

Knowledge and awareness of Tuberculosis among Students of University of Kassala, Sudan

Fatima A. Khalid*, Abdalla A. Mohammed*

Abstract

Background: Tuberculosis (TB) is a major health problem worldwide, as one third of the world population is infected with *M. tuberculosis*. It is still a major cause of morbidity and mortality and a major public health concern in Sudan.

Objectives: to determine the awareness and knowledge of tuberculosis among students.

Methods: Cross-sectional study was conducted among 395 students from different faculties of University of Kassala. Self-administered pretested questionnaire was used to collect data.

Results: A total of 395 students responded to the questionnaire, 185(46.8%) were male and 210 (53.2%) were female. The overall view of the study is the poor knowledge of TB regarding the infectious agent 107(27.1%), Curability 58(14.7%), the period of treatment 58(14.7%) preventive measure and BCG as TB vaccine 64(16.2%). However, they were knowledgeable about the communicability 364(92.2%). Moreover the students were unaware of mode of transmission (91.2%) and the symptoms of TB (94.7%). Students understood that cough more than three weeks is the signs of TB 228(57.7%) and it is the route of transmission 320(81.0%).

Conclusion: The findings highlighted poor knowledge and lack of awareness among students regarding the important aspects of TB. So intensive health education programs are required and included in the curriculum of faculties so as to contribute in the development of the community.

Key words: Knowledge, awareness, Tuberculosis

Tuberculosis (TB) is a world-wide threat affecting about a third of the world's population and killing over two million each year¹⁻³. TB is still a major cause of morbidity and mortality in developing countries particularly in sub-Saharan Africa¹. According to World Health Organization, between the years 2000 and 2020, nearly one billion people will be newly infected, 200 million people will get sick and 35 million will die from tuberculosis, if control is not further strengthened. TB is a major public concern in Sudan. According to the WHO, Sudan carries 15% of the TB burden in the Eastern Mediterranean Region¹. The notified cases of TB in Northern Sudan States (including Kassala State) were on the increase (19817 in 2006 to 21680 in 2009)¹. Kassala is a poor State with high prevalence of TB. Lack of proper attitude and knowledge about tuberculosis is one of the

important causes of unsuccessful control programs. This fact was reported among TB patients in Omdurman⁴. Thus, the mainstay for eradication of TB is to increase the general knowledge about the nature, transmission and prevention of this disease. Students are very important sector in the community; they contribute to the development and health education. 50% of the students of the University of Kassala are from Kassala State. So, they can play very important role in controlling infectious diseases.

Objectives:

To evaluate the knowledge and awareness regarding TB among students of Kassala University.

Methodology:

Cross-sectional study was conducted at University of Kassala from April 2011 to June 2011. The study was targeting 4000 students who were involved in Bachelor program at the time of the study. Those students were from Faculty of Education,

*MOH. Kassala, Sudan.

Faculty of Economic and Administrative Sciences, and Faculty of Computer Sciences and Technology Information.

The sample size was calculated using the formula $N = \frac{z^2 p(100-p)}{d^2}$, based on prevalence knowledge of 50%, bound error 05% and confidence interval 95%

Where: N: is the sample size. z: is the value corresponding to confidence 95%.

p: is the probability of target group d: is the desired margin of error.

The sample size was calculated as 384.

To assess the students' knowledge and awareness regarding TB, self-administered pretested questionnaire was used. The questionnaire pertaining to the infective nature of TB, Infectious agents, mode of transmission, signs and symptoms, availability of vaccine and curability in addition to the preventive methods. Before the distribution of the questionnaire among 455 students, the objective of the study was explained to the participants and they were informed that their participation was voluntary. Only 395 questionnaires were fully

answered and analyzed with Statistical Package for Social Sciences (SPSS) version 16.0.

Results:

A total of 395 students from different faculties of the university as shown in table1, responded to the questionnaire.

Table 1: Distribution of students by faculties

Faculty	NO of students
Education	143(36.2%)
Economic& Administrative Sciences	157(39.7%)
Computer Sciences& Technological Information	95(24.1%)
Total	395(100.0%)

Their age ranged from 17 to 38 years with mean (\pm SD) 20.45 (\pm 2.89) years. Table 2 shows overall inadequate knowledge of the causative agent 107(27.1%), curability 58(14.7%), the period of treatment 58(14.7%) preventive measure and BCG (Bacilli CalmetteGuren) as TB vaccine 64(16.2%). However, they were knowledgeable about the communicability 364(92.2%). The students

Table 2: Knowledge and awareness of students about TB

Item	No of students answered the questions correctly	
Infectious nature of TB	364	(92.2%)
Bacteria is the causative agent of TB	107	27.1%
Curability	58	14.7%
Period of treatment	58	14.7%
TB vaccine	64	16.2%
Method of transmission		
Inhalation of aerosolized droplets infection	84	(21.3%)
From cough & sneeze of active TB patient	320	(81.0%)
Close contact with a person with active TB	57	(14.4%)
Shared utensils with a person with active TB	44	(11.1%)
Signs		
Fever	90	(22.8%)
Cough more than three weeks	228	(57.7%)
Sweat	45	(11.4%)
Preventive measures		
Isolate a person of active TB	82	(20.8%)
Treatment of infected persons	92	(23.3%)
Vaccination	218	(55.2%)
Investigation periodically when present in endemic area	99	(25.1%)

ignored signs of TB and the mode of transmission except cough which is known to 320(81%) and its continuation more than three weeks as the sign of TB 228(57.7%).

Out of all students only 36(9.2%) understood the method of transmission while the signs were well known to 21(5.3%). As shown in table 3 all the students had poor knowledge of tuberculosis.

Table 3: Comparison the knowledge and awareness of students regarding tuberculosis

Variable	Faculty of Education (n= 143 (100%))	Faculty of Economic & Administrative Sciences (n=157(100%))	Faculty of Computer sciences & technological information (n=95 (100%))	<i>P value</i>
Infectious nature of TB	127 (88.9)	147 (93.6)	90 (94.7)	NS
Causative agent	31(21.7)	47 (29.9)	29 (30.5)	0.058
Curability	24 (16.8)	21 (13.4)	13 (13.9)	0.004
TB vaccine	33 (23.1)	27 (17.2)	04 (4.2)	0.001
Mode of transmission	6 (4.2)	18 (11.5)	12 (12.6)	0.034
Signs & symptoms	3 (2.1)	10 (06.4)	8 (8.4)	0.034
Prevention method	9 (6.3)	10 (06.4)	9 (9.5)	0.07

Discussion:

The present study showed inadequate knowledge and lack of awareness of TB among the university students. Same findings were reported in the studies held in different parts of the world as India, Turkey, Iran and in Trinidad⁵⁻⁸. In contrast, adequate knowledge among students was reported in the study conducted in Canada, Uganda and India⁹ and among school children in Vellore, India that proved good knowledge about communicability of TB, mode of transmission and signs¹⁰. These findings were explained by ignorance of TB and lack attention paid by health education planners. Knowledge and awareness were very important to be raised among both educated and uneducated people so as to control the disease. In this study the students were well understood the infectious nature of TB but only (27.1%) of students knew the causative agents (bacteria) (27.1%) which is unlike the finding of the study conducted in India that revealed 70% of participants knew TB is caused by germs¹¹.

Also in this study the students were not aware of the transmission methods of TB, This finding is in keeping with that reported in the study carried in Reo de Janero, Brazil, andLahor^{12, 13}, but unlike finding of the study held among students in Moradabad, India⁵. The students were more knowledgeable about cough as mode of transmission compared to others (57.7%), same finding was reported by before¹². Knowledge of typical TB symptoms is very important for early diagnosis and treatment. In this study poor knowledge of TB symptoms was revealed. However, the finding of the study carried among the students of Varna University, Bulagaria reported 81% of them understood cough more than 2 weeks is a symptom of TB^{14, 15}. Students had poor knowledge of TB vaccine (16.2%), same finding was reported in Trinidad and China^{8, 15}.

Conclusion:

Poor knowledge and awareness of TB regarding causes, transmission, curability and

prevention among students is an indicator of current status of community health education and hence the prevalence of the disease. Attention must be directed towards students about infectivity of the disease, mode of transmission and prevention via pamphlets, mass media and also establishing students committees to prevent and control TB.

References:

1. WHO (2008): Tuberculosis; Global Tuberculosis control report 2008. Fact sheet N 104
2. UNDP (2011).
3. Mangesho PE, Shayo E, Makunde WH, et al. Community knowledge, attitudes and practices towards tuberculosis and its treatment in Mpwapwa district, central Tanzania. *Tanzan Health Res Bull.* 2007; 9(1):38-43
4. Raviglione MC, Snider DE Jr, Kochi A. Global epidemiology of tuberculosis. Morbidity and mortality of a worldwide epidemic. *Journal of American medical Association* 1995; 18; 273(3):220-226.
5. Mohamed AI, Yousif MA, Ottoa P et al. Knowledge of Tuberculosis: A Survey among Tuberculosis Patients in Omdurman, Sudan, *Sudanese journal of public Health* 2007 ; 2 (1): 21- 28.
6. Khan N A, AbidM , Singh V K et al. (Assessment of college students awareness about tuberculosis in Moradabad. *Indian Journal of Pharmacy Practice* 2011;(4) 2: 47-50
7. **AkinS, Gorak G, Unsar S.** Knowledge of and attitudes toward tuberculosis of Turkish nursing and midwifery students, *Nurse education to day* 2011; 31(7): 645-722.
8. EmamHadi M A, Jalilvand M, Hadian M. Assessment of the Amount of Knowledge and Attitude of Tehran High School Students Regarding Tuberculosis. *Tanaffos* 2006; 5(4): 23-28.
9. Orrett F A and ShurlandS M. Knowledge and Awareness of Tuberculosis Among Pre-University Students in Trinidad. *J. of community Health* 2001; 26 (6), 479-485.
10. Emili J, Norman G R, Upshur R E et al. Knowledge and practices regarding tuberculosis: a survey of 2 final-year medical students from Canada, India and Uganda. *Med Educ.*2001;35:530-536
11. Gopichandran V, Roy P, Sitaram A et al. Impact of a Simple Educational Intervention on the Knowledge and Awareness of Tuberculosis among High School children in Vellore, India *Indian J Community Med.* 2010; 35(1): 174–175.
12. Singh U, Bala A, Goel R. Knowledge about Tuberculosis in Senior School Students of Punjab. *Indian Journal of Community Medicine* 2006; (31)2: 93
13. Teixeira EG, Menzies D, Cunha AJLA et al. Knowledge and practices of medical students to prevent tuberculosis transmission in Rio de Janeiro, Brazil. *Rev PanamSaludPublica.* 2008; 24(4):265–270.
14. Anjum A, Daud S, Mukhtar F. Tuberculosis; awareness about spread and control. *Professional Med J* 2009; 16(1): 61-66.
15. Tsankova G, Yustiniyanova B. Medical students knowledge of the characteristic features and prevention of tuberculosis. *J of IMAB* 2010; 16 (3): 48- 50.
16. Bai LQ, Xiao SY, Xie HW et al. Knowledge and practice regarding tuberculosis among final-year medical students in Hunan, China. *ZhonghuaJie He He Hu Xi Za Zhi.*2003; 26(8):458-61.