

Leprosy Treatment Strategies

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Leprosy treatment goals

1

Eliminate the infection

2

Prevent complications ,

3

Prevent further spread/
transmission,
and

4

Reduce morbidity



Is Leprosy Curable?

- **Leprosy is curable with multidrug therapy (MDT).**





WHO Guidelines for Leprosy Treatment

- **A Pathway to Elimination**

Hansen's Disease



LEPROSY

IS

CURABLE

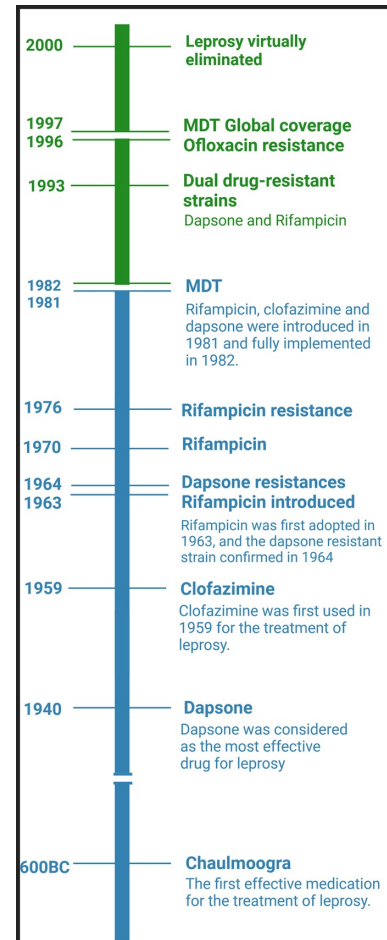


Evolution of leprosy therapy

- Early on , Chaul moogra Oil & Turvaka seeds (india)
- 1940's : Sulfone therapy ( side effects and  limited efficacy).
- Late 1940's : Dapsone (resistance became a problem)
- 1980's : WHO advocated Multi Drug Therapy (MDT)

The evolution

- Leprosy Chemotherapy





From
Chaul moogra,
etc

to

MDT



WHO guidelines for treatment of leprosy

Paucibacillary leprosy (PB):

- Rifampicin, Dapsone and Clofazimine
- Duration for 6 months

Multi bacillary leprosy (MB):

- Rifampicin , Dapsone and Clofazimine
- Duration for 12months

Other drugs that may be used (special cases)

Alternate regimen:

- Minocycline 100mg/day (substitute dapsone)
- Ofloxacin 400mg (substitute clofazimine)
- Clarithromycin 500mg/day (substitutes any of the 3 MDT)

Treatment for leprosy reactions

Type-1 ; Type-2 (ENL) and Lucio's Phenomenon

- **Corticosteroids and NSAIDS**
- **NSAIDS- only for milder cases.**
- **Severe cases (neuritic) need corticosteroids or thalidomide)**
- Steroids: No optimal dosage (40-60mg per day for up to 6months)
- **Cyclosporine** (as a steroid sparing agent)

- **Thalidomide** (330mg-400mg per day to control symptoms and then the dose reduced to 100mg a day for maintenance (~years in some patients).
- When Thalidomide is combined with CS, there is increased risk of DVT/PE.
- If patient develops symmetrical painful parasthesia of both hands and feet , Thalidomide must be stopped immediately.

- Lucio's Phenomenon: Wound care, debridements, and MDT

Leprosy treatment: Special population

Background: **Pregnancy** confers an increased risk of acquiring the disease, Leprosy reactions, spread of the disease.

Type 1 reactions (T1R): post partum

Type 2 reactions (T2R): pre-partum

MDT is safe during pregnancy

Dapsone not to be used in lactation or limit the lactation (risk/benefit ration)

Management of relapses in leprosy

- Case definition:

- Clinical, bacteriological(Lab) and therapeutic criteria

- Not to be confused with reversal reactions

“Increase in the extent of lesions, infiltration and erythema, fresh skin and nerve lesions, positive skin smears for AFB in previously negative cases; and in bacteriologically positive cases during surveillance, an increase in BI by two logs at any site over the previous BI in two successive examinations_{1,2}

1. Kaimal S, Thappa DM. Relapse in leprosy. Indian J Dermatol Venereol Leprol. 2009 Mar-Apr;75(2):126-35. doi: 10.4103/0378-6323.48656. PMID: 19293498.
2. Ramu G. Clinical features and diagnosis of relapses in leprosy. Indian J Lepr. 1995 Jan-Mar;67(1):45-59. PMID: 7622930.

Drug resistance in leprosy

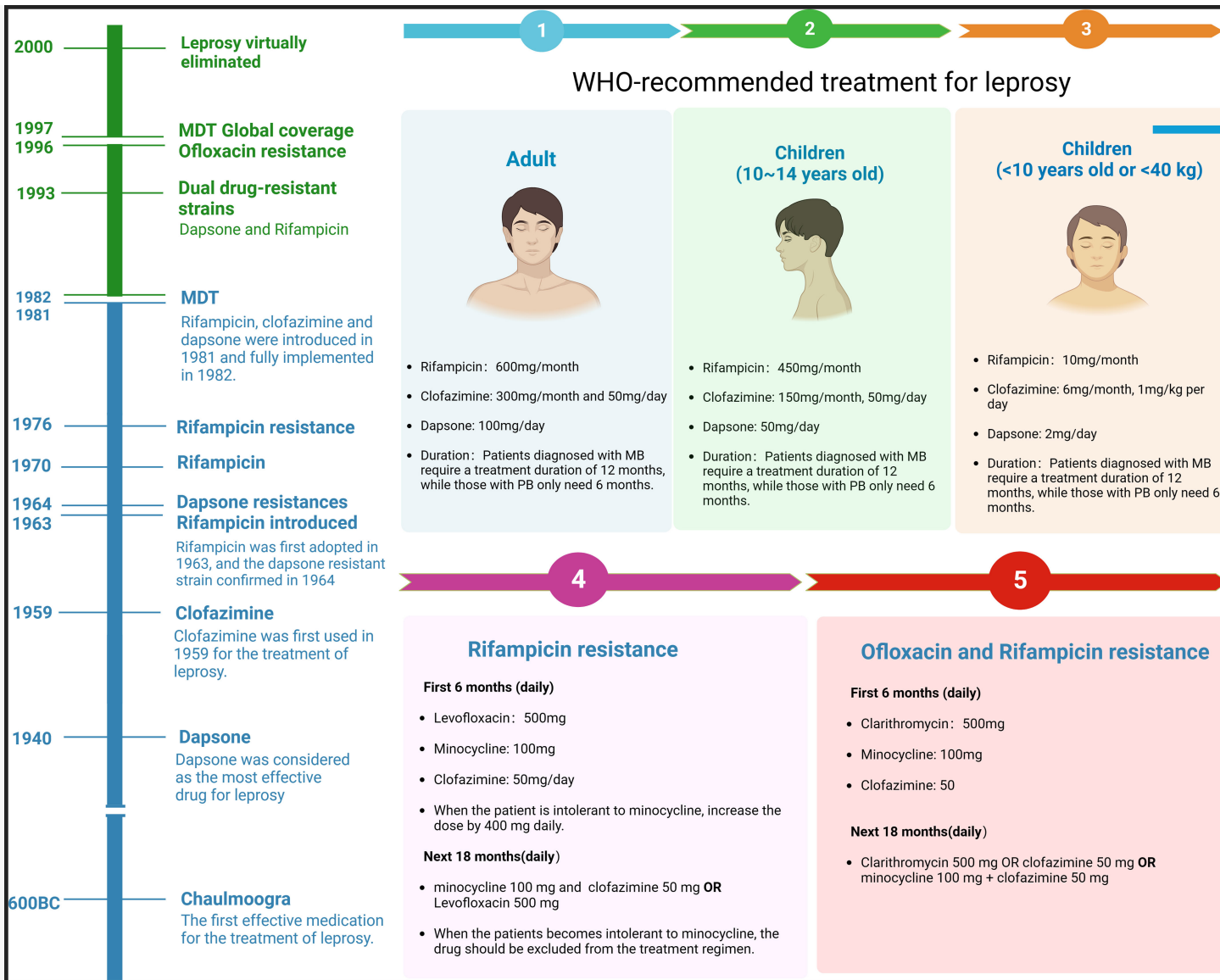
- M. Lepra cannot be easily cultured in vitro.
- Requires highly specialized laboratories

- Data from studies showed:
 - Global resistance rate of up to 8%**
 - Resistance patterns to one or two of the MDT's
 - Resistance to all 3 MDT's was generally not observed

1. Scollard DM, Adams LB, Gillis TP, Krahenbuhl JL, Truman RW, Williams DL. The continuing challenges of leprosy. *Clin Microbiol Rev.* 2006 Apr;19(2):338-81. doi: 10.1128/CMR.19.2.338-381.2006. PMID: 16614253; PMCID: PMC1471987.

2. Cambau E, et al. WHO surveillance network of antimicrobial resistance in leprosy. Antimicrobial resistance in leprosy: results of the first prospective open survey conducted by a WHO surveillance network for the period 2009-15. *Clin Microbiol Infect.* 2018 Dec;24(12):1305-1310. doi: 10.1016/j.cmi.2018.02.022. Epub 2018 Mar 1. PMID: 29496597; PMCID: PMC6286419.

3. i X, Ma Y, Li G, Jin G, Xu L, Li Y, Wei P and Zhang L (2024) Leprosy: treatment, prevention, immune response and gene function. *Front. Immunol.* 15:1298749. doi: 10.3389/fimmu.2024.1298749



How Far
With
Leprosy
Chemotherapy?

Table III. Recommended treatment regimen from the National Hansen's Disease Program and the United States Health Resources and Services Administration

Diagnosis	Population	Medication	Dose	Duration
Paucibacillary leprosy	Adults	Rifampicin	600 mg/day	12 months
	Children	Dapsone	100 mg/day	
Multibacillary leprosy	Adults	Rifampicin	10-20 mg/kg/day (<600 mg)	12 months
		Dapsone	1 mg/kg/day	
	Children	Rifampicin	600 mg/day	24 months
		Clofazimine	50 mg/day	
		Dapsone	100 mg/day	
		Rifampicin	10-20 mg/kg/day (<600 mg)	
Children	Rifampicin	10-20 mg/kg/day (<600 mg)	24 months	
	Dapsone	1 mg/kg/day		

Data taken from National Hansen's Disease Program.¹⁶

Table IV. Recommended treatment regimens for drug-resistant leprosy from the World Health Organization

Resistance type	Treatment for first 6 months	Dose	Treatment for next 18 months	Dose
Rifampicin	Ofloxacin	400 mg/day	Ofloxacin	400 mg/day
	Minocycline	100 mg/day	OR	100 mg/day
	Clofazimine	50 mg/day	minocycline + clofazimine	50 mg/day
	Ofloxacin	400 mg/day	Ofloxacin	400 mg/day
	Clarithromycin	500 mg/day	Clofazimine	50 mg/day
	Clofazimine	50 mg/day		
Rifampicin and ofloxacin	Clarithromycin	500 mg/day	Clarithromycin	500 mg/day
	Minocycline	100 mg/day	OR	100 mg/day
	Clofazimine	50 mg/day	minocycline + clofazimine	50 mg/day

Data from the World Health Organization.³

Drugs Vaccine Prevention Strategies

- BCG Vaccine (revaccination)
- LepVax

1. Randhawa A, Kapila R, Schwartz RA. Leprosy: what is new. *Int J Dermatol*. 2022 Jun;61(6):733-738. doi: 10.1111/ijd.15998. Epub 2021 Nov 26. PMID: 34826151.

2. Palit A, Kar HK. Prevention of transmission of leprosy: The current scenario. *Indian J Dermatol Venereol Leprol*. 2020 Mar-Apr;86(2):115-123. doi: 10.4103/ijdvl.IJDVL_326_19. PMID: 31975697.

MDT Treatment Supply



MDT is provided free by WHO to all leprosy patients worldwide.

**Supplied In partnership with
Novartis !**

The End

Thank You

For your time and attention as the audience.

Contact Information

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Call to Action:

Towards eradication of Leprosy !!!

