

# To Study the Recent Clinico-Epidemiological Trend of Leprosy in North-Eastern Rajasthan: A Hospital Based Retrospective Observational Study

Dr.Neha Gupta

MBBS, Junior resident Department of Dermatology, SMS Medical College, Jaipur

Dr. Vijay Paliwal

MD, Professor, Department of Dermatology, SMS Medical College, Jaipur

Dr. Deepak K Mathur

MD, Senior Professor, Department of Dermatology, SMS Medical College, Jaipur

Address for correspondence: Dr.Neha Gupta

## Abstract

**Background:** To study the recent clinico-epidemiological trend of leprosy in North-Eastern Rajasthan.

**Method:** To collect previous six months (April 2019 to September 2019) hospital records of all patients diagnosed clinically and histopathologically as Leprosy in skin department of tertiary care hospital, and study the clinico-epidemiological trend of disease expression in north-eastern Rajasthan.

**Result:** Total 204 cases enrolled in the study. In which 146 (71.56%) patients were male and 58 (28%) were females with a male: female ratio 2.5:1. Most common age group affected was 20-30 yrs. Most common initial presentation of disease was erythematous plaque followed by hypopigmented macule and 18 (8.8%) patients have no cutaneous lesions. According to Ridley jopling classification the most common leprosy detected in north-eastern Rajasthan was borderline tuberculoid followed by mid borderline, 4 patients present directly in de-novo ENL, 8 cases of pure neuritic type of leprosy and 3 cases of histoid leprosy was also detected. Total new cases reported was 175 (85%), defaulter were 16 (7.8%) and relapse 12 (5.8%) seen in patients and 3 (1.4%) patients were resistant to MDT MB. Type I reaction seen in 30 (14.70%) cases and type II reaction seen in 45 (22.05%) patients. 25 (12.25%) patients present with deformity most commonly claw hand seen in 20 (9.8%) followed by autoamputation seen in 5 (2.4%). Non healing ulcers seen in 20 (9.8%) patients. Total cases of multibacillary was 154 (75.49%) and paucibacillary was 50 (24.50%). No mortality reported due to the disease activity in our department.

**Conclusion:** leprosy is still share a major burden of morbidity in our society. This study helps to find out recent clinical presentations, burden of disease and what age group is most commonly affected in north-eastern Rajasthan as compared to other endemic areas. Resistance to MDT MB has started appearing in north-eastern Rajasthan which is an area of discussion.

**Keywords:** MDT MB, ENL, Leprosy

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## I. Introduction

Knowledge and understanding of the epidemiological profile is an essential pre requisite to assess and address public health needs in the country and to enable efficient programme planning and management. Leprosy is a chronic infectious disease caused by Mycobacterium leprae which can express itself in different clinico-pathological forms.<sup>1</sup>

An impressive decline in leprosy prevalence rate (PR) in all endemic districts of India is seen in the post-MDT era. However, the new case detection rate, an important statistical indicator in leprosy control programmes, has not shown significant decline in spite of all efforts. India contributes about 80% of the global leprosy case load (Murthy 2004). A total of 1.34 lakh new cases were detected during the year 2008-09 which gives annual new case detection rate (ANCDR) of 11.19 per 100,000 population. This shows ANCDR reduction of 4.36% from 11.70 during 2007-2008 (NLEP 2009). A total of 0.86 lakh cases were on record as on 1st April 2009 giving a prevalence rate (PR) of 0.72 leprosy cases per 10,000 population which shows a significant decline as compared to PR of 0.95/10,000 on 31 December, 2005.<sup>2</sup> It is true that a full course of MDT makes

leprosy cases non-infectious but it does not prevent occurrence of new cases. Thus, NCDR is a more significant parameter than PR. To study the recent clinico-epidemiological trend of leprosy in North-Eastern Rajasthan

## II. Method:

To collect previous six months (April 2019 to September 2019) hospital records of all patients diagnosed clinically and histopathologically as Leprosy in skin department of tertiary care hospital, and study the clinico-epidemiological trend of disease expression in north-eastern Rajasthan.

Clinical spectrum of the patients was decided after recording detailed clinical history, clinical and slit-skin smear examination. Histopathological examination was done where needed. All the patients were given paucibacillary and multibacillary therapy depending upon the disease spectrum.

## III. Results

**Table 1.** Demographic profile

Mean age	38.32±16.46 Yrs
Male : Female	146 : 58
Rural : Urban	105 : 99

Total 204 cases enrolled in the study. In which 146 (71.56%) patients were male and 58 (28%) were females with a male: female ratio 2.5:1. Most common age group affected was 20-30 yrs.

**Table 2.** Clinical profile

Plaque	130(63.73%)
Borderline tuberculoid	47(23.04%)
Resistant to MDT MB	3(1.40%)
Type II reaction	45 (22.05%)
Deformity present	25 (12.25%)
Multibacillary	154 (75.49%)

Most common initial presentation of disease was erythematous plaque followed by hypopigmented macule and 18 (8.8%) patients have no cutaneous lesions. According to Ridley jopling classification the most common leprosy detected in north-eastern Rajasthan was borderline tuberculoid followed by mid borderline, 4 patients present directly in de-novo ENL, 8 cases of pure neuritic type of leprosy and 3 cases of histoid leprosy was also detected. Total new cases reported was 175 (85%), defaulter were 16 (7.8%) and relapse 12 (5.8%) seen in patients and 3 (1.4%) patients were resistant to MDT MB. Type I reaction seen in 30 (14.70%) cases and type II reaction seen in 45 (22.05%) patients. 25 (12.25%) patients present with deformity most commonly claw hand seen in 20 (9.8%) followed by autoamputation seen in 5 (2.4%). Non healing ulcers seen in 20 (9.8%) patients. Total cases of multibacillary was 154 (75.49%) and paucibacillary was 50 (24.50%). No mortality reported due to the disease activity in our department.

## IV. Discussion

The implementation of MDT programme by itself has helped in updating of registers and improving case management in such a way that a substantial reduction in prevalence has been achieved in all leprosy endemic countries/states. Despite of noticeable decrease in PR, the annual new case detection rate has not declined so steeply. A part of this decrease in PR may be just a statistical feature. Once a leprosy patient completes a full course of treatment and is released from treatment, he/she is no longer registered as a leprosy patient even though there are residual disabilities. Thus, when only a shorter time period qualifies for the term "leprosy patient", the numbers of registered patients will automatically decrease.<sup>3</sup>

In our study, majority of patients were in the age group of 20-40 years with males outnumbering females with ratio of 3:1; this is the general pattern in India where males frequently self report for treatment. The type of leprosy commonly present was LL followed by BT this is in contrast to other studies which show BT, followed by TT to be commonest spectrum (Mahajan et al 2003, Singh et al 2009). Reasons for this have already been discussed earlier, another reason can be due to large load by immigrant population.<sup>4,5</sup>

A large number of migrant labour especially from Nepal, Bihar and Uttar Pradesh, travel to Himachal Pradesh for employment in various developmental projects and horticultural activities. It is obvious that one of the reasons for the high number of new cases is due to migrant population from high endemic areas. Such demographic changes have been seen in other parts of India as well. The slums, adjoining major urban areas, with illiteracy, poverty, overcrowding and unhygienic conditions are particularly proving to be fresh foci for leprosy transmission.<sup>6</sup>

## V. Conclusion

leprosy is still share a major burden of morbidity in our society. This study helps to find out recent clinical presentations, burden of disease and what age group is most commonly affected in north-eastern Rajasthan as compared to other endemic areas. Resistance to MDT MB has started appearing in north-eastern Rajasthan which is an area of discussion.

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