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Research Article

A Study of Awareness about Resistant Tuberculosis among Medical Professionals

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Abstract: The basic aim of this study was to assess the existing basic knowledge of medical doctors of various levels of training about the definitions of the resistance patterns in tuberculosis. Two hundred medical doctors were included in this survey from Mahatma Gandhi Medical College &Research Institute, Puducherry. A simple questionnaire was designed and presented to the medical doctors to respond by spontaneous answers to the questions in the questionnaire. The participants were asked to define Multi Drug Resistant Tuberculosis (MDR TB) and Extensively Drug Resistant Tuberculosis (XDR TB) . The participants were required to respond spontaneously by completing the questionnaire on presentation without waiting time, delayed participation or peer discussion. Two hundred participants were included in this study. One hundred and forty (70%) participants completed the questionnaire while remaining sixty (30%) participants did not answer the questions completely. Out of 140 responders fifty (35.7%) responders possessed a post graduate degree while remaining ninety (64.3%) responders were post graduate trainees and general medical officers. Out of total 140 responders sixty (42.8%) could define MDR TB correctly, while eighty (57.2%) could not define MDR TB correctly. Out of the total 140 responders, Thirty six (25.7%) responders could define XDR TB correctly while one hundred and four (74.3%) responses were incorrect. The study suggests that there are major gaps in the knowledge of doctors involved in patient care about resistance and its patterns of tuberculosis to available anti tuberculous drugs.
Keywords: Multi Drug Resistant Tuberculosis (MDR TB), Extensively Drug Resistant Tuberculosis (XDR TB).

INTRODUCTION

Tuberculosis (TB) is a highly infectious disease continues to be one of the most devastating and widespread infections in the world. It is on the increase throughout the world and is one of the leading causes of death among adults in the under developed and the developing countries like India. In 1993, the World Health Organization declared tuberculosis to be a "global health emergency [1]. Despite the availability of effective therapy for TB, it continues to infect an estimated one-third of the world's population, to cause disease in 8.8 million people per year, and to kill 1.6 million of those afflicted with disease [2]. India has the highest number of TB cases in the world and it is second leading cause of death among all diseases [3, 11].

During the past 5 years, there has been a marked increase in the number of patients with tuberculosis (TB) diagnosed with Drug resistant tuberculosis across the world. In 2013, an estimated 480 000 people worldwide developed MDR-TB. It is estimated that about 9% of these cases were XDR-TB [4]. Poverty, poor infrastructure, bad governance, resource constraints, improper and inadequate distribution of resources are some of the factors leading to Drug resistant tuberculosis. Additionally, lack of properly trained human resource multiplies the adverse impact in this situation.

Although, great deal of research and development has occurred in the fields of tuberculosis diagnosis and management yet there are some very serious gaps in the scientific knowledge and also lack of dissemination of the existing knowledge among medical professionals. This study has been conducted to determine the status of knowledge and awareness amongst the medical doctors about the very basic knowledge about these two types of resistance patterns in tuberculosis.

METHODOLOGY

Two hundred medical doctors were included in this survey from Mahatma Gandhi Medical College & Research Institute, Puducherry, India. A simple questionnaire was designed and presented to the medical doctors to respond by spontaneous answers to

the questions in the questionnaire. The participants were asked to define MDR TB and XDR TB. The participants were required to respond spontaneously by completing the questionnaire on presentation without waiting time, delayed participation or peer discussion.

RESULTS

Two hundred participants were included in this study. One hundred and forty (70%) participants completed the questionnaire while remaining sixty (30%) participants did not answer the questions completely (Table 1). Out of 140 responders 50 (35.7%) responders possessed a post graduate degree while remaining 90 (64.3%) responders were post graduate trainees and general medical officers (Table 2).

Table 1: Participant's details

	Number	Percentage
Participants enrolled in the study	200	100%
Participants who completed the study	140	70%
Participants who didnot complete the study	60	30%

Table 2: Details of Participant's who completed the study

	Number	Percentage
Participant's who completed the study	140	70%
IMO &PG's	50	35.7%
Participant's with PG qualification	90	64.3%

Out of total 140 responders sixty (42.8%) could define MDR TB correctly while eighty (57.2%) could not define MDR TB correctly. Subset analysis revealed that out of 90 responders without post graduate qualification, only 36 (40%) could give a correct response. Out of 50 post graduate responders, 24 (48%) gave correct responses (Table 3).

Table 3: Details of Participant's who defined Multi Drug Resistant Tuberculosis (MDR-TB)

MDR-TB	Correct definition	Percentage
IMO &PG's	36 of 90	40 %
Post Graduate qualifications	24 of 50	48 %
Total correct	60 of 140	42.8 %

Table 4: Details of Participant's who defined Extensively Drug Resistant Tuberculosis (XDR-TB)

XDR-TB	Correct definition	Percentage
IMO &PG's	8 of 90	8.8 %
Post Graduate qualifications	28 of 50	56 %
Total correct	36 of 140	25.7 %

Out of the total 140 responders, Thirty six (25.7%) responders could define XDR TB correctly while one hundred and four (74.3%) responses were incorrect. Subset analysis of responses revealed that eight (8.8%) correct responses were recorded in the group without PG Qualification while twenty eight (56%) correct responses were recorded in the PG qualified group of 38 (Table IV).

DISCUSSION

Tuberculosis is the most common cause of death in adults due to single infectious agent [5]. Tuberculosis was considered controlled in the last century after the discovery and widespread availability of potent anti-tuberculosis drugs. It was only during the last two decades of the twentieth century that the medical community stared to realize that tuberculosis has staged a comeback with deadlier and drug resistant potency.

According to several estimates 1.86 to 1.88 billion people are infected with Mycobacterium Tuberculosis worldwide. TB is a disease of poverty, malnutrition and poor housing with 95 percent cases and 98 percent death occurring in under developed and the developing countries [6]. Data from studies conducted by NIRT (erstwhile TRC) and NTI, have found MDR-TB levels of 1% to 3% in new cases and around 12% in re-treatment cases [7, 8]. Many new cases of MDR-TB are created each year by a combination of physician error and poor patient compliance with treatment, which turn fully susceptible organisms, or those with less complex resistance patterns, into MDR-TB.The recent identification of XDR-TB and the increasing number of MDR-TB cases show that the knowledge and handling of TB treatment is still insufficient.

Treatment outcome for drug resistant TB patients is significantly worse than that for fully susceptible TB and has a much higher cost and side effects. While research and treatment strategies have made significant strides in the fight against tuberculosis, efforts to tackle MDR / XDR – TB have lagged behind the growing

numbers of these deadly forms of tuberculosis. At present the the awareness, knowledge, competency of doctors, resources and leadership simply aren't sufficient to turn the tide on drug resistant TB.

In our study, only 42.8% correct responses were recorded for definition of MDR TB while only 25.7% correct responses were recorded for definition of XDR TB. Similar reports were given by Wajid *et al*. and Busari *et al*. [9, 10]. The above analysis suggests that there are major gaps in the knowledge of doctors involved in patient care about resistance and its patterns of tuberculosis to available anti tuberculous drugs.

CONCLUSION

The study suggests that there are major gaps in the knowledge of doctors involved in patient care about resistance and its patterns of tuberculosis to available anti tuberculous drugs. Continuous medical education (CME) programmes should be initiated at all levels including hospitals, teaching institutions.

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