Journal of Public Health and Development
Vol. 8 No. 3 September - December 2010

Performance of village health volunteers on tuberculosis prevention in Mahachanachai district, Yasothon province, Thailand

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Received, 12 April 2010
Accepted, 30 September 2010

ABSTRACT

Rakwong N, Sillabutra J, Keiwkarnka B. Performance of village health volunteers on tuberculosis prevention in Mahachanachai district, Yasothon province, Thailand. J Pub. Health Dev. 2010; 8(3): 252-64.

A cross-sectional descriptive study was conducted to study the performance of village health volunteers (VHVs) on tuberculosis (TB) prevention in Mahachanachai district, Yasothon province, Thailand. The aims of this research were to identify the performance of VHVs on TB prevention, and independent variables: socio-demographic factors, psycho-social factors, and social support. The relationship between independent variables and performance of VHVs on TB prevention was to identify. There were 315 VHVs in this study and data was collected at Mahachanachai district.

The results revealed that VHVs had high performance on TB prevention (56.51%). The role which most of them performed was to advise the group of TB suspected cases about TB examination and send sputum samples to a health center (97.46 %). Slightly over one-half of VHVs (56.83%) had good knowledge, and over two-thirds of VHVs (69.84%) had high perception towards TB prevention. The majority (76.51%) of VHVs had high social support. Based on categories of social support, the most received support was emotional support, while the least received support was instrumental support. In addition, VHVs received the most support from the family members. Significant associations were found between performance of VHVs and age group, knowledge, and social support including emotional support, informational support, and instrumental support.

The results suggest that VHVs' capacities on TB prevention should be encouraged by providing a regular refresher training course to improve their knowledge about TB prevention, and also social support should be strengthened to VHVs for improving their performance.

Keywords Performance Village health volunteers Tuberculosis Prevention

การปฏิบัติหน้าที่ของอาสาสมัครสาธารณสุขประจำหมู่บ้าน เกี่ยวกับการป้องกันวัณโรคในเขตพื้นที่อำเภอมหาชนะชัย จังหวัดยโสธร ประเทศไทย

บทคัดย่อ

นพพร รากวงศ์ จุฑาธิป ศีลบุตร บุญยง เกี่ยวการค้า. การปฏิบัติหน้าที่ของอาสาสมัครสาธารณสุขประจำหมู่บ้านเกี่ยวกับการป้องกันวัณโรคในเขตพื้นที่อำเภอมหาชนะชัย จังหวัดยโสธร ประเทศไทย. ว.สาธารณสุขและการพัฒนา, 2553; 8(3): 252-64.

การศึกษาแบบภาคตัดขวาง เพื่อศึกษาการปฏิบัติหน้าที่ของอาสาสมัครสาธารณสุขประจำหมู่บ้าน (อสม.) เกี่ยวกับการป้องกันวัณโรคในเขตพื้นที่อำเภอมหาชนะชัย จังหวัดยโสธร งานวิจัยนี้มีวัตถุประสงค์เพื่อบ่งชี้ถึงปัจจัยด้านลักษณะประชากร สังคม และการสนับสนุนทางด้านสังคม รวมทั้งอธิบายถึงความสัมพันธ์ของปัจจัยดังกล่าวกับการปฏิบัติหน้าที่ของ อสม. เกี่ยวกับการป้องกันวัณโรค กลุ่มตัวอย่างในการศึกษาครั้งนี้คือ อสม.จำนวน 315 คน ได้ทำการเก็บข้อมูลที่อำเภอมหาชนะชัย

ผลการศึกษาพบว่า ร้อยละ 56.51 ของ อสม. มีระดับการปฏิบัติหน้าที่ในเรื่องการป้องกันวัณโรคในระดับสูง การแนะนำผู้ที่มีอาการสงสัยว่าป่วยเป็นวัณโรคให้เข้ารับการตรวจและส่งเสมหะไปยังสถานีอนามัยเป็นงานที่ อสม.ปฏิบัติมากที่สุด (ร้อยละ 97.46) อสม. มีความรู้ต่อการป้องกันวัณโรคในระดับดีร้อยละ 56.83 และมีการรับรู้ต่อการป้องกันวัณโรคระดับสูงร้อยละ 69.84 อสม.ได้รับการสนับสนุนทางสังคมระดับมากร้อยละ 76.51 โดยได้รับการสนับสนุนในเรื่องของจิตใจมากที่สุด และในเรื่องของวัสดุอุปกรณ์น้อยที่สุด สำหรับบุคคลที่ให้การสนับสนุน อสม. ในการปฏิบัติหน้าที่ในเรื่องการป้องกันวัณโรคมากที่สุด คือ สมาชิกในครอบครัวของ อสม. ปัจจัยที่มีความสัมพันธ์อย่างมีนัยสำคัญทางสถิติกับการปฏิบัติหน้าที่ของ อสม. เกี่ยวกับการป้องกันวัณโรค ได้แก่ กลุ่มอายุ ความรู้ และการสนับสนุนด้านสังคม ทั้งด้านจิตใจ ข้อมูลข่าวสาร และวัสดุอุปกรณ์

ผลการศึกษาชี้ให้เห็นว่าควรเพิ่มความสามารถของ อสม.ต่อการป้องกันวัณโรค โดยให้มีการจัดฝึกอบรมอย่างสม่ำเสมอเพื่อเพิ่มพูนความรู้ และเพิ่มการสนับสนุนทางสังคมเพื่อให้ อสม.มีการปรับปรุงการปฏิบัติหน้าที่ให้ดีขึ้น

คำสำคัญ การปฏิบัติหน้าที่ อาสาสมัครสาธารณสุขประจำหมู่บ้าน วัณโรค การป้องกัน

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INTRODUCTION

Tuberculosis (TB) is still a major cause of death worldwide. Nearly one-thirds of the global population, i.e., two billion people, is infected with mycobacterium TB and is at risk of developing the disease.[1] Globally, there were an estimated 9.27 million cases of TB in 2007; this was an increasing from 6.6, 8.3 and 9.24 million cases in 1990, 2000 and 2006, respectively.

Thailand has an estimated 90,000 TB cases, and is ranked 18 on the list of 22 high-burden countries worldwide. According to the WHO report 2008, the rate of TB cases in Thailand was 142 per 100,000 population, the incidence of TB smear-positive was 62 per 100,000 population, and the prevalence of all cases was 192 per 100,000 population.[2] With regard to occurrence of pulmonary TB in Yasothon province, the incidence of this disease gradually increased annually, from 49.79 per 100,000 population in 2007 to 68.77 per 100,000 population in 2009. Similarly, in Mahachanachai district, the highest incidence of smear-positive TB was reported in 2001 (143.71 per 100,000 population), and the incidence rate was still high in 2009 (96.28 per 100,000 population).[3] The reason of highly TB incidence was lacking of properly prevention. In recent years, VHVs' performing on TB prevention which are supposed to bring about positive change in TB prevention behavior of people as well as provide opportunity for people to have more surveillance of TB prevention in their communities. It still found inadequately to meet the need of people.[4] In addition, there was no found a research studied about this health problem in Mahachanachai district. Therefore, this research focused on TB prevention performed by VHVs at Mahachanachai district, Yosothon province. Based on theoretical models: Health Belief Model, PRECEDE-PROCEED model and Social Support Theory, socio-demographic factors, psychosocial factors: knowledge about TB prevention, perception towards performing TB prevention, and social support were also taken into account as independent variables. However, many previous studies[5-7] focused on performance of VHVs on other health problems and different activities, and some independent variables also found significant association with performance of VHVs in those studies.

Hence, the aims of this study were to identify the performance of VHVs on TB prevention, and its association with independent variables: socio-demographic factors, psycho-social factors, and social support.

METHODOLOGY

The research have done after getting approval from the ethics committee of Mahidol University Institutional Review Board (COA.No. MU-IRB 2009/303.0112), The population was VHVs, currently working in Mahachanachai district, Yasothon province, Thailand. There were 315 VHVs selected by proportional random sampling technique and data were collected from January to February 2010, using self-administered questionnaires. The self-administered

questionnaire included questions about socio-demographic variables, knowledge on TB prevention, perception towards performing TB prevention, social support, and performance of VHVs on TB prevention. The reliability of the questionnaire was measured by KR20 and Cronbach's alpha. Their values were 0.7558 and 0.6692, respectively. Knowledge on TB prevention was classified into good knowledge, moderate knowledge and poor knowledge according to Benjamin Bloom criteria.[8] Based on Best's Criteria[9], the study variables: perception towards performing TB prevention and social support were categorized into three levels: high, moderate and low. The performance of VHVs on TB prevention was classified into high performance and low performance by using mean criteria. Descriptive statistics were used to describe the distribution of all variables. Chi-square test and Fisher's exact test were used to identify the association between the independent variables and the performance of VHVs at significant level 0.05.

RESULTS

The results obtained from of 315 VHVs. The largest percentage of VHVs (40.63%) was middle age between 35-44 years. Majority of them (83.49%) was females. The great majority of VHVs (92.70%) was married. Slightly two-thirds (67.30%) of respondents had primary education. Farmer was the largest percentage (97.14%) of occupation. Nearly one-thirds of them (30.48%) had duration of working ranging from 1 to 5 years. Majority of VHVs (70.48%) had family monthly income ranging from 1,000 to 5,000 baht.

The result in Table 1 revealed that slightly over one-half of VHVs (56.51%) had high performance scores for TB prevention and 43.49 percent of them had low performance scores.

Table 1 Number and percentage of VHVs by performance level

Level of performance of VHVs	Frequency (n= 315)	%
High performance	178	56.51
Low performance	137	43.49
Mean= 21.59, SD= 5.10, Min= 4, Max= 30		

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The percentage distribution of VHVs by each role of VHVs is revealed in Table 2. The most performed role by VHVs (97.46%) was to advise the group of TB suspected cases for TB examination and sending collected sputum to health center, while to coordinate with health center staff was least performed (86.67%).

Table 2 Percentage of VHVs by roles performance

Roles Performance of VHVs	%
1. Providing health education/health information	95.74
2. Coordinating with health center	86.67
3. Launching an active case finding program	95.24
4. Reporting result/number TB suspected cases	96.19
5. Sending sputum and advising TB suspected cases go to hospital	97.46

Table 3 shows the level of each psycho-social variables. Slightly over one-half of VHVs (56.83%) had good knowledge level, and 39.05 percent had moderate knowledge, only 4.13 percent had poor knowledge. With regard to the level of perception towards performing TB prevention, slightly over two-thirds of VHVs (69.84%) had high perception towards performing TB prevention.

Table 3 Number and percentage of VHVs by psycho-social variables

Variables	Frequency (n= 315)	%
Knowledge on TB prevention		
Good	179	56.83
Moderate	123	39.05
Poor	13	4.13
Mean= 11.52, SD= 1.65, Min= 4, Max= 14		
Perception towards performing TB prevention		
High	220	69.84
Moderate	95	30.16
Low	0	0.00
Mean= 66.32, SD= 5.60, Min= 48, Max= 85		

Table 4 shows the frequency and the percentage distribution of VHVs by level of social support including emotional support, informational support and instrumental support. The result showed that emotional support had the highest (83.17%) proportion of high level among three categories of social support, followed by informational support (76.51%) and instrumental support (44.13%). With regard to source of social support, the great majority of VHVs (91.11%) received social support from family members, followed by local leaders (88.89%), neighbors (87.62%), district health office staff (87.30%), VHVs' club (66.35%) and health center staff (41.90%).

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Table 4 Number and percentage of VHVs by social support

Variables	Frequency (n= 315)	%
Social support		
High	241	76.51
Moderate	62	19.68
Low	12	3.81
Mean= 15.07, SD= 2.12, Min= 7, Max= 17		
Categories of social support		
Emotional support		
High	262	83.17
Moderate	40	12.70
Low	13	4.13
Mean= 6.50, SD= 0.95, Min= 2, Max= 7		
Informational support		
High	241	76.51
Moderate	59	18.73
Low	15	4.76
Mean= 4.56, SD= 0.88, Min= 1, Max= 5		
Instrumental support		
High	139	44.13
Moderate	142	45.08
Low	34	10.79
Mean= 4.00, SD= 1.14, Min= 0, Max= 5		
Categories by source of social support		
Family member	287	91.11
Local leader	280	88.89
Neighbor	276	87.62
Staff in district health office	275	87.30
Health center staff	132	41.90
VHVs' club	209	66.35

The significant associations between performance of VHVs and the independent variables (age group, knowledge, social support, all categories of social support, source support from local leaders, neighbors, health center staff and VHVs' club) are shown in Table 5. The result showed that the highest proportion of high performance on TB prevention (62.50%) was in the age ranging from 45 to 54 years group, while the lowest was in the age less than 35 years. There was found age group significantly associated with performance of VHVs (*p-value*=0.025). The knowledge on TB prevention of VHVs revealed that 59.22 percent of those who had good level of knowledge on TB prevention, had high performance, while 84.62 percent of those who had poor knowledge, had high performance. There was found knowledge significantly associated with performance of VHVs (*p-value*=0.029). The result of social support identified that VHVs who had high social support, had high level of performance with 62.66 percent, compared to those who had moderate and low level of social support (40.32% and 16.67% respectively). The result also revealed significantly associated between social support and performance of VHVs (*p-value* < 0.001). With regard to all categories of social support, it showed that VHVs who had higher level of social support, more likely had high performance, and significant association were found with performance of VHVs including emotional support (*p-value*=0.012), informational support (*p-value*=0.030), and instrumental support (*p-value*<0.001). In addition, the support from local leaders and health center staff were found a significant association with performance of VHVs (*p-value*<0.001), followed by neighbors (*p-value*=0.006), and VHVs' club (*p-value* =0.009).

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Table 5 Factors significantly associated with performance of VHVs

Variables	High performance	Low performance	χ^2	*p-value*
Age group (years)	**(n= 178)**	**(n= 137)**	9.319	0.025*
< 35	39.22	60.78		
35 - 44	60.94	39.06		
45 - 54	62.50	37.50		
> 54	50.00	50.00		
Knowledge on TB prevention			7.107	0.029*
Good	59.22	40.78		
Moderate	49.59	50.41		
Poor	84.62	15.38		
Perception			0.029	0.866
High	56.82	48.18		
Moderate	55.79	44.21		
Social support			18.065	<0.001***
High	62.66	37.34		
Moderate	40.32	59.68		
Low	16.67	83.33		
Emotional support			8.810	0.012*
High	59.92	40.08		
Moderate	35.00	65.00		
Low	53.83	46.15		
Informational support			7.014	0.030*
High	60.58	39.42		
Moderate	42.37	57.63		
Low	46.67	53.33		
Instrumental support			25.511	<0.001***
High	71.94	28.06		
Moderate	35.29	64.71		
Low	46.48	53.52		

Table 5 Factors significantly associated with performance of VHVs (cont.)

Variables	High performance	Low performance	χ^2	*p-value*
Local leaders			15.192	<0.001***
Received	60.36	39.64		
Not received	25.71	74.29		
Neighbors			7.693	0.006**
Received	59.42	40.58		
Not received	35.90	64.10		
Health center staff			16.082	<0.001***
Received	69.70	30.30		
Not received	46.99	53.01		
VHVs' club			6.872	0.009**
Received	61.72	38.28		
Not received	46.23	53.77		

* Significant at *p-value* < 0.05
** Significant at *p-value* < 0.01
*** Significant at *p-value* < 0.001

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DISCUSSION

In this study revealed that slightly over one-half percentage of VHVs had high performance. Some performances have been done sometimes due to VHVs works not only in TB prevention activities, but also in several other fields of public health program. However, the proportion of high performance of VHVs in this study was lower than the results from previous studies.[5-7] The difference results might be that the previous studies did in the difference problem as well as the studying area.

Considering the roles of VHVs, each roles for TB prevention had been performed by VHVs more than 85 percent, and the role which VHVs had the most performing (97.46%) was to advise the group of TB suspected cases for TB examination and sending sputum collection to health center, while the least was to coordinate with health center (86.67%). It might be that they were quite understand about TB prevention process and concerned to public consciousness of their communities. This is supported by the result of knowledge that found VHVs had good knowledge level (56.83%).

Of the seven socio-demographic variables, only age group was identified as significantly associated with performance of VHVs. It might be explained that mature in age of VHVs was an important factors in determining their performance due to the old ones tend to have more experience and more influential as well as responsibility. Many previous studies[10-11] identified significant association between age group and performance of VHVs.

Regarding knowledge on TB prevention revealed slightly over one-half (56.83%) of VHVs had good knowledge level on TB prevention, while 4.13 percent had poor level of knowledge. In addition, the result found that there was significantly associated between knowledge and performance of VHVs. This result was similar to the result of Kongsap S[5], that showed a significant association between knowledge on dengue haemorrhagic fever and prevention and performance of VHVs. Considering in details of VHVs' knowledge, most of VHVs had good knowledge about TB prevention, in terms of people are able to prevent from TB by advising TB patients to cover their mouths while coughing (97.14%). However, the least knowledge about TB prevention (36.19%), was to advise children under 5 years take some TB drugs when one of family members is diagnosed with TB. This reason might be that VHVs were not familiar with this process which mostly tended to operate by health personnel, and the VHVs might be likely think about the Expand Program Immunization (EPI) when mentioned to children under 5 years had illness.

With regard to perception, it showed that 69.84 percent of VHVs had high level of perception towards TB prevention, while 30.16 percent of them had moderate perception. The result no found significantly associated between perception of TB prevention and performance of VHVs. It was similar to the result of Piedad V.[11] that showed no significantly associated between the sense of volunteerism and perfor-

mance of VHVs. VHVs had strongly agreed on improving the understanding of people (46.98%) at more percentage than changing attitude (24.44%) and changing behavior (23.81%). This might be that improving the understanding about TB was easiest activity on TB program whereas, changing behavior and changing attitude were accounted to be difficult and may take long time to success.

With respect to social support, the result found that majority of VHVs (76.51%) had high level of social support, while a few of them (3.81%) had low level of social support. Of the three categories of social support, emotional support was relatively high support for respondents (83.17%), followed by informational support (76.51%), while instrumental support (44.13%). A significant association was identified between social support and performance of VHVs. The result was similar to the study of Ketsophapong B.[7], that there was significantly associated between overall social support and performance of VHVs, and the study of Kaori S.[12] showed significantly associated between performance of peer educators and each category of social support. These reasons might be that emotional support was accounted to be importance feeling, and it was supported by family members, local leaders, neighbors, VHVs' club and health center staff. In addition, emotional support was relatively less expensive quite easier to get it, especially in Thailand culture. In terms of categories by source of social support, the support from local leaders, neighbors, health center staff and VHVs' club were also found significantly associated with performance of VHVs. These reasons might be that VHVs were the member of community and were very closely relationship with local leaders, neighbors, health center staff and VHVs' club, as well as most people in the village always appreciated on their dedication working in the community.

RECOMMENDATIONS

Based on the findings of this research, the recommendations were that VHVs should be encouraged to improve their knowledge about TB prevention by providing regular refresher training. The contents of training course should focus more on eliminating TB germs by opening doors/windows in houses during the daytime, especially in houses with a TB patient, providing more knowledge regarding parents who had children under 5 years to take some TB drugs due to likely a chance to get TB if one family member is diagnosed with TB. Giving feedback comments concerning VHVs working, as well as sharing experience among VHVs were also recommended. Social support should be more encouragement, especially the support from family members. Although VHVs were able to conduct perfectly on their activities, however instrumental support should be paid more attention namely: TB material support and some incentive.

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ACKNOWLEDGEMENTS

The author would like to express sincere thanks to coordinators and all participants of this research in Mahachanachai district.

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