ORIGINAL ARTICLE

Factors affecting preventive behavior of tuberculosis infection among the family members in Magway district, Magway Region, Myanmar

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Abstract

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This descriptive study was conducted to determine the factors affecting preventive behavior of tuberculosis infection among the family members in Magway district, Magway Region, Myanmar. Participants were recruited from the family household of patients suffering from TB (n=370). It was a questionnaire-based study. Univariate analysis was used to describe all variables. Chi-square tests and multiple logistic regression were used to determine factors associated with TB preventive behavior.

The average age of participants was 43 years with the range of 18-65 years. All of them were married. The mode of educational level of the participants were primary school (45.1%) and middle school (23.5%) respectively. Three fourth of participants were farmers or unemployed and 59.7% of them had equal or less than one hundred thousand Myanmar Kyats (equal to 100 US dollars). Over two-third of the families consist of 5 or less members. Only 14.9% of participants reported having more than one patient with TB in their home. Most of them were responsible to take care of the patient with TB in their home. (85%). Only 14.6% and 15.7% of respondents had good knowledge and good perception on tuberculosis prevention. 59.2% of them had met the criteria of good TB preventive behavior. Regarding the Chi-square test, knowledge level was found to be significantly associated with TB preventive behavior. After adjusting with other variables, knowledge level and monthly family income were considered as significant predictors of TB preventive behavior (OR= 7.59, 95% CI = 2.59 - 22.02 for knowledge level and OR= 1.85, 95% CI = 1.16 - 2.96 for monthly family income).

This study suggests that health education programme in media sector as well as collaboration and coordination with supportive agencies should be extended to improve knowledge of communities for changing TB preventive behavior.

Keywords: Tuberculosis, TB preventive behavior, Family member,

ปัจจัยที่มีผลต่อพฤติกรรมการป้องกันวัณโรค
ของสมาชิกครอบครัวที่มีผู้ป่วยวัณโรค
ในอำเภอแมกเวย์ ประเทศเมียนมาร์

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บทคัดย่อ

มน มน เว เนตร หงษ์ไกรเลิศ และจุฑาธิป ศีลบุตร
ปัจจัยที่มีผลต่อพฤติกรรมการป้องกันวัณโรคของสมาชิกครอบครัวที่มีผู้ป่วยวัณโรค
ในอำเภอแมกเวย์ ประเทศเมียนมาร์
ว.สาธารณสุขและการพัฒนา. 2557; 12(2): 35-48

การศึกษาวิจัยนี้ ต้องการศึกษาปัจจัยที่เกี่ยวข้องกับพฤติกรรมการป้องกันวัณโรคของสมาชิกในครอบครัวที่มีผู้ป่วยวัณโรค ในอำเภอแมกเวย์ ประเทศเมียนมาร์ เก็บข้อมูลด้วยแบบสอบถามที่มีโครงสร้าง จากกลุ่มตัวอย่างที่เป็นสมาชิกในครอบครัวที่มีผู้ป่วยวัณโรค จำนวน 370 คน ได้มาโดยการสุ่มแบบหลายขั้นตอน วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนา และหาความสัมพันธ์ของตัวแปรของปัจจัยที่เกี่ยวข้องกับพฤติกรรมการป้องกันวัณโรคโดยใช้ Chi-square test และ Multiple Logistic Regression

ผลของการศึกษาพบว่า สมาชิกในครอบครัวที่มีผู้ป่วยวัณโรค มีอายุตั้งแต่ 18 ปี - 65 ปี มีค่าอายุเฉลี่ย 43 ปี ส่วนใหญ่สมรสแล้ว กลุ่มตัวอย่างประมาณร้อยละ 45 จบการศึกษาระดับประถมศึกษา ร้อยละ 24 จบการศึกษาระดับมัธยมศึกษา ผู้ตอบแบบสอบถามร้อยละ 78 เป็นเกษตรกร หรือเป็นผู้ว่างงาน ประมาณร้อยละ 60 มีรายได้เฉลี่ยเดือนละ 100,000 kyats หรือน้อยกว่า ครอบครัวส่วนใหญ่ร้อยละ 80 เป็นครอบครัวเดี่ยว ประมาณ 2 ใน 3 ของครอบครัวเหล่านี้มีสมาชิก 5 คน หรือน้อยกว่า มีประมาณ ร้อยละ 15 ของผู้ตอบแบบสอบถามที่มีผู้ป่วยวัณโรคมากกว่า 2 คนในครอบครัว และส่วนใหญ่ร้อยละ 86 มีหน้าที่ดูแลผู้ป่วยวัณโรคเหล่านั้น ผู้ดูแลผู้ป่วยวัณโรคเหล่านี้ เพียงร้อยละ 15 เท่านั้น ที่มีความรู้ในเกณฑ์ดี และร้อยละ 16 ที่มีการรับรู้ด้านการป้องกันตนเองที่ดีจากผู้ป่วยวัณโรค จากผลการศึกษาพบว่า ร้อยละ 60 ของผู้ตอบแบบสอบถาม มีความรู้ในเรื่องการป้องกันตนเองจากการติดต่อผู้ป่วยวัณโรคในระดับดี และผลของการศึกษาโดยใช้ Chi-square พบว่า ระดับความรู้มีความสัมพันธ์กับพฤติกรรมการป้องกันวัณโรคอย่างมีนัยสำคัญ เมื่อนำผลมาวิเคราะห์ด้วย Multiple Logistic Regression พบว่า ระดับความรู้และรายได้ของกลุ่มตัวอย่างมีความสัมพันธ์กันอย่างมีนัยสำคัญทางสถิติ

การศึกษานี้มีข้อเสนอแนะว่าหน่วยงานหรือองค์กรด้านสื่อและการสื่อสาร ควรให้ความรู้แก่ประชาชน เพื่อการป้องกันไม่ให้มีการติดเชื้อวัณโรคมากขึ้นในครอบครัว

คำสำคัญ: วัณโรค พฤติกรรมการป้องกันวัณโรค สมาชิกครอบครัว

Introduction

Tuberculosis is one of the most lethal disease and one of top three priority diseases in the world.[1] In 2011, 8.7 million people suffered from tuberculosis and 1.4 million died because of it. Over 95% of TB deaths occur in low and middle income countries in the world.[2] The World Health Organization (WHO) South-East Asia Region (SEA) registered an estimation of five million prevalence and about 3.5 million incidence of new cases in 2010. About 40% of global burden of tuberculosis was carried in SEA region and five of eleven member countries in the region were among the 22 high burden countries of tuberculosis in the world.[3]

Tuberculosis is an infectious disease caused by bacillus Mycobacteriumtuberculosis complex.[4] The disease spreads in the air when people who are suffering from pulmonary TB expel bacteria by coughing, sneezing and etc.[5] In 1993, World Health Organization declared TB as a global burden emergency disease and launched the directly observed therapy based on short course (DOTS) strategy. The aim of DOTS is to detect and treat cases of sputum smear-positive tuberculosis to reduce further transmission and control the spread of the disease.[1] The effective information, education, communication(IEC) strategies for TB have been conducted together with direct observed treatment based on short course strategy, so that the general people could obtain comprehensive knowledge and perception about TB which significantly help the health care system to improve early diagnosis and prompt treatment of the disease. Although these efforts are implementing in the world, many people in the world have still the erroneous knowledge and perception on TB. Due to the lack of general knowledge, patients with TB would be the subject of discrimination and stigmatization which leads them to social isolation.[6]

The transmission to household contacts is the greatest when their sputum smear is positive, over-crowded living conditions and bacillary density in respiratory secretions.[7] Several studies from high burden countries have shown that active case finding among household contact is significantly associated with more TB cases than passive case detection. One research from India showed that household contacts to adult age group were predominantly infected (89.2%). Therefore the preventive behavior among the family members of tuberculosis is important to reduce the transmission of TB infection. Besides, the vulnerable group for tuberculosis is low socio-economic group who had low income, poor ventilated housing and malnutrition. One study showed that socio-economic status could determine health seeking behavior of the people to be successful TB treatment outcome.[8]

Myanmar is one of low income countries, one of the 22 high-burden countries of tuberculosis, one of 27 multidrug-resistant tuberculosis (MDR-TB) high burden countries and one of 41 TB/HIV high burden countries in the world.[9] Although National Tuberculosis Programme (NTP) is running in 14 State and Regional TB Centers with 101 TB teams at district and township levels, tuberculosis remains one of top leading causes of morbidity and mortality. The prevalence rate of all forms of TB was 525/100,000 population in 2010 and it is the highest among SEA Region in 2010.[3,10] There were a total of 137,403 TB patients (all forms) notified in Myanmar and 42,318 cases of new sputum smear positive in 2010. In Magway region, the total population is estimated at 4,059,582 population and total notified TB cases are 7,253 cases

in 2011.[11] Although the case detection rate was 77% for national level, Magwayregion (45%) was included in lowest five regions for it in 2011.[12] There are five districts in Magway region. There areMagway, Minbu, Pokokku, Gangawand Thayet. In Magway district, there were 2,633 TB notified cases in 2011 which is the highest member in Magway region. Although DOTS strategy have been launched to all townships in 2003, tuberculosis remains as a major public health problem in this area.[9] Magway region is located in central area of Myanmar where is distant from the capital cities.Moreover, most of population in Magway district based on the agriculture and they possessed low socio-economic status as well tuberculosis strikes on the poor and vulnerable group. In this study area, there were no previous documents related with family members of TB patient households although the studies related with tuberculosis were performed among the TB patient groups and at workplace such as industrialized area.

This study aimed to identify the factors affecting the preventive behavior on tuberculosis, and association between socio demographic characteristics, knowledge, perception and preventive behavior on tuberculosis among the family members of tuberculosis patientin Magway region.

Methods

A cross-sectional study was conducted from December 2013 to January 2014 in 370 family members of TB patients' household who were 18 to 65 years old. The multi-stage sampling technique was applied and Magway district where the case detection rate was the highest under Magway region was purposivelyselected.[12] All six townships were included in study area and two wards and ten villages from each township were selected by simple random sampling. The participants from each township were proportionally calculated by using primary data from the hospital. One family member from each TB patient household was randomly selected from each village. The data were collected by face to face interviews by 10 well trained research assistants from University of Community Health (Magway) in coordinating with researcher.

The structured questionnaires were developed based on Health Belief Model (HBM) and composed of five parts: socio-demographic characteristic, knowledge part, perception towards TB, cues to action (TB information), and preventive behavior on tuberculosis. Mean and standard deviation were calculated and used as a cut of point for knowledge, perception and preventive behavior components. The overall score for knowledge and perception parts were categorized into three levels: poor ($<$ mean $-$ SD), fair (mean-SD $\leq$ score$\leq$ mean+ SD) and good($>$ mean + SD). There were 14 items in knowledge part and 15 items in perception part. The score for 8 items of preventive behavior part was classified by two levels: poor ($<$mean) and good ($\geq$ mean).Theunivariate analysis was used to describe descriptive statistics: mean, median, standard deviation, minimum and maximum number, and percentage of each independent and dependent variables. Chi-square tests and simple logistic regression were used for bivariate analysis to identify association between each independent variables and preventive behavior on tuberculosis among the family members of TB patients. Multiple logistic regression using a backward stepwise (wald) method was performed to predict the significant

factors with dependent variable. This study was approved by the Ethical Committee of Mahidol University (MU-SSIRB) and Ethical Committee of University of Community Health (Magway).

Results

A total of 370 participants were collected in this study. Socio-demographic characteristics of respondents are presented in Table 1.

Table 1   Numbers and percentages of socio-demographic factors

Socio-demographic factors	Number	Percentage
Age		
<=43	180	48.6
>43	190	51.4
Mean=43.92, SD=12.775, Min=18, Max= 65		
Gender		
Male	113	30.5
Female	257	69.5
Marital Status		
Single	68	18.4
Current married	260	70.2
Divorced	11	3.0
Widow	31	8.4
Education		
Illiteracy	40	10.8
Primary School	167	45.2
Middle School	87	23.5
High School	53	14.3
University	4	1.1
Graduated	19	5.1
Occupation		
No job	136	36.8
Farmer	151	40.8
Shopkeeper	64	17.2
Private employee	5	1.4
Government staff	9	2.4
Pension	5	1.4
Monthly family income(Kyats)		
<=100000	221	59.7
>100000	149	40.3
Mean= 123235.135, SD=107448.790, Min=20000, Max= 1500000		
Family type		
Nuclear family	295	79.7
Third generation family	30	8.1
Extended family	45	12.2
Family members		
<=5	252	68.1
> 5	118	31.9
Median= 5, QD=1, Min=2, Max= 14		
Number of TB patients		
<2	315	85.1
>=2	55	14.9
Median= 1, QD= 0, Min=1, Max=4		
Duty of respondents		
The person who take care TB patient	317	85.7
The person who don't need to take care TB patient	53	14.3

Regarding with the knowledge about tuberculosis, it was assigned into three levels in which 14.6% were high knowledge level and nearly three fourth of respondents were fair. About half of the respondents (44.9%) knew that the bacteria is causal organism of tuberculosis infection and 30% of participants had right information and knew well that if coughing longs for more than 2 weeks, it would be a highly suggestive symptom of tuberculosis. There was about 15.7% of respondents who had good overall perception level and 255 (68.9%) and 57 (15.4%) had fair and poor perception on tuberculosis respectively. Table 2 showed thelevel of TB preventive behavior, perception on susceptibilities, severities, benefits and barriers towards tuberculosis among the family members of TB patients.

Table 2   Number and percentage of level of preventive behavior, knowledge and perception on TB

Variables	Frequency	Percent
Level of Preventive behavior		
Poor	151	40.8
Good	219	59.2
Mean=11.04, SD=2.993, Min= 4, Max=16		
Knowledge about tuberculosis		
Poor	49	13.2
Fair	267	72.2
Good	54	14.6
Mean=9.04, SD=2.214, Min= 3, Max=14		
Perception on tuberculosis		
Poor	57	15.4
Fair	255	68.9
Good	58	15.7
Mean=58.14, SD=4.423, Min= 46, Max= 71		
Perceived Susceptibility		
Poor	43	11.7
Fair	278	75.1
Good	49	13.2
Mean=16.73, SD= 1.899, Min=10, Max=20		
Perceived severity		
Poor	76	20.5
Fair	252	68.1
Good	42	11.4
Mean=20.26, SD= 2.111, Min=14, Max=25		
Perceived benefit		
Poor	27	7.3
Fair	307	83.0
Good	36	9.7
Mean=11.98, SD= 1.151, Min=9, Max=15		
Perceived barriers		
Poor	56	15.1
Fair	242	65.4
Good	72	19.5
Mean=9.17 , SD= 2.360, Min=3, Max= 15		

All of respondents accessed TB information from government health staffs. 66.5% of respondents got information from television and 15.4% of respondents got information from volunteers in this study. There were no associations between socio-demographic characteristics and TB preventive behavior according to the results of Chi-square test. However, monthly family income which had p-value <0.1 became significant predictor after performing multiple logistic regression.

As shown in Table 3, there was association between knowledge level and TB preventive behavior on tuberculosis (p-value < 0.001). If the respondents had good knowledge level about tuberculosis, they had better TB preventive behavior.

Table 3   Association between knowledge level and preventive behavior on tuberculosis

Knowledge level	Level of preventive behavior				Crude OR	95% CI of OR		p-value
	Good		Poor			Lower	Upper	
	n	%	n	%				
Good	48	88.9	6	11.1	6.784	2.822	16.307	<0.001***
Fair	45	54.3	122	45.7	0.466	0.285	0.762	0.002
Poor	26	53.1	23	46.9	1			

There was no association between overall perception level and TB preventive behavior among the family members of TB patients. As shown in table 4, perception on susceptibilities, severities, benefits and barriers towards tuberculosis didnot associate with TB preventive behavior in this study.

Table 4 Association between perception level and preventive behavior on tuberculosis

Perception level	Level of preventive behavior				Crude OR	95% CI of OR		p-value
	Good		Poor			Lower	Upper	
	n	%	n	%				
Perceived susceptibility								0.822
Good	48	88.9	6	11.1	1.240	0.654	2.269	0.534
Fair	45	54.3	122	45.7	1.021	0.563	1.475	0.705
Poor	26	53.1	23	46.9	1			
Perceived severity								0.937
Good	24	57.1	18	42.9	0.870	0.475	1.741	0.774
Fair	149	59.1	103	40.9	0.943	0.636	1.548	0.972
Poor	46	60.5	30	39.5	1			
Perceived benefits								0.970
Good	22	61.1	14	38.9	1.080	0.540	2.211	0.805
Fair	181	59.0	126	41.0	0.988	0.543	1.644	0.841
Poor	16	59.3	11	40.7	1			
Perceived barriers								0.081
Good	51	70.8	21	29.2	1.821	1.076	3.281	0.027
Fair	136	56.2	106	43.8	0.962	0.447	1.083	0.108
Poor	32	57.1	24	42.9	1			

The study also found that there was no association between TB preventive behavior and sources of TB information. However, the variables such as television, newspapers/magazines and volunteers which had p-value<0.1 were become adjusted variables to predict significant factors for TB preventive behavior. The findings in table 5 showed the significant predictors for preventive behavior on tuberculosis after adjusting with other variables which had p-value less than 0.1. The knowledge level on tuberculosis and monthly family income were significant predictors of tuberculosis preventive behavior (OR= 7.594, 95% CI = 2.588 – 22.021 for knowledge level and OR= 1.853, 95% CI = 1.160 - 2.960 for monthly family income). Family members of TB patients who had good knowledge level on tuberculosis were 7.549 times more likely to have high TB preventive behavior compared to those who had poor knowledge level on

tuberculosis. Besides, the respondents who got more than 100,000 kyats for their monthly family income had more likely to have high TB preventive behavior on tuberculosis than those who got less than or equal 100,000 kyats for their monthly family income.

Table 5   Multiple logistic regression for predictors of TB preventive behavior

Variables	Adjusted OR	95% CI of OR		p-value
		Lower	Upper	
Monthly family income				
>100000	1			
≤100000	1.853	1.160	2.960	0.010**
Knowledge level on tuberculosis				
Poor	1			
Fair	1.127	0.594	2.137	0.715
Good	7.549	2.588	22.021	<0.001***
Perception on barriers				
Poor	1			
Fair	0.910	0.485	1.707	0.769
Good	1.826	0.837	3.983	0.130
Television				
No	1			
Yes	1.492	0.915	2.434	0.109
Magazines and newspaper				
No	1			
Yes	1.397	0.688	2.835	0.355
Person who give TB information (volunteers)				
No	1			
Yes	1.502	0.770	2.930	0.233

Discussion

In preventive behavior on tuberculosis, 59.2% of family members of TB patients had good level of TB preventive behavior. One study from Yangon, Myanmar showed that nearly half of respondents did not delay to take treatment immediately for tuberculosis infection.[13] Over half of respondents among industrialized area in Myanmar could contact for screening to check tuberculosis infection.[14] Although the treatment successful rate by National Tuberculosis Programme reached the target in Magway region (87%), about 40.8% of the family members of TB patient households had still poor preventive behavior on tuberculosis.[12]

Regarding to socio-demographic characteristics of respondents, it was found that the average age was 43.92 years old and the range of age was 18-65 years old. Majority of family members were female

(69.5%). The female respondents were included in these studies by comparing with female proportion (50.56%) of Myanmar in 2011-2012.15Most of respondents were currently married, low educated level (illiteracy, primary school and middle school), farmers and no job people.More than half of respondents were low income group (≤100000 kyats). It was prominently higher than national household poverty rate (21.3%) and 26% of poverty incidence in 2009-2010. These could be revealed that tuberculosis can affect the society of low-socio economic status.[16,17] There was 14.9% of respondents' household which had more than one TB patient. It was higher than the results (6%) studied in Uganda.[18] There was no previous studies concerning with household transmission in this area although the mobile teams of NTP are screening TB infection especially among the contact persons of TB patients.16Because ofonly 14.6% of respondents who had good knowledge on tuberculosis, it could be explained that the knowledge level of respondents in current study was lower than the result of one study in Yangon, Myanmar.[13] It could be explained that people and communities with TB has been lagging behind although advocacy, communication and social mobilization were implemented in the community in Myanmar. Although nearly half of respondents knew about the cause of disease,it was higher than the knowledge of general population of Metro Manila, Philippines and of the non-medical students university of Belgrade.[8,19] Mostly family members knew that smoking is the predisposing factor of tuberculosis and taking medicine regularly, full course from health personnel should be used for cure of TB. These findings were higher than that of general population in Philippines. About one third of respondents knew about coughing more than two weeks which was nearly result with one study in the general population in Serbia.[20] The knowledge about BCG vaccine was nearly the same as Moe Thaw's study (nearly 40%) in Yangon, Myanmar.[13] It could be explained that the knowledge on preventive measured by vaccination was still low although the Expanded Programme on Immunization (EPI) is performing on the whole country.

This study showed that only 22.7% had good level of overall perception on tuberculosis. It was lower than those of one study among Myanmar migrants in Thai (45.3%). Likewise the family members of TB patient household in current study had low knowledge about tuberculosis, they could not change their perception towards tuberculosis because of socio-cultural factors and economic condition of their family. Nearly half of respondents (47.8%) and (5.1%) perceived agree and strongly agree about dismissal from the job if they suffer from TB. It was higher perception than the study in a growing industrialized area in Myanmar (32.9%).[14] Despite of these two differences, the perception about stigmatization which was the effects of severity was noted among the community.

All respondents accepted that tuberculosis lead to be died if it was not treated and it should be cured by taking regularly correct medicine, right dose, correct interval and length of time for treatment while Moe Thaw's study[13] showed that 98% had the perception that early TB treatment could speed up recovery. Therefore, they perceived well on the benefits of the treatment as they could see not only the effects of complication but also those of proper treatment in their surroundings.

Regarding with TB information, all respondents received information from government health staffs. TB information was got from television (66.5%) in current study. It was higher than one study (46.3%) in Yangon, Myanmar and also higher than one study (39.3%) in Philippines.[8,13] TB information was received from newspaper and magazines in only 14.3% of respondents of current study. Likewise, 21.8% of respondents got information from these in Philippines. It could be explained that low education level can reduce their ability to read pamphlet, poster or board. Even though the National Tuberculosis Programme delivered media related with TB and the community could read information sheets, they did not want to read to take information. In this study, there were 18.1% of respondents who got information from friends and neighbors, which is lower than Moe Thaw's study (65.8%).[13] It could be explained that the family members of TB patient household do not want to know other people about the disease which they were infected because they tough about the social isolation and stigmatization.

This study showed that there was no association between socio-demographic characteristics and preventive behavior on tuberculosis. It was contradicted with other studies.[13,20] It could be explained that most respondents in current study had low socio-economic status and tuberculosis is striking to them according to poverty and poor condition of living standard. However, the monthly family income became one of predictors after performing multiple logistic regression by putting the variables under p-value 0.1. Therefore, the respondents who got more family income had more likely to have high preventive behavior than those who got less income for family. One study in Myanmar showed that the people with the financial support by others were more delayed to take treatment because they could not spent money by themselves.[13] The result found that there was significant association between knowledge level and TB preventive behavior (p-value <0.001). There were 88.9% of people who had good preventive behavior among who had good knowledge level and 54.3% and 53.1% had good preventive behavior among who had moderate and low knowledge level on tuberculosis. These results were nearly the same with Moe Thaw's study[13] so the knowledge of the community could influence on their positive behavior.

Multiple logistic regression result showed that knowledge about tuberculosis was significant predictor for TB preventive behavior. Therefore, family members of TB patients who had good knowledge about tuberculosis were more likely to had good TB preventive behavior. The knowledge of respondents could be influenced by their education, occupation and some socio-demographic factors. Health education programme and advisement from mass media could affect to their knowledge.

With regards to perception, there was no association between overall perception level and TB preventive behavior (p-value >0.05). Besides, perception on susceptibilities, perception on severities, perception on benefits and perception on barriers didn't associated with TB preventive behavior in this study. Although about one fifth of respondents in this study had good perception on tuberculosis, over half of respondents among each level of every parts of perception had good preventive behavior on tuberculosis. Therefore, the participants practiced well for TB prevention even though they did not have sufficient knowledge and

perception on tuberculosis. There was also no association between overall perception and preventive behavior on tuberculosis in one study among Myanmar migrants in Thailand.[21] In this study, there was no association between all source of information and preventive behavior on tuberculosis (p-value >0.05). However, television, magazines and newspaper, volunteers which had p-value less than 0.1 were included in multiple logistic regression to predictive associated factors. After performing this test, these sources of information could not become predictors for TB preventive behavior. However, television was contributed to be available TB information to take treatment in Moe Thaw's study.[13] In this study, when the people who are either educated or non-educated in the community watched television or read newspaper and magazines, they wanted to be skip this information part. The cues to action could not influence TB preventive behavior to change their practices.

Recommendations

The result of this study revealed that more than half of respondents had good preventive behavior on tuberculosis and about one sixth of them had good overall knowledge and perception. There was significant association between knowledge level and TB preventive behavior. The income of TB patients' family was significant predictors for TB preventive behavior. Therefore, the knowledge of family members of TB patients could influence to their preventive behavior and the property of TB patient household related with TB prevention because the vulnerable group for TB is low socio-economic society. All of participants got TB information from government health staffs but the media could not influence to gather information for improvement of their behavior on health.

Therefore, it is recommended that Ministry of Health should be extended to the coordination and collaboration with intersectoral organizations to attract the community for information from media which can be got more knowledge about tuberculosis especially about major clinical feature and vaccination for tuberculosis. Health education from media should be strengthened to improve the knowledge level in the community and health volunteers should be considered for TB control programme. Collaboration with supportive agencies should be strengthened to improve the living standard of the community. This study can be applied for TB public health intervention and national control programme for tuberculosis.

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