



Short Communication

Influence of Awareness Programme on Tuberculosis in College Students in Chennai

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ABSTRACT

Background: Tuberculosis (TB) remains a major global health problem. Creating awareness of TB among young individuals will help in achieving STOP TB strategy. The objective of this study was to assess the effectiveness of the awareness program on TB among Arts and Science college students in Chennai.

Methods: This was a cross sectional study. Permission was obtained from Principals of two Arts and Science Colleges in Chennai for conducting the program. Students were given a pair of questionnaire (A&B), serially numbered. Questionnaire included demographics and basic knowledge on TB, modes of spread and cough hygiene. Questionnaire A was filled before the program and Questionnaire B at the end. Statistical analysis was done using Mc Nemer's Chi-square test.

Results: Of 501 students participated, their age ranged from 16-37yrs (mean=20yrs, SD 3.4). Seventy two percent were females and 75% were Hindus. Most (85%) were aware that TB commonly affected the lungs. 61% opined that TB was curable and this rose significantly to 84% ($p=0.000$) after the program. The awareness on TB treatment increased significantly ($p=0.000$) in post awareness response. Most of the students knew that coughing, sneezing and spitting spreads TB but only 20-30% knew that talking and singing could spread TB. Only 20% of the students were aware of cough hygiene.

Conclusions: There was a significant increase in the knowledge on TB among the students after the awareness program. Educating them will help in creating awareness of TB and spread knowledge among their families, friends and community.

Key words: Tuberculosis, Awareness, College students

INTRODUCTION

Tuberculosis (TB) is chronic infectious disease caused by the bacillus *Mycobacterium tuberculosis*. It remains a major global health problem with increasing number of cases each year. This infectious disease is the second leading cause of death worldwide, after the Human Immuno-

deficiency Virus (HIV). Most of the deaths due to TB are preventable if people access health care for a diagnosis and are offered the right treatment. ^[1]

Globally, in 2012, there were an estimated 8.6 million new cases of TB and 1.3 million people died of the disease. ^[1] About 2.3 million were estimated to have

occurred in India. ^[2] India is the highest tuberculosis burden country in the world, accounting for nearly one-fifth of the global incidence. ^[3] Two deaths occur every three minutes from tuberculosis in India, but these deaths can be prevented with proper care and treatment. ^[4] In Tamil Nadu, about 1.4 lakh persons develop Tuberculosis annually, among which 48,000 patients are sputum smear positive. ^[5]

India had come a long way in controlling tuberculosis through National Tuberculosis Program in the Year 1962, Revised National Tuberculosis Control Program (RNTCP) in 1997. Later, RNTCP adopted STOP TB strategy announced by World Health Organization (WHO) in 2006. ^[6] One of the components in STOP TB strategy include empowering people with TB, and communities through partnership by pursuing advocacy, communication, social mobilization and fostering community participation in TB care, prevention and health promotion. ^[1] About 18.2% of population in India is in the age group of 15-24 years ^[7] and creating an awareness of common infectious diseases in them in a given area will help reducing the incidence of diseases. In 2005, Vijay K. Challu *et al* involved school students in TB advocacy in Bangalore. ^[8] Many such awareness programs were conducted for school children and medical graduates and paramedical students in endemic countries. This is one the first such awareness program conducted among the Arts and Science college students on Tuberculosis.

The present study was undertaken with the aim to create awareness and to assess the effectiveness of the awareness among Arts and Science college students in Chennai.

MATERIALS AND METHODS

This was questionnaire based cross sectional study conducted from January

2014 to July 2014. The study was conducted by the Department of Experimental Medicine, The TN Dr. MGR Medical University, Chennai, after obtaining approval from the Institute Ethics Review Board. Chennai is capital of Tamil Nadu, one of the southern states of India, located in the Coromandel Coast of Bay of Bengal with 4.68 million residents.

Prior permission was obtained from the Principals of the Arts and Science Colleges for conducting the awareness program on Tuberculosis and to assess the knowledge of students before and after the program. The program was conducted at seven Arts and Science colleges in Chennai. The students who were willing to fill the questionnaire were included in the study.

Each student was given a pair of pre tested semi-structured questionnaire, serially numbered and labelled as A and B. Students were instructed to fill the Questionnaire A before the awareness program and Questionnaire B at the end of the awareness program anonymously. The filled A questionnaire was collected from all students after 10 minutes before the start of the awareness program. The questionnaire was in English and included age, gender and religion. The questions on tuberculosis included commonly affected site, whether TB was curable, duration of TB treatment, modes of spread and cough hygiene. Each question was given three responses 1- Yes, 2- No and 3- do not know. Students were instructed to mark one response accordingly.

The awareness program was given through a power point presentation which included causative agent, modes of spread, sites of infection, diagnosis and duration of treatment, vaccination and cough hygiene.

At the end of the program, the students were asked to fill the Questionnaire B and the same was collected.

All the forms were entered in the excel sheet and analyzed using SPSS

software Version 11. Statistical analysis was done using Mc Nemer's Chi-square test.

RESULTS

A total of 501 students had participated in the study from seven colleges. Age of the students ranged from 16 to 37 years with mean of 20.46 years, SD 3.477. Twenty eight percent (28%) were male students and 72% were female students. Seventy five percent (75%) were Hindus, 20% were Christians and 5% were Muslims. Responses in pre and post awareness questionnaire are given in fig 1,2,3,4. Most of the students (85%) were aware that TB commonly affected the lungs. Sixty one percent (61%) opined that TB was curable and this percentage rose significantly to 84% ($p=0.000$) after the program. The awareness on TB treatment increased significantly ($p=0.000$) in post awareness response. Most of the students knew that coughing, sneezing and spitting spreads TB but only 20-30% knew that talking and singing could spread TB. Before the program, only 20% of the students were aware of correct method of coughing but after the program 86% realized the correct technique in cough hygiene.

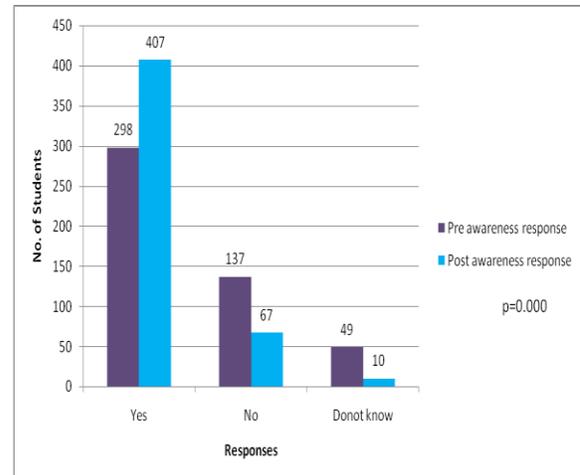


Figure: 2 Responses of students on: TB is curable

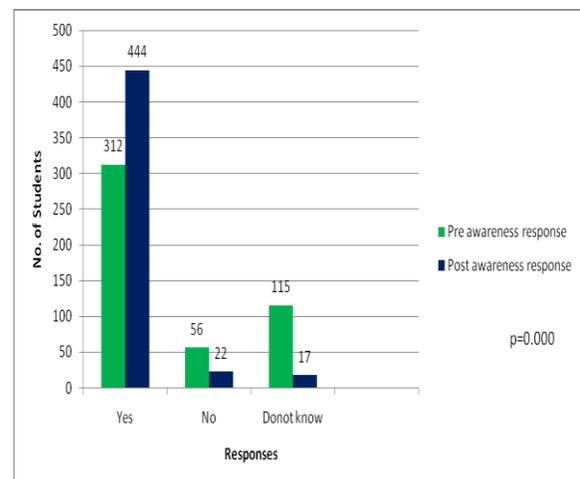


Figure: 3 Responses of students on: Treatment should be taken for at least 6 months

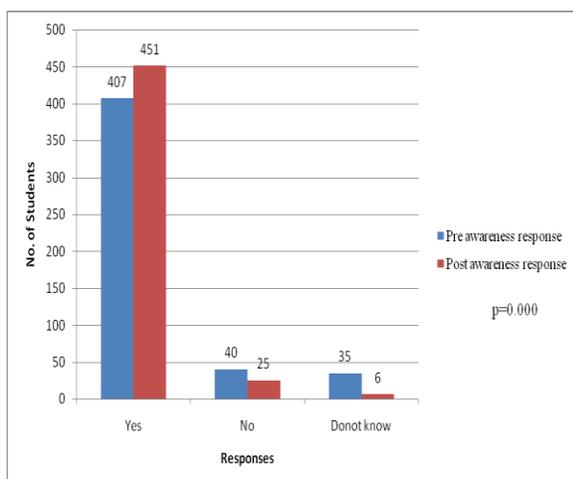


Figure: 1 Responses of students on: TB commonly affects lungs

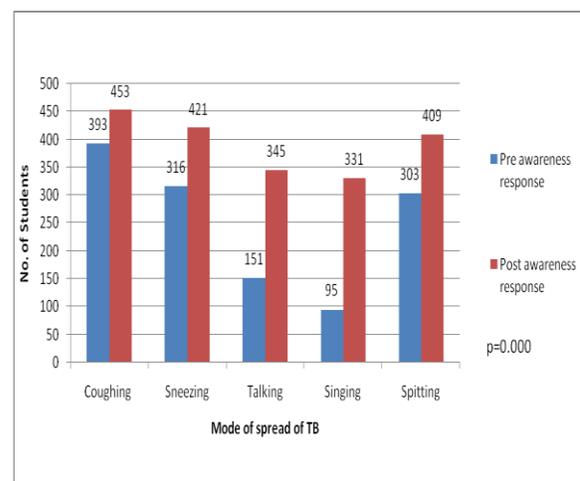


Figure: 4 Responses of students on mode of spread of TB

DISCUSSION

This is the first study to report on knowledge on TB among Arts and Science college students in Chennai, South India. In the present study, 88% of participants were already aware that TB commonly affects the lungs. After the awareness program, it increased to 95%. All the students were in their first year of graduation, after completing their formal school education. A study from Vellore district in Tamil Nadu had reported that 78% of the school students were aware that TB commonly affects lungs.^[9] Another study from Salem district had reported 93.3% of medical students and doctors were aware of primary site of TB infection.^[10] Students awareness in the present study was higher in both pre and post awareness (88% and 95% respectively) when compared to what was reported from Belgrade University in Serbia, where only 78% of students were aware that TB commonly affects lungs.^[11]

In the pre awareness questionnaire, 64% were of the opinion that TB was curable and this rose significantly to 81.8% after the awareness program. The knowledge on curability of the disease ranged from 40% to 86% in two different studies conducted in Punjab and Mysore in India.^[12,13] A study from Sudan had reported only 15% of college students had correct knowledge on curability of the disease, whereas a study in China reported 80% of medical students were aware that TB was curable.^[14,15]

Response with regard to treatment, the awareness had increased from 72% to 81% in post awareness response. Reports from Pune, India had shown an increase in the knowledge on duration of treatment from 43% to 98% in school students.^[16] The knowledge on treatment of tuberculosis before the awareness program in the present study was much higher when compared to

other studies in Vellore (29%) and Mysore (53.5%).^[9,13]

Majority of students in the current study were familiar that coughing, sneezing and spitting spreads the infection and the percentage increased significantly to approximately 90% after the awareness program. This is similar to the reports from Pune where the knowledge increased to 89% with regard to correct modes of transmission of infection after the awareness programme.^[16] A study from Pakistan had reported 84% of their students were aware that coughing spreads TB infection. They had also stated that 64% were aware that sneezing spreads TB infection.^[17] Reports from China had shown only 15% of medical students had knowledge that coughing and sneezing spreads TB infection.^[15] In the present study, only 25-30% of the students knew that talking and singing could spread TB. After the awareness program, this increased to 50%. Still the remaining 50% were not able to understand that singing and talking can spread TB infection. Further awareness programs for these students could concentrate on emphasizing the importance of droplet infection.

Only 19% of the students were aware of cough hygiene in our study. In a study from Mysore, it was observed that 99% of the students were aware of covering the nose and mouth with handkerchief while sneezing/coughing.^[13] Reports from Southern Iran shows 56.8% of their participants believed that covering the nose and the mouth while coughing or sneezing stops the transmission of tuberculosis.^[18] In our study, 74% of participants had said that mouth should be covered with fingers while coughing. This could be that these students were encouraged by their parents or teachers to do so from their childhood. Global health authorities like WHO do not recommend covering the mouth/nose using bare hands when coughing because respiratory

pathogens could be transmitted to other individuals if contact precautions are not followed. [19] After the influenza pandemic, CDC had recommended the following to reduce the spread of infection- Cover mouth and nose with a tissue when you cough or sneeze, put the used tissue in the waste basket and if no tissue is available, cough or sneeze into upper sleeve or elbow, not your hands and face mask can be put to protect others. [20] Overall, there was a significant increase in the knowledge on TB among the students after the awareness program.

CONCLUSIONS

By educating college students on TB, it is possible to make them as ambassadors to create awareness of TB and spread knowledge among their families, friends, and relatives and in the community. This will help to overcome the concerns in delay in diagnosis, treatment seeking behavior, adherence to treatment and eliminate social stigma attached with the disease.

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