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Students based tuberculosis prevalence survey in IFTM University Moradabad

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ABSTRACT

Objective: Tuberculosis is a major problem in present timing. So, this survey based on the how much knowledge having by the students. In this present study belongs the national/ international journals of repute database, documents of Indian researcher's publication data on tuberculosis research were used for the study. This survey given knowledge about the awareness of tuberculosis in present society.

Methods: It was a questionnaire-based cross-sectional study where we have interviewed total 156 students respectively. The study involved Pharmacy and Non-pharmacy students from a teaching institution located in the Moradabad city. The name of the institution is IFTM University Moradabad PS and NPS showed that the knowledge about the TB. The data collected was analyses using graph paid prism 7& Chi square test.

Results: With respect to knowledge, higher knowledge were observed among PS about TB. The results indicate the need for healthcare institutions to invest in this topic, aiming to improve students and knowledge about TB.

Conclusion: The results indicate the need for healthcare institutions to invest in this topic, aiming to improve students and knowledge about TB, in view of the important role in the establishment of strategies to prevent and control the disease.

Keywords: Tuberculosis, Questionnaire, Pharmacy students, Non-pharmacy students

INTRODUCTION

Tuberculosis (TB) is an infectious disease that typically attacks the lungs, but can spell almost any part of the body. When a person with TB in their lungs or throat coughs, laughs, sneezes, sings, or even talks, the germs that source TB may spread through the air.[1] Uncertainty another person breathes in these germs there is an accidental that they will develop infected with tuberculous. It is important to understand that there is a modification between being infected with TB (latent TB) and having clinically dynamic TB disease.[2] Someone who is infected with TB has the TB germs, or bacteria, in their body. The body's immune system is defending them from the germs and they are not sickening. This is referred to as latent TB. There are also forms of TB that are drug unaffected, or even worse multi-drug resilient. This means that some of the drugs used to treat the infection are not effective against the resistant TB germs in the body.[3] It is not easy to become infested with tuberculosis. Usually, a person must be close to someone with TB disease for a long period of time.[4] TB is usually spread between family affiliates, close friends, and people who effort or live

together. The first genuine accomplishment against TB was in immunizing counter to tuberculosis. Advanced from attenuated bovine strain of tuberculosis by Albert Calmette and Camille Guerin in 1906 was BCG (bacillus of Calmette and Guerin); it was first used on humans in France on July 18, 1921.In 1948, with support from WHO and UNICEF, a BCG vaccine manufacture center in Guindy, Madras (now Chennai), was set up. In 1951, India started a mass BCG campaign to control TB.[5] Worldwide India is the country with the uppermost problem of both TB and MDR TB. There are an estimated 79,000, multi-drug resistant TB patients among the notified cases of pulmonary TB each year. India is also the country with the second highest number (after South Africa) of projected HIV associated TB cases. For more see TB & HIV in South Africa. In 2016 an estimated 28 lakh cases occurred and 4.5 lakh people died due to TB. India also has more than a million "missing" cases every year that are not notified and most contain either undiagnosed or mysteriously and inadequately identified and treated in the private subdivision. There are some more TB statistics for India. In 2016, and because of new evidence being available, then together with the World Health Organization revised

upwards the approximations for a load of TB in India. India continues to have the highest number of tuberculosis (TB) cases in the world, the Global TB Report 2017 released by World Health Organization (WHO) on Monday revealed. [6] In 2016, there were an estimated 10.4 million new TB cases worldwide. Seven countries accounted for 64% of the total burden, with India having the supreme number of TB patients, followed by Indonesia, China, Philippines, Pakistan, Nigeria, and South Africa, the report said.[7] According to the report, in India, an estimated 27.9 lakh patients were sorrow from TB in 2016 and up to 4.23 lakh patients were projected to have died during the year. According to the report, Multidrug-resistant TB (MDR-TB) remains a public health crisis and a health safety threat. WHO estimates that worldwide, there were 600,000 new TB cases with confrontation to rifampicin? The most effective first-line drug, of which 490,000 had MDR-TB.[8] Almost half of these cases were in India, China, and the Russian Federation. The report highlighted that underreporting and underdiagnosis of TB cases continue to be a challenge, especially in countries with large unregulated private sectors and weak health systems, including India. The estimated 10.4 million new cases, only 6.3 million were detected and officially notified in 2016, leaving a gap of 4.1 million. India, Indonesia, and Nigeria accounted for almost half of this global gap.[9] Though the Indian government has made several announcements to eliminate TB by 2025, the WHO report showed that up to 27.9 lakh patients were estimated to be infected in the country in 2016. The infection burden in China, a more populous country, is one-third of India at 8.95 lakh. Out of the 27.9 lakh estimated patients, only 1,938,158 TB cases were notified in the community and private sector in India,[10] which means over 8.5 lakh cases were missing the treatment options. The report said TB care and prevention savings in low- and middle-income countries fall almost $2.3 billion short of the $9.2 billion needed in 2017.In addition, at least an extra $ 1.2 billion per year is required to accelerate the progress of new vaccines, diagnostics, and medicines. More national funding is needed in middle-income countries, and more international donor support is needed to provide low-income countries.[11] At the global level, the report said that global efforts to combat TB have saved an estimated 53 million lives since 2000 and reduced TB mortality rate by 37%.[12] TB is also the main cause of losses related to antimicrobial resistance and the leading killer of people with HIV. Progress in most countries is stalling and is not fast enough to reach global targets are close persistent gaps in TB care and anticipation[13].

MATERIAL AND METHOD

Theoretical Reference Framework

I had analyzed TB among Pharmacy students and Non-pharmacy students. I was doing this analysis, among pharmacy students and non- pharmacy students because I want to know that how many students know about the TB. Pharmacy students who are doing a study of TB, I want to know that how many students know about TB whose are studying about it and the students whose are not studying about it, how much they know about TB. So, from this, I want to see that how much knowledge the students have about TB whether they are studying about it or not.

Place of study

The study involved Pharmacy and Non-pharmacy students from a teaching institution located in the Moradabad city. The name of the institution is IFTM University Moradabad.

Study Population

The teaching institution consisted of 200 students who regularly attended the Pharmacy and Non-pharmacy course in 2018 and there were 156 students present at the time of data collection.

Data Collection

The data were collected through a self-administered questionnaire that consisted of 15 questions, regarding knowledge about TB. The students gave the answers to all the questions and got satisfaction. The 15 questions are as follows:

1. Talking to people in general.
2. Talking to TB patients under treatment.
3. Sharing personal use items (Glasses, cutlery or plates).
4. Contact with the skin of TB patients.
5. Kissing TB patients under treatment.
6. Living in the same house as TB patients.
7. Sleeping in the same room as TB patients under treatment.
8. Efficacy of the BCG-ID vaccine against pulmonary TB.
9. Use of Surgical mask.
10. Use of gloves.
11. Isolation of the patient.
12. Knowledge about the first diagnostic test for pulmonary TB.
13. Would like to leave the job and/or place frequented by a person with TB.
14. Would like the person with TB to leave the place?
15. Would support the person with TB?

Data Analysis

For appropriate analysis, the questions posed in the questionnaire were divided into groups of responses, containing two possible alternatives (Yes or No). Multiple-choice questions were grouped as yes or no answers. The results are reported as the sum of the number of correct answers, incorrect answers for the domains studied was calculated. The data collected was analyses using graph paid prism 7& Chi square test.

Table 1: Distribution of the sample according to knowledge about TB transmission 2018

Q. No.	The possibility of contamination	Total no of students		Pharmacy students		Non-Pharmacy students	
		N	%	%	N	%	N
1.	Talking to people in general. Yes No	124 32	79.49 20.51	69 9	88.47 11.53	55 23	70.52 29.48
2.	Talking to TB patients under treatment. Yes No	57 99	36.53 63.47	31 47	39.74 60.25	26 52	33.34 66.66
3.	Sharing personal use items (Glasses, cutlery or plates). Yes No	96 60	61.53 38.47	11 37	52.56 47.44	55 23	70.51 29.49
4.	Contact with the skin of TB patients. Yes No	92 64	58.98 41.02	48 30	61.54 38.46	44 34	56.42 43.58
5.	Kissing TB patients under treatment. Yes No	115 41	73.72 26.28	64 14	82.06 17.94	51 27	65.38 34.62
6.	Living in the same house as TB patients. Yes No	74 82	47.44 52.56	45 33	57.70 42.30	29 49	37.18 62.82
7.	Sleeping in the same room as TB patients under treatment. Yes No	101 55	64.75 35.25	54 24	69.24 30.76	47 31	60.25 39.75
8.	Efficacy of the BCG-ID vaccine against pulmonary TB. Yes No	61 95	39.10 60.90	23 55	29.48 70.52	38 40	48.72 51.28
9.	Use of Surgical mask. Yes No	126 30	80.76 19.24	69 09	88.46 11.54	57 21	73.07 26.93
10.	Use of gloves. Yes No	49 107	31.42 68.58	26 52	33.34 66.66	23 55	29.48 70.51
11.	Isolation of the patient. Yes No	55 101	35.25 64.75	28 50	35.90 64.10	27 51	34.62 65.38
12.	Knowledge about the first diagnostic test for pulmonary TB. Yes No	42 114	26.92 83.08	23 55	29.48 70.52	19 59	24.36 75.64
13.	Would like to leave the job and/or place frequented by a person with TB? Yes No	96 60	61.54 38.46	47 31	60.26 39.74	49 29	62.82 37.18
14.	Would like the person with TB to leave the place? Yes No	65 91	41.67 58.33	41 37	52.56 47.44	24 54	30.76 69.24
15.	Would support the person with TB? Yes No	93 63	59.62 40.38	64 14	82.06 17.94	29 49	37.18 62.82

RESULTS

There were 15 questions and 156 students.

88.47% Pharmacy students and 70.52% Non-pharmacy students given the right answer of the 1st question and 11.53% PS and 29.48% NPS given the wrong answer of the 1st question i.e. Talking to people in general.

39.74% PS & 33.34& NPS has given the right answer of the 2nd question and 60.25% PS & 66.66% NPS given the wrong answer of the 2nd question, i.e. talking to TB patients under treatment.

52.56% PS & 70.51% NPS given the right answer of the 3rd question and 47.44% PS & 29.49% NPS given the wrong answer of the 3rd question i.e. Sharing personal use items (Glasses, cutlery or plates).

61.54% PS & 56.42% NPS given the right answer of the 4th question and 38.46% PS & 43.58% NPS given the wrong answer of the 4th question i.e. Contact with the skin of TB patients.

82.06% PS & 65.38% NPS given the right answer of the 5th question and 17.94% PS & 34.62% NPS given the wrong answer of the 5th question i.e. Kissing TB patients under treatment.

57.70% PS & 37.18% NPS given the right answer of the 6th question and 42.30% PS & 62.82% NPS given the wrong answer of the 6th question i.e. Living in the same house as TB patients.

69.24% PS & 60.25% NPS given the right answer of the 7th question and 30.76% & 39.75% NPS given the wrong answer of the 7th question i.e. Sleeping in the same room as TB patients under treatment.

29.48% PS & 48.72% NPS given the right answer of the 8th question and 70.52% PS & 51.28% NPS given the wrong answer of the 8th question i.e. Efficacy of the BCG-ID vaccine against pulmonary TB.

88.46% PS & 73.07% NPS given the right answer to the 9th question and 11.54% PS & 26.93% NPS given the wrong answer of the 9th question i.e. Use of a Surgical mask.

33.34% PS & 29.48% NPS given the right answer of the 10th question and 66.66% PS & 70.51% NPS given the wrong answer of the 10th question i.e. Use of gloves

35.90% PS & 34.62% NPS given the right answer of the 11th question and 64.10% PS & 65.38% NPS given the wrong answer of the 11th question i.e. Isolation of the patient.

29.48% PS & 24.36% NPS given the right answer of the 12th question and 70.52% PS & 75.64% NPS given the wrong answer of the 12th question i.e. Knowledge about the first diagnostic test for pulmonary TB.

60.26% PS & 62.82% NPS given the right answer of the 13th question and 39.74% PS & 37.18% NPS given the wrong answer of the 13th question i.e. Would like to leave the job and/or place frequented by a person with TB.

52.56% PS & 30.76% NPS given the right answer of the 14th question and 47.44% PS & 69.24% NPS given the wrong answer of the 14th question i.e. Would like the person with TB to leave the place.

82.06% PS & 37.18% NPS given the right answer of the 15th question and 17.94% PS & 62.82% NPS given the wrong answer of the 15th question i.e. Would support the person with TB.

Table-2 shows the difference in the responses in the yes & no test, related P value of pharmacy students & its statistical significance. The P value is opinion about is statistically significant (<0.05).

Table-3 shows the difference in the responses in the yes & no test, related P value non-pharmacy students & its statistical significance. The P value is opinion about statistically significant (<0.05).

Table 2: Statistical analysis of Pharmacy students

Question NO.	No. of Pharmacy student's response (yes/no)	Chi square value	P value	Statistical significance
1	69/09	218.7	0.001<0.05	Significant
2	31/47			
3	41/37			
4	48/30			
5	64/14			
6	45/33			
7	54/24			
8	23/55			
9	69/09			
10	26/52			
11	28/50			
12	23/55			
13	41/37			
14	41/37			
15	64/14			

Table 3: Statistical analysis of Non-Pharmacy students

Question NO.	No. of Pharmacy student's response (yes/no)	Chi square value	P value	Statistical significance
1	55/23	131.1	0.008<0.05	Significant
2	26/52			
3	55/23			
4	44/34			
5	51/27			
6	29/49			
7	47/31			
8	38/40			
9	51/21			
10	23/55			
11	27/51			
12	19/59			
13	49/29			
14	24/54			
15	29/49			

DISCUSSION

TB is spread most easily in closed spaces over a long period of time. In India, the first open-air sanatorium for treatment and isolation of TB patients was founded in 1906 in Tiluania, near Ajmer city of Rajasthan, followed by the first TB dispensary in Bombay in 1917.[15] This study we gated the information about the tuberculosis knowledge in the first question because of the information about tuberculosis. The information about the method and the treatment of tuberculosis in general and first aid treatment. This study provided the information about the old study of WHO in old entries about tuberculosis and the present the level of knowledge about tuberculosis. By 1925, chest radiology started playing a diagnostic role in detecting deep-seated areas of TB consolidation. By 1945, the capability of this apparatus was enhanced to embody the MMR (mass miniature radiography) vision. [16] In this study providing the knowledge, having the student which is related to the pharmacy field and non-pharmacy field. At this, the level of tuberculosis, having much better information pharmacy student as comparable to the non-pharmacy students. The data of different study about tuberculosis provide that tuberculosis having the serious and infective disease. The lack of information about tuberculosis causes the costly treatment and some causes the death.

CONCLUSION

PS and NPS showed that the knowledge about the TB. With respect to knowledge, higher knowledge was observed among PS about TB. The results indicate the need for healthcare institutions to invest in this topic, aiming to improve students and knowledge about TB, in view of the important role in the establishment of strategies to prevent and control the disease.

Conflict of Interest:

The authors declare no conflict of interest.

Abbreviations:

WHO: World Health Organization, **PS:** Pharmacy Students, **NPS:** Non -Pharmacy students, **TB:** Tuberculosis

REFERENCES

1. Chabowski M, Orlowski TM, Rabczenko D. ,Analysis of prognostic factors and efficacy of surgical treatment for non-small cell lung cancer: department of surgery NTLDRI (1998-1999), Pneumonologia alergologia polska. 2008; 76(1):1-10.

2. Miran M, Feizabadi MM, Kazemian H, Kardan-Yamchi J, Monsef-Esfahani HR, Ebrahimi SN. The activity of Levisticum officinale W.D.J. Koch essential oil against multidrug-resistant Mycobacterium tuberclosis. Iranian journal of microbiology. 2018; 10(6):394-9.

3. Abbasi-Dezfouli A, Pojhan S, Behgam-Shadmehr M, Najafizadeh K, Ghorbani F, Lorgard-Dezfuli-Nejad M, et al. The cost of lung transplantation in Iran. Annals of transplantation. 2009; 14(2):30-3.

4. Najafizadeh K, Ghorbani F, Rostami A, Fard Mosavi A, Assari S, Moghani Lankarani M, et al. Health status of the patients before lung transplantation: a report from Iran. Annals of transplantation. 2009; 14(1):5-9.

5. Najafizadeh K, Ghorbani F, Rostami A, Fard-Mausavi A, Lorgard-Dezfuli-Nejad M, Marashian SM, et al. Depression while on the lung transplantation waiting list. Annals of transplantation. 2009; 14(2):34-7.

6. Rashidi F, Sate H, Mohammadi A, Koohi A, Nejati B, Naybzadeh A. Echocardiographic evaluation of prevalence of pulmonary hypertension in beta-thalassemia major: A cross sectional study. Pediatric hematology and oncology. 2018; 35(5-6):322-30.

7. Alvi AA, Raees A, Khan Rehmani MA, Aslam HM, Saleem S, Ashraf J. Magnetic Resonance Image findings of Spinal Tuberclosis at first presentation. International archives of medicine. 2014; 7(1):12.

8. Karimi S, Mirhendi H, Zaniani FR, Manesh SE, Salehi M, Esfahani BN. Rapid Detection of Streptomycin-Resistant Mycobacterium tuberculosis by rpsL-Restriction Fragment Length Polymorphism. Advanced biomedical research. 2017; 6:126.

9. Najafizadeh K, Daneshvar A, Dezfouli AA, Kashani BS, Ahmadi ZH, Shadmehr MB, Pulmonary artery stenosis shortly after lung transplantation: successful balloon dilation and stent insertion in one case. Annals of transplantation. 2009; 14(1):52-5.

10. Seid MA, Ayalew MB, Muche EA, Gebreyohannes EA, Abegaz TM. Drug-susceptible tuberculosis treatment success and associated factors in Ethiopia from 2005 to 2017: a systematic review and meta-analysis. BMJ open. 2018; 8(9):022111.

11. Yamamoto J, Shimanouchi M, Hashizume T, Suito T. ,Acquired Bronchial Atresia due to Endobronchial Tuberculosis, Kyobu geka The Japanese journal of thoracic surgery. 2015;68(10):836-9.

12. Reddy SG, Daggolu J. Pretracheal tuberculous abcess mimicking a thyroid swelling-A case report. International journal of surgery case reports. 2016; 28:352-4.

13. Vivekanand K, Mohan A, Sarma KVS. ,Study of the structure and functioning of referral mechanism of patients receiving treatment and records linkage under Revised National Tuberculosis Control Programme (RNTCP) of Government of India. The Indian journal of tuberculosis. 2017; 64:77-82.