

Assessment of Student's Knowledge in High Institute of Medical Technology/Abuslim about Tuberculosis Diseases

Hamida Amer^{1*}, Amal Ouhida²

¹Department of Medical Laboratory, Abuslim Higher Institute of Health Sciences, Tripoli, Libya

²Department of Anesthesia and Intensive Care, Abuslim Higher Institute of Health Sciences, Tripoli, Libya

Article History:

Submitted: 30.06.2022

Accepted: 22.07.2022

Published: 29.07.2022

ABSTRACT

A purposive study aims to identify the student knowledge about tuberculosis disease. 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/Abuslim 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 meth-

ods of protection of tuberculosis disease. Data were analysed by using frequency distribution, percentage. This study found insufficient Tuberculosis knowledge in a sample of students, poor knowledge about Tuberculosis. They must improve knowledge about Tuberculosis, 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.

Keywords: Student, Tuberculosis, Knowledge, Bacteria

***Correspondence:** Hamida Amer, Department of Medical Laboratory, Abuslim Higher Institute of Health Sciences, Tripoli, Libya, E-mail: dodeyamer@yahoo.com

ABOUT THE STUDY

Tuberculosis is an infectious disease caused by *Mycobacterium tuberculosis*. Tuberculosis typically attacks the lungs, but can also affect other parts of the body (Rieder HL, 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 Acquired Immunodeficiency Syndrome (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 (Varaine F, et al., 2017; di Palma S, 2013).

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 HL, et al., 2009).

The human tubercle bacillus (*Mycobacterium tuberculosis*) is the main cause of tuberculosis all over the world. A slightly different type of Tuberculosis, *Mycobacterium africanum*, occurs in Africa. The only important difference is that it is often resistant to thioacetazone (Rieder HL, 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 Tuberculosis in milk can be killed by boiling the milk, and bovine tuberculosis rarely occurs where this is the practice (Varaine F, et al., 2017).

Diagnosing and initiating effective treatment in a patient early in the course of their Tuberculosis disease, before they can infect many people, is considered the most effective preventive measure against Tuberculosis (Packe GE and Innes JA, 1988).

The procedure included the following:

- 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/Abuslim for the period from March 2019 to June 2019 (Iseman MD, 2000).
- 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 (Tables 1 and 2). 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 (Ait-Khaled N and Enarson DA, 2003) (Tables 3-5).

Table 1: Demographic information

Characteristics	Number	Percentage
Semester		
Second	13	9.29
Third	27	19.3
Forth	44	31.4
Fifth	36	25.7
Sixth	20	14.3
Department		
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
Age		
19-20	95	67.9
21-22	38	27.1
23-24	7	5
Sex		
Male	61	43.6
Female	79	56.3
Does a family member have tuberculosis?		
Yes	0	0
No	140	100
Are you single or married?		
Single	120	85.7
Married	14	10
Divorced	6	4.3
Total=140		

Table 2: Knowledge of students about categories that infected with tuberculosis

Characteristics	Number	Percentage
Infects both sex		
Yes	100	71.4
No	40	28.6
Infects female more than male		
Yes	123	87.9
No	17	12.1
Infects people with respiratory disease		
Yes	125	89.3
No	15	10.7
Infects factory worker more than other		
Yes	90	64.3
No	50	35.7
Infects staff in respiratory diseases hospital		
Yes	50	35.7

No	90	64.2
Infects people with acquired immunodeficiency syndrome		
Yes	27	19.3
No	113	80.7
Infects child whose mother is infected with the disease		
Yes	120	85.7
No	20	14.3
Infects smoker more than other		
Yes	80	57.1
No	60	42.9
Infects family members with a person with disease		
Yes	13	9.29
No	127	90.7
Infects children		
Yes	97	69.3
No	43	30.7
It infects adult only?		
Yes	100	71.4
No	40	28.6
Total=140		

Table 3: Students knowledge of the signs of disease

Characteristics	Number	Percentage
Is the disease accompanied with fever especially at night?		
Yes	19	13.6
No	121	86.4
The TB patient has headache		
Yes	103	73.6
No	37	26.4
The patient become tired when he make an effort		
Yes	60	42.9
No	80	57.1
The patient losing weight		
Yes	63	45
No	77	55
Night sweats occur		
Yes	25	17.9
No	115	82.1

Pain chest occur		
Yes	15	10.7
No	125	89.3
Patient has cough with blood and pus		
Yes	34	24.3
No	106	75.7
The patient loses appetite		
Yes	44	31.4
No	96	68.6
The patient has pallor		
Yes	27	19.3
No	113	80.7
Patient has severe pain in the body?		
Yes	23	16.4
No	117	83.6
The patient has difficulty breathing		
Yes	77	55
No	63	45
The patient is exposed to pneumonia		
Yes	93	66.4
No	47	33.6
Total=140		

Table 4: Methods of transmission of disease

Characteristics	Number	Percentage
Transmission through contaminated air and water		
Yes	90	64.3
No	50	35.7
Transmission through food, diary and dairy products		
Yes	75	53.6
No	65	46.4
Transmission through insects bite		
Yes	100	71.4
No	40	28.6
Transmission from mother to fetus		
Yes	20	14.2
No	120	85.7
Transmission through contact with infected people		

Yes	93	66.4
No	47	33.6
Transmission through contaminated tools		
Yes	88	62.9
No	52	37.1
Transmission through sneezing and coughing from infected people to healthy people		
Yes	58	41.4
No	82	58.6
Transmission in crowded place		
Yes	97	69.3
No	43	30.7
Transmission in closed place		
Yes	48	34.3
No	92	65.7
Increasing in people with weakened immune system		
Yes	40	28.6
No	100	71.4
Total=140		

Table 5: Student information about the methods of protection of tuberculosis disease

Characteristics	Number	Percentage
Early diagnosis		
Yes	68	48.6
No	72	51.4
Avoided crowded place		
Yes	40	28.6
No	100	71.4
If has symptoms go to doctor		
Yes	80	57.1
No	60	42.9
Ventilation of public people and crowded		
Yes	55	39.3
No	85	60.7
Isolation of patient		
Yes	30	21.4
No	110	78.6

Take preventive measures when contact with infected person		
Yes	25	17.9
No	115	82.1
Taking BCG (Bacillus Calmette-Guérin) vaccine		
Yes	70	50
No	70	50
Provide good food		
Yes	32	22.9
No	108	77.1
Playing sports		
Yes	55	39.3
No	85	60.7
Avoid smoking		
Yes	120	85.7
No	20	14.3
Total=140		

• Data were analysed by using frequency distribution, percentage to answer the level of (Yes/No).

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 Tuberculosis infects people whose have respiratory disease (89.3%). Student knowledge of the signs of disease the most student answered Tuberculosis patient has headache (73.6%), while student answered the Tuberculosis patient has Pain chest (10.7%). The most students answered Tuberculosis transmission through food, diary

and dairy products (73.6%), while (14.2%) answered transmission of Tuberculosis from mother to foetus. Student answered Tuberculosis can transmission through sneezing and coughing from infected people to healthy people (41.4%).

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

CONCLUSION

The main objective of this study is to identify the students' knowledge about tuberculosis disease. This study found the insufficient Tuberculosis knowledge in a sample of students, poor knowledge about Tuberculosis. They must improve knowledge about Tuberculosis, 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.

ACKNOWLEDGMENTS

We thank Abuslim higher institute of health sciences for funding this study.

REFERENCES

1. Rieder HL, Chiang CY, Gie R, Enarson D. Crofton's clinical tuberculosis. Macmillan. 2009.
2. Varaine F, Rich ML, Grouzard V. Tuberculosis: Practical guide for clinicians, nurses, laboratory technicians and medical auxiliaries. Medecins Sans Frontieres and Partners in Health. 2014.
3. di Palma S. Tuberculosis and the BCG vaccine: Not quite good enough. Science Creative Quarterly. 2013.
4. Packe GE, Innes JA. Protective effect of BCG vaccination in infant Asians: A case-control study. Arch Dis Child. 1988; 63(3): 277-281.
5. Iseman MD. A clinician's guide to tuberculosis. Lippincott Raven. 2000.
6. Ait-Khaled N, Enarson DA. Tuberculosis: A manual for medical students. World Health Organization. 2003.