

දුරකථන ) 011 2669192 , 011 2675011  
தொலைபேசி ) 011 2698507 , 011 2694033  
Telephone ) 011 2675449 , 011 2675280

ෆැක්ස් ) 011 2693866  
பெக்ஸ் ) 011 2693869  
Fax ) 011 2692913

විද්‍යුත් තැපෑල ) postmaster@health.gov.lk  
மின்னஞ்சல் முகவரி )  
e-mail )

වෙබ් අඩවිය ) www.health.gov.lk  
இணையத்தளம் )  
website )



සුවසිරිපාය  
சுவசிரிபாய

SUWASIRIPAYA

මගේ අංකය )  
எனது இல ) EPID/342/2019  
My No. )

ඔබේ අංකය )  
உமது இல )  
Your No. : )

දිනය ) 14 /11/2019  
திகதி )  
Date )

සෞඛ්‍ය, පෝෂණ සහ දේශීය වෛද්‍ය අමාත්‍යාංශය  
சுகாதார, போசணை மற்றும் சுதேச வைத்திய அமைச்சு  
Ministry of Health, Nutrition & Indigenous Medicine

**General Circular No:**

All Provincial Directors of Health Services  
All Regional Directors of Health Services  
All Directors of Provincial General and District General Hospital  
All Medical Superintendents of Base Hospitals  
All Heads of Medical Institutions  
Directors of Special Campaigns/Units  
Chief Medical Officer, Colombo Municipal Council  
All Medical Officers of Health

**Guidelines on Prevention and Control of Leishmaniasis**

Leishmaniasis is a vector-borne parasitic disease which is estimated to cause the ninth largest disease burden among individual infectious diseases in the world. Three hundred and fifty million people are at risk of getting the disease with an annual incidence of two million cases. It is endemic in 97 countries, which are mostly in tropical and subtropical regions. Leishmaniasis is an endemic disease in the South-East Asian Region. It is evident that the disease is increasing in the world with a wider geographical distribution.

Three main clinical manifestations of leishmaniasis are Visceral Leishmaniasis (VL), Muco Cutaneous Leishmaniasis (MCL) and Cutaneous Leishmaniasis (CL). Cutaneous leishmaniasis (CL) is the most common form of leishmaniasis which causes skin lesions, mainly ulcers, on exposed parts of the body, leaving life-long scars and disability which may cause stigma.

Cutaneous Leishmaniasis is an emerging public health problem in many countries including Sri Lanka. CL has been established as an endemic disease within a short period of time in the country despite the first local case reported from the Ambalanthota

MOH area in Hambantota District in 1992. Number of reported leishmaniasis cases have increased gradually after the disease became notifiable in 2008. More than three thousand cases have been reported during 2018 alone. Five districts namely, **Anuradhapura, Hambantota, Polonnaruwa, Kurunegala and Matara** are contributing to approximately 90% of the total annual caseload. Cutaneous Leishmaniasis is the predominantly reporting form of leishmaniasis in Sri Lanka though there were few sporadic cases of visceral and mucosal leishmaniasis reported in the past.

Leishmaniasis is caused by several different species of genus *Leishmania*. The causative organism of leishmaniasis prevailing in Sri Lanka was identified as *Leishmania donovani* (zymodeme MON 37). The parasite undergoes part of its developmental cycle in the body of the sand fly which is essential for transmission of disease to the humans.

Sand flies are the known vector for leishmaniasis. The disease is transmitted through a bite of an infected female sand fly of subfamily Phlebotominae. *Phlebotomus argentipes* is the most likely vector of *L. donovani* in Sri Lanka. Sand flies are widely prevalent in some parts of the country are locally known as “weli massa” or “hohaputuwa” in different parts of the country.

Sand flies are small insects with two to three millimeters in body length. Body colour varies from light brown to black with hairy appearance and having large black eyes and long, stilt-like legs. They keep their wings in a characteristic “V” shape while at rest. Sand flies are weak and silent flyers with characteristic hopping movements. They tend to remain closer to the breeding sites, moving around hundred meter radius. Most sand-fly species tend to fly horizontally and close to the ground level. Sand flies are most active from dusk to dawn and less active during the warmer times of the day. Even though both female and male sand flies feed on plant juices, females take blood meal to mature the eggs. Their feeding activity is influenced by climatic factors such as temperature, humidity and flow of wind. The common resting sites of adult sand flies are cracks and holes in rocks, caves, and rodent burrows, cool, dark and humid corners of animal shelters or human dwellings in peri-domestic settings.

People may expose to sand fly bites during dusk to dawn whilst staying indoors. However, day time biting can occur in darkened rooms, among shaded vegetation specially when disturbed by human activities. Therefore, those who are working outdoors such as agricultural workers are at higher risk.

Sand flies predominantly make their habitat in warm, humid and tropical climates. They have four- stages in their life cycle (egg, larva, pupa and adult). They require microclimate with high humidity to develop their eggs and moist soil with decaying organic matter for the development of larvae. The common breeding places include bark and buttress roots in old trees, animal shelters, cracks and holes in floors and walls, household garbage dumps which are rich in moisture and humus. The exact duration of the life cycle depends mainly on environmental factors, however the approximate

duration is 20- 30 days. Adverse environmental conditions such as heat, cold, droughts may prolong the life cycle.

Reservoir host for leishmania is mammals including humans. Disease can transmit to the human either by infected human (anthroponotic transmission) or an animal (zoonotic transmission). Humans have been identified as the main reservoir for *L. donavani*. There is some evidence suggestive of possible reservoir status of domestic dogs in Sri Lanka.

Clinical picture varies according to the causative species and host factors.

- Cutaneous leishmaniasis (CL) – This is the commonest form of leishmaniasis. Skin lesion starts with the appearance of a small papule after one to two weeks to several months of a sand fly bite. The papular lesion could developed into a nodular lesion that may enlarge and could become a chronic ulcer. These lesions usually develop in exposed areas of the body such as face, neck, arms and legs in single or multiple lesions. However it can appear in other areas of the body where bite of the sand fly has occurred. Lesions are usually painless and non-itchy and some may heal spontaneously over many months.
- Mucosal leishmaniasis (ML) – This is a less common variant of the disease. Some types of the parasite might spread from the skin and cause sores in the mucous membranes of the nose, mouth or throat.
- Visceral leishmaniasis (VL) – This variant of leishmaniasis is also known as Kala-azar. The illness typically develops within months following a sand fly bite. However, the incubation period can vary from months to several years. Clinical features include simple continuous fever, weight loss, fatigue, anemia, enlargement of liver and spleen and involvement of bone marrow. VL is a fatal condition if untreated.

### **Prevention and control measures**

Ministry of Health has identified the Epidemiology Unit as the national focal point for control and prevention of Leishmaniasis in Sri Lanka.

#### ***At health care institutional level,***

- All medical officers should be able to identify patients with suspected leishmaniasis (refer case definition below).

#### **Surveillance case definition of Leishmaniasis**

An illness with one or more localized skin lesions (nodules, papules or ulcers) that commonly appear on the exposed areas of the body (face, neck, arms, legs) or rare involvement of viscera (liver, spleen) or the mucosal tissue in mouth /nose (*Surveillance case definitions for notifiable diseases in Sri Lanka, Second Edition,2011, Epidemiology Unit, Ministry of Health*).

- **Refer all** suspected patients of cutaneous & mucocutaneous leishmaniasis to a **Dermatologist** /dermatology clinic for early diagnosis and management.
- Refer any suspected case of visceral leishmaniasis (although rare) to the Physician/ Paediatrician for further investigations and management.
- All suspected / confirmed cases of leishmaniasis should be notified to the Medical Officer of Health of patient's area of residence at earliest (By filling the Notification of a Communicable Diseases form - Health 544).
- All clinically or laboratory confirmed leishmaniasis patients should be treated adequately.
- Patients should be educated on the importance of continuing treatment and they should be followed up until complete cure.
- Make aware the patient / guardian about the disease and on preventive measures for the rest of the households

#### ***At Medical Officer of Health (MOH) level***

- All the notified cases should be entered in the MOH Office Communicable Disease Notification Register and followed by field investigation within seven (7) days of the receipt of notification by the relevant range Public Health Inspector (PHI).

The following aspects should be looked at during the field investigation:

- Past history of similar illness
- Any history of interruption of treatment, If so reasons thereof.
- Any family member /close contact /neighbour having similar lesion.
- Occupational and travel history.
- Favourable environmental conditions for transmission of the disease, if any i.e. animal shelters, shrub areas

If the PHI has identified any favourable conditions for disease transmission during his field investigations, he should provide advice /take measures to prevent further spread of the disease in the area. (refer key health messages)

A follow up plan should be prepared for each patient by the PHI and should make sure that it is implemented.

- All clinically / laboratory confirmed cases should be entered into the Infectious Diseases Register (ID register, H 700) and should be sent to the Epidemiology Unit by filling Communicable Disease Part II form (H – 411a)
- A duly filled special investigation form for each confirmed case of leishmaniasis (entered in the ID register) should also be sent to the Epidemiology Unit.
- All confirmed cases should be followed up by the area PHI to ensure the continuity of treatment until complete cure.
- Outcome of the patient (complete cure / treatment default /non-response to treatment etc.) should be mentioned in the remarks column of the ID register.
- If a patient changes, his place of residence during the treatment period, patient's details should be notified to the relevant MOH for follow up.
- All household contacts of confirmed leishmaniasis patients should be screened for symptoms and signs by the area PHI. Households with suspected lesions of leishmaniasis need to be referred to the nearest dermatology clinic without delay.
- Required information on leishmaniasis surveillance should be notified weekly through “e-surveillance” (Weekly Return of Communicable Diseases - H 399) to the Epidemiology unit and to the respective Regional Epidemiologist.
- **If the area is endemic for leishmaniasis,**
  - It should be an agenda item and a discussion point in monthly MOH conference.
  - A spot map for leishmaniasis needs to be maintained at the MOH/PHI office.
- In the event of clustering of cases observed in the area,
  - MOH should organize an active surveillance in the area, with a view to identifying and early referral of suspected leishmaniasis cases.
  - Arrange entomological surveillance with the assistance of district entomological teams.
  - MOOH should carry out integrated vector control approaches and encourage personal protection methods.
  - Chemicals should be used with caution: decision on indoor residual spraying should be taken after careful evaluation of entomological findings and with the consultation with the Regional Epidemiologist and Regional Malaria Officer/ District Entomologist

- There is no proven evidence for outdoor fogging as a preventive measure for leishmaniasis.
- MOH should organize community awareness programmes

### ***At District Level***

Regional Epidemiologist (RE) should ensure that

- All suspected cases of leishmaniasis are being notified to the MOH from health institutions in the area.
- All notified cases are investigated, followed up and timely informed to the Epidemiology Unit.
- Analyzed and review of all information on leishmaniasis are received by the RE from the MOOH on regular basis.
- Based on the analysis, predict and intervene early in the outbreaks
- District situation of leishmaniasis is reviewed regularly and discussed at the District MOH reviews, Institutional heads meetings and other forums.

Health Entomological Officer (HEO)

HEO should carry out entomological surveillance for leishmaniasis based on the need of the district. HEO should submit a detailed report following entomological surveillance to the respective MOOH with copy to the Regional Epidemiologist. Once the reports received, the Regional Epidemiologist should refer the report to the District Entomologist/Regional Malaria Officer/ Regional Filaria Officer for necessary action.

Regional Malaria Officer and District Entomologist

Based on the entomological investigation findings both RMO and District Entomologist need to take appropriate vector control measures in collaboration with RE and relevant MOOH.

### **At central level**

Epidemiology Unit should ensure that,

- The timely and complete receipt of all Weekly Return of Communicable Diseases Returns (H 399) from all the MOOH areas
- Analyse all the special surveillance forms of the confirmed Leishmaniasis cases
- Predict and intervene early in the outbreaks of the disease
- Analyzed and review of all information on leishmaniasis and discuss during the quarterly REE reviews and other relevant forums

## Key Health messages to be given during field investigations/community awareness programmes

- Appearing a papule or nodule following a sand fly bite is an early sign of Leishmaniasis. When left untreated this skin lesion will developed into an ulcer which takes longer time to heal.
- It is important to get yourself examined by a dermatologist or a qualified medical officer to confirm the diagnosis and start early treatments. Therefore if you are having symptoms and signs suggestive of Leishmaniasis, seek medical advice from the nearest hospital.
- It is important to complete the full course of treatment to ensure complete cure.
- Leishmaniasis skin ulcer contains lot of parasites. Covering the wound with clean piece of gauze / cloth will prevent sand fly bite and further spread of the disease.
- To minimize indoor resting of sandflies, keep the houses clean regularly and allow sunlight to come in and facilitate air circulation in the premises.
- Old buildings, animal shelters and huts made with mud thatched walls with cracks and holes will provide conducive environment for breeding sites to the sand flies. Plastering the walls and floors with cracks and holes evenly with a suitable plastering material will avoid breeding sites.
- Breeding sites and outdoor resting places of the sand fly can be eliminated by keeping the outdoor environment clean. Therefore,
  - Avoid unnecessary vegetation. Allow sunlight to fall and adequate air movement by removing unnecessary items like shady tree branches, broken parts/ debris near houses.
  - Avoid garbage dumping and decaying items near houses and control rodent habitats.
  - Avoid growing shady trees, bushes closer to the animal shelters. Clean the animal shelters by removing animal waste regularly and keep shelters dry.
- Exposure to sand fly bites can be prevented by minimizing the vector/ human contact. Therefore,
  - Avoid outdoor activities as much as possible, especially from dusk to dawn and avoid outdoor sleeping.

- Wear protective clothing (long sleeved shirts, ankle length pants) that cover the whole body when working outdoors, in animal shelters and during play outdoor.
- Apply insect repellent to uncovered skin and under the sleeves and pant legs. Re application of repellants need to be done as they are effective only for 4-6 hours.
- Use other insect repellent methods available
- Use bed nets impregnated with pyrethroid-containing insecticides if available. Untreated bed nets do not prevent sand fly entry due to small size of the insects.

Please bring the contents of this circular to the notice of all relevant officers in your district or institution.

**Dr. Anil Jasinghe**

Director General of Health Services

**Dr. Anil Jasinghe**  
 Director General of Health Services  
 Ministry of Health, Nutrition & Indigenous Medicine,  
 "Suwasiripaya"  
 385, Rev. Baddegama Wimalawansa Thero Mawatha,  
 Colombo 10.

Cc:

Deputy Director General (Medical Services) I & II

Deputy Director General (Public Health Services) I

Chief Epidemiologist

Director, Private Health Sector Development