

Gender Differences in the Knowledge of Tuberculosis and Health Care Seeking Behaviors: A Cross Sectional Study among the Students in the Islamic Boarding School (Pesantren) in Garut, West Java, Indonesia

Frima Elda¹, Kartika Anggun Dimar Setio^{1*}, Ella Nurlaella Hadi¹

1. Department of Health Education and Behavioral Sciences, Faculty of Public Health, Universitas Indonesia, Depok Indonesia.

Abstract

Indonesia ranks second in the list of TB high-burden countries (HBC). One segment of the Indonesian population that is vulnerable to TB exposure is the students in Islamic Boarding Schools (pesantren), which may be the result of poor access to health care services and the student's own attitudes when it comes to seeking health care. This research is a cross-sectional study conducted in six Islamic Boarding Schools in Garut, West Java, Indonesia. By applying two stages of cluster sampling, a total of 422 samples were selected and interviewed using pretested questionnaires. The findings reveal that 34.4% of the students (40.2% of the male vs 28.6% of the female) do not know that coughing blood is one of TB symptoms. On the contrary, only some of the female students (8.9%) know about the free TB care policy as opposed to 17.7% of the male students. Following the onset of TB symptoms, 78.2% of female students are more likely to seek health care than their male counterparts (64.9%). However, a large percentage of the female students prefer to visit lower level non-hospital health facilities first, such as the public health centers and private general practitioners. There is a difference with regard to the level of knowledge about TB between male and female students in Islamic Boarding Schools. Issues related to gender should be taken into account to lower the delay in TB diagnostic and improving access to qualified health facilities for TB care for both male and female students.

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Introduction

Throughout 2013, more than half (56%) of the world's TB cases are found in South East Asia and the Pacific, while a quarter of them are found in Africa.¹ Indonesia ranks second in the list of countries with a high number of TB cases and is one among the 22 TB high-burden countries. Nonetheless, in the last few years, the number of cases had been relatively stagnant as shown by the slight increase of 0.03% in the 2013 treatment's success rate in comparison to the 2012 figure. It was the opposite of the cure rate figure that dropped by 0.09%. The same goes for the new Case Detection Rate (CDR), which was 61% in 2012 and dropped slightly to 60% in 2013.¹⁻⁴

Survey on the Prevalence of Tuberculosis

in Indonesia (Survei Prevalensi Tuberkelosis Indonesia, SPTBI) for the year 2013 – 2014 revealed a higher prevalence of TB cases than what is shown by the previous survey, i.e. 759 cases per 100,000 of population aged more than 15 years old, and the prevalence of all types of TB at 660 cases per 100,000 of population at any age.⁵

In general, the risk factor of exposure to TB transmission, among others, are socio-economic factor(s), close contact with active TB patients, living in an area with a high TB prevalence, poor ventilation, immune system disorders, smoking habit, alcohol drinker, gender, and age.¹⁻⁴ The study reveals that according to the new estimation, a person may be considered as a TB Suspect, because of his/her smoking habit (23%) and because of factor(s) related to his/her environment (26%).¹ Moreover, the risk of transmission caused by environmental factors indicates that there is an epidemiological association of 99.2% that is significantly affected by close contact.^{6,7}

*Corresponding author:

Kartika Anggun Dimar Setio
Faculty of Public Health, Universitas Indonesia
Jl. Lingkar Kampus Raya Universitas Indonesia, Depok
E-mail: kartikaanggun@ui.ac.id

TB occurrence in certain population including education institutions is also reported among students in low endemic countries, such as the United Kingdom, Italy, Ireland, and a number of states in the United States.⁶ Similar studies conducted in China in 2015 reveal that there was an outbreak of TB at a local high school with 25 active TB cases reported, including 14 cases in one class.⁸ Another segment of the population at risk to TB transmission is the students attending Islamic Boarding Schools (pesantren) in Indonesia, because of their unique character as boarding schools, with a close social life and high intensity contact, which is quite different from ordinary public school.^{9,10} Life in the Islamic Boarding School based on the amount of their population, which is relatively dense will create a condition that is prone to and predisposed to M.tb transmission.^{11,12} The number of cases occurred in the boarding schools shows a lack of knowledge on the subject. Several studies also indicate that there is a difference in knowledge between male and female students with regard to their understanding of how an infectious disease is transmitted and of health care seeking behaviors.¹³ In many countries, there are differences between men and women in the population when it comes to their attitude to seek information about TB treatment. A study in Bangladesh reveals that there is a significant difference between men and women when it comes to seeking treatment, either doing it immediately or postponing it. The same result is shown in China where women are slower in going to health facilities to seek treatment for TB.¹⁴

Materials and methods

The objective of this study is to observe the difference in knowledge between male and female santri (students) with regard to their attitude in seeking access to health care. The design is a cross sectional study using the hypothesis sample testing of different proportion formula, wherein 422 samples were obtained from six Islamic Boarding Schools in the District of Garut. Data were collected using pretested questionnaires that have been tested for validity and reliability and analyzed using the logistic regression analysis approach.

Results

Women respondents were slightly higher at 50.5%, wherein 58.9% of them were above 15 years old and the highest level of education completed was primary education at 58.9% (Table 1).

Variable	Frequency	Percentage
Gender		
Male	209	49.5
Female	213	50.5
Age		
≤15 year	245	41.9
> 15 year	177	58.9
Education		
Not graduated from a primary school	3	0.7
Graduated from a primary school	223	52.8
Graduated from a junior high school	196	46.4

Table 1. Characteristics of Respondents among the Students in the Islamic Boarding School in 2016.

Based on the questions asked to measure the students' knowledge about TB, it was revealed that there was a significant gap in the knowledge among the male and female students, 54.6% of them believed that TB might be caused by *guna-guna* (witchcraft or hex), 39.2% of them said that TB is a hereditary disease, 34.8% of them said that a person could get TB from air pollution, 40.2% of them said that a person could get TB by eating and drinking next to a TB patient, 68.0% of them said that a person could get TB by using public facilities and by shaking hands (54.3%) (Table 2). There was also a gap in the knowledge of the male and female students about TB symptoms, among others coughing blood 58.5%, weight loss 59.6%, breathless/ breathing problems 54.9%, and chest pain 54.3% (Table 3).

Questions	Male		Female		p-value
	%	n	%	n	
<i>Guna-guna</i> (witchcraft, hex)	45.4	128	54.6	154	0.018
Hereditary Disease	60.8	62	39.2	40	0.012
Through food/ drink	57.5	43	42.7	32	0.161
Sputum/ phlegm/ spits of a TB patient	55.4	51	44.6	41	0.234
Air pollution	65.2	43	34.8	23	0.007
Sharing meal with a patient	59.8	49	40.2	33	0.049
Using public facilities	43.0	57	68.0	90	0.044
Shaking hands	45.7	118	54.3	140	0.058

Table 2. Frequency of Knowledge Distribution about TB Transmission among the Santris in 2016.

Questions	Male		Female		p-value
	%	n	%	n	
Prolonged cough > 2 weeks	49.2	131	50.8	135	0.920
Cough with phlegm	51.5	106	48.5	100	0.495
Coughing blood	41.2	105	58.5	150	0.000
Weight loss	40.4	65	59.6	96	0.004
Sweating at night without doing any activities	49.3	70	50.7	72	1.000
Loss of appetite	47.7	74	52.3	81	0.614
Breathless/ breathing problems	45.1	125	54.9	152	0.014
Chest pain	45.7	126	54.3	150	0.032

Table 3. Frequency of Knowledge Distribution about TB Symptoms among the Santris in 2016

Questions	Male		Female		p-value
	%	n	%	n	
TB can be cured	52.0	168	48.0	155	0.067
Free OAT	66.1	37	33.9	19	0.009

Table 4. Frequency of Knowledge Distribution about the TB Policy among the Santris in 2016.

A number of female santris (48%) knew that TB can be cured, and 37% knew that there is a free treatment for TB, all with a significant meaning (Table 4). In seeking access to TB treatment, more female santris are doing it (54.4%), while the figure for male santris is 45.6% with a significant meaning (Table 5).

Seeking Access to Health Care	Male		Female		p-value
	%	n	%	n	
Yes	45.6	135	54.4	161	0.015
No	58.7	74	41.3	52	

Table 5. Frequency of Knowledge Distribution In seeking access to TB treatment.

Discussion

One of the methods in managing TB is by promoting healthy life through outreach programs, consultations and community empowerment.^{6,7} With regard to the empowerment of students in the Islamic Boarding Schools, it may be done by involving the santris themselves as health cadres. Empowerment is defined as providing the ability or enabling, as in providing the ability and power to a person or community. The empowerment of the santris is expected to provide them with the capacity to carry out community surveillance, furthermore, the role of health personnel to facilitate capacity building among the santris and their empowerment is quite important.^{15,16}

A health promotion activity encompasses knowledge about TB, which covers the symptoms, treatment and prevention of TB to

encourage positive behaviors and attitude change among the community about TB. Community involvement in TB management is in line with the Kerangka Kerja Strategi Penanggulangan TB (TB Management Framework) for 2006 – 2010, which covers the expansion of the program to control TB to maintain the scope and quality of DOTS (Directly Observed Treatment, Short Course) strategy. The second part of the strategy is to involve the community and former TB patients to resolve and reduce issues pertaining to access, as well as funding for treating TB patients, and optimizing the available infrastructures and human resources.

A study conducted by Kaur et al. (2013) in India revealed that there is a difference in attitude between men and women when it comes to seeking health care.¹⁷ Women tend to have a lower access to information on health services; hence, women are in a riskier position when it comes to identifying early symptoms of a specific disease. Women also tend to wait longer before seeking for treatment and they are less likely to consult modern health services. According to Wang (2008), a study conducted in China reveals that only 15% of women knew that a prolonged cough that last for more than three weeks is a symptom of TB. Women also have less access to health services for TB care and may be less informed about the free TB treatment policy. Women may also be less inclined to study the information about TB.¹⁴ However, following a symptom of a prolonged cough, a woman is more likely to be active in seeking information about TB treatment and to go to a hospital or clinic. Men and women have a different preference in seeking health care. Men prefer to go to a higher-level health facility such as a hospital, whereas women prefer a basic health facility. The different level of knowledge between men and women in this study is in line with the study conducted by Wang (2008) in China, wherein the distinct role of women in China who in addition to their household chores also work in the farm.¹³ Therefore, they have less time to seek information about health and health care services.¹³

Conclusion

When it comes to seek health care to treat TB, more female santris (student) will do it. To improve the knowledge of TB and raise the

santris' awareness to seek health care, it is necessary to reinforce TB awareness among them, and improving access to health care is crucial in the strategy to control TB, which is included in the school based management program.

Declaration of Interest

The authors report no conflict of interest.

References

1. World Health Organization. Global Tuberculosis Report. France: WHO; 2014.
2. World Health Organization. Global Tuberculosis Control. Switzerland: WHO; 2009.
3. Van Leth F, Guilatco RS, Hossain S, Van't Hooq AH, Noa NB, Van der Werf MJ, Lonroth K. Measuring Socio-economic Data in Tuberculosis Prevalence Surveys. *Int J Tuberc Lung Dis*. 2011;15(6):S58-63.
4. Bati J, Legesse M, Medhin G. Community's Knowledge, Attitude and Practices about Tuberculosis in Itang Special District, Gambella Region, South Western Ethiopia. *BMC Public Health*. 2013;13:734.
5. Indonesian Ministry of Health. Survey on the Prevalence of Tuberculosis in Indonesia 2012-2014. Jakarta: Indonesian Ministry of Health. 2014.
6. Indonesian Ministry of Health. National Guidance on Tuberculosis Control. Jakarta: Indonesian Ministry of Health;2014. [In Indonesia].
7. World Health Organization. Global Tuberculosis Control. WHO Report. 2011:1-11.
8. Huang Y, Zhong J, Zhang Y, Chen S, Wang X. [Outbreak of tuberculosis in a high school in Zhejiang, China]. *Zhonghua Liu Xing Bing Xue Za Zhi*. 2015;36(2):172-5.
9. Ma MJ, Yang Y, Wang HB, Zhu YG, Fang LQ, An XP, Wan KL, Whalen CC, Yang XX, Lauzardo M, Zhang ZY, Cao JF, Tong YG, Dai EH, Cao WC. Transmissibility of Tuberculosis among School Contact: an Outbreak Investigation in a Boarding Middle School, China. *Infect Genet Evol*. 2015;32:148-55.
10. Parker L. The Experience of Adolescent Students in Modernist Islamic Boarding Schools in West Sumatra, Indonesia: Proceedings of the 17th Biennial Conference of the Asian Studies Association of Australia, Melbourne. 1-3 July 2008. <http://artsonline.monash.edu.au/mai/files/2012/07/lyneparker.pdf>
11. Ehler VJ. Factors Associated with Community-Based TB Care in the Omaheke Region, Namibia, Africa. *J Nurs Midwifery*. 2007;9(1).
12. Eang MT, Satha P, Yadav RP, Morishita F, Nishikiori N, van-Maaren P, et al. Early Detection of Tuberculosis through Community-Based Active Case Finding in Cambodia. *BMC Public Health*. 2012;12:469.
13. Dooley KE, Lahlou O, Ghali I, Knudsen J, Elmessaodi MD, Cherkaoui I, Aouad RE. Risk Factors for Tuberculosis Treatment Failure, Default, or Relapse and Outcomes of Retreatment in Morocco. *BMC Public Health*. 2011;11:112.
14. Wang J, Fei Y, Shen H, Xu B. Gender Difference in Knowledge of Tuberculosis and Associated Health-Care Seeking Behaviors: A Cross-Sectional Study in a Rural Area of China. *BMC Public Health*. 2008;8:8-354.
15. Guilbert, JJ. Educational Handbook for Health Personnel, WHO Offset Publication, Revised and Updated. Switzerland: WHO; 2000.
16. Indonesian Ministry of Health. Regulation Number 65 Year 2013, on: Guidance on Implementation and Conseling of Community Empowerment in Health Sector. Jakarta: Indonesian Ministry of Health; 2013.
17. Kaur M, Sodhi SK, Kaur P, Singh J, Kumar R. Gender Differences in Health Care Seeking Behaviour of Tuberculosis Patiets in Chandigarh. *Indian J Tuberc*. 2013;60:217-22.