

**Knowledge, Attitude and Practice Regarding Pulmonary Tuberculosis
Awareness Among Non-Medical Students of Karachi**

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ABSTRACT:

Objective: To evaluate the level of awareness among non-medical students about Tuberculosis.

Materials and Methods: A questionnaire-based, knowledge, attitude, practice (KAP) survey was conducted among non-medical students of two universities of Karachi from 6th April-30th May 2013. A pre-validated questionnaire, consisting of 10 questions, was distributed to students. Simple random sampling technique was used for selecting the participants. After verbal consent, 110 students participated in the study. Ten questionnaire forms were rejected due to incomplete filling.

Results: Out of 100 students, 85% responded "yes" that they had heard about TB, 24% identified cough as a main symptom of TB, 36% responded "yes" that disease is contagious. Asking about mode of transmission, 40% responded "they don't know" and 36% stated sexual contact is the reason. 90% agreed that patients hide their disease because people will avoid them. 39% said that they will not visit their houses. 47% said that patients should go to chest specialist for treatment. 42% said vaccination is the better way of preventing the disease. Only 14% knew that 9 months is the duration of treatment.

Conclusion: Assessment of awareness regarding knowledge, attitude and practice of TB among non-medical students was found to be deficient.

Keywords: Awareness, Tuberculosis, Non-medical, Students, Universities

INTRODUCTION:

Tuberculosis (TB) is an infectious bacterial disease caused by various species of mycobacterium, usually Mycobacterium Tuberculosis in humans¹. The disease is transmitted through air droplets and causes damage to the lungs and other organs in the human body as kidneys, spine, brain etc. It is highly contagious and spreads when tuberculosis patients cough, sneeze, spit and talk. However it does not spread by shaking hands, sharing food and drinks, touching beds and linen. When mycobacterium tuberculosis become active and immune system cannot stop them from growing, this is called as tuberculosis disease. In this phase, people are sick and are capable of spreading bacteria to other people with whom they spend time every day.

Tuberculosis remained a major health problem worldwide, most noted in developing countries² Despite the availability of effective drugs and the widespread use of the Bacille

Calmette-Guerin (BCG) vaccine in 1993, the World Health Organization (WHO) declared TB as a global emergency. In terms of the number of cases, Southeast Asia carries the biggest burden of disease.² World Health Organization (WHO) which indicates that, in the year 2010 alone, an estimated number of 8.8 million people worldwide were infected with tuberculosis while an estimated 1.4 million of the infected patients died from it.³ Although vaccines, antibiotics and scientific research have been made available around the world to help reduce the spread of tuberculosis, the efforts and measures has thus far been less effective than anticipated.⁴ Despite various scientific studies carried out, there is still lack of research on the social science perspective especially on the spread of the disease⁵. It is an important public health problem that is preventable and curable. If left untreated, each active tuberculosis (sputum positive) case can infect 10 to 15 people in one year. In 2009, 9.4 million new cases of tuberculosis were reported. The prevalence of tuberculosis was estimated as 137 cases per 100 000 population globally. Highest number of cases occurred in Asia (55%) followed by Africa (30%), Eastern Mediterranean region (7%), European region (4%) and the region of Americas (3%).⁶ The five countries with largest number of cases were India, China, Afghanistan, Indonesia and Pakistan. Pakistan stands 5th among 22 countries with high burden of tuberculosis. Estimated prevalence of tuberculosis in Pakistan is 350 cases per 100 000 population.⁷ Tuberculosis has been identified to be second to HIV/AIDS in causing mortality around the world⁸. Social factors play an important role in managing tuberculosis disease⁹. One of the most important social factors is the stigma within the society towards tuberculosis patients¹⁰. Tuberculosis is highly contagious and due to the ease of infection, anyone can contract the disease. Unfortunately not many people are aware about the disease. This lack of knowledge and awareness is a problem all around the globe. Therefore this study was conducted to evaluate the level of awareness regarding TB in the non-medical students of two universities of Karachi.

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SUBJECTS AND METHODS:

This cross sectional study was conducted among the non-medical students of two universities in Karachi namely NUST and Bahria University from 6th April to 30th May 2013. Sample size was 100 while simple random method of sampling was adopted. After taking verbal consent, a pre-validated questionnaire adopted from studies conducted previously was filled by students. Data was analyzed using SPSS¹⁵.

Questionnaire:

Regarding knowledge:

- Have you heard about tuberculosis (TB)?
- Which Gender is more involved in tuberculosis?
- What are the symptoms of tuberculosis?
- Is tuberculosis contagious?
- How does tuberculosis spread?

Regarding attitude:

- Why do tuberculosis patients hide their disease?
- Have you ever visited the houses of TB patients?

Regarding practice:

- Where tuberculosis patients can get medical care?
- How can we prevent T.B?
- What is the duration of treatment for TB?

RESULTS:

A sample of 100 students was taken from two universities out of which 67% were males and 33% were females (Table-1). 85% responded "yes" that they have heard about TB (Table-2a). 50% of students responded that male and female both are affected by tuberculosis equally (Table-2b). Regarding knowledge about symptoms 24% identified cough, 17% cough with sputum, 10% increase in temperature, 14% loss of appetite and weight loss and 30% identified other symptoms, 11% responded that they don't know about tuberculosis (Table-2c). 36% responded "yes" that TB is contagious, 40% responded don't know and 24% responded TB is not contagious (Table-2d). Asking about mode of transmission 40% responded they don't know about it, 35% thought sexual contact is the mode of transmission, 11% through needle prick, and 3% by sharing food and articles (Table-2e).

When they were asked about the reason why patients want to hide the disease? 90% of students agreed that people will avoid them. 38% students said they will not visit them at homes, 33% responded yes and 29% responded don't know (Table-3a). When asked have you ever visited the house of a tuberculosis patient? Only 33% responded "yes" (Table-3b)

59% agreed that TB is a serious disease. When they were asked about consultation of doctor 38% said they should go to family doctor 47% responded that they should go to chest specialist (Table-4a). Regarding prevention of disease 42% responded vaccination is a better way to prevent the disease 37% avoid close contact with patients and 10% wearing mask (Table-4b). when students were asked about duration of treatment 19% said 6 months, 14% 9 months, 26% didn't

know 14% said 3 months (Table-4c).

Table: 1
Gender distribution of students

GENDER	FREQUENCY	PERCENTAGE
Male	67	67
Female	33	33
Total	100	100

Table: 2a
Have you heard about tuberculosis?

RESPONSE	FREQUENCY	PERCENTAGE
Yes	85	85
No	9	9
Don't know	6	6
Total	100	100

Table: 2b
Which gender is more involved in tuberculosis?

Male	18%
Female	4%
Both	50%
Don't know	28%

Table: 2c
What are the symptoms of tuberculosis?

Cough for 3 weeks	24%
Increase in temp	10%
Cough with sputum	17%
Increase in evening temp	3%
Loss of appetite, weight loss	14%
Don't know	11%
Others....constipation, night sweats, blurring of vision, skin rash	30%

Table: 2d
Is tuberculosis a contagious disease?

Yes	36%
No	24%
Don't Know	40%

Table: 2e
How does tuberculosis spread?

Cough	10%
Needle prick	11%
Sharing food	3%
Sexual contact	35%
Transmit from mother	1%
Don't know	40%

Table: 3a
Why do tuberculosis patients hide their disease?

People will avoid them	90%
Will lose job	1%
Will lose friends	4%
No one will marry	2%
others	3%

Table: 3b
Have you ever visited the house of a tuberculosis patient?

Yes	33%
No	38%
Don't know	29%

Table: 4a
Where tuberculosis patient can get medical care?

Family doctor	38%
Hakeem	4%
Chest specialist	47%
Don't know	20%

Table: 4b
How can we prevent tuberculosis?

Vaccination	42%
Wearing masks	10%
Avoid close contact with patients having tuberculosis	37%

Table: 4c
What is the duration of treatment for tuberculosis?

3 months	16%
4 months	5%
6 months	19%
8 months	7%
9 months	14%
1 year	4%
More than 1 year	12%
Don't know	26%

DISCUSSION:

Tuberculosis (TB) is a chronic infectious disease caused by *Mycobacterium tuberculosis*. Almost one-third of the world population (about 2 billion people) is infected with this disease and during the past decade there has been a resurgence of tuberculosis. Currently, TB is the leading cause of mortality among infectious diseases worldwide but 95 percent of TB cases and 98 percent of deaths due to TB occur in developing countries¹¹. Our study revealed that out of 100 students 85 % have heard about disease. TB spreads through droplet nuclei that become aerosolized when an infected person coughs, speaks, sneezed or talks¹². It was reported that persistence cough for 2 or more weeks, coughing up sputum with blood, chest pain and weight loss were the common sign and symptom of TB. Through the air when a person with TB sneezes or coughs, and sharing cups with the patient were the common perceived modes of transmission in different studies¹³. Our results revealed that most of the respondents were not sure and have in-accurate understanding about the spreading mechanism of disease. Regarding knowledge of symptoms mostly knew that cough is the main symptoms and few said evening fever is the associated symptom however almost half of the respondent told irrelevant symptoms associated with TB. Students most likely gave wrong answers to TB knowledge questions. Study participants were of the opinion that TB can be transmitted by sexual relations. Other studies from Zambia, Pakistan and Malaysia also reported poor knowledge about transmission of disease.^{14, 15, 16} This could be another important target group for educational interventions with different methods including peer education being strengthened as an effective educational activity for youth.

A significant number of university students in Georgia reported that they would try to hide having TB from others. Almost one-third of prior TB patients who did not hide their diagnosis experienced a negative change in relationships after disclosing their illness.¹⁷ Our study revealed the view of students that most of the patients try to hide their disease because of negative attitude of society and people will avoid them. Majority of the respondents indicated that patients would feel fear or scare and sadness or hopelessness if they found they have TB. Similar feelings have been associated with TB in Pakistan¹⁸. One of the most important social factors is the stigma within the society towards TB patients.^{19, 20} In our survey half of the participants thought that T.B can affect ones later life in terms of education, marriages, family and social relations. Association of these stigmas with such a curable disease is quiet unfortunate. Comparable Studies also revealed that TB carries strong stigma in many countries.²¹ Most of the respondents agreed that patient should consult a doctor or hakeem for the treatment however respondents' knowledge regarding the duration of treatment was found to be deficient. Comparable findings have been reported from other studies of same nature.^{14, 15} Accordingly, covering mouth and nose when a person with TB coughs or sneezes, using a separate room for the patient, avoid sharing cups with the patient, early treatment and good nutrition as a prevention

methods were similarly documented by an earlier study from Ethiopia²². However, home based and community treatment of patients should be promoted.²³

Prevention is considered as one of the main factor that leads to limit TB. In current study most of the respondents were in favor of vaccination and believed that it can prevent the disease. This finding is in line with those reported in an earlier study.²⁴ However only 10% of respondents were aware of the fact that wearing mask is the important mean to limit TB. Current findings revealed poor knowledge of study respondents. Initiatives for raising awareness, though active information and education strategies would be quite helpful.²⁵ Therefore, health care managers must devise health promotion strategies to improve knowledge about the cure and preventive measures of tuberculosis.

Conclusion:

Results of the study exposed limited knowledge and misconceptions about TB among non- medical students The National TB Program should use various information channels including TV, newspapers, community and faith based organizations to stimulate a positive attitude towards TB. Every action should be taken to increase TB related knowledge emphasizing that TB is curable and improving information regarding where and how to access services, as well as to create greater demand for TB prevention and treatment services.

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