

Prevalence of Hand Deformities among Leprosy-affected Adults in Delhi: A Cross-sectional Study

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ABSTRACT

Introduction: Despite multidrug therapy's success, nerve damage causing hand deformities remains a persistent burden in leprosy patients post-cure, affecting daily life and carrying social stigma. This study aimed to address the lack of recent data on their prevalence and impact.

Aim: This study examined the prevalence, frequency, and pattern of hand deformities among leprosy-affected adults seeking treatment and investigated whether disease duration and type influence their occurrence, alongside the prevalence and distribution of hand sensory impairment.

Materials and Methods: The study included 300 adult leprosy patients recruited through purposive sampling at two Delhi leprosy centres between January and March 2026. Those with prior hand reconstructive surgery were excluded to ensure results reflected true disease conditions. Disability was assessed using the WHO Disability Grading Scale, while peripheral nerve involvement was evaluated through touch-pressure monofilament testing and pin-prick pain sensation tests.

Results: WHO Grade 2 hand deformities were found in 36.3% of subjects (n=109), with an additional 43.3% at Grade 1, meaning nearly 80% showed peripheral nerve damage. Most patients (84.3%) had multibacillary leprosy, which carried the highest deformity burden. Bilateral involvement predominated (65.1%), with claw hand most common (84.4%), followed by finger absorption (43.1%) and trophic ulcers/scars (41.3%). Sensory deficits affected 75% of all patients and 87.2% of those with visible deformities, with pain loss most strongly associated with deformity. Deformity rates increased with disease duration, rising from 12.7% under one year to 33% at six to 10 years.

Conclusion: Hand deformities affect over a third of leprosy patients in Delhi, persisting beyond cure. MB leprosy and prolonged disease duration carry the highest risk, underscoring the need for early diagnosis and strengthened deformity surveillance within national leprosy control programs.

Keywords: Cross-sectional study, Hand deformity, Leprosy, Multibacillary leprosy, Sensory loss, WHO disability grading.

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