

# Awareness about pulmonary tuberculosis in post graduate students of Institute of molecular biology & biotechnology Pakistan

## Abstract

Pulmonary tuberculosis is the most prevalent health problem accounts four-fifth percent of all cases of tuberculosis which are reported. Almost 100 respondents who are the students of postgraduate all or 100% of the respondents were well aware about Etiology of PTB. About 60-65% people were aware about the mode of transmission of tuberculosis. Only 50% respondents think that tuberculosis is curable. Current studies showed that awareness about the information of pulmonary tuberculosis was known to everyone and there is a need to increase awareness in people.

**Keywords:** Awareness survey, Post graduate students, pulmonary tuberculosis, Pakistan University

Special Issue - 2018

**Muhammad Imran Qadir, Rabia Hussain**  
Institute of molecular biology & biotechnology Bahauddin Zakriyah University Multan, Pakistan

**Correspondence:** Muhammad Imran Qadir, Institute of molecular biology & biotechnology Bahauddin Zakriyah University Multan, Pakistan, Email [mrimranqadir@hotmail.com](mailto:mrimranqadir@hotmail.com)

**Received:** May 11, 2018 | **Published:** November 16, 2018

## Introduction

Pulmonary Tuberculosis is the most prevalent infectious disease of human beings, which causes illness and large number of deaths worldwide. This contagious disease is mainly caused by the bacterium known as Mycobacterium tuberculosis (M. tuberculosis). M. tuberculosis primarily affects the lungs, but it can also influence the central nervous system, lymphatic and circulatory system.<sup>1</sup> The diagnosis process of active contagious TB mainly involves radiology techniques such as chest X-rays but also includes microscopic examination and microbiological culture of body fluids like multiple sputum cultures. Basically PTB is of two types one type of PTB is latent TB where the bacteria present in the body remain inactive and produce no symptoms and other one is active PTB during which infection occur. The diagnosis of latent PTB depends on the Mantoux tuberculin skin test and Interferon gamma release assays of the blood samples.<sup>2</sup> Prevention of TB mainly includes screening programs and vaccination such as Bacillus Calmette Guerin vaccine.<sup>3</sup> In spite of the availability of treatment that cure in about 90 percent of cases, TB is main health problem. M. tuberculosis affects one third population of the world with new infections occurring in about 1 per cent of the population each year. It is the second leading cause of death from an infectious disease worldwide after the human immunodeficiency virus (HIV). There were an estimated 13.7 million chronic active cases globally in 2007, hile 8.8 million new cases and 1.5 million associated deaths were reported in 2010, mostly occurring in developing countries.<sup>4</sup> In 2011, TB was the foremost death causing infectious disease worldwide after HIV and liable for 1.7 million deaths.<sup>5</sup> Although 80 percent of the population of Asian and African countries showed positive tuberculin tests, only 5-10 percent people of United States are diagnosed positive with this test. This shows heterogeneous distribution of tuberculosis across the globe.<sup>6</sup> The data released by the World Health Organization (WHO) in November 2010 shows continuous fall in number of new cases of TB globally in five out of six WHO regions. According to latest reports of WHO, 8.6 million people were suffering from TB in 2012 and 3 million of them were not diagnosed and thus not treated. In 2013, about 9 million people were infected with TB and about 1.5 million deaths occurred. In 2016 there are about 1.7 million people died of pulmonary tuberculosis and it is considered as the ninth major cause of death in the world. The basic purpose of this study was to access the awareness of post graduate students about pulmonary tuberculosis.

## Material and methods

The cross sectional observational study was conducted among the people of Bahauddin zakriyah university Multan District of Pakistan. A questionnaire was developed (Table 1) about the disease, pulmonary tuberculosis to assess how many students, of our university knows about this disease its cause, its mode of transfer etc. Total 100 students were selected from the Bahauddin zakriyah university Multan Pakistan to know about this disease. Inclusion criteria for the survey were M.phil students and the exclusion criteria were B.s students. No one B.S student was included in this survey. The sample of the questionnaire that was used for the survey is given below.

**Table 1** Questionnaire to evaluate awareness about etiology of pulmonary tuberculosis

Pulmonary tuberculosis is	Yes	No
1. Viral disease		
2. Bacterial disease		
3. Fungal disease		
4. Genetic disease		
5. Metabolic disease		
<b>Ever suffered from pulmonary tuberculosis</b>		
6. You		
7. Your family		
8. Your relative		
9. Your neighbour		
10. Your friend		
<b>Pulmonary tuberculosis is transmitted by</b>		
11. Contacts or blood transfusion		
12. From parents to offspring		
<b>Pulmonary tuberculosis may be treated by</b>		
3. Medicines		
14. Surgery		
15. Do not worry, it is easily curable		

## Results and discussion

Awareness about the pulmonary tuberculosis in the post graduate students of institute of molecular biology and biotechnology was accessed by the help of survey and then concluded in the following Table 2. According to results round about 17% male and 19% female considered that pulmonary tuberculosis is a viral disease. The total %age of people that belief pulmonary tuberculosis is a viral disease is about 18%. On the other hand, all of the male and female considered pulmonary tuberculosis results from bacterial infection. Only 3% female considered that pulmonary tuberculosis is a fungal infection. No male agreed that pulmonary tuberculosis is caused due to fungal infection. The total %age of people who think that pulmonary tuberculosis results from a fungal attack is about 2%. Round about 17% male and 29% female considered that pulmonary tuberculosis is caused by genetic defects or due to genetic mutations. Totally 23% people think that it is caused by genetic disorder. No one was affected to this disease while 17% male and 22% female gave the statement that their family members are affected. Total 19% people gave the statement that their family members are affected due to pulmonary tuberculosis. 50% male agreed that their relative have pulmonary tuberculosis and 32% female agreed on the same statement. Total 41% people give statement that their relatives have pulmonary tuberculosis. 50% male and 23% female gave information that their neighbourhood have been affected due to this disease. Total 36% participants were agreed that their neighbour have pulmonary disease.

50% male participants and 13% female participants and total 31% people gave the statement that their friends are affected due to this disease. 67% male participants, 50% female participants and total 61% people believed that this disease is passed on by contacts and blood transfusion. No male, 29% female and total 15% people considered that this disease is transferred from parent to offspring. All or 100% participants' were aware that this disease is treated with medicine. 17% male, 23% female and total 20% people considered that this disease is cured by surgery. 67% male, 29% female and 48% total participants' belief that this disease is easily curable. Result of survey is concluded in the following Table 2 which gives us the complete information about questions and then %age of their answers in yes or no column of both male and female participants separately and also in combined form as total. Similar studies were carried out in rural area of Aligarh India which shows that 67% people agreed on infectious cause of PTB. According to that study 50% respondents think that this disease is spread from person to person by contacts. 85% respondents know about the symptoms of PTB.<sup>7</sup> Similar survey was carried out in Pakistan also which shows that 93% respondents agreed on the statement that PTB is curable disease. Most of the people were agreed on PTB is a contagious disease and spread through contacts.<sup>8</sup> Another similar survey were also carried out in rural area of Gujrat India previously that 88% male and 44% female know about symptoms of PTB. 68% males and 16% females considered that PTB is caused by infectious agents. 24% males and 6% female considered that poor diet as causing agent.<sup>9</sup>

**Table 2** Questionnaire to evaluate awareness about etiology of pulmonary tuberculosis

Questions	Male		Female		Total	
	Yes	No	Yes	No	Yes	No
Pulmonary tuberculosis is						
1. Viral disease	17%	83%	19%	81%	18%	82%
2. Bacterial disease	100%	0%	100%	0%	100%	0%
3. Fungal disease	0%	100%	3%	97%	2%	98%
4. Genetic disease	17%	83%	29%	71%	23%	77%
5. Metabolic disease	17%	83%	32%	68%	24%	76%
<b>Ever suffered from pulmonary tuberculosis</b>						
6. You	0%	100%	0%	100%	0%	100%
7. Your family	17%	83%	22%	78%	19%	81%
8. Your relative	50%	50%	32%	68%	41%	59%
9. Your neighbour	50%	50%	23%	77%	36%	64%
10. Your friend	50%	50%	13%	87%	31%	69%
<b>Pulmonary tuberculosis is transmitted by</b>						
11. Contacts or blood transfusion	67%	33%	55%	45%	61%	39%
12. From parents to offspring	0%	100%	29%	71%	15%	85%
<b>Pulmonary tuberculosis may be treated by</b>						
13. Medicine	100%	0%	100%	0%	100%	0%
14. Surgery	17%	83%	23%	77%	20%	80%
15. Do not worry, it is easily curable	67%	33%	29%	71%	48%	52%

## Conclusion

This whole study showed that there is awareness about PTB but the awareness still needs to be improved in many people. More and more awareness events such as conferences and seminars should be organized in educational institutions to aware people about this infectious disease.

## Acknowledgements

None.

## Conflict of interest

The author declares there is no conflict of interest.

## References

1. Bansal R, Sharma D, Singh R. Tuberculosis and its Treatment: An Overview. *Mini Reviews in Medicinal Chemistry*. 2018;18:58–71.
2. Jacob JT, Mehta AK, Leonard MK. Acute forms of tuberculosis in adults. *The American journal of medicine*. 2009;122:12–17.
3. Ngeny LC. Evaluation of Antimicrobial Activity and Toxicity of Crude Extracts from Selected Kenyan Medicinal Plants. *Abstracts of postgraduate thesis*. 2012.
4. Organization WH. Global tuberculosis report. *World Health Organization*. 2013.
5. Floyd K, Fitzpatrick C, Pantoja A, et al. Domestic and donor financing for tuberculosis care and control in low-income and middle-income countries: an analysis of trends, 2002–11, and requirements to meet 2015 targets. *The Lancet Global Health*. 2013;1:e105–e115.
6. Ali H, Zeynudin A, Mekonnen A, et al. Smear positive pulmonary tuberculosis (PTB) prevalence amongst patients at Agaro teaching health center, south west Ethiopia. *Ethiopian journal of health sciences*. 2012;22(1):71–76.
7. Khalil S, Ahmad E, Khan Z, et al. A study of knowledge and awareness regarding pulmonary tuberculosis in patients under treatment for tuberculosis in a rural area of Aligarh–UP. *Indian Journal of Community Health*. 2011;23(2):93–95.
8. Gilani SI, Khurram M. Perception of tuberculosis in Pakistan: findings of a nation-wide survey. *Age (Years)*. 2009;30:35.
9. Vidhani M, Vadgama P. Awareness regarding pulmonary tuberculosis-a study among patient taking treatment of tuberculosis in rural Surat, Gujarat. *Natl J Med Res*. 2012;2:452–455.