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PROSPECTIVE STUDY OF LEPROSY INFECTION: PREVALENCE AND OUTBREAK IN INDIA

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ABSTRACT

Leprosy is a chronic infectious disease caused by M. leprae. It affects mainly the peripheral nerves. It also affects the skin, muscles, eyes, bones, testes and internal organs. The disease manifests itself in two polar forms, namely the lepromatous leprosy and tuberculoid leprosy, lying at the two ends of a long spectrum of the disease. Between these two polar types occur the borderline and indeterminate forms depending upon the host response infection.Leprosy has been around since ancient times. For centuries, people isolated and shunned those with leprosy because the disease wasn't understood. Today, effective treatment is available, and there's no need to quarantine people with leprosy.

I. INTRODUCTION

Leprosy is an infectious disease that causes severe, disfiguring skin sores and nerve damage in the arms, legs, and around your body. Leprosy has existed since ancient times.

What is leprosy?

Leprosy is clinically characterized hypopigmented patches partial or total loss of cutaneous sensation in the affectedareas (the earliest sensation to be affected is usually light touch) presence of thickened nerves.

Presence of acid-fast bacilli in the skin or nasal smears.

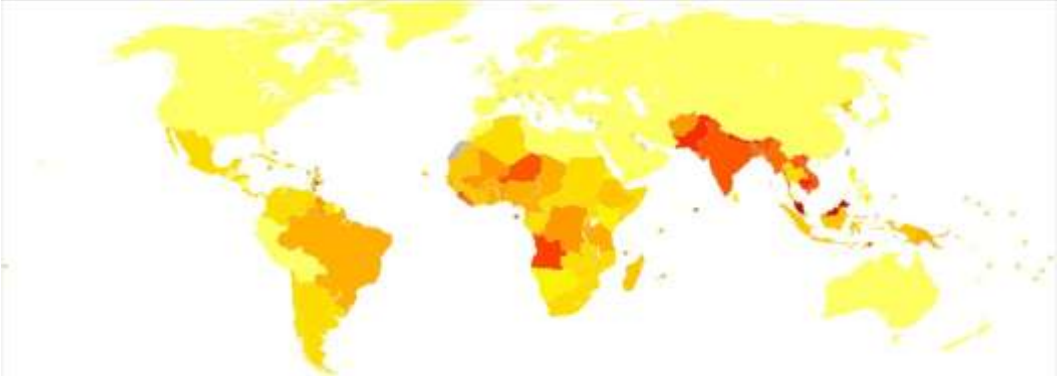
The signs of advanced disease are striking presence of nodules orlumps especially in the skin of the face and ears; plantar ulcers; loss of fingers or toes, nasal depression, foot- drop, claw toes andother deformities.

Leprosy can affect people in different ways.The average incubation period is five years.People may begin to notice symptoms within the first year or up to 20 years after infection.The first noticeable sign of leprosyis often the development of pale or pink coloured patches of skin that may be insensitive to temperature or pain. Patches of discolored skin are sometimes accompanied or preceded by nerve problems including numbness or tenderness in the hands or feet.Secondary infections (additional bacterial or viral infections) can result in tissue loss, causing fingers and toes to become shortened and deformed, as cartilage is absorbed into the body.A person's immune response differs depending on the form of leprosy.

Epidemiology:

World- wide:

In 2018, there were 208,619 new cases of leprosy recorded, a slight decrease from 2017.[94] In 2015, 94% of the new leprosy cases were confined to 14 countries.India reported the greatest number of new cases (60% of reported cases), followed by Brazil (13%) and Indonesia (8%).Although the number of cases worldwide continues to fall, there are parts of the world where leprosy is more common, including Brazil,South Asia (India, Nepal, Bhutan), some parts of Africa (Tanzania, Madagascar, Mozambique), and the western Pacific.About 150 to 250 cases are diagnosed in the United States each year.



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Leprosy situation in SEAR countries at the beginning of 2014.

Country	Registered	No. of New cases detected	No.of new cases of	No. Of New female	No. Of New cases among children
Bangladesh	3087	3141	1380	1237	166
India	86147	126913	63337	46845	12043
Indonesia	19730.	16856.	14062.	6021	2002
Myanmar	2721.	2950.	2155.	997.	134
Nepal	2425.	3225.	1668.	1043.	131
Shri lanka	1608.	1990.	947.	812.	182
Thailand	560.	188.	125.	72.	8
Bhutan	21.	17.	17.	7.	0
Total	116396.	155385.	85788.	57052.	14674

India: Leprosy is endemic in several states and union territories of India, with the annual case detection rate of 4.56 per 10 000 population. The prevalence rate of leprosy is 0.4 per 10,000 population in the country. Of the new cases detected during 2020-2021, 58.1% were multibacillary, 39% were women, 5.8% were children less than 14 years of age, and 2.41% had visible deformities. The rate of visible deformities was 1.1 per million population.

State wise NLEP data FY 2022-23 (up to Jan'2023)

S.No.	State/UT	Prevalence Rate (PR)/ 10000 population
1	Andhra Pradesh	0.5
2	Arunachal Pradesh	0.1
3	Assam	0.2
4	Bihar	0.9
5	Chhattisgarh	2.3
6	Goa	0.2
7	Gujarat	0.4
8	Haryana	0.1
9	Himachal Pradesh	0.2
10	Jharkhand	1.4
11	Jammu & Kashmir	0.1
12	Karnataka	0.3
13	Kerala	0.1
14	Madhya Pradesh	0.9
15	Maharashtra	1.2
16	Manipur	0.1
17	Meghalaya	0.0
18	Mizoram	0.1
19	Nagaland	0.1
20	Odisha	1.2
21	Punjab	0.2
22	Rajasthan	0.1
23	Sikkim	0.2
24	Tamil Nadu	0.3
25	Telangana	0.7
26	Tripura	0.0
27	Uttar Pradesh	0.4
28	Uttarakhand	0.3
29	West Bengal	0.5
30	A & N Islands	0.1
31	Chandigarh	1.4
32	D & N Haveli	1.0
33	Daman & Diu	0.1
34	Delhi	0.8
35	Lakshadweep	0.0
36	Ladakh	0.3
37	Puducherry	0.1

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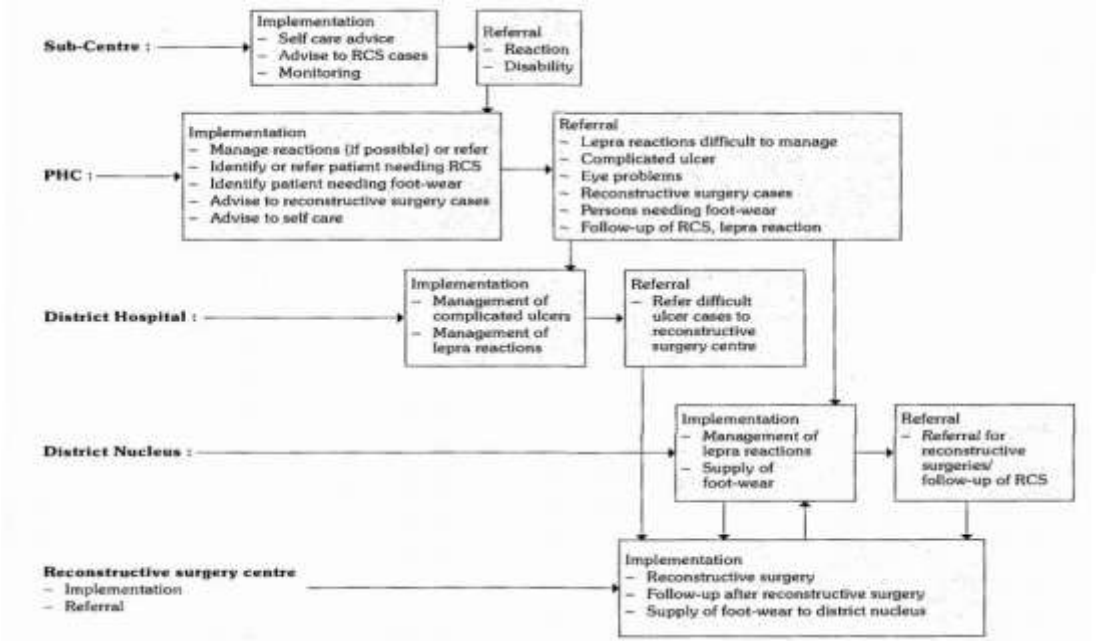
India has achieved the elimination of leprosy as a public health problem as per WHO criteria of less than 1 case per 10,000 population at the National level in 2005. After achieving elimination status at national level, National Leprosy Eradication Programme (NLEP) has taken a number of initiatives to encourage early case detection of leprosy patients to prevent Grade 2 Disabilities, and to ensure free of cost treatment of leprosy patients. There are few districts within States/UTs, where leprosy is endemic. With various interventions introduced under NLEP in the last few years, number of new leprosy cases detected have come down to 75,394 in 2021-22 from 1,25,785 in 2014-15, accounting for 53.6% of Global new leprosy cases. The current NLEP State-wise data is annexed.

CHANDAN KHANNA/AFP/Getty Images

Leprosy control program in India:



Medication (treatment):

(1) WHO RECOMMENDATIONS

The proper application of multidrug therapy is crucial to the success of leprosy control. The regimens recommended by WHO have been widely accepted in many countries. They are as below (25).

a. Multibacillary leprosy

The WHO has recommended the following combination of drugs for treatment of adultmultibacillary cases of leprosy:

Rifampicin 600 mg, once monthly, given under supervisionDapsone

100 mg daily, self-administered

Clofazimine 300 mg once monthly supervised; and 50 mg daily, self-administered.

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Where clofazimine is totally unacceptable owing to the colouration of skin, its replacement by 250 to 375 mg self- administered daily doses of ethionamide or protionamide has been suggested.

b. Paucibacillary leprosy

Paucibacillary cases should also receive combined therapy in view of primary dapsone resistance which is becoming widespread. The recommended standard regimen for adults is: Rifampicin 600 mg once a month, supervised Dapsone 100 mg (1-2 mg/kg of body weight) daily, self-administered.

The standard treatment regimen for children aged 10-14 years is as follows: a. multibacillaryleprosy

II. CONCLUSION

The Government of India has launched National Strategic Plan (NSP) & Roadmap for Leprosy (2023-27) on 30th January, 2023, to achieve zero transmission of leprosy by 2027 i.e. three years ahead of the Sustainable Development Goal (SDG) 3.3. The NSP and Roadmap contains implementation strategies, year-wisetargets, public health approaches and overall technical guidance for the programme. The strategy and roadmap focuses on awareness for zero stigma & discrimination, promotion of early case detection, prevention of disease transmission by prophylaxis (LeprosyPost Exposure Prophylaxis) and roll out of web-based information portal (Nikusth 2.0)for reporting of.

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