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Tuberculosis in Malaysia: A Study on the Level of Societal Awareness and Stigma

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Abstract*:Tuberculosis (TB) is an infectious disease which is transmitted through the air. This disease damages the lungs and other organs in the human body. TB is highly contagious and spreadswhenTB patientscough, sneeze, spit and talk. Due to the ease of infection, anyone can contract the disease. Unfortunately, not many people are awareabout TB. This lack of knowledge and awareness is a problem anywhere around the globe. Therefore, the study attempts to examine the level of public awareness regarding this disease and propose a more effective approach to address the issue of insufficient communication of information. Specifically, this study has two main objectives: (i) to review the level of awareness on TB among university students in Malaysia; (ii) to investigate society's stigma towards TB patients; and (iii) to identify the best strategy to improve TB awareness in the society. This study employs a quantitative approach to data collection and analysis. Questionnaire of 400 units were randomly distributed amongst students at Universiti Sains Malaysia and the results were analyzed using the Statistical Package of Social Sciences (SPSS). The findings showed that although the respondents have heard of the TB disease, a majority of them were not sure about the factors causing this disease. The study also noted that a majority of respondents have negative stigma towardsTB patients. Based on the analyses of findings, the study proposes several solutionsin the effort to improve the awareness among students about TB. The findings indicated that students prefer television, social networking websites and newspapers as the information source for obtaining information on TB. This study also provided some suggestions for future researches to add to the existing literature about the dissemination of information especially oninfectiousdiseasesandTB in particular.*

Key Words*:Tuberculosis, Awareness, Stigma, KAP.*

I. Introduction

Tuberculosis disease has been identified as one of the six infectious diseases that pose a threat to the world's population [1].The disease can easily spread through coughing, spitting, speaking or sneezing [2]. Therefore, people generally are at high risk of infection. It is proven by the statistical reports released by the World Health Organization (WHO) which indicates that, in the year 2010 alone, an estimated number of 8.8 million people worldwide are infected with TB while an estimated 1.4 million of the infected patients died from it[3]. TB disease has been identified to besecond to HIV / AIDS in causing mortality around the world [4]. The same trend is also seen in Malaysia in which, in the year 2010, a total of 18,517 people have been infected, which is an increase of 6% from the previous year (17,341 cases in year 2009). The highest cases registered in the same year was in Sabah, totaling 3278 cases, followed by Selangor (2829 cases), Johor (2058 cases), Sarawak (1991 cases) and Kuala Lumpur / Putrajaya (1455 cases)[5].

II. Background

The factors contributing to the increase in the total cases reported can be attributed to simple diffusion mechanism between human to human. However, the Ministry of Health, Malaysia has taken several initiatives to curb this menace, such as providing immunization and vaccination programs in schools, clinics and hospitals (government and private). In addition to vaccination and immunization programs, the government also introduced the National TB Control Programme (NTBC) since the year 1961. This program covers prevention strategies, screening and early detection, treatment and management of TB disease in Malaysia. Despite having a comprehensive TB control program, Malaysia is still struggling to achieve the targets set in the Millennium Development Goals (MDGs)[6]. MDG has targeted a reduction of half of the total prevalence of reported cases and death[7]. However the statistics on Malaysia indicate the opposite.

Although vaccines, antibiotics and scientific research have been made available around the world to help reduce the spread of TB, the efforts and measures has thus far been less effective than anticipated[8].Despite various scientific studies carried out, there is still lack of research on the social science perspective especially on

the spread of the disease. Social factors play an important role in managing the TB disease[9]. One of the most important social factors is the stigma within the society towards TB patients[10], [11], [12]. In addition, the low level of awareness among the public regarding TB has also become a factor leading to the increase ofTB patients[13], [14], [15]. It is therefore very important to know the level of public awareness of TB disease. The level of awareness may vary according to the demographic factors such as employment, education, economy, area of residence and age. Based on these factors, this study discusses the level of awareness among students about TB in Malaysia using the approach of Knowledge, Attitude and Practice (KAP). From the results, the study also attempts toidentify and present the best strategy to improve the awareness among students and the public about TB.

III. Objective Of The Paper

Due to the ease of infection, anyone can contract the disease. Unfortunately, not many people are aware about TB. This lack of knowledge and awareness is a problem anywhere around the globe. Therefore, the study attempts to examine the level of public awareness regarding this disease and propose a more effective approach to address the issue of insufficient communication of information. Specifically, this study has two main objectives: (i) to review the level of awareness on TB among university students in Malaysia; (ii) to investigate society's stigma towards TB patients; and (iii) to identify the best strategy to improve TB awareness in the society.

IV. Research Methodology

This studyis a quantitative studyusingquestionnaires asthe main source ofresearch data.Questionnaires have beendeveloped based onthe resultsof past studies. The questionnaireform was divided intofourparts; part A(profile of respondents), partB (Awareness of TBdisease), partC(Stigma towards TB patients) and part D(strategy to improve TB awareness).Thisapproachis suitable to answer the research questions of this study. In fact, previous researches used the same method tomeasure the level ofpublic awareness onTBdisease[16], [17]. Questionnaireswere distributedto studentsof Universiti Sains Malaysia(Penang) in March2012.The samplewasrandomly selectedwhichconsists offirst tofourth-year studentsfrom various faculties. The data obtainedwere then analyzedusing the*StatisticalPackagesfor SocialScience*(SPSS).

V. Data Analysis

The findings begin with a description of the respondent profile. Based on the total of 400questionnaires returned, 45.3% were malerespondents, while 54.8% were female. The ratio ofmaletofemalerespondentswas1:1.21.Majority of the respondents was Malayswhich was71.5% of them, followed by Chinese(22.3%) andIndian(5.3%). Besides,65.5% of the respondents were firstyear students, 30% second year, and 4% and 0.5% were third and fourth yearstudents respectively. The studyalso found that99%of all the respondents were single while only 1.0%married. Table 1 illustrates the above description.

Table 1: Demography of Respondents

Variable	Frequency (n=400)	Percentage (%)
Gender		
Male	181	45.3
Female	219	54.8
Race		
Malay	286	71.5
Chinese	89	22.3
Indian	21	5.3
Others	4	1.0
Year of education		
Year 1	262	65.5
Year 2	120	30.0
Year 3	16	4.0
Year 4	2	0.5
Marital status		
Single	396	99.0
Married	4	1.0

Table2 reports the general knowledge of respondents aboutTB.Overall,90.5%ofrespondentshave heard ofTB.The percentage is lower forrespondentswho know what TB is with 80.3% indicated that they know what TB iswhile19.8%responded otherwise. Another finding was that the percentage of male respondents (i.e.23.2%) who were not aware of what TB is compared to female (16.9%). Based onTable2,the study concludes that while thepercentageof respondents who hadheard ofTB was high, but not all ofthemunderstand whatTBdisease actually was.

Table 2: Knowledge about TB

Variable	Gender (%) (n=400)		Total (%) (n=400)
	Male	Female	
Have you ever heard about TB?			
Yes	86.2 (n=156)	94.1 (n=206)	90.5 (n=362)
No	13.8 (n=25)	5.9 (n=13)	9.5 (n=38)
Do you know what is TB?			
Yes	76.8 (n=139)	83.1 (n=182)	80.3 (n=321)
No	23.2 (n=42)	16.9 (n=37)	19.8 (n=79)

Table 3: Knowledge about the spreading mechanisms of TB

Variable	Percentage (%)		
	Disagree	Not sure	Agree
How does TB spread?			
Cough	2.8	19.5	77.8
Contaminated drinks/food	4.8	35.3	60.0
Genetic	21.3	45.5	33.3
Sexual intercourse with TB patients	26.0	52.0	22.0

Table3shows thatabout 77.8% of respondents gavethe correct answerabout themechanism ofthe spread ofTB(i.e. cough) while19.5%were not sureandonly2.8%disagreed. In addition,the findingsalso showedthat respondentswere not sure about the main cause of TB as evident by their confusion when some other causes were included as optional answers. 60% of the respondents agreedthatTBdiseasecan spread throughcontaminated food or drink, 33.3% agreedthat it can spread throughgeneticand22% indicated that TBcan be spread throughsexual contact withTB patients when all three answers were not true. In the*crosstabulation*analysisconductedfor thevariableof diffusionmechanismof TB with the question"dorespondentsknow what isTB?", the study indicated that although therespondentsadmitted that theyknow what TB is, only268respondentsgavecorrect answers, while 47respondents wereunsureand6othersbelieved that cough is not the mechanism through which TB spreads.Additionally, a total of 207respondents whoclaimed that they know what TB is have incorrect knowledge regarding TB as evident through their opinion that TB can spread throughcontaminatedfoodanddrinks. Similarly,119respondents were in the opinion that genetic factorscan causeTB. Therefore, the study concludes that majority of the respondents who claimed that they have knowledge on TB have inaccurate understanding regarding the disease especially on the spreading mechanism.

Table4 shows therespondents'viewsonTBpatients. Based onthetable, 40.5% of the respondents stated that theyfeel uncomfortable when they sat near TB patients. In addition,34% of the respondents stated thatthey feltafraid ofTBpatientsand finally29% stated that they always avoid any physical contacts with TBpatients. All three ofthesevariablesshoweda highpercentageofthestigma towards TBpatients compared topositive perspective towards them.

Table 4: Respondents' attitudes towards TB patients

Variable	Percentage (%)		
	No	Not sure	Yes
I am not comfortable to be around TB patients	11.8	47.8	40.5
I am afraid of TB patients	18.5	47.5	34.0
I try not to touch TB patients	21.3	49.8	29.0

Althoughthe majority of respondents were not sureabouttheir views on theTBpatients, the dataclearly shows that thepercentageof respondents whohighlighted thepositiveoutlookis lower thanrespondentswho admitted that they had a stigma towards TBpatients.

Table 5: The *mean* value of the stigma of respondents towards TB patients

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I am not comfortable to be around TB patients	68.897	399	.000	2.288	2.22	2.35
I am afraid of TB patients	60.817	399	.000	2.155	2.09	2.22
I try not to touch TB patients	58.894	399	.000	2.078	2.01	2.15

Table 6: The *mean* value for stigma and gender

Group Statistics

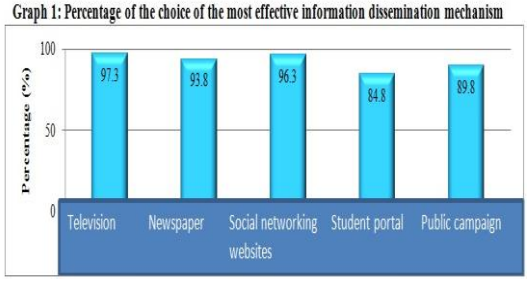
	Gender	N	Mean	Std. Deviation	Std. Error Mean
I am not comfortable to be around TB patients	Male	181	2.27	.664	.049
	Female	219	2.31	.665	.045
I am afraid of TB patients	Male	181	2.18	.651	.048
	Female	219	2.14	.754	.051
I try not to touch TB patients	Male	181	2.18	.687	.051
	Female	219	1.99	.710	.048

Table6shows thestigmatowardsTB patients in detail. The data showsthatthe meanof the respondentsare high fortwovariables, namely "I amnotcomfortableto bearoundTBpatients" and"I amafraidofTBpatients". Both ofthesevariablesindicated thatmaleandfemalerespondentshave astigmatowardsTBpatients. However, for thethirdvariable, namely "I trynottotouchTBpatients", the meanformale(2.18)is higher than that of female(1.99) indicating that male respondents are having stigma towards TBpatients compared to female respondents.

VI. Discussion

Thisstudyshows thatfemalerespondentshave relativelybetterknowledgeaboutTBthanfemalerespondents. Thesefindingsdiffer fromstudies conductedinEthiopia[18], China[19], Sudan[20]andVietnam [21]. However, the majority of respondentsremain confused on howTBdiseasecan be spread. Thus, this situation could affect theeffortto controlTBin Malaysia throughthe NationalTBControl Programme. In addition,thissampleis taken fromuniversity students, a groupthatis oftenidentified ashaving betterknowledgeaboutTBthanthe groupwith lower education background[22],[23],[24]. Therefore, a good promotional dissemination onTBdiseaseis important toconveyaccurate information to thecommunity.Indirectly,all walks of liferegardless ofeducational backgroundcanobtainat leastthe basicfactsaboutTB such assymptoms ofTB, possible transmission of TBand TB prevention. BetterknowledgeaboutTBcan also helpindividuals who are suspects ofTBtoseek immediate treatmentbecause lack of information onTB will cause infected individual to experience severe effects [25], [26]. For example,referring toGraph1, it was found that the majority of studentsprefertelevisionas asource of information(as obtained by[27]), followed by socialwebsitesand newspapersas a medium fordissemination of informationaboutTB.

Graph 1: Percentage of the choice of the most effective information dissemination mechanism



In addition, this study shows the existence of negative outlook or stigma pertaining TB patients where majority of the respondents, both male and female, admitted that they try to avoid meeting TB patients. This stigma is alsoproveninother studies([28], [29], [30]. StigmatowardsTBpatientsandalsotopeoplesuspected of being infectedcangivenegative implicationsto them[31]. This refers to thedelayin findinga

cureortreatmentbyTBpatients[32]. Thisdelayiscausedby the feeling in which they areashamedorafraid of the fact that theyare infectedor suspected[33], [34]. Thus theypreferto remain silent rather thantelling others [35]. Thus,thisactioncould eventually lead to increasing number of individualsinfected withTB[36]and thuswill increase the total number of TBpatientsin the country.

VII. Conclusion

As a conclusion, this study shows that the level of awareness about TB is still low even though they claim to know or aware about TB. Thus, an effective information transfer mechanism is needed to overcome this problem. The suggestion to upgrade the system to promote awareness about TB should be conducted via the most effective medium. This is because the medium vary according to the different levels of society. Therefore, it is a must to do a need analysis before taking any measures. For example the selected media are television, social network and newspapers. This suggestion might differ for respondents from rural areas. Besides upgrading the information transfer system, other suitable methods include routine checkups. The ministry can also introduce health education at the earliest level regarding TB. This is to ensure an early prevention by providing a good understanding on the disease.

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References

[1]. World Health Organization, *MDG 6: combat HIV/AIDS, malaria and other diseases*, Retrieved on 28 March 2012, from http://www.who.int/topics/millennium_ development_goals/diseases/en/index.html, 2012.
[2]. J. Lamb-White, World Health Organization Tuberculosis: Infection and transmission, *International Journal of Health Care Quality Assurance*, *20(5)*, 2007.
[3]. World Health Organization, *Data and statistics*, Retrieved on 2 November 2011, from http://www.who.int/research/en/, 2011.
[4]. Barry, E. Clinton, Cheung, and S. Maija, New tactics against tuberculosis, *Scientific American*, *300(3)*, 2009.
[5]. J. F. Dony, 2011, Transforming the fight: Towards elimination of tuberculosis. PersidanganKesihatanAwam JKN Selangor, 11-12 October 2011. Retrieved on 27 March, 2012, from http://www.jknselangor.moh.gov.my/images/stories/sharingDoc/HealthConference/SYMPOSIUM/TB_Transforming.pdf.M. Aziah, Tuberculosis in Malaysia: combating the old nemesis, *Medical Journal of Malaysia*, *59(1)*, 2004.
[6]. World Health Organization, *MDG 6: combat HIV/AIDS, malaria and other diseases*, Retrieved on 28 March 2012, from http://www.who.int/topics/millennium_ development_goals/diseases/en/index.html, 2012.
[7]. World Health Organization, *Many factors aid the spread of infectious diseases.* Retrieved on 3 November 2011, from http://www.who.int/infectious-disease-report/pages/ch9text.html, 1999.
[8]. S. P. Yadav, M. L. Mathur, and A. K. Dixit, Knowledge and attitude towards tuberculosis among sandstone quarry workers in desert parts of Rajasthan, *Indian Journal of Tuberculosis*, *53*, 2006, 187-195.
[9]. N. P. Hoa, A. E. K. Thorson, N. H. Long, and V. K. Diwan, Knowledge of tuberculosis and associated health-seeking behavior among rural Vietnamese adults with a cough for at least three weeks, *Scandinavian Journal of Public Health*, *31(62)*, 2003, 59-65.
[10]. G. Abebe, A. Deribew, L. Apers, K. Woldemichael, J. Shiffa, M. Tesfaye, A.Abdissa, F. Deribie, C. Jira, M. Bezabih, A. Aseffa, L. Duchateau, and R. Colebunders, Knowledge, health seeking behavior and perceived stigma towards Tuberculosis among Tuberculosis suspects in a rural community in Southwest Ethiopia, *PLoS One*, *5(10)*, 2010.
[11]. Kipp, P. Pungrassami, K. Nilmanat, S. Sengupta, C. Poole, R. P. Strauss, V. Chongsuvivatwong, and A. Van Rie, Socio-demographic and AIDS-related factors associated with tuberculosis stigma in southern Thailand: A quantitative, cross-sectional study of stigma among patients with TB and healthy community members, *BMC Public Health*, *11(675)*, 2011.
[12]. S. H. Lu, B. C. Tian, X. P. Kang, W. Zhang, X. P. Meng, J. B. Zhang, and S. K. Lo, *The International Journal of Tuberculosis and Lung Disease*, *13(12)*, 2009, 1493-1499.
[13]. N. A. Khan, M. Abid, V. K. Singh, Vaishali, P. Chattapadhyay, A. K. Ghosh, and K. Kamal, Assessment of college students awareness about tuberculosis in Moradabad, *Indian Journal of Pharmacy Practice*, *4(2)*, 2011, 47-50.
[14]. D. S. Vukovic, and L. M. Nagorni-Obradovic, Knowledge and awareness of tuberculosis among Roma population in Belgrade: A qualitative study, *BMC Infectious Disease*, *11(284)*, 2011.
[15]. D. S. Hashim, W. A. Kubaisy, and A. A. Dulayme, Knowledge, attitudes and practices survey among health care workers and tuberculosis patients in Iraq, *Eastern Mediterranean Health Journal*, *9(4)*, 2003, 718-731.
[16]. M. C. N. Bacay-Domingo, and A. L. Ong-Lim, A descriptive study of the knowledge, attitudes and practices on tuberculosis among treatment partners of pediatric patients in Tarlac City, *PIDSP Journal*, *10(1)*, 2009.
[17]. G. Abebe, A. Deribew, L. Apers, K. Woldemichael, J. Shiffa, M. Tesfaye, A.Abdissa, F. Deribie, C. Jira, M. Bezabih, A. Aseffa, L. Duchateau, and R. Colebunders, Knowledge, health seeking behavior and perceived stigma towards Tuberculosis among Tuberculosis suspects in a rural community in Southwest Ethiopia, *PLoS One*, *5(10)*, 2010.
[18]. J. Wang, Y. Fei, H. Shen, and B. Xu, 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*, *8(354)*, 2008.
Mohamed, M. A. Yousif, P. Ottoa, and A. Bayoumi, Knowledge of tuberculosis: A survey among tuberculosis patients in Omdurman, Sudan, *Sudanese Journal of Public Health*, *2(1)*, 2007, 21-28.
[19]. N. P. Hoa, A. E. K. Thorson, N. H. Long, and V. K. Diwan, Knowledge of tuberculosis and associated health-seeking behavior among rural Vietnamese adults with a cough for at least three weeks, *Scandinavian Journal of Public Health*, *31(62)*, 2003, 59-65.

[20]. N. P. Hoa, V. K. Diwan, N. V. Co, and A. E. K. Thorson, Knowledge about tuberculosis and its treatment among new pulmonary TB patients in the north and central regions of Vietnam, *The International Journal of Tuberculosis and Lung Disease, 8(5)*, 2004, 603-608.
[21]. C. Gilpin, P. de Colombani, S. Hasanova, and U. Sirodjiddinova, Exploring TB-related knowledge, attitude, behavior and practice among migrant workers in Tajikistan, *Tuberculosis Research and Treatment*, 2011: 10 pages.
[22]. S. I. Gilani, and M. Khurram, Perception of tuberculosis in Pakistan: Findings of a nation-wide survey, *Journal of Pakistan Medical Association, 62(2)*, 2012, 116-120.
[23]. R. Rajeswari, V. Chandrasekaran, M. Suhadev, S. Subramaniam, G. Sudha, and G. Renu, Factors associated with patient and health system delays in the diagnosis of tuberculosis in South Indian, *The International Journal of Tuberculosis and Lung Disease, 6(9)*, 2002, 789-795.
[24]. P. O. Ayuo, L.O. Diero, W. D. or Owino-Ong', and A. W. Mwangi, Causes of delay in diagnosis of pulmonary tuberculosis in patients attending a referral hospital in Western Kenya, *East African Medial Journal, 85(6)*, 2008, 263-268.
[25]. N. P. Hoa, N. T. K. Chuc, and A. Thorson, Knowledge, attitudes and practices about tuberculosis and choice of communication channels in a rural community in Vietnam, *Health Policy, 90 (1)*, 2009, 8-12.
[26]. R. Liefooghe, N. Michiels, S. Habib, M. B. Morgan, and A. O. de Munynck, Perception and socio consequences of tuberculosis: A focus group study of tuberculosis patients in Sialkot, Pakistan, *Social Science and Medicine, 41(12)*, 1995, 1685-1692.
[27]. FazlulKarim, A. M. R. Chowdury, Akramul Islam and M. G. Weiss, Stigma, gender and their impact on patients with tuberculosis in rural Bangladesh, *Anthropology Medicine, 14(2)*, 2007, 139-151.
[28]. E. A. Dodor, and S. Kelly, 'We are afraid of them': Attitudes and behaviours of community members towards tuberculosis in Ghana and implications for TB control efforts, *Psychology, Health & Medicine, 14(2)*, 2009, 170-179.
[29]. P. Kelly, Isolation and stigma: The experience of patients with active tuberculosis, *Journal of Community Health Nursing, 16(4)*, 1999, 233-241.
[30]. R. Liefooghe, J. B. Baliddawa, E. M. Kipruto, C. Vermeire, and A. O. de Munynck, From their own perspective. A Kenyan community's perception of tuberculosis, *Tropical Medicine and International Health, 2(8)*, 1997, 809-821.
[31]. S. V. Eastwood, and P. C. Hill, A gender-focused qualitative study of barriers to accessing tuberculosis treatment in The Gambia, West Africa, *The International Journal of Tuberculosis and Lung Disease, 8(1)*, 70-75.
[32]. E. Buregyeya, A. Kulane, R. Colebunders, A. Wajja, J. Kiguli, H. Mayanja, P. Musoke, G. Pariyo, and E. M. H. Mitchell, Tuberculosis knowledge, attitudes and health-seeking behavior in rural Uganda, *The International Journal of Tuberculosis and Lung Disease, 15(7)*, 2011, 938-942.
[33]. E. Johansson, N. H. long, V. K. Diwan, and A. Winkvist, Gender and tuberculosis control perspectives on health seeking behavior among men and women in Vietnam, *Health Policy, 52(2000)*, 2000, 33-51.
[34]. S. I. Gilani, and M. Khurram, Perception of tuberculosis in Pakistan: Findings of a nation-wide survey, *Journal of Pakistan Medical Association, 62(2)*, 2012, 116-120.