KNOWLEDGE, ATTITUDE, BARRIERS AND PREVENTIVE BEHAVIORS OF TUBERCULOSIS AMONG MYANMAR MIGRANTS AT HUA FAI VILLAGE, MAE SOT DISTRICT, TAK PROVINCE, THAILAND

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ABSTRACT: This study was conducted to identify the independent variables (socio-demographic characteristics, information about tuberculosis (TB), knowledge, attitude and barriers towards prevention of TB), and to assess any association of these independent variables with the dependent variables (preventive behaviors of TB). Data were collected by face-to-face interviews with total 392 participants from middle of March to first week of April 2014 at Hua Fai village, Mae Sot district, Tak province, Thailand. The 65% of respondents had low level of knowledge, 55.9% were at negative attitude level, 41.3% had high level of barriers and 51.8% had low preventive behavior levels. Pearson`s Chi-square test was used for bivariate analysis to find out the associations between categorical independent and dependent variables. Bivariate analysis revealed that preventive behaviors of TB were associated with (i)socio-demographic characteristics (marital status, level of education, current occupation, international wealth index (IWI) category, people living in the same room, duration of stay in Thailand), (ii) information about TB (sources of TB information; family, friends, neighbors and colleagues, and newspapers and magazines, contents of TB information; causes, prevention and mode of transmission , TB healthcare service providers in Mae Sot), and (iii) level of barriers. As there were low levels of knowledge, low levels of attitude and high levels of barriers towards prevention of TB were found among the participants, community-based health promotion and education programs on TB should be strategically planned and implemented. Furthermore, screening camping for TB should be done with to carry out early case detection and treatments for TB.

Keywords: Tuberculosis, Myanmar migrants, Thailand

INTRODUCTION

Tuberculosis (TB) is the second leading cause of deaths from the other infectious diseases world except HIV/AIDS. Though TB is preventable and curable disease, it is still a globally concerned major public health problem affecting total 8.6 millions of people and brought 1.3 million deaths in 2012 [1].

Both Myanmar and Thailand are among the 22 high burden countries for TB. Comparing with Thailand, Myanmar has higher TB prevalence and incidence [2]. Due to migration, TB is important public health issue in both developed and industrialized countries. Migration increases the risks of TB transmission particularly if the infected migrants originated from high prevalent countries causing the disease burdens to the host countries. Migrants and refugees have special health needs and encounter obstacles in accessing health care due to language barriers, stigmatization, poor cultural awareness, psychological distress, disruption of families and social networks, and economic difficulties [3]. In Thailand, approximately, there were 1.1 million of registered Myanmar migrants in year 2012. [4] Hua Fai village is situated in Mae Sot district. It had the total populations of 1,482 people (males 765 and females 717) and 563 households [5]. Myanmar migrant community in Hua Fai village is less well known as the location of the living places of these

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migrants are in the very rural area. Myanmar migrants live in sparse but clustered community. Some of them in poor housing conditions like temporary shelters and crowded living places. No NGO/INGO healthcare organization which provides services to the study population. Exact number of Myanmar migrants and their household were not known because of their frequent migration from place to place and the sparse distributions of their dwellings. Estimated number of Myanmar migrants at the Hua Fai village is about 900 and the total number of households is about 200 [6]. There was no previous similar research in that community. Therefore the preventive behaviors and the associated factors from the Myanmar migrant community in Hua Fai village were not known.

METHODOLOGY

Cross- sectional study was used. The required sample size was 422 using the Cochran (1963:75) formula [7]. Multistage sampling method was used: (first stage) purposive sampling to select Mae Sot district and Hua Fai village due to high number of Myanmar migrants, (second stage) convenient sampling according to time availability at their homes to identify the participants. Inclusion criteria were: age≥18 years, able to speak Myanmar language fluently, willing to participate in interviews, with or without past history of cured or completed TB treatments. Exclusion criteria were: physically or mentally ill conditions and current TB patients. An interviewer administered questionnaire was developed by modifying the questionnaire from 'A guide to developing knowledge, attitude and practice surveys by WHO" [8]. Questionnaire was translated from English to Myanmar language by an expert. And it was back translated to English version by another expert. For reliability test, Cronbach's alpha coefficient for attitude section of questionnaire was 0.86 and Kuder–Richardson Formula 20 (KR 20) result for dichotomous questions was 0.70. For validity test, Item Objective Congruence index was done and the result was 0.65.The questionnaire included 6 sections: (I) socio-demographic characteristics, (II) knowledge, (III) sources and contents of TB information, (IV) attitude, (V) barriers towards TB prevention (affordability to eat good nutrition, crowded living places, poorly ventilated living places, availability of TB healthcare providers/centers, accessibility to TB healthcare providers/centers, immigration status to seek healthcare, direct service costs for TB services and indirect services costs for TB services) (VI) preventive behaviors (cough etiquette and cough hygiene, hand washing after touching public items, avoiding the crowded places, living in good ventilated places, eating foods with good nutrition, screening for pulmonary TB, seeking healthcare when TB is suspected, avoiding close contact with TB patients, BCG vaccination, gathering TB information through media). To measure the economic status of the study population, International Wealth Index (IWI) was used instead of the income as IWI can be more reliably measured than computing income or expenditures [9].

All the scorings for section (II), (IV) and (V) were calculated based on Bloom`s cut off point 60% - 80% [10], (<60%-low level, 60%-80% moderate level, >80% high level) were used as following. Section (II) had 39 items and knowledge was divided into (<60% - low level; 0 - 23 scores), (60 – 80% - moderate level; 24-31 scores), and (>80% high level; 32 to 39 scores). Section (IV) had 15 items and attitude was divided into 3; (<60% - negative attitude: 15 - 45 scores), (60% - 80% - neutral attitude: – 46 to 60 scores), and (>80% - positive attitude: 61 to 75 scores). Section (V) had 9 items and barriers were divided into 3: (<60% - low level: 0 to 10 scores), (60% - 80% moderate level: 11 to 14 scores) and (80% - high level: 15 to 18 scores). In section (VI), preventive behaviors were scored as 3 to always, 2 to sometimes and 1 to never, and the levels were categorized into 2 using the cut-off point of median score 18: (low level – 10 to 18 scores, ≤60%) and (high level- 19 to 30 scores, >60%). This cut off point was based on the findings from the data analysis from this study using the media score 18. Bloom`s cut off point was used to explore the (3) levels of knowledge, attitude and barriers of the Myanmar migrants in order to provide the necessary health education and information based on the findings from this survey. Total 392 (male = 134, females = 258) participated in this study. Due to frequently changing living places of illegal migrants and unavailability of time of the participants for being interviewed total calculated sample size 422 could not be obtained. Five trained interviewers (volunteers from a Myanmar NGO with several years of working in Hua Fai village) conducted face to face interviews to participants in Burmese language. The interviewers firstly contacted the migrants those who were well known to them and after the interviews, they asked participants to introduce other migrants belonging to their social, work and family networks. After providing information on the study, written informed consents were obtained from those who had agreed to participate in this study. This study was conducted with the certificate of approval (COA No. 037/2014) from Chulalongkorn University. Data analysis was

Table 1 Number and percentage distributions of socio-demographic characteristics

Socio-demographic characteristics	Frequency	Percentage
Gender (n=392)		
Female	258	65.8
Male	134	34.2
Marital status (n=387)		
Married	260	67.2
Single	98	25.3
Divorced	20	5.2
Widow	9	2.3
Ethnicity (n=389)		
Burmese	215	55.3
Karen	143	36.8
Mon	11	2.8
Shan	4	1.0
Others	16	4.1
Level of education (n=388)		
Secondary school	129	33.2
Primary school	126	32.5
High school	77	19.8
No education	49	12.7
University graduate	7	1.8
Current occupation (n=388)		
Construction	141	36.3
Factory worker	70	18.0
No occupation	66	17.0
Agricultural	55	14.2
General worker	53	13.7
Others	3	0.8
IWI category (n=392)		
≤ 20.0 (lowest quintile)	15	3.8
20.1 - 40.0	112	28.6
40.1 - 60.0	148	37.8
60.1 - 80.0	94	24.0
≥ 80.1 (highest quintile)	23	5.8
People living in the same room (n=388)		
≤3 people	177	45.6
4 - 7 people	151	38.9
≥8 people	60	15.5
Duration of stay in Thailand (years) (n=392)		
≤ 5	169	43.1
5.1 - 10	128	32.7
10.1 - 15	46	11.7
15.1 - 20	25	6.4
20.1 - 25	15	3.8
≥ 25.1	9	2.3
Work registration (n=391)		
Un-registered	272	69.6
Registered with permit	88	22.5
Registered without permit	31	7.9

done using the licensed version of Statistical Package for Social Science software. For uni-variate analysis (descriptive analysis), frequency, percentage, mean and standard deviations were used. For calculation of International Wealth Index (IWI), pre-defined formula from literature [9] was used. For bi-variate analysis, Pearson`s Chi-square and Fisher`s exact tests were used to find out the associations between the categorical independent and dependent variables.

RESULTS

Table 1 shows the socio-demographic characteristics of the respondents: 65.8% of respondents were females, 67.2% were married, 55.3% were Burmese, 33.2% attained secondary

Table 2 Number and percentage distribution of knowledge, attitude, barriers and preventive behaviors of TB

Variables	Levels		
	Low/ Negative* N(%)	Moderate/ Neutral* N(%)	High/ Positive* N(%)
Knowledge on TB	255(65.0)	130(33.2)	7(1.8)
Range 1 – 33, Mean score = 20.31 SD = 6.806			
Attitude on TB	219(55.9)	167(42.6)	6(1.5)
Range 32 - 67, Mean score = 45.85, SD = 4.111			
Barriers towards prevention of TB	90(23.0)	140(35.7)	162(41.3)
Range 1 - 18, Mean score = 12.82, SD = 3.685			
Preventive Behaviors of TB	203(51.8)		189(48.2)
Range 11 - 30, Mean score = 19.02			
Median score = 18.00, SD = 4.124			

*= for attitude levels. Preventive behaviors were classified into two levels (low and high)

Table 3 Associations between socio-demographic characteristics, information about TB (sources and contents) and preventive behaviors of TB

	Preventive behavior levels		Total n(%)	Chi-Square	*p-value*
	Low n(%)	High n(%)			
Socio-demographic characteristics					
Marital status					
Married	133(51.2)	127(48.8)	260(100)	9.743	0.008
Single	46(46.9)	52(53.1)	98(100)		
Divorced, widow, separated and others	23(79.3)	6(20.7)	29(100)		
Missing data	-	-	5(100)		
Level of education					
Secondary school	59(45.7)	70(54.3)	129(100)	14.613	0.002
Primary school	80(63.5)	46(36.5)	126(100)		
High school, university and others	33(39.3)	51(60.7)	84(100)		
No education	28(57.1)	21(42.9)	49(100)		
Missing data	-	-	4(100)		
Current occupation (workers)					
Construction	76(53.9)	65(46.1)	141(100)	22.482	<0.001
Factory	24(34.3)	46(65.7)	70(100)		
Unoccupied	39(59.1)	27(40.9)	66(100)		
Agricultural	40(72.2)	15(27.3)	55(100)		
General and others	23(41.0)	33(59.0)	56(100)		
Missing data	-	-	4(100)		
IWI category					
≤20.0	10(66.7)	5(33.3)	15(100)	13.065	0.011
20.1-40.0	67(59.8)	45(40.2)	112(100)		
40.1-60.0	81(54.7)	67(45.3)	148(100)		
60.1-80.0	36(38.3)	58(61.7)	94(100)		
≥80.1	9(39.1)	14(60.9)	23(100)		
People living in the same room					
≤3 people	88(49.7)	89(50.3)	177(100)	9.649	0.008
4-7 people	71(47.0)	80(53.0)	151(100)		
≥8 people	42(70.0)	18(30.0)	60(100)		
Missing	-	-	4(100)		
Duration of stay in Thailand (years)					
<5	88(52.1)	81(47.9)	169(100)	16.172	0.001
5.1 – 10	64(50.0)	64(50.0)	128(100)		
10.1 – 15	15(32.6)	31(67.4)	46(100)		
≥15.1	36(14.5)	13(5.2)	49(100)		
Information about TB					
Sources of TB information (n=121) Family, friends, neighbor and colleagues					
No	4(11.1)	32(88.9)	36(100)	-	<0.001*
Yes	62(72.9)	23(27.1)	85(100)		
Know any TB healthcare center/service providers in Mae Sot (n=392)					
No	125(42.5)	169(57.5)	294(100)	40.463	<0.001
Yes	78(79.6)	20(20.4)	98(100)		

Table 4 Associations between the levels of knowledge, attitude, barriers and preventive behaviors of TB

Variables	Preventive behavior levels		Total n(%)	Chi-square test	*p-value*
	Low n(%)	High n(%)			
Knowledge					
Low	136(53.3)	119(46.7)	255(100)	0.700	0.403
Moderate and high levels*	67(48.9)	70(51.1)	137(100)		
Attitude					
Negative	111(50.7)	108(49.3)	219(100)	0.241	0.624
Neutral and positive levels*	92(53.2)	81(46.8)	173(100)		
Barriers					
Low	26(28.9)	64(71.1)	90(100)	25.83	<0.001
Moderate	87(62.1)	53(37.9)	140(100)		
High	90(55.6)	72(44.4)	162(100)		

* Moderate and high levels for knowledge, and neutral and positive levels for attitude were compiled as one level as there were very few data which were less than 5 in the cells of high knowledge level

education, only 5.8% were at and above IWI of 80.1 (high wealth index category), 45.6% were staying together with 3 persons or less, 43.1% were staying in Thailand for five and less, 69.6% were unregistered for work.

Information about TB

This study also revealed that among total respondents, only 30.9% have received TB information. Among those who have received TB information, 70.2% got information from family, friends, neighbors and colleagues, and 66.9% knew about causes of TB. Regarding the contents of TB information, 75% of total participants did not know about TB healthcare service providers. Among those who knew the healthcare service providers, 87.8% were staying more than 5 kilometers away from the TB healthcare center, 83.7% took 1 to 3 hours to reach the TB healthcare center.

Table 3 shows the significant associations between the socio-demographic characteristics, sources and contents of TB information and TB preventive behaviors: that single marital status, high level of education, factory workers, long duration of stay (>5 years) in Thailand, high International Wealth Index (IWI), low number of people living in the same room, getting TB information from family, friends, colleagues, and newspapers and magazines, knowing causes of TB, prevention and mode of transmission, not knowing the TB healthcare center in Mae Sot, and high barrier levels were associated with preventive behaviors.

Table 4 shows that there was statistically significant association between the high level of barriers and preventive behavior of TB.

DISCUSSION

The study found out that 69.4% of Myanmar migrants were un-registered. This finding was consistent but higher than in two other studies in Phuket [11] and Phangna [12] studies conducted among Myanmar migrants. This could possibly be explained by the fact that Hua Fai was a more remote place than Phuket and Phangna and it was easier in Hua Fai for unregistered migrants to hide from Thai authorities and avoid registration. There was no healthcare NGO/INGO in the study area. These situations made Myanmar migrants highly vulnerable to TB and other communicable diseases. High level of education, current occupation and duration of stay in Thailand were associated with preventive behavior levels and findings were as expected and consistent with the study in Phuket [11]. More preventive behaviors among singles could be explained by the fact that they practice more preventive behaviors as they have no one to take care of them if they got TB. Factory workers had better preventive behaviors than the other categories which could be explained by the fact that factory environments with healthcare facilities promote more preventive behaviors. The IWI category and people living in the same room that were significant in binary logistic regression could be explained by the fact that respondents with higher wealth status and living in non-crowded rooms afford more for TB preventive behaviors. This study found out 69.1% had not received the information about TB which was consistent with a study conducted among migrants in Sweden [13] which showed 67% were lacking of TB information. This finding could explain that even in high income country, it was difficult to provide health information to migrants which underlined the difficulty of this task. About 88% of respondents were living more than 5 kilometer walking distance away from the TB healthcare

centers and about 84% of respondents needed 1 to 3 hours to reach the TB healthcare centers. This result shows the high vulnerability of migrants. Almost 65% of respondents were at low knowledge level and high misconceptions level (80%) which was consistent with study in Phuket [11] and Mae Hong Son [14]. Knowledge levels were found not associated with the preventive behavior levels (p=0.403) which was inconsistent with study in Phuket [11] and study in Mae Hong Son [14]. This could be probably due to the different locations and study populations. Almost 60% of respondents were at negative attitude levels which were consistent with study in Phuket [11] but lower than what found in study conducted among TB patients in Bangkok [15] who may have better attitude because they are already affected by TB and frequently exposed to care providers. Behavior Theory of Health Belief Model [16] could explain that multiple variables such as barriers, benefit, efficacy, threat, cue to action, and demographic and socio-psychological variables played roles to perform.

RECOMMENDATIONS

Recommendations for organizations – As most of respondents were unregistered migrants, they have socio-economic barriers to access health and other services causing more vulnerability to diseases compared to the registered migrants. Organizations from both public and private sectors should therefore support the registration process of unregistered migrants to increase their access to all services and protections from the law. As the findings stated there the knowledge levels were low among the study populations, community awareness and knowledge on TB should be uplifted through interpersonal communication (health volunteers for health education) and distribution of IEC (Information, Education and Communication) materials in Burmese language using printed media, mobile SMS, visual materials should be implemented effectively. Contents of TB information in the IEC should highlight the causes, prevention and mode of transmission of TB as well as the information about health center (location and available services for TB). Health promotion events should be implemented with the objectives of uplifting the attitude of the respondents. TB screening camping should be implemented effective for early case detection and prompt treatments.

Recommendation for further research – For further research, qualitative research to explore the knowledge and attitude factors which might be associated with the preventive behaviors of TB that could not be investigated by this study. As this study did not find out the information on HIV related with TB, future research should focus on both TB and HIV in order to know the two commonly related diseases.

LIMITATIONS OF THE STUDY

The findings could not be generalized to all Myanmar migrants in Mae Sot due to convenient sampling adopted. Some of the answers may have been affected by time constraints and the sensitive nature of illegal migrant status. The design of this study was cross-sectional survey and it did not reveal their preventive behaviors over a period of observation.

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