

Original article

A pilot study on prevalence and cure rate of tuberculosis in selected areas of Malabar 2006-07.

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Abstract

Objective: To study the prevalence and cure rate of tuberculosis (TB) and the people affected by TB in selected areas, considering different factors like age, sex, percentage of people affected, dosage forms, role of hospitals, and patient category. **Methods:** A detailed survey was carried out in and around Perinthalmanna and Wayanad (Urban and Rural) to understand the burden and overall trend of TB in our locality and how effective our TB control programme. More than 250 treatment cards were collected from the Government hospitals and TB Sanatorium. **Results:** In the study, at Perinthalmanna and Wayanad, out of 250 TB patients it was found that males is more susceptible than females, rural area accounting for the greater proportion of TB patients. Greater proportion were affected with pulmonary than extra pulmonary Tuberculosis. The incidence of tuberculosis in different age groups varied according to the area. Half proportion in both rural and urban areas were belonging to category II followed by category III. **Conclusion:** The nature and magnitude of TB is more in rural area than urban area mainly because of the lack of awareness of the severity of disease and improper follow up of preventive measures. Our study suggests that the combined and committed efforts of government, non government organizations, medical and paramedical professional and society is required at large, to reach all patients and ensure that they receive high quality care.

Keywords: Directly observed treat short course (DOTS); Multi drug resistant tuberculosis (MDR - TB); Revised national TB control programme (RNTCP)

INTRODUCTION

Even in the present times, TB remains a major health problem in developing countries. The lack of diagnostic facilities and proper treatment in rural population along with crowding, cross infection and poverty in urban population have kept up the incidence and prevalence as seen in the past. The increase in the population and spread of HIV infection have affected the absolute number of TB cases in upward direction and made this dreadful disease a continuous problem requiring priority attention. Tuberculosis is a specific infectious disease caused by TB

bacilli. TB infection occurs when a person carries the tubercle bacilli^[1]. The disease primarily affects lungs and causes pulmonary TB. It can also affect intestine, meningis, bones, joints, glands, skin and other tissues of the body. The disease is usually chronic with varying clinical manifestations^[2]. One in ten people infected with TB bacilli will become sick with active TB in their life time; people with HIV are at a much greater risk. TB is contagious and spreads through the air, if not treated, each person with active TB infects an average 10 to 15 people every year^[3,4]. TB is a disease found mostly in poor socio - economic, urbanized and under privileged groups. TB may be pulmonary and extra pulmonary. WHO estimates that at least one third of the world populations are infected with TB bacilli. More than 8 million people develop active TB annually and nearly 3 million deaths occur world wide, in which 95 % of

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TB cases and 98% of TB deaths are in developing countries^[5]. Global access to TB treatment is improving but remains low, undiagnosed or left untreated. DOTS (directly observed treatment short course) the internationally recommended approach to TB control is an inexpensive and highly effective means of treating patients infected with TB. TB is curable but it kills 5 000 people every day, it is a disease of poverty, virtually all TB deaths are in the developing world, affecting mostly young adults in their most productive years^[6-8]. TB is the leading killer among HIV infected people with weakened immune system. Global TB incidence is still growing at 1% a year because of the rapid increase in Africa^[9-11]. TB is a world wide pandemic, though the highest rates per capita are in Africa (29% of all TB cases) half of all new cases are in Asian countries (Bangladesh, China, India, Indonesia, Pakistan, and Philippines)^[12].

Multi drug resistant TB (MDR – TB) is a form of TB that does not respond to the standard drug treatment. MDR – TB is present virtually in all countries, recently surveyed by WHO and partners, 450 000 new MDR – TB cases are estimated to occur every year^[13,14]. The highest rates of MDR – TB are in the countries of the former Soviet Union and China. The highest number of deaths and mortality per capita are in the WHO's Africa region^[4, 15, 16]. It is evident from the literatures that there exists a significant difference in the prevalence, awareness of the severity of disease and cure rate in both rural and urban area. Hence the main aim of our study was to determine the nature and magnitude of TB and how effective is the TB control programme in our locality since the socio – economic back ground differs in both areas.

MATERIALS AND METHOD

An attempt was made to study about tuberculosis therapy and the people affected by tuberculosis in selected areas. A detailed study was carried out in and around Perinthalmanna and Wayanad. The filled – in treatment cards (more than 250 treatment cards) were collected from Government hospitals and TB Sanitorium from Perinthalmanna (Urban) and Wayanad (Rural area). The complete profiles of the patients were obtained during the study through and treatment cards. An interactive session with doctors,

pharmacists and nurses at district TB centers were also conducted as a part of the programme. Information regarding TB was collected personally from Physicians, Pharmacists and Nursing staff of all TB centers of these areas and statistical data based on different factors were critically analyzed so as to find the nature and magnitude of TB in our locality. The study conducted for a period of six months and it includes the RNTCP by central government. Results were analyzed statistically, tabular columns were drawn and histogram plotted. From the chart we have analyzed the percentage of people affected by tuberculosis based on different factors.

RESULTS

As far as urban area is concerned (Perinthalmanna) TB cases were found to be less (Figure-1). In the year 2006, highest number of TB cases were found in the age group between 55-64 and in the year 2007 the highest number were found in the age group of 45-54 years (Figure-2 and 3). Males were found to be more affected than females, (Figure-4 and 5) and there were more number of pulmonary cases than the extra pulmonary (Figure-6 and 7). Most of the drugs used in treatment were orally active and were given in the form of tablets. Patient compliance was observed to be good with tablets. Compared to 2006, there was a reduction of death rate in 2007. TB patients are categorized into three groups based on the treatment and drug dosage. In the urban area (Perinthalmanna) TB patients were found to be in the category 1 in the year 2006-2007.

In the year 2006, the highest number of TB cases were found in the age group of 25-34 years, while it was in the age group of 15-24 in the year 2007, in rural area. More number of males were reported to have affected with TB than female. Number of pulmonary cases in rural area were found to be more prevalent than extra pulmonary case in the year 2006-07. TB patients were found to be in category III in the year 2006 and in the year 2007 more TB patients were found to be in category 1 (Table-1). Compared to 2006, in the year 2007 there is a reduction in death rate, even though a great deal of improvement can be seen in both the cases, still to prevent the spreading of TB and to reduce the severity of disease, all health care professionals are to be engaged (Figure -8 and 9).

Table 1 Patient category in 2006&2007 [N(%)].

Area	Year	Category-1	Category-2	Category-3
Perinthalmanna	2006	115 (45.8)	23 (9.1)	112 (44.9)
	2007	126 (50.5)	23 (9.14)	100 (40.2)
Wayanad	2006	110 (44.1)	43 (5.7)	125 (50.1)
	2007	155 (61.8)	24 (9.6)	72 (28.6)

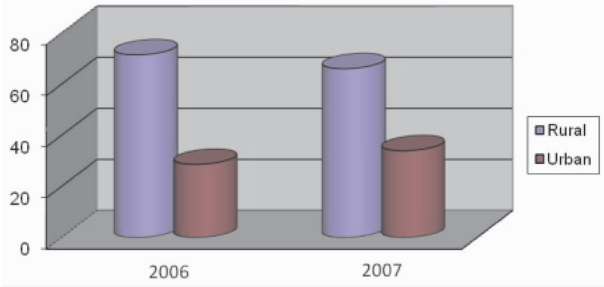


Figure 1 % of people affected in different areas in 2006&2007.

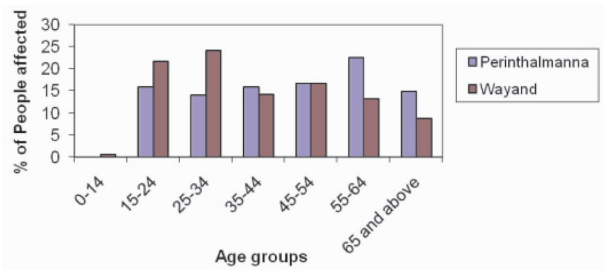


Figure 2 Age trends of people in Urban and Rural area in 2006.

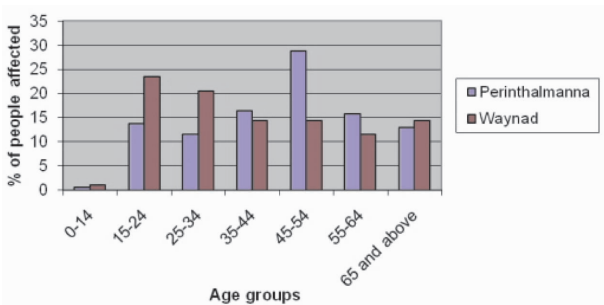


Figure 3 Age group of people affected in rural and urban area in 2007.

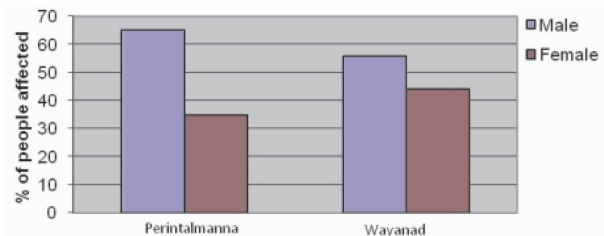


Figure 4 Sex trend of affected people in both rural and urban area in 2006.

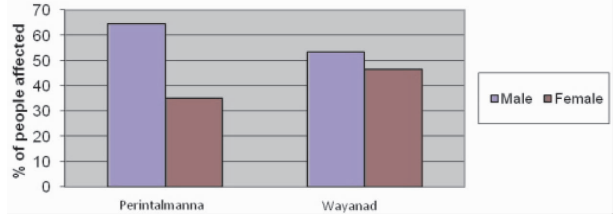


Figure 5 Sex trend of people affected in both urban and rural area in 2007.

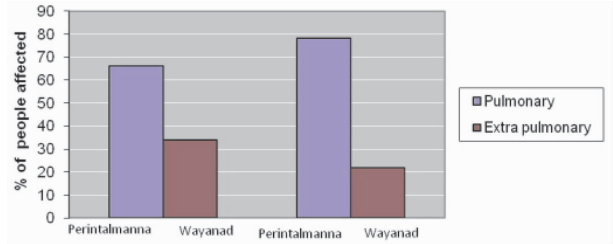


Figure 6 Site of disease in affected people in 2006.

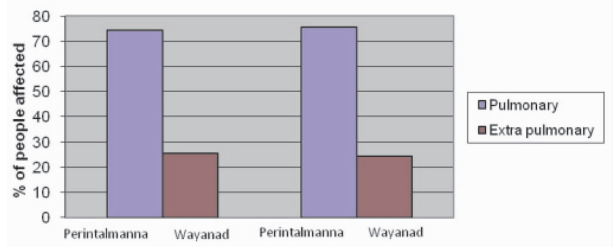


Figure 7 Site of disease in affected people in 2007.

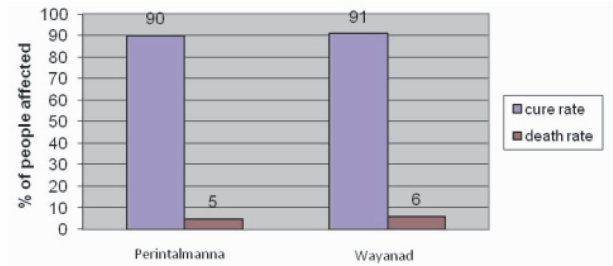


Figure 8 Role of hospitals in 2006.

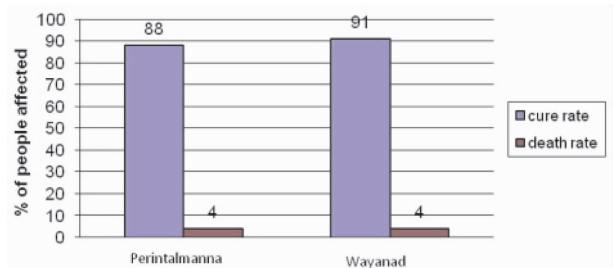


Figure 9 Role of hospitals in 2007.

DISCUSSION

We conducted studies on TB in two different re-



gions. One urban (Perinthalmanna) and other rural area (wayanad). Prescription cards were collected, analyzed and according to our study, the disease prevalence rate increases in both sexes. Males were more affected than females. About 50% -65% males were affected. Females were about 35% -50%. Rural area accounted for 70% of total prevalence of disease. Prevalence rates were higher in overcrowded slum areas where underprivileged low income groups of population, resided under insanitary condition. Age group affected with TB varies according to the area. About 75% of the total TB patients were affected with pulmonary TB than extra pulmonary. Smokers were found to be more susceptible to TB than non-smoker. People who are infected with HIV are more likely to be infected with TB. Risk of progression of TB infection to clinical form has been estimated to be 10 % in HIV serum positive population. During our study on TB we found that government has established several rehabilitation centers and programmes. All the drugs in the treatment of TB tend to reduce resistant strain.

There is a great deal of improvement in the present status of TB management in our locality when compared to previous years, both in urban as well as rural populations. Awareness about the severity of disease and response of the patients to the treatment were found missing to some extent. Our study suggests that pharmacists, health care professionals, government and non government organizations should join hands together to mitigate and minimize the risk of TB in our society.

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