



## Key facts

- There are three main forms of leishmaniasis: visceral (often known as kala-azar and the most serious form of the disease), cutaneous (the most common), and mucocutaneous.
- Leishmaniasis is caused by the protozoan *Leishmania* parasites which are transmitted by the bite of infected sandflies.
- The disease affects the poorest people on the planet, and is associated with malnutrition, population displacement, poor housing, a weak immune system and lack of resources.
- Leishmaniasis is linked to environmental changes such as deforestation, building of dams, irrigation schemes and urbanization.
- An estimated 137 492 new cases occur annually in the Eastern Mediterranean Region (2012 data).

Leishmaniasis is caused by a protozoa parasite from over 20 *Leishmania* species and is transmitted to humans by the bite of infected female phlebotomine sandflies. The most common forms of the disease in the region are:

- **Visceral leishmaniasis** (VL), also known as kala-azar, is fatal if left untreated. It is characterized by irregular bouts of fever, weight loss, enlargement of the spleen and liver, and anaemia. An estimated 4924 new cases of VL were reported in the Region in 2012. Over 90% of new cases occur in six countries globally, one of which is Sudan.
- **Cutaneous leishmaniasis** (CL) is the most common form of leishmaniasis and causes ulcers on exposed parts of the body, leaving life-long scars and serious disability. About 95% of CL cases occur in the Americas, the Mediterranean basin, and the Middle East and Central Asia. Over two-thirds of new CL cases occur in six countries, which include Afghanistan, Islamic Republic of Iran and the Syrian Arab Republic. An estimated 132 568 cases were reported in the Region in 2012.



## Transmission

Leishmaniasis is transmitted through the bites of infected female phlebotomine sandflies. The epidemiology of leishmaniasis depends on the characteristics of the parasite species, the local ecological characteristics of the transmission sites, current and past exposure of the human population to the parasite and human behaviour.

## Leishmania–HIV co-infection

Leishmania–HIV coinfecting people have high chance of developing the full blown clinical disease, high relapses and mortality rates. Antiretroviral treatment reduces the development of the disease, delays relapses and increases the survival of the coinfecting patients.

## Major risk factors

### Socioeconomic conditions

Poverty increases the risk for leishmaniasis. Poor housing and domestic sanitary conditions (e.g. lack of waste management, open sewerage) may increase sandfly breeding and resting sites, as well as their access to humans. Sandflies are attracted to crowded housing as these provide a good source of blood-meals. Human behaviour, such as sleeping outside or on the ground, may increase risk. The use of insecticide-treated bednets reduces risk.

### Malnutrition

Diets lacking protein-energy, iron, vitamin A and zinc increase the risk that an infection will progress to kala-azar.

### Population mobility

Epidemics of both main forms of leishmaniasis are often associated with migration and the movement of non-immune people into areas with existing transmission cycles. Occupational exposure as well as widespread deforestation remain important factors. For example, people settling in areas that used to be forests may be moving near sandflies' habitat. This can lead to a rapid increase in cases.

### Environmental changes

Environmental changes that can affect the incidence of leishmaniasis include urbanization, domestication of the transmission cycle and the incursion of agricultural farms and settlements into forested areas.

### Climate change

Leishmaniasis is climate-sensitive, and strongly affected by changes in rainfall, temperature and humidity. Global warming and land degradation together affect the epidemiology of leishmaniasis in a number of ways:

- changes in temperature, rainfall and humidity can have strong effects on vectors and reservoir hosts by altering their distribution and influencing their survival and population sizes;
- small fluctuations in temperature can have a profound effect on the developmental cycle of *Leishmania* promastigotes in sandflies, allowing transmission of the parasite in areas not previously endemic for the disease;
- drought, famine and flood resulting from climate change can lead to massive displacement and migration of people to areas with transmission of leishmaniasis, and poor nutrition could compromise their immunity.

### Diagnosis and treatment

In visceral leishmaniasis, diagnosis is made by combining clinical signs with parasitological, or serological tests (rapid diagnostic tests and others). In cutaneous and mucocutaneous leishmaniasis serological tests have limited value. In cutaneous leishmaniasis, clinical manifestation with parasitological tests confirms the diagnosis.

The treatment of leishmaniasis depends on several factors including type of disease, parasite species and geographic location. Leishmaniasis is a treatable and curable disease. All patients diagnosed as visceral leishmaniasis require prompt and complete treatment.

### Prevention and control

Prevention and control of leishmaniasis require a combination of intervention strategies because transmission occurs in a complex biological system involving the human host, parasite, sandfly vector and in some causes an animal reservoir. Key strategies include the following:

- Early diagnosis and effective case management reduces the prevalence of the disease and prevents disabilities and death. Currently there are highly effective and safe anti-leishmanial medicines particularly for VL and access to these medicines is improving.

- Vector control helps to reduce or interrupt transmission of disease by controlling sandflies, especially in domestic conditions. Control methods include insecticide spray, use of insecticide-treated nets, environmental management and personal protection.
- Effective disease surveillance is important. Early detection and treatment of cases helps reduce transmission and helps monitor the spread and burden of disease.
- Control of reservoir hosts is complex and should be tailored to the local situation.
- Social mobilization and strengthening partnerships – mobilization and education of the community with effective behavioral change interventions with locally tailored communication strategies. Partnership and collaboration with various stakeholders and other vector-borne disease control programmes is critical at levels.

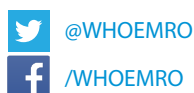
## WHO response

WHO's work on leishmaniasis control involves:

- Supporting national leishmaniasis control programmes;
- Raising awareness and advocacy on the global burden of leishmaniasis, and promoting equitable access to health services for disease prevention and case management;
- Developing evidence-based policy guidelines, strategies and standards for leishmaniasis prevention and control, and monitors their implementation;
- Providing technical support to Member States to build sustainable, effective surveillance systems and epidemic preparedness and response;
- Strengthening collaboration and coordination among partners, stakeholders and other bodies;
- Monitoring the global leishmaniasis situation, trends and progress in disease control, and financing;
- Promoting research on effective leishmaniasis control including in the areas of safe, effective and affordable medicines, diagnostic tools and vaccines; facilitating the dissemination of research findings.

### For more information:

[www.emro.who.int/whd2014](http://www.emro.who.int/whd2014)



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