# WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
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## Trypanosomiasis, human African (sleeping sickness)

Human African trypanosomiasis, also known as sleeping sickness, is a vector-borne parasitic disease. It is caused by infection with protozoan parasites belonging to the genus Trypanosoma.

Human African trypanosomiasis , transmitted by the bite of the 'Glossina' insect, commonly known as the tsetse fly.

They are transmitted to humans by tsetse fly (Glossina genus) bites which have acquired their infection from human beings or from animals harbouring human pathogenic parasites.

Tsetse flies are found just in sub-Saharan Africa though only certain species transmit the disease. Rural populations living in regions where transmission occurs and which depend on agriculture, fishing, animal husbandry or hunting are the most exposed to the tsetse fly and therefore to the disease.

Human African trypanosomiasis takes 2 forms, depending on the parasite involved:

- *Trypanosoma brucei gambiense* is found in 24 countries in west and central Africa. This form currently accounts for 97% of reported cases of sleeping sickness and causes a chronic infection. A person can be infected for months or even years without major signs or symptoms of the disease. When more evident symptoms arise, the patient is often already in an advanced disease stage where the central nervous system is affected.
- *Trypanosoma brucei rhodesiense* is found in 13 countries in eastern and southern Africa. Nowadays, this form represents under 3% of reported cases and causes an acute infection. First signs and symptoms are observed a few months or weeks after infection. The disease develops rapidly and invades the central nervous system. Only Uganda presents both forms of the disease, but in separate zones.

Another form of trypanosomiasis occurs mainly in Latin America. It is known as American trypanosomiasis or Chagas disease.

**Disease burden**

Sleeping sickness threatens millions of people in 36 countries in sub-Saharan Africa. Many of the affected populations live in remote rural areas with limited access to adequate health services, which complicates the surveillance and therefore the diagnosis and treatment of cases. In addition, displacement of populations, war and poverty are important factors that facilitate transmission.

During the most recent epidemic the prevalence reached 50% in several villages in Angola, the Democratic Republic of the Congo, and South Sudan. Sleeping sickness was the first or second greatest cause of mortality in those communities, even ahead of HIV/ AIDS.

**Infection and symptoms**

The disease is mostly transmitted through the bite of an infected tsetse fly but there are other ways in which people are infected:

Mother-to-child infection: the trypanosome can cross the placenta and infect the foetus.

Mechanical transmission through other

- blood-sucking insects is possible, however, it is difficult to assess its epidemiological impact.
- Accidental infections have occurred in laboratories due to pricks with contaminated needles.
- Transmission of the parasite through sexual contact has been documented.

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In the first stage, the trypanosomes multiply in subcutaneous tissues, blood and lymph. This is also called haemo-lymphatic stage, which entails bouts of fever, headaches, joint pains and itching.

In the second stage the parasites cross the blood-brain barrier to infect the central nervous system. This is known as the neurological or meningo-encephalic stage. In general this is when more obvious signs and symptoms of the disease appear: changes of behaviour, confusion, sensory disturbances and poor coordination. Disturbance of the sleep cycle, which gives the disease its name, is an important feature. Without treatment, sleeping sickness is considered fatal although cases of healthy carriers have been reported.

**Disease management: diagnosis**

Disease management is made in 3 steps:

- Screening for potential infection. This involves using serological tests (only available for *T.b.gambiense*) and checking for clinical signs - especially swollen cervical lymph nodes.
- Diagnosing by establishing whether the parasite is present in body fluids.

Staging to determine the state of disease progression. This entails examining the cerebrospinal fluid obtained by lumbar puncture. Diagnosis must be made as early as possible to avoid progressing to the neurological stage. Exhaustive screening requires a major investment in human and material resources. In Africa such resources are often scarce, particularly in remote areas where the disease is mostly found. As a result, some infected individuals may die before they can ever be diagnosed and treated.

**Treatment**

The type of treatment depends on the disease stage. The drugs used in the first stage are safer and easier to administer than those for the second stage. Also, the earlier the disease is identified, the better the prospects of a cure. The assessment of treatment outcome requires follow up of the patient up to 24 months and entails laboratory exams of body fluids including cerebrospinal fluid obtained by lumbar puncture, as parasites may remain viable for long periods and reproduce the disease months after treatment.

Treatment success in the second stage depends on drugs that cross the blood-brain barrier to reach the parasite. Such drugs are toxic and complicated to administer. In total five different drugs are used for the treatment of sleeping sickness. These drugs are donated to WHO by manufacturers and distributed free of charge to disease endemic countries.

There is no vaccine or drug for prophylaxis against African trypanosomiasis. Preventive measures are aimed at minimizing contact with tsetse flies.

Although the parasite causing human African trypanosomiasis was identified only in 1901, 'sleeping sickness' is thought to have existed on the African continent for centuries. WHO's ultimate objective is the elimination of human African trypanosomiasis as a public health problem and the implementation of sustained surveillance in all disease-endemic countries.

*Sleeping sickness occurs in 36 sub-Saharan African countries where there are tsetse flies that transmit the disease. The people most exposed to the tsetse fly live in rural areas .*

*Early diagnosis and treatment can completely cure the disease. Sleeping sickness is curable with medication, but is fatal if left untreated.*

Source: Trypanosomiasis, human African (sleeping sickness) Fact Sheet .Available at :https://www.who.int/news-room/fact-sheets/detail/trypanosomiasis-human-african-(sleeping-sickness)

CDC. African Trypanosomiasis, https://www.cdc.gov/parasites/sleepingsickness/index.html

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Sri Lanka

**Table 1 : Water Quality Surveillance**
**Number of microbiological water samples December 2018**

| District | MOH areas | No: Expected * | No: Received |
|---|---|---|---|
| Colombo | 15 | 90 | **102** |
| Gampaha | 15 | 90 | **NR** |
| Kalutara | 12 | 72 | **NR** |
| Kalutara NIHS | 2 | 12 | **NR** |
| Kandy | 23 | 138 | **NR** |
| Matale | 13 | 78 | **74** |
| Nuwara Eliya | 13 | 78 | **NR** |
| Galle | 20 | 120 | **NR** |
| Matara | 17 | 102 | **NR** |
| Hambantota | 12 | 72 | 37 |
| Jaffna | 12 | 72 | 136 |
| Kilinochchi | 4 | 24 | 1 |
| Manner | 5 | 30 | **NR** |
| Vavuniya | 4 | 24 | **NR** |
| Mullatvu | 5 | 30 | **NR** |
| Batticaloa | 14 | 84 | 109 |
| Ampara | 7 | 42 | **35** |
| Trincomalee | 11 | 66 | **NR** |
| Kurunegala | 29 | 174 | 111 |
| Puttalam | 13 | 78 | **NR** |
| Anuradhapura | 19 | 114 | **16** |
| Polonnaruwa | 7 | 42 | 40 |
| Badulla | 16 | 96 | 66 |
| Moneragala | 11 | 66 | 75 |
| Rathnapura | 18 | 108 | **NR** |
| Kegalle | 11 | 66 | 62 |
| Kalmunai | 13 | 78 | **NR** |

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

**Table 1: Selected notifiable diseases reported by Medical Officers of Health 12th – 18th Jan 2019 (3rd Week)**

| RDHS Division | Dengue Fever | | Dysentery | | Encephalitis | | Enteric Fever | | Food Poisoning | | Leptospirosis | | Typhus Fever | | Viral Hepatitis | | Human Rabies | | Chickenpox | | Meningitis | | Leishmania-sis | | 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 | 259 | 884 | 3 | 3 | 0 | 1 | 0 | 1 | 1 | 1 | 4 | 8 | 1 | 3 | 1 | 2 | 0 | 0 | 8 | 30 | 1 | 8 | 0 | 0 | **44** | **100** |
| Gampaha | 161 | 539 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 10 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 27 | 1 | 1 | 3 | 11 | **52** | **98** |
| Kalutara | 78 | 281 | 0 | 3 | 1 | 3 | 0 | 1 | 1 | 5 | 12 | 46 | 0 | 1 | 0 | 0 | 0 | 0 | 21 | 69 | 6 | 10 | 3 | 3 | **59** | **100** |
| Kandy | 70 | 219 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 2 | 4 | 12 | 2 | 8 | 0 | 0 | 0 | 1 | 5 | 19 | 0 | 4 | 1 | 1 | **61** | **100** |
| Matale | 19 | 45 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 9 | 0 | 0 | 1 | 1 | 0 | 1 | 2 | 7 | 1 | 1 | 17 | 32 | **67** | **100** |
| NuwaraEliya | 3 | 22 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 1 | 4 | 0 | 1 | 0 | 0 | 1 | 4 | 0 | 1 | 0 | 0 | **23** | **100** |
| Galle | 43 | 100 | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 6 | 20 | 2 | 8 | 0 | 1 | 0 | 0 | 10 | 26 | 2 | 5 | 0 | 1 | **62** | **97** |
| Hambantota | 37 | 111 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 7 | 15 | 0 | 1 | 0 | 0 | 6 | 17 | 0 | 0 | 35 | 60 | **69** | **100** |
| Matara | 42 | 155 | 1 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 1 | 7 | 4 | 10 | 1 | 2 | 0 | 0 | 6 | 23 | 0 | 2 | 14 | 39 | **63** | **100** |
| Jaffna | 211 | 710 | 2 | 10 | 0 | 1 | 1 | 1 | 0 | 0 | 5 | 7 | 28 | 82 | 0 | 0 | 0 | 0 | 5 | 13 | 0 | 2 | 0 | 0 | **26** | **93** |
| Kilinochchi | 8 | 19 | 2 | 3 | 0 | 0 | 1 | 1 | 0 | 0 | 5 | 9 | 2 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | **42** | **100** |
| Mannar | 10 | 24 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | **53** | **100** |
| Vavuniya | 5 | 34 | 0 | 1 | 0 | 1 | 2 | 5 | 0 | 2 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | **25** | **100** |
| Mullaitivu | 5 | 11 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | **50** | **67** |
| Batticaloa | 41 | 148 | 5 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 0 | 0 | **67** | **100** |
| Ampara | 6 | 21 | 1 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 | 2 | 3 | 0 | 0 | 8 | 14 | 0 | 1 | 0 | 0 | **43** | **100** |
| Trincomalee | 5 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | **39** | **78** |
| Kurunegala | 58 | 171 | 1 | 7 | 1 | 4 | 0 | 1 | 0 | 0 | 8 | 22 | 2 | 3 | 0 | 2 | 0 | 0 | 9 | 39 | 4 | 7 | 16 | 56 | **52** | **100** |
| Puttalam | 20 | 63 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 9 | 0 | 0 | 0 | 1 | **59** | **100** |
| Anuradhapura | 19 | 39 | 0 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 4 | 23 | 0 | 1 | 1 | 2 | 0 | 0 | 9 | 31 | 0 | 1 | 5 | 37 | **39** | **97** |
| Polonnaruwa | 12 | 31 | 3 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 10 | 1 | 1 | 0 | 2 | 0 | 0 | 13 | 22 | 3 | 4 | 7 | 19 | **50** | **100** |
| Badulla | 23 | 67 | 1 | 5 | 1 | 1 | 0 | 1 | 0 | 3 | 4 | 24 | 3 | 8 | 0 | 0 | 0 | 0 | 6 | 16 | 3 | 14 | 0 | 2 | **56** | **100** |
| Monaragala | 13 | 48 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 27 | 1 | 7 | 0 | 1 | 0 | 0 | 7 | 22 | 2 | 8 | 0 | 0 | **67** | **100** |
| Ratnapura | 36 | 129 | 3 | 6 | 2 | 7 | 0 | 0 | 2 | 2 | 9 | 38 | 0 | 1 | 0 | 0 | 0 | 0 | 9 | 30 | 3 | 12 | 0 | 1 | **40** | **100** |
| Kegalle | 36 | 109 | 2 | 3 | 0 | 1 | 0 | 0 | 1 | 13 | 4 | 11 | 0 | 2 | 0 | 0 | 0 | 0 | 7 | 32 | 0 | 1 | 0 | 1 | **55** | **100** |
| Kalmune | 36 | 90 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 0 | 0 | 0 | 0 | **51** | **100** |
| **SRILANKA** | **1256** | **4147** | **31** | **93** | **9** | **26** | **6** | **15** | **5** | **38** | **85** | **305** | **58** | **166** | **7** | **19** | **0** | **2** | **151** | **479** | **26** | **83** | **10** | **266** | **53** | **98** |

**Source: Weekly Returns of Communicable Diseases (WRCD).**

*T=Timeliness refers to returns received on or before 18th January , 2019 Total number of reporting units 353 Number of reporting units data provided for the current week: 344 **C****-Completeness

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

## Table 2: Vaccine-Preventable Diseases & AFP

12th – 18th Jan 2019 (3rd Week)

| Disease | No. of Cases by Province | | | | | | | | | Number of cases during current week in 2019 | Number of cases during same week in 2018 | Total number of cases to date in 2019 | Total number of cases to date in 2018 | Difference between the number of cases to date in 2019 & 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | W | C | S | N | E | NW | NC | U | Sab | | | | | |
| AFP* | 01 | 02 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 03 | 02 | 06 | 03 | 100 % |
| Diphtheria | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Mumps | 00 | 00 | 02 | 00 | 01 | 01 | 01 | 00 | 01 | 06 | 03 | 18 | 10 | 80 % |
| Measles | 01 | 00 | 01 | 00 | 00 | 00 | 01 | 00 | 00 | 03 | 03 | 10 | 06 | 66.6 % |
| Rubella | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 02 | -100 % |
| 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 | 01 | 02 | 04 | - 50 % |
| Neonatal Tetanus | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 0 % |
| Japanese Encephalitis | 00 | 00 | 00 | 01 | 00 | 00 | 00 | 00 | 00 | 01 | 01 | 02 | 04 | 50 % |
| Whooping Cough | 02 | 00 | 01 | 00 | 00 | 01 | 00 | 00 | 00 | 04 | 01 | 05 | 02 | 150 % |
| Tuberculosis | 78 | 15 | 39 | 11 | 10 | 03 | 00 | 09 | 33 | 198 | 175 | 509 | 462 | 10.1% |

### 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.

**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

Influenza Surveillance in Sentinel Hospitals - ILI & SARI

| Month | Human | | | | Animal | | |
|---|---|---|---|---|---|---|---|
| | No Total | No Positive | Infl A | Infl B | Pooled samples | Serum Samples | Positives |
| January | 95 | 14 | 10 | 4 | 2247 | 2001 | 0 |

Source: Medical Research Institute & Veterinary Research Institute

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