

# Assessment of Student's Knowledge in high Institute of Medical Technology / Abuslim about Tuberculosis diseases

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## Research Article

**Keywords:** student, TB, knowledge, bacteria

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# Abstract

**Objective:** A purposive study aims to identify the student knowledge about tuberculosis disease.

**Methods:** The sample of 140 students was selected from the second, third, fourth, fifth and sixth class from the medical departments in high Institute of Medical Technology/abusleem for the period from March 2019 to June 2019. The questionnaire was designed to achieve the aims of study, it was consisting of many parts, the first content the demographic information, the second part include knowledge of students about categories that infected with tuberculosis. The third part include the student knowledge of the signs of disease, the fourth content methods of transmission of disease, and the last part include the student information about the methods of protection of tuberculosis disease. Data were analyzed by using frequency distribution, percentage

**Results:** This study found insufficient TB knowledge in a sample of students, poor knowledge about TB. They must improve knowledge about TB, because these students could be exposed to the Mycobacterium strains during their training activities or when they are employed in private and public health care settings.

**Key words:** student – TB – knowledge – bacteria.

## Introduction

Tuberculosis is an infectious disease caused by *Mycobacterium tuberculosis*. Tuberculosis typically attacks the lungs, but can also affect other parts of the body. The disease has become rare in high income countries, but is still a major public health problem in low- and middle-income countries (Rieder et al., 2009).

It is estimated that between the years 2000 and 2010, eight to nine million new cases emerged each year. Approximately 1.5 million people die from the disease each year. In adults, tuberculosis is the second leading cause of death due to an infectious disease (after AIDS), with 95% of deaths occurring in low-income countries. Tuberculosis is a major problem of children in poor countries where it kills over 100,000 children each year (Michael, 2017; Edward, 2012).

Tuberculosis is an airborne disease caused by the bacterium *Mycobacterium tuberculosis* (*M. tuberculosis*). *M. tuberculosis* and seven very closely related mycobacterial species (*M. bovis*, *M. africanum*, *M. microti*, *M. caprae*, *M. pinnipedii*, *M. canetti* and *M. mungi*) together comprise what is known as the *M. tuberculosis* complex (Rieder et al., 2009).

The human tubercle bacillus (*Mycobacterium tuberculosis*) is the main cause of tuberculosis all over the world. A slightly different type of TB, *Mycobacterium africanum*, occurs in Africa. The only important difference is that it is often resistant to thioacetazone (Rieder et al., 2009).

The bovine bacillus (*Mycobacterium bovis*) at one time caused much infection in cattle in Europe and the Americas. Infection was often passed on to man through contaminated milk. Bovine TB in milk can be killed by boiling the milk, and bovine tuberculosis rarely occurs where this is the practice. The extent of the transmission of bovine tuberculosis to humans is difficult to determine because of technical

problems in isolating the organisms. One important difference is the resistance to pyrazinamide in *M. bovis* (Michael, 2017).

Diagnosing and initiating effective treatment in a patient early in the course of their TB disease, before they can infect many people, is considered the most effective preventive measure against TB. Effective treatment substantially reduces or eliminates disease transmission from smear-positive patients in less than one month after initiation of treatment (Packe & Innes, 1988).

Before immunity is established, bacilli from the primary infectious focus or from a near-by lymph node can be transported and disseminated throughout the body via the lymph system or the bloodstream (Di Palma, 2011). Secondary foci containing bacilli can be born this way, particularly in the lungs, lymph nodes, serous membranes, meninges, bones and kidneys. As soon as an immune response is mounted, most of these foci spontaneously resolve. Yet, a number of bacilli may remain latent in the secondary foci for months or even years (Ait-Khaled & Enarson, 2003)

In the majority of cases (90 to 95% of non-HIV infected patients), the pulmonary lesions gradually heal. In 5 to 10% of the cases, the pulmonary lesion will progress to active disease either by gradual progression and/or spread via lymphatics or blood or by reactivation (often many years later) of primary or secondary lesions (Di Palma, 2011)

## **Materials And Methods**

The research procedure included the following:

1-Research sample:

The sample of 140 student was selected from the second, third, fourth, fifth and sixth class from the medical departments in high Institute of Medical Technology/Abuslim for the period from March 2019 to June 2019.

2-Research Method:

The questionnaire was designed to achieve the aims of study, it was consisting of many parts, the first content the demographic information, the second part include knowledge of students about categories that infected with tuberculosis. The third part include the student knowledge of the signs of disease, the fourth content methods of transmission of disease, and the last part include the student information about the methods of protection of tuberculosis disease.

3-Statistical Analysis:

Data were analyzed by using frequency distribution, percentage to answer the level of (yes, No).

## **Results**

The most of the students were aged between (19–20) years and the highest of them were female (56.3%) and most of them were single (85.7%). Knowledge of students about categories that infected with tuberculosis the most of student answered TB infects people whose have respiratory disease (89.3%). Student knowledge of the signs of disease the most student answered TB patient has headache (73.6%), while student answered the TB patient has Pain chest (10.7%). The most student answered TB transmission through food, dairy and dairy products (73.6%), while (14.2%) answered transmission of TB from mother to fetus. Student answered TB can transmission through sneezing and coughing from infected people to healthy people (41.4%).

The most student answered for protection from TB avoid smoking (85.7%), while (17.9%) answered take preventive measures when contact with infected person.

## Conclusion

This study found insufficient TB knowledge in a sample of students, poor knowledge about TB. They must improve knowledge about TB, because these students could be exposed to the Mycobacterium strains during their training activities or when they are employed in private and public health care settings.

## Declarations

## ACKNOWLEDGMENTS

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## Tables

table 1 Demographic information

1. semester	No.	Percentage
Second	13	9.29
third	27	19.3
Forth	44	31.4
Fifth	36	25.7
Sixth	20	14.3
total = 140		
2. Department	No.	Percentage
Medical laboratory	20	14.3
Anesthesia and intensive care	20	14.3
General nursing	20	14.3
Midwifery	20	14.3
Physiotherapy	20	14.3
community health	20	14.3
Pharmacy	20	14.3
total = 140		
3.Age	No.	Percentage
19-20	95	67.9
21-22	38	27.1
23-24	07	05
total = 140		
4.Sex	No.	Percentage
Male	61	43.6
Female	79	56.3
total = 140		
4. Does a family member have TB?	No.	Percentage
Yes	0	0
No	140	100
total = 140		
5.Are you single or married ?	No.	Percentage
single	120	85.7
married	14	10
divorced	6	4.3
total = 140		

table 2 knowledge of students about categories that infected with tuberculosis:

1. Infects both sex	No.	Percentage
Yes	100	71.4
No	40	28.6
total = 140		
2. Infects female more than male_	No.	Percentage
Yes	123	87.9
No	17	12.1
total = 140		
3. Infects people with respiratory disease	No.	Percentage
Yes	125	89.3
No	15	10.7
total = 140		
4. Infects factory worker more than other	No.	Percentage
Yes	90	64.3
No	50	35.7
total = 140		
5. Infects staff in respiratory diseases hospital	No.	Percentage
Yes	50	35.7
No	90	64.2
total = 140		
5. Infects people with acquired immunodeficiency syndrome	No.	Percentage
Yes	27	19.3
No	113	80.7
total = 140		
7. Infects child whose mother is infected with the disease .	No.	Percentage
Yes	120	85.7
No	20	14.3
total = 140		
8. Infects smoker more than other	No.	Percentage
Yes	80	57.1
No	60	42.9
total = 140		
9. Infects family members with a person with disease	No.	Percentage
Yes	13	9.29
No	127	90.7
total = 140		
10. infects children	No.	Percentage
Yes	97	69.3
No	43	30.7
total = 140		
11. It infects adult only?	No.	Percentage
Yes	100	71.4
No	40	28.6
total = 140		

table 3 Student knowledge of the signs of disease

1. Is the disease accompanied with fever especially at night?	No.	Percentage
Yes	19	13.6
No	121	86.4
total = 140		
2. the TB patient has headache	No.	Percentage
Yes	103	73.6
No	37	26.4
total = 140		
3.The patient become tired when he make an effort	No.	Percentage
Yes	60	42.9
No	80	57.1
total = 140		
4.The patient losing weight	No.	Percentage
Yes	63	45
No	77	55
total = 140		
5. Night sweats occur	No.	Percentage
Yes	25	17.9
No	115	82.1
total = 140		
5.Pain chest occur	No.	Percentage
Yes	15	10.7
No	125	89.3
total = 140		
7.Patient has cough with blood and pus	No.	Percentage
Yes	34	24.3
No	106	75.7
total = 140		
3. The patient loses appetite	No.	Percentage
Yes	44	31.4
No	96	68.6
total = 140		
9.The patient has pallor	No.	Percentage
Yes	27	19.3
No	113	80.7
total = 140		
10. Patient has severe pain in the body ?	No.	Percentage
Yes	23	16.4
No	117	83.6
total = 140		
11.The patient has difficulty breathing	No.	Percentage
Yes	77	55
No	63	45
total = 140		

12.The patient is exposed to pneumonia	No.	Percentage
Yes	93	66.4
No	47	33.6
total = 140		

table 4 Methods of transmission of disease

Transmission through contaminated air and water	No.	Percentage
Yes	90	64.3
No	50	35.7
total = 140		
Transmission through food , diary and dairy products	No.	Percentage
Yes	75	53.6
No	65	46.4
total = 140		
Transmission through insects bite	No.	Percentage
Yes	100	71.4
No	40	28.6
total = 140		
Transmission from mother to fetus	No.	Percentage
Yes	20	14.2
No	120	85.7
total = 140		
5. Transmission through contact with infected people	No.	Percentage
Yes	93	66.4
No	47	33.6
total = 140		
6. Transmission through contaminated tools	No.	Percentage
Yes	88	62.9
No	52	37.1
total = 140		
Transmission through sneezing and coughing from infected people to healthy people	No.	Percentage
Yes	58	41.4
No	82	58.6
total = 140		
Transmission in crowded place	No.	Percentage
Yes	97	69.3
No	43	30.7
total = 140		
Transmission in closed place	No.	Percentage
Yes	48	34.3
No	92	65.7
total = 140		
7. Increasing in people with weakened immune system	No.	Percentage
Yes	40	28.6
No	100	71.4
total = 140		

table 5 Student information about the methods of protection of tuberculosis disease.

1.Early diagnosis	No.	Percentage
Yes	68	48.6
No	72	51.4
total = 140		
2. Avoided crowded place	No.	Percentage
Yes	40	28.6
No	100	71.4
total = 140		
3.If has symptoms go to doctor	No.	Percentage
Yes	80	57.1
No	60	42.9
total = 140		
4.Ventilation of public people and crowded	No.	Percentage
Yes	55	39.3
No	85	60.7
total = 140		
5.Isolation of patient	No.	Percentage
yes	30	21.4
No	110	78.6
total = 140		
5.Take preventive measures when contact with infected person	No.	Percentage
Yes	25	17.9
No	115	82.1
total = 140		
7. Taking BCG vaccine	No.	Percentage
Yes	70	50
No	70	50
total = 140		
3. Provide good food	No.	Percentage
Yes	32	22.9
No	108	77.1
total = 140		
9. Playing sports	No.	Percentage
Yes	55	39.3
No	85	60.7
total = 140		
10.Avoid smoking	No.	Percentage
Yes	120	85.7
No	20	14.3
total = 140		