Leprosy Control in India – A Lesson from Urban Area

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Abstract

Introduction: In 2001, WHO declared global leprosy elimination was attained globally. The decline in the registered leprosy prevalence was almost 90% and new case detection was about 50% over the last two decades. Hooghly district of West Bengal, India is a low endemic area for Leprosy. Analysis of district level leprosy data was done to study the burden, pattern and profile of leprosy cases in urban area of Hooghly district.

Material and Methods: Data was collected on demographic characteristics and various indicators of National Leprosy Eradication Programme. Calculation was done as annual prevalence rate, annual new case detection rate, proportion of child cases, proportion of visible deformity and proportion of multi-bacillary patients, was calculated from 2003-2004 to 2008-2009. Geographical distribution of cases was done within the district. Data was analysed by using Epi info.

Results: Out of 5, 041, 97 6 population of Hooghly district, 66.5% was rural population and 33.5% urban population. The prevalence of Leprosy was 2.83/10,000 population in 2003-04 as against 0.70/10,000 population in 2008-09. The Annual new case detection rate was 1.6 per 10,000 population in 2003-04 as against 0.96 per 10,000 population in 2008-09. Overall Child case rate was 10% of the total newly detected cases.

Discussion and Conclusion: More than 80% of leprosy cases in urban area are of multibacillary type and more than 50% discontinuation rate is found in the Corporation and municipal areas. The municipal and urban areas are showing more drop outs as compared to the rural areas. Most of the urban areas are showing more than ten percent of the child case rate denoting a high rate of transmission of the infection.

Key words: ANCDR, Hooghly, Leprosy, Multibacillary, Prevalence, Urban leprosy, West Bengal

Introduction

Elimination of leprosy as 'Public health problem' is defined by World Health Organization as reduction in the registered prevalence of leprosy patients receiving MDT to less than 1 per 10,000 populations. In 1991, the 44th World Health Assembly resolved to eliminate leprosy as a public health problem by the year 2000[1]. In 2001, WHO declared that the historic target of global leprosy elimination was attained globally[2]. The decline in the registered leprosy prevalence was almost 90% and new case detection was about 50% over the last two decades.

Globally 122 countries had leprosy prevalence of over 1 case per 10,000 population in the year 1983. In 2006, only six countries had this prevalence level (Brazil, Democratic Republic of Congo, Madagascar, Mozambique, Nepal and United Republic of Tanzania)[3]. The prevalence in South-East Asia Region (SEAR) has declined from 4.6 per 10,000 in 1996 to 1.05 per 10000 as of June 2005. Leprosy in the SEAR countries contributed to 73% of the global prevalence and 83% of total new detected cases.

Government of India formally announced that India achieved the elimination target (leprosy prevalence as on 31st December was 0.95 per 10,000) as of December 2005[4]. National leprosy control programme was launched in 1954 - 55. In 1983, the programme was changed to National Leprosy Eradication Programme (NLEP), when it was run through a vertical set up of specially trained staff for leprosy. When the first phase of the World Bank assisted leprosy project was started in 1993-94, the system of running the programme through the vertical staff continued. The second phase of NLEP, which started from 1st April, 2001, introduced the concept of integration of leprosy service delivery from leprosy vertical staff to general health care staff working in the primary health care system.

Thus the Medical Officers, at community health centers/ Block primary health centers/ Primary health centers were to diagnose leprosy cases, put them under treatment with MDT first dose and the health workers

at sub centers were to issue subsequent treatment to these cases.

The Indicator like (All India) prevalence rate (PR) has again come down to 0.72 per 10,000 population in April, 2009. In West Bengal prevalence rate on 1st April 2009 was 0.99 per 10,000 population. Another crucial indicator i.e. Annual New Case Detection Rate (ANCDR) has also recorded a decline and it is 1.32 per 10,000 population in 2008-2009[5].

Hooghly district of West Bengal, India is a low endemic area for Leprosy. In Hooghly district, District Leprosy Officer is in overall charge of National Leprosy Eradication Programme. The programme has been integrated to the general health care system consisting of 18 Block primary health centers, 76 Primary health centers and 560 Subcentres[5,6]. This analysis of district level data was done to study the burden and pattern of leprosy in urban area.

Objectives: current study was conducted with following objectives,
1. To study the prevalence of leprosy in Hooghly district of west Bengal
2. To study the annual case detection rate of leprosy in Hooghly district of west Bengal
3. To study the pattern and profile of leprosy cases in Hooghly district of west Bengal

Material and Methods

Study population: Study population was Hooghly district of West Bengal, India. The population of Hooghly district was 5, 041, 97 6 as per 2001. It had 66.5% rural population and 33.5% urban population.

Data collection: Data was collected on demographic characteristics and various indicators of National Leprosy Eradication Programme (NLEP) of Hooghly district from 2003-04 to 2008-09. We collected data from the records and reports of offices of Chief Medical Officer, office of the District Leprosy Officer and offices of the Block Medical Officers. For the denominators, we used data available in the District Statistical Cell, Hooghly, State Bureau of Health Intelligence West Bengal.

Analysis plan: Data was compared on leprosy cases in Hooghly with that of the state of West Bengal. Calculation was done as annual prevalence rate, annual new case detection rate, proportion of child cases, proportion of visible deformity and proportion of multi-bacillary patients, was calculated from 2003-2004 to 2008-2009. Geographical distribution of cases was done within the district. We classified the district into two parts Urban Area and Rural Area. Urban area consists of urban area of the 18 blocks e.g. Haripal, Pursurah etc, one corporation i.e. Chandannagar and several municipality areas e.g. Arambag, Chanditala, Uttarpara, urban area of the 18 blocks e.g. Haripal, Pursurah etc. analysis was done to calculate *Annual new case detection rate, Prevalence rate, Child case rate, Deformity rate, Drug discontinuation rate, MB proportion* from the year 2003-04 to 2008-09. Data was analysed by using Epi info.

Data quality: All the relevant data were maintained at the office of the District Leprosy Officer, Hooghly. Incomplete records were available at the block level. Follow-up register was not maintained at the block level. It was difficult to trace the dropouts. Complications of leprosy and drug reactions were also not recorded properly.

Results

Burden of leprosy cases: The prevalence of Leprosy was 2.83/10,000 population in 2003-04 as against 0.70/10,000 population in 2008-09. During the last 5 years prevalence (Fig. 1) has gradually came down. The district figure is always moving less than the state figure.
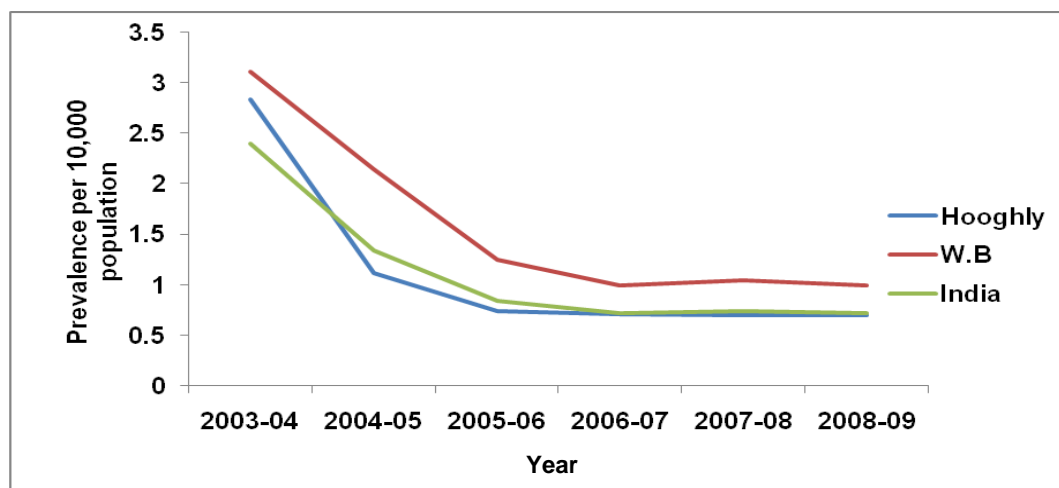

Fig 1: Prevalence of leprosy in Hooghly district of West Bengal

Annual Case Detection Rate: The Annual new case detection rate (NCDR) (Fig. 2) was 1.6 per 10,000 population in 2003-04 as against 0.96 per 10,000 population in 2008-09. This is also showing the same pattern as the prevalence ratio. The district Annual new case detection rate is always less than the state and all India level.
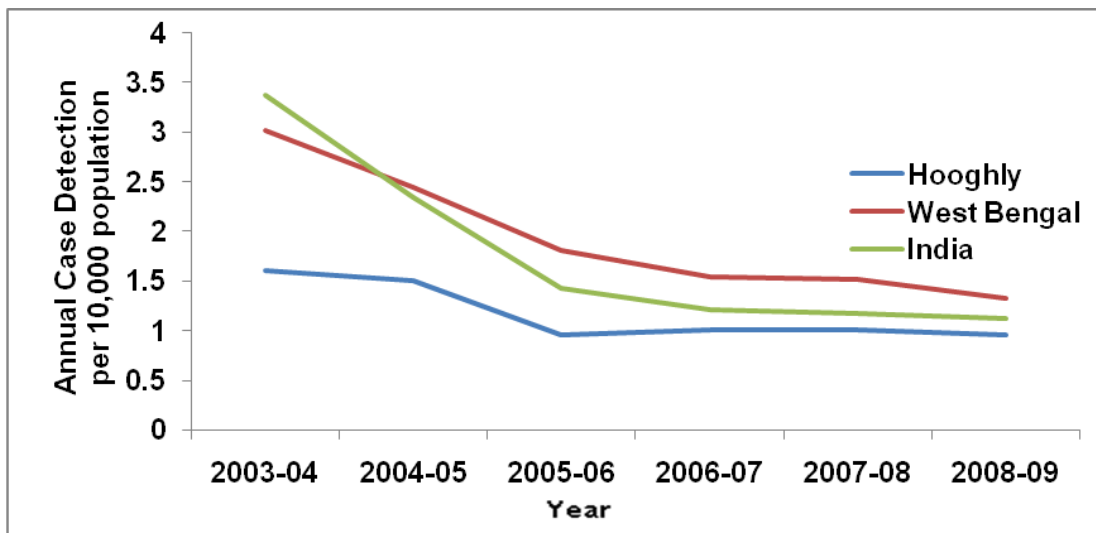

Fig. 2: Annual case detection rate of leprosy in Hooghly district of West Bengal

Pattern and Profile of Leprosy Cases: While overall Child case rate was 10% of the total newly detected cases, but five of the blocks and municipalities has much higher level and so they are in need of special attention. The child case rate of Pursurah is 28%, Arambag 20%, Chanditala 16.6% Uttarpara 14.2% and Haripal 13.3%.
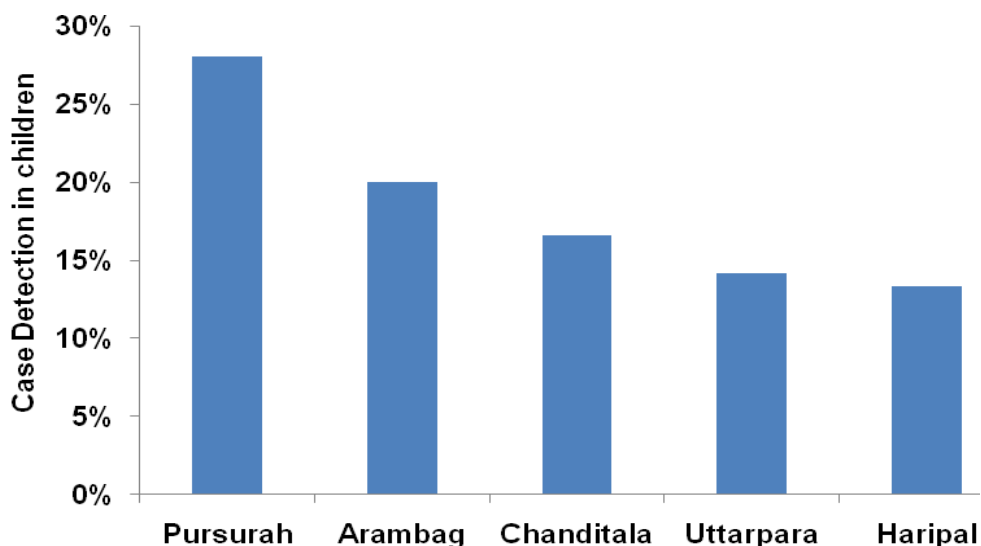

Fig. 3: Geographical distribution of case rate detection rate in children in five blocks and municipalities of Hooghly district in West Bengal

The deformity rate of five blocks and municipalities who are in need of special attention are Pursurah 28%, Dhaniakhali 18.2%, Candannagore 11.8%, Pandua 1.9% and Srirampore 1.2%.
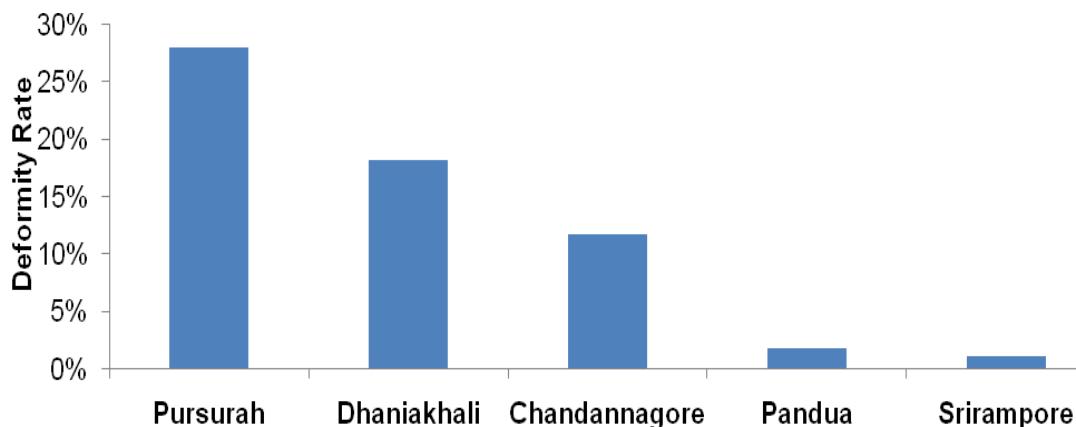
Fig. 4: Geographical distribution of deformity rate in five blocks and municipalities of Hooghly district, West Bengal

It is found that highest discontinuation rate is in Chandannagar Corporation 60%. This is followed by Chinsurah 58.65, Uttarpara 53.5%, Srirampur 51.3% and Bansberia 50%. Treatment discontinuation rate is high in urban areas.
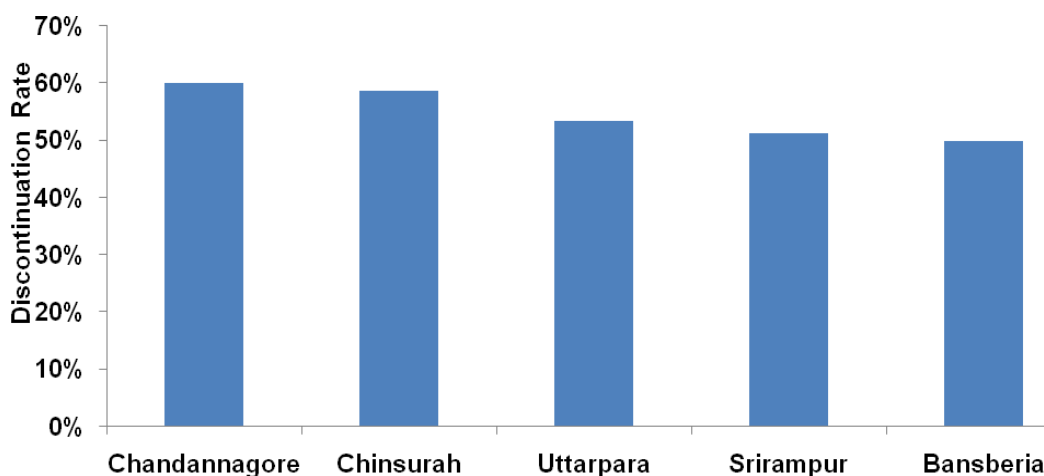

Fig. 5: Geographical distribution of other discontinuation proportion% of Leprosy in five blocks and municipalities of Hooghly district, West Bengal

Multi Bacillary case proportion in the district is near about 60% but five blocks and municipalities have much higher value and so they are in need of special attention. They are Bansberia 100%, Bhadreswar 100%, Chanditala 100%, Haripal 93.3%, Champadani 80%.
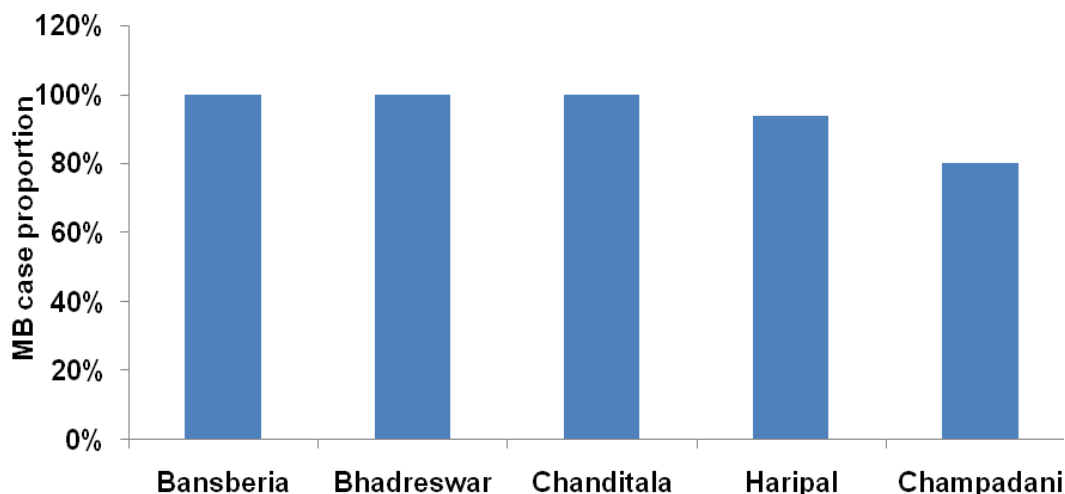
Fig. 6: Geographical distribution of MB proportion in five blocks and municipalities of Hooghly district, West Bengal

Discussion

There is a significant decline in the Annual case detection rate and Prevalence rate of Leprosy in Hooghly district over the years but it still continues to be a public health problem in some urban pockets. More than eighty percent of leprosy cases in urban area are of multibacillary type and more than fifty percent discontinuation rate is found in the Corporation and municipal areas. The municipal and urban areas are showing more drop outs as compared to the rural areas[7,8].

Most of the urban areas are showing more than ten percent of the child case rate denoting a high rate of transmission of the infection.

As per the programme, there are ANM and ASHA in the rural area who actively detects leprosy cases with propagation of health messages. In urban area, there is no such active surveillance by any health worker. So, the cases are detected only passively. It gives rise to late detection of cases, drop outs as there is no follow up leading to more MB cases and deformity[7-9].

So, active case surveillance along with home to home survey will lead a great way in success of the programme.

Recommendations: We made the following recommendations:
1. Periodic survey is to be done for detection of new hidden and female cases in the line of Modified leprosy eradication campaign.
2. Follow up of the cases in the urban areas has to be done by giving incentive in the manner of ASHA in the rural areas to prevent the drop outs.
3. Training programme and IEC activities has to be increased for dissipation of stigma and finding out more female and hidden cases.
4. Organising Camps for awareness and detection of hidden cases.

Conflicts of Interested: Nil

Source of Support: None

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