 0 | 36 | 0 | 4 | 0 | 1 | 0 | 143 | 4 | 98 | 0 | 29 | 3 | 177 | 100 | 100 |
| Anuradhapura | 9 | 492 | 1 | 33 | 0 | 6 | 0 | 3 | 2 | 43 | 5 | 332 | 0 | 25 | 0 | 12 | 0 | 2 | 1 | 308 | 1 | 60 | 24 | 699 | 4 | 278 | 73 | 100 |
| Polonnaruwa | 3 | 316 | 0 | 16 | 0 | 6 | 0 | 1 | 0 | 142 | 1 | 248 | 0 | 1 | 0 | 25 | 0 | 0 | 4 | 187 | 0 | 23 | 11 | 416 | 1 | 83 | 88 | 90 |
| Badulla | 7 | 717 | 3 | 35 | 2 | 14 | 1 | 4 | 0 | 11 | 6 | 277 | 4 | 38 | 4 | 76 | 0 | 0 | 12 | 373 | 1 | 77 | 1 | 65 | 4 | 252 | 100 | 100 |
| Monaragala | 16 | 760 | 0 | 30 | 0 | 5 | 0 | 1 | 0 | 19 | 7 | 482 | 0 | 39 | 2 | 59 | 0 | 0 | 28 | 224 | 2 | 53 | 7 | 213 | 7 | 133 | 91 | 100 |
| Ratnapura | 57 | 4304 | 1 | 100 | 0 | 10 | 0 | 4 | 0 | 72 | 25 | 1390 | 2 | 32 | 0 | 18 | 0 | 2 | 5 | 410 | 2 | 101 | 2 | 203 | 8 | 350 | 82 | 100 |
| Kegalle | 19 | 1309 | 0 | 55 | 0 | 13 | 0 | 10 | 6 | 42 | 15 | 711 | 0 | 15 | 0 | 20 | 0 | 0 | 25 | 826 | 1 | 119 | 2 | 31 | 9 | 262 | 100 | 100 |
| Kalmunai | 10 | 374 | 0 | 45 | 0 | 7 | 0 | 0 | 29 | 52 | 0 | 106 | 0 | 2 | 0 | 5 | 0 | 1 | 14 | 235 | 0 | 54 | 0 | 1 | 6 | 130 | 77 | 100 |
| **SRILANKA** | **701** | **42120** | **23** | **1117** | **6** | **204** | **3** | **126** | **89** | **1565** | **201** | **9157** | **24** | **992** | **13** | **415** | **0** | **14** | **263** | **8848** | **53** | **1485** | **96** | **3120** | **184** | **7618** | **92** | **99** |

Source: Weekly Returns of Communicable Diseases (esurvillance.epid.gov.lk). T=Timeliness refers to returns received on or before 31st Oct, 2025 Total number of reporting units 360 Number of reporting units data provided for the current week: 359. C**-Completeness *
A = Cases reported during the current week. B = Cumulative cases for the year.

## Table 2: Vaccine-Preventable Diseases & AFP

25th - 31st Oct 2025 (44th 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 | 00 | 00 | 00 | 00 | 00 | 03 | 50 | 63 | -20.6% |
| Diphtheria | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Mumps | 01 | 02 | 01 | 00 | 00 | 00 | 00 | 00 | 00 | 04 | 06 | 215 | 236 | -8.9 % |
| Measles | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 02 | 01 | 289 | -99.6% |
| Rubella | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 04 | 02 | -100% |
| CRS** | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 01 | 00 | 0 % |
| Tetanus | 02 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 02 | 00 | 11 | 05 | 120 % |
| 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 | 09 | -55.5 % |
| Whooping Cough | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 22 | 56 | -60.7 % |

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

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