

A Five Year Study of Profile of Leprosy Patients attending a Tertiary Care Hospital in Manipur

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This retrospective study was conducted to analyze the profile of leprosy patients who attended the OPD of a Tertiary Care Hospital in the state of Manipur, the Indian state with lowest prevalence of the disease. In this study demographic and clinical details of all leprosy patients attending Dermatology OPD for 5 years period from January 2011- December 2015 were analyzed from the departmental records. Of the 59 patients male to female ratio was 1.95:1. Major group of patients (42.4%) belonged to middle age group (20-40 years). Children (≤ 14 years) constituted 6.5%. 52.5% of the patients presented with mixed cutaneous and neural symptoms. Multibacillary cases clearly outnumbered paucibacillary (91.6%). The most common clinical type was borderline tuberculoid (38.9%) followed by indeterminate and lepromatous leprosy (15.3% each). Pure neuritic (5.1%) was the least common type. 15.3% patients developed type 1 reactions while 6.8% had type 2 reactions. 16.9% patients had grade 1 deformity of hands and feet while 11.9% had grade 2 deformity. Though the state is having low prevalence compared to national level, leprosy eradication programmes should be continued effectively and expanded to improve access in all regions of state.

Key words: Leprosy, Manipur, Migrants, Multi bacillary

Introduction

Leprosy has been recognized as a public health problem since long time. With a wide coverage of multi-drug treatment (MDT), India has achieved major success and officially achieved leprosy elimination status as public health problem (less than 1/10,000) in December 2005 (WHO 2006, Lobo 2006). Manipur has a population of

29,13,900 and 9 districts. Reported leprosy prevalence as on March 31, 2015 was 0.05/10,000, the state with least prevalence as per National Leprosy Eradication programme (NLEP) data from 2010-15 (NLEP annual report 2014-2015). The state achieved leprosy elimination in March 2001.

Despite the ongoing activities as part of NLEP in

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different parts of the country, new cases continue to be reported emerge with more multibacillary cases being reported which may ultimately cause the disease to become more widespread and become a social menace once more. After the declaration of elimination of leprosy as a public health problem, these services have been merged with general health services which pose the challenge of sustaining the efficiency of programme. The clinical features of disease are varied and trained personals are few. The health care workers who have greater access to remote unreachable areas are not well trained to catch subtle signs and symptoms of the disease which may help in early diagnosis and prompt management. While, cases reporting to a tertiary care centre do not exactly represent the epidemiology of disease at field / community level, their profile and patterns reflect the trends and issues important at various levels. Considering this importance, this retrospective study has been carried out on profile of leprosy patients attending tertiary care hospital of Manipur for a period of five years.

Materials and Methods

A retrospective analysis of all confirmed cases of leprosy patients attending outdoor patient Department (OPD) of Dermatology, Venereology and Leprology Department, Regional Institute of Medical sciences (RIMS), Imphal for a period of five years (January 2011 – December 2015) was done.

Demographic profile, types of leprosy, treatment advised was analyzed from the records maintained in the Department. Clinical spectrum of the patients was decided by detailed clinical history and examination and slit smear examination and, by histopathological examination wherever needed. Patients were classified as per IAL (1982) and NLEP classifications. Treatment was given in accordance to NLEP guidelines (cases

were first referred to State leprosy office for data recording and supply of medicines who then allocate the patients to the nearest leprosy centre in their respective home districts). Disabilities were graded by WHO criteria (Brandsma & van Brakel 2003).

Results

The total number of patients was 59 with 39 (66.1%) males and 20 (33.9%) females; the male: female being 1.95:1. The commonest age group was 41-50 (n=16;27.1%) years followed by 31-40 years (Table 1). Children (≤ 14 years) constituted 6.5% (n=4) and all were multibacillary (MB) cases. Maximum patients were Hindus (n=54; 87.1%) followed by Muslims (n=4; 6.5%) and Christians (n=1;1.6%).

Majority of the patients (39/59; 66.1%) were permanent residents of Manipur out of which maximum patients were from Imphal West district (19; 48.7%) followed by Imphal East district (n=9; 23.1%), Senapati (4; 10.3%), Bishnapur and Thoubal (3; 7.7% each) and Churachandpur (1; 2.6%). There were no patients from Chandel, Tamenglong and Ukhrul districts, all being hilly region. 25.6% patients were referred from other health centres for expert management while the rest reported to OPD themselves.

Twenty (33.9%) of patients were from outside Manipur. Demographic and clinical details of migrant population is given in Table 2. All the migrants were in active service. Twenty three (38.9%) of all 59 patients were in active service.

Most of the patients presented with mixed (cutaneous and neural) symptoms (n=31;52.5%), 18 (30.5%) with cutaneous while five (8.4%) patients each presented with pure neural symptoms or with reactions. Multibacillary cases (91.6%) outnumbered paucibacillary (PB) (8.4%), classified according to clinical findings and smear

Table 1 : Clinical and demographic profile of the study population

Variable		Male	Female	Total (%)
Age group (yrs)	<20	5	5	10 (16.9)
	20-40	16	9	25 (42.4)
	40-60	14	6	20 (33.9)
	>60	4	0	4 (6.8)
Presenting complaint	Cutaneous			18 (30.5)
	Neural			5 (8.4)
	Mixed			31 (52.5)
	Reaction			5 (8.4)
WHO type	PB			5 (8.4)
	MB			54 (91.6)
Reactions	Type 1			9 (15.3%)
	Type 2			4 (6.8%)
Deformities	Grade 1			10 (16.9%)
	Grade 2			7 (11.9%)

Table 2 : Clinical profile of the migrant leprosy cases

STATE	TT	BT	BB	BL	LL	IL	Total (%)
Assam		1			1		2 (10)
Bihar		4		1			5 (25)
Bengal					1		1 (5)
Chhattisgarh		2					2 (10)
Jharkhand		1	1	1			3 (15)
Maharashtra						1	1 (5)
Meghalaya		1					1 (5)
Haryana			1				1 (5)
Punjab				1	1		2 (10)
UP		1				1	2 (10)
Total	0	10	2	3	3	2	20 (100)

positivity. Grading of smear findings were not done. Most (n=34; 57.6%) of the patients were in the borderline spectrum. The most common clinical type was borderline tuberculoid (n=23; 38.9%) followed by indeterminate and lepro-

matous leprosy (n=9; 15.3% each), borderline lepromatous (7; 11.9%) and tuberculoid and borderline (4; 6.7% each). Pure neuritic (n=3; 5.1%) was the least common type and all were polyneuritic. Cutaneous histopathological

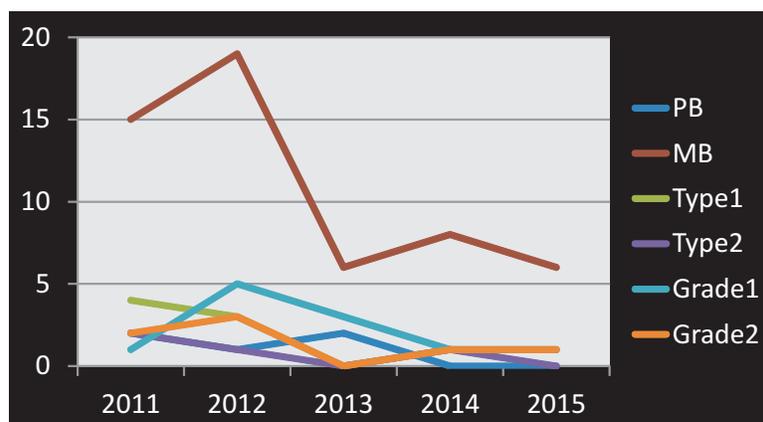


Figure 1 : Trend of the disease numbers and profile during 2011 to 2015

Table 3 : Year wise distribution of different types of clinical types of leprosy cases studied

Year	TT	BT	BB	BL	LL	IL	PN	Total
2011	2	5		2	4	3	1	17 (27.1)
2012	1	7	3	3	1	4	1	20 (33.9)
2013	1	5		1	1			8 (13.5)
2014		4	1		2	1		8 (13.5)
2015		2		1	1	1	1	6 (10.2)
	4 (6.8%)	23 (38.9%)	4 (6.8%)	7 (11.9%)	9 (15.3%)	9 (15.3%)	3 (5.1%)	59(100%)

examination was done in 39 patients. Clinico-histopathological discordance was seen among 35.9% patients which was maximum among BT patients (67%).

Total number of patients having reactions was 13 (22.1%) out of which 9 (15.3%) had type 1 and 4 (6.8%) had type 2 reaction; one (1.7%) patient had chronic erythema nodosum leprosum (ENL). Ten (16.9%) patients had grade 1 deformity of hands and feet while 7 (11.9%) had grade 2 deformity. Only one patient (1.7%) had grade 1 eye deformity.

During the study period, there was a increase in the number of patients in early part with

maximum (n=21; 33.9%) being recorded in the year 2012 after which there is a gradual decline with only 6 (10.2%) patients being reported at the end of the study period (Table 3, Fig. 1).

On follow up 6 patients presented back with type 1 reaction while 2 patients affected from type 2 reactions. One patient developed recurrent erythema nodosum leprosum. However, follow up data is incomplete due to decentralized approach in NLEP programme as patients were encouraged to get the medicines from the health centres in their home districts and advised to go for follow-up there itself.

Discussion

In this study comprising of 59 patients, the male: female being 1.95:1 which is almost similar to other studies (Thakkar & Patel 2014, Chhabra et al 2015, Rizvi et al 2015, Shivmurthy et al 2013). This may be attributed to the fact that males are more outgoing than females and females are usually reluctant to visit the hospital. The commonest age group was 20-40 years similar to most Indian studies (Thakkar & Patel 2014, Chhabra et al 2015, Jindal et al 2009). Children (≤ 14 years) constituted 6.8% (n=4) which was lesser than the observation by Chhabra et al (2015) as well as national data (9.04% NLEP 2014-15) which possibly shows lower disease transmissibility in the region. There was no sex preponderance among children, borderline tuberculoid was the commonest clinical type and all were MB cases. However, a predominance of boys were observed in the findings from Rao (2009), 2.5 boys per each girl (23 boys / 9 girls); Sachedeva et al (2011), 3.2:1 (167/52); and Singal et al (2011), 2.3:1 (120/52). Borderline tuberculoid type was the most common clinical type in other studies too (Grover et al 2005, Selvasekar et al 1999).

Maximum patients were Hindus (n=54; 91.5%) followed by Muslims (n=4; 6.8%) and Christian (n=1; 1.7%), as majority of the population are Hindus the proportion may reflect just natural population distribution. Most of the patients were from Imphal west district and outside Manipur (n=20; 32.2% each) followed by Imphal east district (n=11; 17.7%). There were no patients from Chandel, Tamenglong and Ukhrul districts possibly due to poor accessibility. 59.8% patients were from 4 valley districts while only 8% cases from 5 hill districts. It can also be due to high population density in the valley districts (maximum 992) compare to very low population density in the hill districts (minimum 32) as per

Census 2011. It will be desirable to improve the access of services in these difficult to access areas and have good surveillance. Twenty three (37%) patients were in active service implying that frequent travel increases the chances of acquiring infection due to increased exposure especially in places where the disease is more prevalent like Bihar (25%), Jharkhand (15%) etc. Migration from disease endemic areas are considered as one of the principle factor for demographic changes and new cases as reported earlier by multiple authors (Jindal et al 2009, Battacharya et al 1999, Dambalkar et al 1995, Samuel et al 2012). Unlike the reports from other parts of India all of the migrant patients in the present study were in active service (Samuel et al 2012). It may be explained by geopolitical scenario of the state.

Most of the patients presented with mixed (cutaneous and neural) symptoms (n=31; 50%), 21 (33.8%) with cutaneous and five (8%) with reactions which may be due to neurological symptoms hampering the patient's daily activities while cutaneous lesions are usually asymptomatic. Some patients, however, reported out of fear for leprosy on noticing the hypopigmented skin lesions as they were aware of it through mass media. Multibacillary cases (91.9%) outnumbered paucibacillary (8%), as proven by smear positivity, which is similar to other studies (Thakkar & Patel 2014). This may be because of the patients noticing the lesions late or their reluctance to come forward early in the course of their disease, reasons for this delay need investigation. This trend has been noticed and discussed in various Indian studies (Jindal et al 2009, NLEP annual report 2008-2009, Kumar & Girdhar 2006, Casabiaca 2006). The most common clinical type was borderline tuberculoid (n=26; 41.9%) followed by indeterminate and lepromatous leprosy (n=9; 14.5% each). Pure

neuritic (n=3; 4.8%) was the least common type. In other studies also BT was the most common type (Thakkar & Patel 2014, Chhabra et al 2015).

Total number of patients having reactions was 13 (20.9%) out of which 9 (14.5%) had type 1 and 4 (6.4%) had type 2 reaction; one (1.6%) patient had chronic erythema nodosum leprosum (ENL). Sasidharanpillai et al (2014) in their study found similar number (15.8%) of patients with type 1 reaction though those patients having type 2 reaction was relatively higher (18.6%). However, Chhabra et al (2015) in their study found lesser number of patients with type 2 reaction (7%) compared to type 1 reaction (30.4%). Ten (16.1%) patients had World Health Organization (WHO) grade 1 deformity of hands and feet while 7 (11.3%) had grade 2 deformity of the same. Only one patient had grade 1 eye deformity. Chhabra et al (2015) reported 37.9% WHO grade 2 deformity in the patients in their study. One patient who was human immunodeficiency virus (HIV) positive presented with leprosy as Immune-reconstitution inflammatory syndrome (IRIS) and also developed both type 1 and type 2 reactions following MDT. One female patient developed dapsone syndrome. While trends about reactions and deformities may not be unique or peculiar, these indicate the need for proper training and management in areas from where these patients originally belonged.

During the study period, there was a steady increase in the number of patients with maximum (n=21; 33.9%) being recorded in the year 2012 after which there is a gradual decline with only 6 (10.2%) patients being reported at the end of the study period. This may be attributed to effectiveness of the NLEP program in the state, new cases being diagnosed and treated in peripheral centers.

Conclusion

While the profile of cases reporting to this Tertiary Care Centre may reflect overall scenario of the profile of leprosy in a less endemic region like Manipur, actual population based surveys should be carried out to understand the situation at population level. Even though the trend seems to be going downhill, ongoing eradication programs should continue to be enforced with full enthusiasm as new cases, mostly multibacillary, still continue to emerge, which indicate the risk of transmissibility and hidden undiagnosed cases may still be lurking around untreated especially in remote hilly areas.

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