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Elimination of Kala Azar

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Why is in news? In 2023, India hit target towards eliminating Kala Azar, first time

In a significant step forward towards eliminating Kala Azar — the **second deadliest parasitic disease after malaria** in the country — India has achieved the target of reporting less than one case per 10,000 population across all blocks in 2023.

Data from the **National Vector Borne Disease Control Programme** showed that there were 595 cases and four deaths of Kala Azar reported nationwide last year compared to 891 cases and three deaths in 2022.

About the disease:

Kala Azar or black fever is a disease caused by infection with **Leishmania parasites**.

It is transmitted by **female sandfly - Phlebotomus argentipes**.

It is also known as **visceral leishmaniasis or black fever or Dum-Dum fever**.

It is a **neglected tropical disease** affecting almost 100 countries including India.

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WHAT IS KALA-AZAR

- A slow progressing indigenous disease
- Caused by protozoan parasite of genus *Leishmania*
- In India, *Leishmania donovani* is the only parasite causing the disease
- The parasite primarily infects reticuloendothelial system

Signs & Symptoms

- ➡ Recurrent fever
- ➡ Loss of appetite
- ➡ Weakness
- ➡ Spleen enlargement
- ➡ Anaemia

Transmission

- Sandfly of genus *Phlebotomus argentipes* only known vector of kala-azar in India



- Indian kala-azar has a unique epidemiological feature of being anthroponotic
- Female sandflies pick up parasite while feeding on infected human host
- Development and multiplication in the gut of sandflies and move to mouthparts

- Parasite undergoes morphological change to become flagellate

- Healthy human hosts get infection when an infective sandfly vector bites them

Types:

Visceral leishmaniasis affects multiple organs and is the most serious disease.

Cutaneous leishmaniasis causes skin sores and is the most common form.

Mucocutaneous Leishmaniasis, which causes skin and mucosal lesions.

Symptoms:

Initially, leishmania parasites cause **skin sores or ulcers** at the site of the bite. If the disease progresses, it attacks the immune system.

Kala azar presents after two to eight months with more generalized symptoms including prolonged fever and weakness. It causes fever, weight loss, spleen and liver enlargement. Left untreated, it can be fatal in 95% of cases.

Treatment:

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Treatment of Kala Azar is done through **liposomal AmB** – this is the drug of choice for **immunocompetent patients**.

There are other treatment options available such as **paromomycin, miltefosin and multidrug therapy treatment**.

Vector control is also recommended by the WHO, which means reducing or interrupting the transmission of disease by decreasing the number of sandflies in surroundings through insecticide spray, use of insecticide-treated nets, etc.

India's strategies for elimination:

A rigorous indoor residual spraying effort aimed at curtailing sandfly breeding sites;

The application of a special soil to seal crevices in mud walls, preventing sandflies from nesting; and

The mobilisation of the ASHA (Accredited Social Health Activist) network to ensure completion of treatment for **PKDL patients**, who require a 12-week course of Miltefosine.

Post Kala-azar dermal leishmaniasis:

PKDL or Post Kala-azar dermal leishmaniasis, is a well-recognised complication which causes scaly skin patches and nodular lesions in people who have been apparently cured of Kala Azar up to two years of the initial infection.

The problem with PKDL is that it **can be a reservoir for the parasite** and can **lead to the spread of the infection again**.

The challenge is to track the Kala Azar patients and detect PKDL cases as many people might not go to health centres on their own for it. There were 314 cases of PKDL in 2023, according to data.

The **availability of point-of-care quick diagnostic kits** that can be used at the primary health centre or sub-centre level has helped in early diagnosis of cases in recent years.

The treatment has also improved as compared to what it was a decade ago. Patients only need an IV drip of the medicine, which takes about two hours, for the infection to be cured.

Earlier drugs had to be taken over a longer period and there were side effects.

Neglected Tropical Disease (NTDs):

They are 'neglected' because they are **almost absent from the global health agenda**

NTDs are a diverse group of conditions caused by various pathogens (including viruses, bacteria, parasites, fungi and toxins).

These diseases disproportionately **affect low-income populations** residing in developing regions across **Africa, Asia, and the Americas**.

WHO recognizes more than 20 NTDS: Chagas disease; dengue and chikungunya; dracunculiasis; leishmaniasis; leprosy; lymphatic filariasis; chromoblastomycosis and rabies; soil-transmitted helminthiasis; snakebite envenoming; trachoma; and yaws etc.

Global Impact: It is prevalent in 149 countries and impacting over 1.5 billion individuals, including more than 450 million children.

WHO Roadmap goal for NTDs is **2021-2030**.

India and its efforts:

The Centre has apprised the World Health Organization (WHO) of this data. Although this marks just the first step – India will need to sustain this momentum over the next three years to receive WHO certification – it's an important milestone, considering that **India has missed at least four deadlines for Kala Azar elimination**.

India's **initial target year** for Kala Azar elimination **was 2010**, which was later extended to **2015, 2017, and then 2020**.

Elimination for Kala Azar is defined as no block in the country reporting **more than one case per 10,000 people**.

In October 2023, **Bangladesh became the first country** in the world to be **officially validated by the WHO for eliminating Kala Azar as a public health problem**.

In India, there were 633 blocks, **mainly in four states Bihar, Jharkhand, West Bengal and Uttar Pradesh**, where the disease was endemic. And a few of these blocks were reporting more than one case per 10,000 over the last few years resulting in India missing the four deadlines.

WHO experts will verify the data, assess the mechanisms in place to sustain the success, and then, after three years, issue the certification.

India has a **history of sustaining low levels of cases** — **West Bengal and Uttar Pradesh** had **reached the elimination levels** years ago and have maintained the numbers.

Government Efforts:

Government of India (GOI) launched a **centrally sponsored Kala-azar control programme** in the endemic states in the year 1990-91.

GOI is **directly working with development partners** such as Bill Melinda Gates Foundation (BMGF), National Centre for Disease Control (NCDC) and World Health Organization (WHO) to eliminate Kala Azar from India.

On a monthly basis Kala-azar elimination is being reviewed by the Prime Minister's Office (PMO) as well as higher officials of the Ministry of Health and Family Welfare.

The Centre is supporting the states in active case detection, surveillance, treatment, and supply of diagnostic kits, medicines, sprays, etc.

The government aimed to eliminate the disease in India by 2015, but that deadline was missed. However, the number of cases has been brought down significantly through the **National Kala-Azar Elimination Programme**.

WHO's New Roadmap for 2021–2030: To prevent, control, eliminate and eradicate a set of 20 diseases, termed neglected tropical diseases, by 2030.

The WHO has also established the **Global Programme to Eliminate Lymphatic Filariasis (GPELF)**, which aims to eliminate lymphatic filariasis, onchocerciasis, and Kala-azar by MDA.

The **target set by GPELF** in 2000 to **eliminate these diseases globally by 2020** was not achieved. Despite **setbacks due to Covid-19**, WHO will accelerate work to achieve this **target by 2030**.