

## Original Research Article

# A clinical profile of leprosy patients in a tertiary hospital, Karnataka: a retrospective study

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### ABSTRACT

**Background:** Leprosy is a chronic mycobacterial infection and is still a major health hazard in India.

**Methods:** This was a retrospective study over 12 years of all cases diagnosed clinically as leprosy in a tertiary hospital at Hassan district, Karnataka. Confirmation of diagnosis was based on slit skin smear and biopsy was done in doubtful cases.

**Results:** Out of 214 patients, 152 were males and 62 were females. The prevalence was maximum in the age group 21-30 years. Borderline group formed the major part of the spectrum, consisting of 154 (71.96%) patients. Maximum patients 97 (45.3%) were of borderline tuberculoid (BT) leprosy, followed by 59 (27.57%) cases of borderline lepromatous leprosy (BL). 25 (11.68%) cases had tuberculoid leprosy (TT) and 20 (9.34%) cases were of lepromatous leprosy among which 3 were diagnosed as histoid leprosy. 6 patients had pure neuritic leprosy and 4 patients were in relapse.

**Conclusions:** Even though leprosy is eliminated, it continues to be a public health problem in our country. Stricter surveillance for early diagnosis and treatment is needed to eradicate leprosy from India.

**Keywords:** Leprosy, Slit skin smear, Borderline group, Surveillance, Early diagnosis

### INTRODUCTION

Leprosy, one of the oldest diseases known to the world is a chronic infectious disease caused by *Mycobacterium leprae*. It is associated with serious physical, social and psychological impacts. Though leprosy is widely distributed in the world, it is most prevalent in the tropics and subtropics.<sup>1</sup> It still continues to be a public health problem in many countries including India.

Due to the efforts of National Leprosy Eradication Programme (NLEP), the prevalence in India has reduced from 57.8/10,000 population in 1983 to 0.66/10,000 in 2016. However, India continues to account for 60% of new cases reported globally each year.<sup>2</sup>

Although the disease is prevalent throughout the country, the distribution is uneven. This study was undertaken to study the pattern of leprosy cases attending the outpatient department of Dermatology, Venereology & Leprosy, Hassan Institute of Medical Sciences, Hassan.

### METHODS

This was a retrospective study of data from January 2006 to December 2017, among all clinically suspected cases of Leprosy, which was undertaken at a tertiary care hospital. Prior clearance was taken from Institutional ethics committee. All suspected cases were subjected to SSS. Smears were taken from: right ear lobe, forehead, chin, left buttock in men and left upper thigh in women,

active or suspicious lesions. Smears were stained by modified ZN stain and examined under oil immersion to look for acid fast bacilli (AFB), reported either as positive or negative for AFB. In doubtful cases, punch biopsy from the skin lesion was sent for histopathological examination.

**Inclusion criteria:** All patients with hypopigmented, hypoaesthetic/anaesthetic skin lesions with or without peripheral nerve thickening.

**Exclusion criteria:** Patients with other skin conditions not clinically correlating with diagnosis of leprosy.

**Statistical analysis:** Descriptive statistics was used for data interpretation.

**RESULTS**

In the period from 2006-2017, total 214 patients were studied, ranging from 7 cases in 2016 to 38 cases in 2009. Among the total cases, 152 (71.03%) were males and 62 (28.97%) females (Table 1). Male to female ratio was 2.45:1. The minimum age was 6 years and maximum age was 78 years with mean age of 37.1 years. Maximum cases, 50 (23.36%) were in the age group of 21-30 years (Table 2).

**Table 1: Sex distribution (n=214).**

Gender	Number of cases (%)
Male	152 (71.03 )
Female	62 (28.97 )

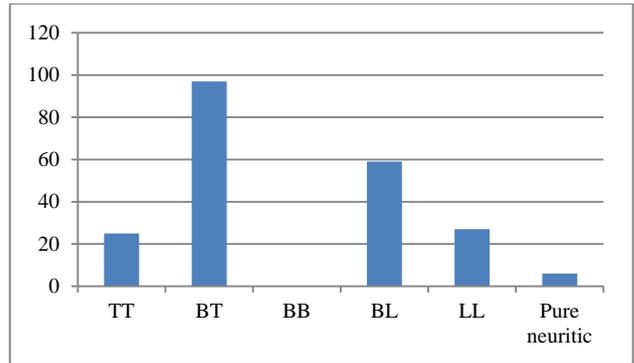
**Table 2: Age-wise analysis (n=214).**

Age (years)	No. of patients (%)
1-10	8 (3.74)
11-20	27 (12.62)
21-30	50 (23.36)
31-40	44 (20.56)
41-50	40 (18.69)
51-60	24 (11.21)
>60	21 (9.81)

**Table 3: Classification of leprosy cases (n=214).**

Types of leprosy	No. of cases (%)
TT	25 (11.68)
BT	97 (45.3)
BB	-
BL	59 (27.57)
LL	27 (12.62)
Pure neuritic	6 (2.80)

TT-Tuberculoid, BT-Borderline tuberculoid, BB-Mid Borderline, BL-Borderline lepromatous, LL-Lepromatous.



**Figure 1: Number of cases of different types of leprosy.**

**DISCUSSION**

Leprosy also known as Hansen's disease is a chronic granulomatous infectious disease. Peripheral nerves and skin are basically affected by the disease. It is a spectral disease, where the clinical and pathological features depict the cell-mediated immunity of the host. The disease spreads through aerosol method by droplets. Diagnosis is based on detailed clinical examination of skin lesions and peripheral nerve. Demonstration of AFB by ZN stain is important for diagnosis, classification as well as management of the patient.<sup>3,4</sup>

Similar studies were conducted by Mathan et al where, out of 168 patients, 108 were males and 58 were females.<sup>1</sup> There were 2 male children affected by leprosy. There were 98 multibacillary cases and 70 paucibacillary cases. 21-40 years was the age group where most of the cases were seen.

Sejal et al conducted a study in 2014 to know the clinical profile of leprosy patients, concordance between clinical and histopathological diagnosis in cases of leprosy, and to assess the therapeutic efficacy of antileprosy therapy and found out a total of 250 clinically diagnosed leprosy patients.<sup>5</sup> Male to female ratio was 1.7:1. The highest incidence was noted in 17-40 year of age group. In the clinical disease spectrum, 40% patients were in the borderline spectrum followed by tuberculoid leprosy (TT) (29.2%), lepromatous leprosy (LL) (26.8%), indeterminate leprosy (IL) 3.9%, neuritic leprosy 18%, the results of which matched with that of our study.

A retrospective study conducted by Chaudhary et al in 2016 of 65 cases attending a tertiary care centre of Surguja district, Chhattisgarh over a period of 1 year, revealed that out of 65 cases 48 were male and 17 were female.<sup>6</sup> Male to female ratio was 2.82:1. The minimum age was 18 years and maximum age was 65 years with mean age of 40.2.

In a study conducted by Penna et al in the University hospital of Brasilia over a period of 20 years from 1985 to 2005, of the 1124 cases studied, 485 (43.1%) were

women and 639 (56.9%) men.<sup>7</sup> 1,036 (92.4%) of the patients were aged more than 15 years-old. The lepromatous clinical form was the most common, determined in 436 (42.9%) cases, followed by all borderline forms in 312 (30.7%), with a lower prevalence for indeterminate forms in 98 (9.7%) cases.

Due to early detection and early initiation of MDT by leprosy workers at field level and primary health centres, leprosy cases are declining in Hassan district. However, aggressive screening and initiation of treatment is still required to achieve complete eradication of Leprosy.

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*Ethical approval: The study was approved by the institutional ethics committee*

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