The Egyptian Journal of Hospital Medicine (October 2017) Vol. 69 (5), Page 2417-2420

Assessment of Knowledge, Attitudes and Practices Regarding Pulmonary Tuberculosis among Community in Riyadh City, 2017

Meshari Sulaiman Bin Huwaymil, Mohammed Abdulaziz Alkhalifah, Meshari Abdullah Alfaris
Omar Ahmed Alsaqabi , Rashed Fahad Alhabshan, Abdulrahman Nasser Alzaid
Medical students at Mohammad Bin Saud Islamic University

ABSTRACT

Background: The control of TB could achieved with a high level of knowledge regarding managing the risk factors and high risk groups.

Objectives: Assess the knowledge of community population toward tuberculosis (TB) in Riyadh, Saudi Arabia (KSA).

Methods: A community based-cross sectional descriptive study was conducted among 675 adult Saudi population at the several malls of Riyadh city, Saudi Arabia during the period from February to May 2017.All respondents filled out a validated questionnaire for assessing the subject's demographic and knowledge about tuberculosis.

Results: The general knowledge about TB was high among 88.7% of subjects and the source of knowledge was health professionals in 35.1% followed by TV in 32.9% and internet among 32%. A poor knowledge was found among 55.9% and good knowledge was shown among 44.1% of respondents. The good knowledge was significantly associated with young age and working at medical jobs.

Conclusion: Most of participants had misconceptions about tuberculosis. Also, the control programs for TB in KSA need more understanding for enhancement of TB control and improve medical awareness among population in KSA as well as increasing protection measures against the infection with TB.

Keywords: Knowledge, Attitude, Practice, Pulmonary Tuberculosis (TB), Riyadh.

INTRODUCTION

Tuberculosis (TB) is a major worldwide health disease especially in African countries and South East Asia [1, 2]. About 1% of population get infected by TB every year and in 2014, the incidence of active cases was recorded in 9.6 million cases from which 1.5 million died [3]. Also, in some parts of Africa, 80% of people had positive Tuberculin test and 5-10% were found in United States [4].

The situation in Saudi Arabia is moderate that is like most of developing counties. The WHO stated about 18/100,000 population get infected by TB yearly [5].

The most common risk factors for TB among Saudi populations are male gender and older age but the high incidence among female gender was associated with non-Saudi subjects [6].

The transmission of TB from one person to another through the air that contains TB microbes from the cough, speak and sneeze of active lung TB people while people with the latent form don't transmit the disease into air [7-9].

The control of TB could be achieved with a high level of knowledge regarding managing the risk factors and high risk groups [10, 11], however the studies concerned the KAP of Saudi population toward TB are Scarce.

AIM OF THE STUDY

The present study aimed at assessing the knowledge, attitude and health practice of Saudi subjects regarding pulmonary tuberculosis.

METHODS

Study design

A community based-cross sectional descriptive study was conducted at the several malls of Riyadh city, Saudi Arabia during the period from February to May 2017.

Study population and sample size

The Riyadh region was stratified into four quarters including East, West, South and North then 3 malls from each part were randomly selected in the study using a stratified random sampling technique. A total of 675 of adult participants were enrolled in the present study. The inclusion criteria were adult Saudi subjects older than 20 years and can read and write.

Study tools:

A systemic search was done using multiple search engines as Pubmed, science direct for conducting a reliable questionnaire. The questionnaire was validated and reviewed by 3 supervisors then was translated into Arabic

Received:18 / 8 /2017
Accepted: 27 / 8 /2017
DOI : 10.12816/0041686

language. The questionnaire included two parts regarding the demographics, and knwledge of the participants toward pulmonary tuberculosis.

Ethical approval:

The study was approved by the Ethics Board of Mohammad Bin Saud Islamic University .

Statistical analysis:

The Statistical Package for Social Sciences (SPSS, version 22) for windows was used for management of data. The characteristics of included subjects and KAP scores were shown as variables and percentages. A p value of 0.05 was considered as significant.

RESULTS

Demographics of the studied subjects:

The demographics of the population are presented in Table. 1. More than half of the participants aged from 20-35 years old and 41.9% were 36-50 years. The gender distribution showed 45% were females and 55% were males.52% had a college degree while 32.1% were at secondary school and 15.95 had primary school. About 33% of the subjects worked in medical jobs, 31% worked in educational jobs, 25.6% worked at military and 10.4% were jobless.

Table (1): Demographic of respondents (675)

	No.	Percentage
20-35	392	58.1
36-50	383	41.9
Gender		
Female	324	45%
Male	397	55%
Educational Level		
Collage	351	52%
Secondary School	217	32.1%
Primary School	107	15.9%
Occupation		
Medical jobs	223	33%
Educational jobs	209	31%
Military jobs	173	25.6
Jobless or retired	70	10.4%

General knowledge and source of information regarding TB among the participants:

The general knowledge about TB showed that 599 subjects (88.7%) have heard about TB before (Figure 1.) and the source of knowledge was health professionals in 35.1% followed by TV in 32.9% and internet among 32% (Figure. 2).

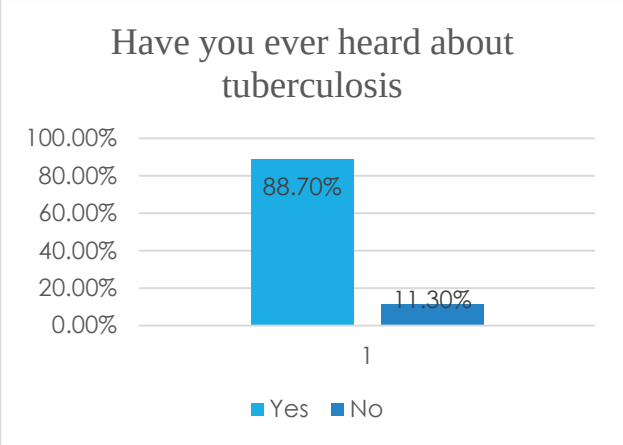

Figure 1: Have you ever heard about TB.

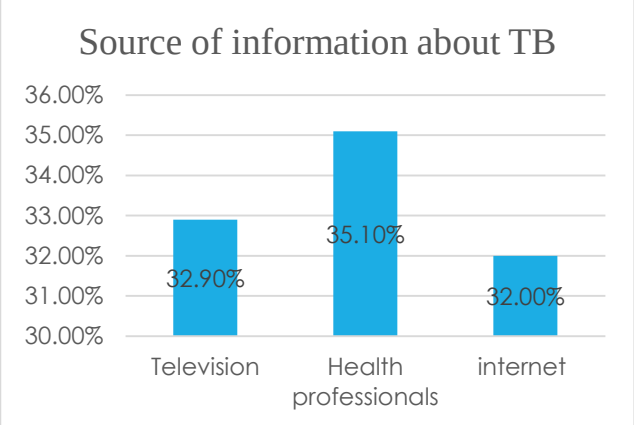

Figure 2: source of information about TB.

Assessment of knowledge of included subjects

The awareness the respondents about TB showed that most of the participants didn't recognize that TB is a contagious disease. The bacterial etiology of TB infection was recognized in 52.4% of subjects and only 31% rated cold and smoking as etiological factors for TB. Also, only 30.2% of respondents rated persistence cough for 2 or more weeks as the most common symptom for TB but 59% of subjects knew that coughing up sputum with blood and chest pain as major symptoms for TB. Most of the participants stated that TB could be transmitted but only 39.3% recognized the mode of transmission. Also, only small percentage (31.3%) recognized that tuberculin test is the diagnostic test for TB. Less than half of the respondents believed that TB could be prevented but 65.3% believed that it is treatable disease. There was adequate knowledge among most of participants (66%) about using medications for treatment of TB but 68.3% have wrong conceptions about the proper use of herbal medications and self-remedies for treatment of TB (Table. 2).

Table (2): Assessment of the level of knowledge regarding TB:

	Yes	No
1- TB is a contagious disease	211 (31.3%)	464 (68.7%)
2- The etiology of TB is Bacteria/germ.	354 (52.4%)	321 (47.6%)
3- Other causes of TB are cold and smoking.	209 (31%)	466 (69%)
4- The most common symptom of TB is persistence cough for 2 or more weeks.	204 (30.2%)	471 (69.8%)
5- Coughing up sputum with blood and chest pain are major symptoms of TB	398 (59%)	277 (41%)
6- TB can be transmitted?	462 (68.4%)	213 (31.6%)
7- The TB is an air borne disease.	283 (39.3%)	438 (60.7%)
8- The diagnosis of TB is based on tuberculin test	211 (31.3%)	464(68.7%)
9- TB could be prevented	296 (43.9%)	379 (56.1%)
10- TB is treatable disease	441 (65.3%)	234 (34.7%)
11- Medications are the most common treatment for TB	445 (66%)	230 (34%)
12- Using herbal medications and self-remedies are appropriate for treatment of TB	461 (68.3%)	214 (31.7%)

Level of knowledge among respondents

The mean and median knowledge score was 5.3 and 5 respectively out of 12 which indicated a poor knowledge among 55.9% of subjects and good knowledge was shown among 44.1% of respondents (Table. 3& Figure. 3).

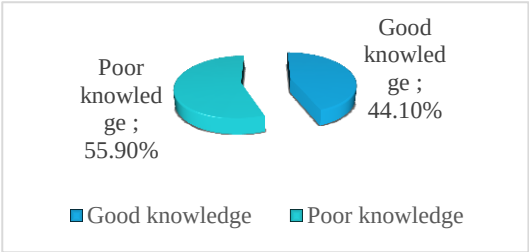

Figure 3: Participants knowledge about tuberculosis (TB)

Table (3): Respondents' knowledge regarding the TB

	Median	Mean±Standard deviation
Knowledge score	5.3	5±1.2
Knowledge level	Frequency	Percent (%)
Good	298	44.1
Poor	377	55.9

Association between subjects' knowledge and demographics:

The association between subjects' awareness and demographics was assessed using Univariate logistic regression model (Table 4). The good knowledge was significantly associated with young age and working at medical jobs. On the other hand, poor knowledge was associated with old age and being jobless or retired.

Table. 6: Association between knowledge of antibiotic use and demographic variables:

	Good (n=298)		Poor (n=377)		P-value
Age	**No.**	**%**	**No.**	**%**	
20-35	194	65.1%	198	52.5%	0.031
36-50	104	34.9%	179	47.5%	
Gender					
Female	150	50.3%	174	46.1%	0.1
Male	148	49.7%	203	53.9%	
Educational Level					
Collage	149	50%	202	53.6%	0.211
Secondary School	99	33.2%	118	31.3%	
Primary School	50	16.8%	57	15.1%	
Occupation					
Medical jobs	141	47.3%	82	21.7%	0.001
Educational jobs	90	30.2%	119	31.6%	
Military jobs	53	17.8%	120	31.8%	
Jobless or retired	14	4.7%	56	14.9%	

OR; Odds Ratio, 95%CI: Confidence Interval

DISCUSSION

TB is familiar among Saudi population, as most of the participants have heard about TB disease and this was the same as many studies carried out in other countries [12, 13].

The knowledge score and level of awareness was significantly low among most of the respondents especially regarding the mode of transmission, prevention, symptoms as well as misconceptions about self-remedies and herbal extracts. Concerning the other studies, the level of awareness was very low among Saudi students about the symptoms of tuberculosis [13].Also, in Malaysia, research studies revealed a poor level of knowledge regarding the hemoptysis and cough as symptoms for TB [14]. The same results were also indicated in china[15]. When comparing the results of the present study with those conducted in Africa among some prisoners, the level of knowledge in KSA was significantly higher compared to Africa [16]. The young age and working at medical jobs showed a significant correlation with TB. The same was indicated in a study conducted among health workers in Southern Mozambique as the level of knowledge was higher when compared to general populations from other studies [17]. Also, the level of knowledge was higher among youth participants [13].

CONCLUSION

Most of the participants had misconceptions about tuberculosis. Also, the control and educational programs organized for TB risk factors, mode of transmission symptoms and seriousness in KSA need more understanding for enhancement of TB control and improve medical awareness among population in KSA as well as increasing protection measures against the infection with TB.

REFERENCES

1. **WHO (2016):** Tuberculosis Control in South-East Asia Region: Annual TB report 2015 [Internet]. Geneva: Regional Office for South-East Asia, World Health Organization, 6 p. Available from: http://www.searo.who.int/tb/annual-tb-report-2015.pdf.
2. **Singh AR, Pakhare A, Kokane AM, Shewade HD, Chauhan A, Singh A *et al.* (2017):** 'Before reaching the last mile'- Knowledge, attitude, practice and perceived barriers related to tuberculosis directly observed therapy among ASHA workers in Central India: A mixed method study. Journal of Epidemiology and Global Health, In press. Available at: http://www.sciencedirect.com/science/article/pii/S2210600617301843.
3. **WHO (2015):** Global tuberculosis report. Geneva: World Health Organisation. Avaiable at: http://www.who.int/tb/publications/global_report/en/.
4. **Lawn SD, Zumla AI (2011):** Tuberculosis. Lancet (London, England), 378: 57-72.
5. **WHO (2014):** Global Tuberculosis Report 2014 [Internet]. Available from:apps.who.int/iris/bitstream/10665/91355/1/9789241564656_eng.pdf.
6. **Abouzeid MS, Al RF, Memish ZA (2013):** Mortality among tuberculosis patients in Saudi Arabia (2001-2010). Ann Saudi Med., 33: 247-252.
7. **Middelkoop K, Mathema B, Myer L, Shashkina E, Whitelaw A, Kaplan G *et al.* (2015):** Transmission of tuberculosis in a South African community with a high prevalence of HIV infection. The Journal of infectious diseases, 211: 53-61.
8. **Turner RD, Bothamley GH (2015):** Cough and the transmission of tuberculosis. The Journal of infectious diseases, 211: 1367-1372.
9. **Yang C, Shen X, Peng Y, Lan R, Zhao Y, Long B *et al.* (2015):** Transmission of Mycobacterium tuberculosis in China: a population-based molecular epidemiologic study. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America, 61: 219-227.
10. **Brassard P, Anderson KK, Menzies D, Schwartzman K, Macdonald ME (2008):** Knowledge and perceptions of tuberculosis among a sample of urban Aboriginal people. Journal of community health, 33: 192-198.
11. **Esmael A, Ali I, Agonafir M, Desale A, Yaregal Z, Desta K (2013):** Assessment of Patients' Knowledge, Attitude, and Practice Regarding Pulmonary Tuberculosis in Eastern Amhara Regional State, Ethiopia: Cross-Sectional Study. The American journal of tropical medicine and hygiene, 88: 785-788.
12. **Hoa NP, Chuc NT, Thorson A (2009):** Knowledge, attitudes, and practices about tuberculosis and choice of communication channels in a rural community in Vietnam. Health Policy, 90: 8-12.
13. **AlSalem SB, AlEisa AM, Raslan IA, BinJawhar AS, Khouqeer AF, Gad A (2015):** Tuberculosis: awareness among students in a Saudi university. Health, 7: 175.
14. **Koay T (2004):** Knowledge and attitudes towards tuberculosis among the people living in Kudat District, Sabah. The Medical journal of Malaysia, 59: 502-511.
15. **Lu SH, Tian BC, Kang XP, Zhang W, Meng XP, Zhang JB *et al.* (2009):** Public awareness of tuberculosis in China: a national survey of 69 253 subjects. Int J Tuberc Lung Dis., 13: 1493-1499.
16. **Adane K, Spigt M, Johanna L, Noortje D, Abera SF, Dinant GJ (2017):** Tuberculosis knowledge, attitudes, and practices among northern Ethiopian prisoners: Implications for TB control efforts. PloS one, 12: e0174692.
17. **Noé A, Ribeiro RM, Anselmo R, Maixenchs M, Sitole L, Munguambe K *et al.* (2017):** Knowledge, attitudes and practices regarding tuberculosis care among health workers in Southern Mozambique. BMC pulmonary medicine, 17: 2.