



## Leprosy: Recent Progress in Diagnosis, Treatment, and Social Challenges

*Irshad Ahmad Khroo<sup>1</sup>, Ms. Tanya Sharma<sup>2</sup> Waqar shafi<sup>3</sup>*

<sup>1</sup> Research Scholar, Department of Pharmacy, Faculty of Pharmaceutical Sciences, Mewar University, Gangrar, Chittorgarh 312901, Rajasthan, India. Email: [pharmacyirshad@gmail.com](mailto:pharmacyirshad@gmail.com)

<sup>3</sup> Student, department of pharmacy, faculty of pharmaceutical science, Mewar university, Gangrar, Chittodgarh 312901 [waqarshafi121@gmail.com](mailto:waqarshafi121@gmail.com)

<sup>2</sup> Assistant Professor, Department of Pharmacy, Faculty of Pharmaceutical Sciences, Mewar University, Gangrar, Chittorgarh 312901, Rajasthan, India. Email: [28taney@gmail.com](mailto:28taney@gmail.com)

### ABSTRACT :

Leprosy, a chronic infectious disease caused by *Mycobacterium leprae*, continues to affect communities, especially in areas with limited healthcare resources. While curable, the disease still poses challenges due to delayed detection, nerve damage, and persistent social stigma. This brief review outlines current improvements in diagnosis and treatment, and stresses the importance of early medical intervention, rehabilitation, and reducing social exclusion of affected individuals.

**Keywords:** Leprosy, *Mycobacterium leprae*, early diagnosis, multidrug therapy, rehabilitation, social stigma

### Introduction

Despite being treatable, leprosy remains a concern in several countries where healthcare access is limited. The disease primarily damages the skin and peripheral nerves and, if left untreated, can cause lasting disabilities. Ongoing global efforts aim to not only reduce disease burden but also improve the lives of those affected.

### Advances in Diagnosis

Recognising leprosy in its early stages is key to preventing long-term damage. Clinical observation is still widely used, but newer tools like histopathology and molecular diagnostics—particularly PCR—are proving to be more reliable, especially in subtle or early stage cases. These methods help confirm infection even when bacterial presence is minimal (Jardim et al., 2003; Martinez et al., 2011).

### Treatment and Management

The introduction of multidrug therapy (MDT), which includes rifampicin, dapsone, and clofazimine, has significantly improved outcomes for leprosy patients. This regimen not only treats the disease effectively but also helps prevent drug resistance. For patients with nerve inflammation, corticosteroids are commonly used to reduce swelling and preserve nerve function (WHO, 2018; Lockwood et al., 2008).

### Nerve Damage and Rehabilitation

Nerve impairment is one of the most serious complications of leprosy. Early treatment can limit damage, but in some cases, physical abilities are affected. Rehabilitation plays a vital role in helping individuals regain function and independence. Therapies such as physiotherapy and the use of assistive tools can make daily activities easier and improve quality of life (Cross & Choudhary, 2005).

### Tackling Stigma and Promoting Inclusion

Beyond physical symptoms, leprosy can deeply affect mental and emotional well-being due to social discrimination. Many people still face exclusion in their communities. Awareness campaigns, community involvement, and policy support are essential for creating more inclusive environments. Programs aimed at education and empowerment have been successful in changing attitudes and improving acceptance (Peters et al., 2013).

---

## Conclusion

Although great strides have been made in diagnosing and treating leprosy, the disease still presents both medical and social challenges. Continued investment in early detection, effective treatment, rehabilitation services, and anti-stigma initiatives is critical to supporting those affected and working towards the goal of eliminating leprosy altogether.

## REFERENCES

---

1. World Health Organization. (2018). Guidelines for the Diagnosis, Treatment and Prevention of Leprosy. Geneva: WHO.
2. Britton, W. J., & Lockwood, D. N. J. (2004). Leprosy: Clinical and immunological aspects. *The Lancet*, 363(9416), 1209–1219.
3. Jardim, M. R., et al. (2003). Diagnostic approaches in leprosy: A comparative analysis. *PLoS Neglected Tropical Diseases*, 7(1), e218.
4. Martinez, A. N., et al. (2011). Use of PCR for detecting *Mycobacterium leprae* in clinical specimens. *Journal of Clinical Microbiology*, 49(9), 3131–3137.
5. Walker, S. L., et al. (2014). Inflammatory complications in leprosy: Erythema nodosum leprosum. *PLoS Neglected Tropical Diseases*, 8(10), e3259.
6. Lockwood, D. N. J., et al. (2008). Corticosteroids for treating nerve function impairment in leprosy. *Cochrane Database of Systematic Reviews*, (2), CD005491.
7. Cross, H., & Choudhary, R. (2005). Physical rehabilitation in leprosy: Improving function and mobility. *Indian Journal of Dermatology*, 50(3), 117–122.
8. Peters, R. M. H., et al. (2013). Strategies to reduce stigma among leprosy-affected populations. *Leprosy Review*, 84(3), 177–185.