

# KALA-AZAR CONTROL PROGRAMME

## Introduction

Kala-azar or visceral leishmaniasis (VL) is a chronic disease caused by an intracellular protozoan (*Leishmania* species) and transmitted to man by bite of female phlebotomus sand fly. The classical features of Kala-azar are fever, splenomegaly and hepatomegaly associated with anaemia, weight loss and weakness. Fever is of gradual or sudden onset; it could be persistent or irregular, often with two daily peaks, with alternating periods of apyrexia and low-grade fever. Post kala-azar dermal lesions may occur after the apparent cure of systemic disease. If untreated it may be fatal. Darkening of face, hand, feet and abdomen skin is common in India so its name is derived from locality (kala-azar i.e. black sickness).

## Burden of Disease

**World:** Visceral leishmaniasis occurs throughout the world particularly in South America, South Africa, Mediterranean countries, India and China. The overall prevalence is 12 million cases and estimated population at risk is about 350 million. Around 115 million population is living in South Eastern region particularly in Nepal, Bangladesh, and India. Incidence of the disease is 6 lakh cases every year estimated. Due to the wide spread use of DDT insecticide for control of malaria in 1950s and 1960s, transmission of VL was interrupted and the disease virtually disappeared.

**India:** Currently, it is a main problem in Bihar, Jharkhand, West Bengal and some parts of Uttar Pradesh. In view of the growing problem planned control measures were initiated to control kala-azar. The budgetary provision for kala-azar was the part of National Malaria Eradication Programme budget until 1990-91.

## National Health Policy 2002

"Elimination of Kala azar by 2010"

## Strategy for control

The strategy for kala-azar control broadly included three main activities.

1. Interruption of transmission by reducing vector population through indoor residual insecticides.
2. Early diagnosis and complete treatment of Kala-azar cases; and
3. Health education programme for community awareness.

## Vector Control: Interruption of transmission

- a) Sand fly control : DDT is the choice of insecticide for *Phlebotomus argentipes*, the vector of Kala-azar. Two rounds of spray is done in human dwelling, animal shelters and all other resting places up to a height of 6 feet from floor level. First spraying operation can be done in Feb-March and second in May-June. 75% of DDT of One Kg can be mixed in 3 gallons of water or 50% of DDT of one and a half Kg can be mixed in 3 gallons of water is sufficient for 6000 sq. ft. The spray should be 100 mg per square feet.
- b) In case of resistance of vector to insecticide BHC is recommended.

## Early diagnosis and treatment

Diagnosis is made on the basis of clinical findings and laboratory tests. Although aldehyde test is commonly carried out in India to make the diagnosis of Kala-azar but this has a drawback of becoming positive only 2-3 months after the onset of disease and

revert to negative 6 months after cure. ELISA better and fast test but usually performed in epidemiological studies.

Treatment of kala-azar is available in all Govt. hospitals and dispensaries free of cost.

### **Health Education**

Health education is must for kala-azar control. Protective measures like avoiding sleeping on floor, and using fine-mesh bed-nets. Cleaning of environment and clean shelters for animals are necessary control measures. All the cracks and crevices should be closed by cement of appropriate material. Animal house, cow-shed, and dairy should be kept clean; water well should be kept closed; and not to sleep naked or application of home made mustard oil lotion are very important measures that can be undertaken by the community at individual level.

### **Assistance provided by the Govt. of India**

More financial assistant to Bihar and West Bengal was made after 1993-94. Material assistant included the insecticide DDT, Sodium stibogluconate and imported drug Pentamidine isothionate. In 2000-2001, programme was operative on cost sharing basis between centre and states wherein centre provided insecticides operation cost of insecticide spray and drugs whereas states met all other expenses for strategy.