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Prevalence and Spectrum of Leprosy in Thoothukudi District, Tamilnadu.

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ABSTRACT

Background: Leprosy is a disease involving the skin, and the peripheral nerves is a public health problem. The prevalence and pattern had changed after the vigorous implementation of MDT. Aim: The aim of the study is to study the changing patterns and spectrum of leprosy in Thoothukudi district, Tamilnadu, India. **Methods:** This is a retrospective study analyzing the spectrum and prevalence of the disease for a 12 years period from 2005 to 2017.All the new patients enrolled for MDT in the Deputy Director (Leprosy) office, Thoothukudi and Skin Dept, Govt. Thoothukudi Medical College Hospital from April 2005 to March 2017 was included in the study. **Results:** A total of 935 patient's profile was analyzed. Among 935 patients analyzed an inclination towards the multibacillary spectrum was noticed in contrast to declining prevalence. **Conclusion:** Though the prevalence is declining a thorough, surveillance activities and early treatment will eliminate leprosy as a public health problem shortly.

Keywords: Leprosy, Prevalence, Spectrum.

INTRODUCTION

Leprosy is a chronic mycobacterial infection affecting predominantly the peripheral nerves and skin. Because of its stigma and deformities, it has emerged as a public health problem. The present national prevalence is0.69%.[1] The prevalence in Tamilnadu is 0.41% which ranks fifth in the country1. To reduce the global burden of disease associated with leprosy, the World Health Organization introduced Multiple Drug Therapy (WHO-MDT) in 1982. WHO-MDT is a convenient, relatively inexpensive regimen consisting of monthly rifampicin and clofazimine, and daily dapsone and clofazimine administered for 2 years (more recently, this was reduced to one year) in multibacillary leprosy. By 1994, MDT was implemented worldwide, and the overall prevalence of leprosy dropped dramatically.[2] After the introduction of MDT in 1983 in India, the incidence has been declining. The fall in global prevalence with the introduction of MDT led to the WHO campaign to eliminate leprosy as a public health problem by the year 2000, with the assumption that once prevalence fell below 1 case per 10,000 population, transmission would be interrupted, leading to the gradual extinction of the disease.[3] If this process were in fact happening, health authorities would be justified in reducing the allocation of resources to leprosy control. Despite these measures; studies in the last decades have shown that the expected decline in the new case detection rate and the incidence of leprosy has not occurred.[3] Analysis of trends of leprosy in a well defined geographical population over a period provides useful information on how the disease has evolved over the years.

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Aim

The present study is undertaken to know the prevalence and pattern of leprosy in Thoothukudi District, Tamilnadu in the current leprosy elimination scenario.

MATERIALS AND METHODS

In this retrospective study, all the new patients enrolled for MDT in the Deputy Director (Leprosy) office, Thoothukudi and Skin Dept, Govt. Thoothukudi Medical College Hospital from April 2005 to March 2017. A total of 935 patient's profile were analyzed. The spectrum of Leprosy was classified based on the WHO (Field) Classification. The prevalence of leprosy in the district was calculated for each year. The prevalence of leprosy in children was given priority. The deformities

acquired due to leprosy were also noted. The results were tabulated and analyzed.

RESULTS

A total of 935 new cases were detected during the 12 years of study period.

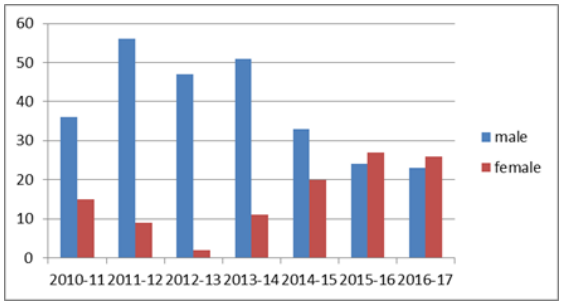

Figure 1: Gender Distribution.

The year wise sex ratio is depicted in figure 1 with an increase in the number of female patients in the last six years.

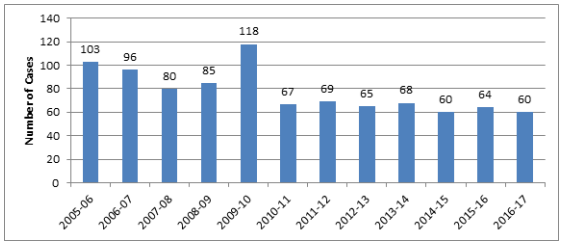

Figure 2: Distribution of Prevalence.

The prevalence rate of leprosy declined from 0.55 in 2005 to 0.22 in 2017 [Figure 2].

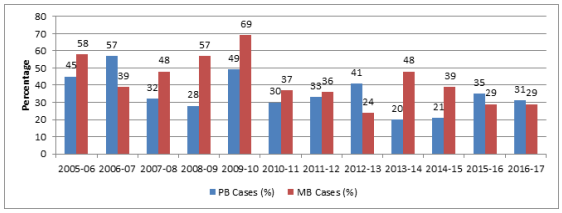

Figure 3: Distribution of PB/MB Ratio.

The ratio of PB cases to MB cases is almost the same in the 12 year period with an increasing dominance of MB cases [Figure 3].

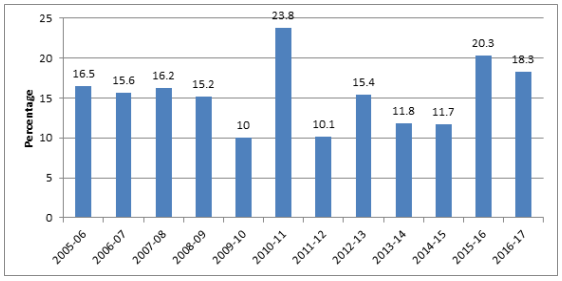

Figure 4: Childhood cases.

The percentage of children suffered from leprosy decreased from 17% to 11% during the study [Figure 4]

Deformity in the newly detected cases were less common and revealed a declining trend from 7% to 2%.

DISCUSSION

Leprosy, one of the most ancient, feared, and disabling diseases of humanity is on the verge of defeat.[2] The global prevalence rate (PR) of leprosy has dropped by 90% from 21.1 cases per 10,000 population in 1985 to <1 per 10,000 in the year 2000. Leprosy has been eliminated from 119 of 122 countries where the disease was considered as a public health problem in 1985.[3] India contributes to more than 50% of new cases of leprosy detected globally every year.[4] In 1981, PR of India was 57.6 per 10,000 which was brought down to <1 per 10,000 by December 2005 and declined further to 0.73 per 10,000 population.[3] To declare endemicity the prevalence rate should be 1/10,000 population. Tamilnadu with a prevalence rate of 0.41 contributed 3.65% of cases to the national leprosy load in 2016.1 In our study also the prevalence rate of leprosy in the district declined from 0.55 to 0.22 in 12 years which is less than the national/state figure. This positively indicates the effective implementation of MDT. The number of female patients is on the rise from 10.3% in 2011-12 to 43.3% in 2016-17 which may be because of the increased awareness in women making them overcome the stigma and voluntarily reporting for evaluation and treatment.

Whereas prevalence rate (PR) has been the main index, in the recent years, the workers are beginning to talk about new case detection rate and have begun to realize that this may be more important. The recent analysis of data from many countries has shown that the global decline in leprosy case detection has been less than expected, despite widespread use of MDT.3 Actual numbers of new cases reported for the last 5 years are very stable, while detection rates decline slowly due to rising population figures.[4,5] Of the other parameters childhood rate and MB ratio have also been measured as an index of leprosy infection in the community.[6] If transmission had been greatly reduced over the last two decades, as many believed would occur as a result of the elimination campaign, one might expect a reduced number of child cases, especially in the youngest age group and rising average or median age at diagnosis, amongst those children who do get leprosy. The percentage of childhood cases in our study was 15.16% similar to the Tamilnadu statistics (15.9%) in 2016.[1,7] The percentage of deformity in newly detected cases in our study (3.3%) was less than the state prevalence of 8.8% in 2016.[8]

Till about two decades ago (1992-1998), the overall MB ratio in Tamilnadu (classified by number of skin lesions) was in the range of 8.3% to 13.9%.[9,10] In 2016 the PR of MB cases escalated to 41.97%. In

our study, the prevalence rate of MB ranged from 29% to 69%. In most of the years, the number MB cases almost equaled the PB cases. The possible reasons for this could be in contrast to active search, voluntary reporting to health facility occurs late when the disease is relatively advanced and begins to bother individuals. Increasing MB ratio should lead to higher childhood rate as a load of transmission in the community is likely to be higher and hence more children are likely to get infected early in life.[10] As voluntary reporting is based on increased awareness using health education (IEC) activities about the disease, it appears that there is an urgent need to analyze the effectiveness of IEC activities, utilization of health infrastructure and efforts, motivation and the interest taken by the field staff in leprosy work.

Limitations of the Study: This study was subject to some limitations. First of all, the study is retrospective, and no real-time verification could be made. The study uses data from a period of only passive case finding: the case detection rate might therefore not be representative prevalence, and trends might have been over or underestimated.

CONCLUSION

Considering the findings and analysis of the program indicators, it can be concluded that MDT is having a favorable impact on the problem of leprosy by maintaining the elimination level of leprosy. In conclusion, our study shows that leprosy transmission is still active as the MB cases are more. Intensifying surveillance activities, IEC activities, and early treatment will help to eliminate leprosy as a public health problem shortly.

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REFERENCES

1. National Leprosy Eradication Programme, ANNUAL REPORT, 2015 – 2016, Central Leprosy Division,Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India ,Nirman Bhawan, New Delhi – 110011.
2. Meima A, Richardus JH, Habbema JD (2004) Trends in leprosy case detection worldwide since 1985. Lepr Rev 75: 19–33.
3. Rinaldi A (2005) The global campaign to eliminate leprosy. PLoS medicine 2: e341.
4. WHO (2013) Baccille Calmette Guérinvaccin - Reported estimates of BCG coverage. WHO vaccine-preventable diseases: monitoring system 2013 global summary.
5. Irgens LM (1985) Secular trends in leprosy: increase in age at onset associated with declining rates and long incubation periods. Int J Lepr Other Mycobact Dis 53: 610–617.
6. Lockwood DN (2002) Leprosy elimination-a virtual phenomenon or a reality? BMJ 324: 1516–1518.
7. WHO. Leprosy fact sheet (revised in February 2010), World Health Organization, 2010.WklyEpidemiol Rec 2010;85:46-8.
8. National Leprosy Eradication Program (NLEP). Training Manual for Medical Officer. Nirman Bhavan, New Delhi: Central Leprosy Division, Directorate General of Health Services, Ministry of Health and Family Welfare (GoI); 2013.
9. WHO. Report of the Global Forum on Elimination of Leprosy as a Public Health Problem. Geneva: World Health Organization; 2006.
10. Anil Kumar and BK Girdhar, Is increasing MB ratio a positive indicator of declining leprosy? J. Commun. Dis. 38 (1) 2006 :24-31

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