CHAPTER V

CONCLUSIONS, DISSCUSION, AND RECOMMENDATIONS

Dengue hemorrhagic fever is an important health problem in Toongsong District, Nakhon Si Thammarat Province. The number of patients with dengue hemorrhagic fever continues to increase. Village health volunteers are a public organization that work closely with the community members, and they play a significant role to prevent and control dengue hemorrhagic fever including dissemination of information, elimination of the breeding ground of *Adedes aegypti* larvae, and surveillance of performance. However, there are still some problems such as incomplete survey and elimination of breeding grounds of *Adedes aegypti* larvae, incomplete or inconsistent submission of survey reports, inconsistent participation in training on dengue hemorrhagic fever, and insufficient participation in the 'this house is free from *Adedes aegypti* larvae' project. It is believed that if village health volunteers have sufficient role perceptions and understand their needs of support from public health officials or other organizations in the community, they would be better able to solve dengue hemorrhagic fever problems.

The present study aimed at assessing role perceptions of village health volunteers regarding prevention and control of dengue hemorrhagic fever. The sample consisted of 335 village health volunteers in Toongsong District, Nakhon Si Thammarat Province, selected from the population of 1,288. The sample was selected by means of stratified random sampling, and the villages were categorized based on

the reports of dengue hemorrhagic fever in the past three years (2000 – 2002) into two groups. The first was low-risk areas with no more than 50 dengue hemorrhagic fever patients in population of 100,000. Of 23 villages in the low-risk areas, eight were selected. The second group was high-risk areas with more than 50 cases of dengue hemorrhagic fever in the population of 100,000. Of 85 villages in the high-risk areas, 21 were selected. Data were collected by means of questionnaires, and data were analyzed using percentage, mean, standard deviation, Chi-square test, and Pearson's product moment correlation coefficient.

5.1 Conclusion

5.1.1 Demographic characteristics of the sample

According to the study findings, more than three-quarters of the subjects living in low-risk villages (79.5%) and 70.4% of the subjects living in high-risk villages were female. The mean age of the subjects in the low-risk villages was 43.3 years, while that of the subjects in the high-risk villages was 42.06 years. As for marital status, 92.0% and 87.9% of those who lived in low-risk villages and high-risk villages were married, respectively. In terms educational background, 64.8% and 59.9% of those who lived in low-risk villages and high-risk villages completed primary education, respectively. In addition, the majority of the subjects in both groups were agriculturists, accounting for 70.5% and 65.6% in the low-risk villages and high-risk villages, respectively. As regards income, about half of the subjects in the low-risk villages (53.4%) earned 3,001 to 5,000 baht per month, whereas the average monthly income of approximately three quarters of those living in the high-risk village was 3,001 to 5,000 baht.

Besides, regarding duration of being village health volunteers, the mean duration of the subjects in the low-risk villages was 8.05 years, while that of the subjects in the high-risk villages was 8.08 years.

When it came to other positions in the community, approximately two-thirds of the subjects in the low-risk villages (67.0%) did not have other positions in the community, while 57.9% of those living in the high-risk villages did not.

Moreover, more than three-fourths, or 78.4%, of the subjects in the low-risk villages had training about DHF, about 1.39 times per person on average. About the same percentage, or 78.5%, of the subjects in the high-risk villages received such training, accounting for 1.43 times per person on average.

Finally, 83.0% and 85.0% of the subjects in the low-risk villages and high-risk villages did not have history of DHF in the family, including themselves.

5.1.2 Perceptions of village health volunteers regarding prevention and control of dengue hemorrhagic fever

Regarding overall perception of village health volunteers, it was found that those residing in high-risk villages had a higher level of perception than those living in low-risk villages, accounting for 16.3% and 8.1%, respectively.

1. As regards perception of collaboration in the community, most of the subjects, or 82.9%, had a good level of perception, followed by fair and poor levels of perception, which accounted for 8.7% and 8.4%, respectively. In addition, almost 3 in 10 subjects, or 26%, did not have a correct perception about coordination among different groups or clubs in the village, and more than 2 in 10 subjects knew that there needed to be a brainstorming session in the community to plan for operation.

2. As for perception of dissemination of information for cooperation, 60.5% of the subjects had a good level of perception, while 27.2% and 12.3% had fair and poor levels of perception, respectively. However, it was also discovered that 56.7% of the subjects did not have correct perception that they were the persons who were supposed to disseminate knowledge on prevention and control of dengue hemorrhagic fever, and more than 3 in 10 did not have correct perception that they had to take part in giving advice on spraying insecticides to eliminate *Adedes aegypti* mosquitoes and to organize motivational activities.

3. With regard to perception of elimination of the breeding grounds of *Adedes aegypti* larvae, 79.4% of the subjects had a good level of perception, 16.7% had a fair level of perception, and 5.1% had a poor level of perception. Moreover, most of the subjects (89%) knew that they needed to be a role model for community members when it came to prevention and control of dengue hemorrhagic fever. However, it is worth noting here that all of the subjects, or 100%, did not have a correct perception that they needed to inform every household to destroy the breeding grounds of *Adedes aegypti* mosquitoes.

4. Regarding perception of monitoring and surveillance of performance, 79.4% of the subjects had a good level of perception, 14.6% had a fair level of perception, and 6.0% had a poor level of perception. Almost all of the subjects, or 92.2%, knew that they needed to inform public health officials of when the patients were suspected to have dengue hemorrhagic fever and to survey *Adedes aegypti* larvae in their households every week. However, it was noteworthy that almost 2 in 10 subjects did not have a correct perception that they had to record the survey results in the report.

5.1.3 Village health volunteers' performance regarding prevention and control of dengue hemorrhagic fever

As for overall prevention and control of dengue hemorrhagic fever of village health volunteers, it was found that those residing in low-risk villages had a higher level of prevention and control of dengue hemorrhagic fever than those living in high-risk villages, accounting for 62.5% and 46.6%, respectively.

1. As regards perception of collaboration in the community, close to half of the subjects, or 41.8%, had a poor level of performance, followed by good and fair levels of perception, which accounted for 35.2% and 23.0%, respectively. In addition, it was discovered that almost 3 in 10 subjects had a very low level of performance regarding coordination among different groups or clubs in the village, making up 25.1% of the total.

2. As for perception of dissemination of information for cooperation, more than half of the subjects, or 58.5%, had a poor level of perception, while 28.7% and 12.8% had fair and poor levels of performance, respectively. In addition, when it came to dissemination of information to stimulate cooperation, it was found that all of the subjects, or 100%, had a very low performance on giving knowledge to prevent and control dengue hemorrhagic fever, and more than 3 in 10, or 33.7%, had a low level of performance regarding providing for health education materials in the community.

3. With regard to perception of elimination of the breeding grounds of *Adedes aegypti* larvae, 79.4% of the subjects had a poor level of performance, 16.7% had a fair level of performance, and 5.1% had a poor level of performance. Moreover, most of the subjects (89%) knew that they needed to be a role model for

community members when it came to prevention and control of dengue hemorrhagic fever. However, it is worth noting here that all of the subjects, or 100%, did not have a correct perception that they needed to inform every household to destroy the breeding grounds of *Adedes aegypti* mosquitoes.

4. Regarding perception of monitoring and surveillance of performance, 79.4% of the subjects had a good level of perception, 14.6% had a fair level of perception, and 6.0% had a poor level of perception. Almost all of the subjects, or 92.2%, knew that they needed to inform public health officials of when the patients were suspected to have dengue hemorrhagic fever and to survey *Adedes aegypti* larvae in their households every week. However, it was noteworthy that almost 2 in 10 subjects did not have a correct perception that they had to record the survey results in the report.

5.1.4 Relationships among factors related to perception of village health volunteers

There were three factors which were associated with the perception of village health volunteers regarding prevention and control of dengue hemorrhagic fever with statistical significance at the 0.05 level. They were gender, income, and previous training.

5.1.5 Relationships among factors related to performance of village health volunteers

There were four factors that were related to the performance of village health volunteers regarding prevention and control of dengue hemorrhagic fever with

statistical significance at the 0.05 level. They were occupation, income, previous training, and type of village.

5.1.6 Relationship between perception and performance of village health volunteers regarding prevention and control of dengue hemorrhagic fever

Village health volunteers' perception was positively associated with their performance to prevent and control dengue hemorrhagic fever, both on the overall and in each aspect ($p < 0.01$).

5.2 Discussion

This study aimed at investigating perception regarding prevention and control of dengue hemorrhagic fever in Toongsong District, Nakhon Si Thammarat Province. The discussion of the study findings is divided into four parts: village health volunteers' role perception regarding prevention and control of dengue hemorrhagic fever, factors related to village health volunteers' role perception, village health volunteers' role performance, and the relationship between role perception and role performance of village health volunteers.

Village health volunteers' role perception regarding prevention and control of dengue hemorrhagic fever

At present, dengue hemorrhagic fever which has mosquitoes and insects as its carrier has increased in severity. This is because new strains of the virus has developed. Thus, attempts to prevent and control dengue hemorrhagic fever requires determination from all parties involved. As dengue hemorrhagic fever is considered a major health problem in the community, there needs to be cooperation from different

parties to prevent and control the disease. For this reason, village health volunteers' perception regarding prevention and control of dengue hemorrhagic fever is regarded as a major factor which can make the community free from dengue hemorrhagic fever as they work most closely to the community members. Perception is a mental and cognitive process which reflects individuals' understanding and awareness of what surrounds them, which is then developed into attitudes and subsequently behaviors of the individuals. When the perception process ends, individuals make decisions and assess the outcomes, and then they adopt the behaviors about which they have decided (Sangsuwan, 1989). In this study, it was found that most of the subjects had a fair to good level of perception, with 72.7% having a good level of perception, 17.1% a fair level of perception, and 32.2% a poor level of perception.

Factors related to role perception and performance of village health volunteers

Gender

It was found that gender was associated with role perception of village health volunteers regarding prevention and control of dengue hemorrhagic fever. This finding was consistent with the finding of Chuleeporn Chawangsaksopak (1998) who investigated perception of Western societies of teenagers and found that gender was associated with perception of Western societies. This could be explained that males and females are generally different, not only in terms of mentality but also in terms of work performance. Likewise, Sanchan Sutipanviharn (1996) found that gender was a factor affecting acceptance of categorization of garbage in condominiums in Bangkok Metropolis.

Also, males were found to have a higher level of perception than females. This may be explained that male village health volunteers had more chances to meet and talk to villagers and community members during different social gatherings and occasions, so they had a better perception of collaboration in the community.

Age

The findings of the present study revealed that age was not related to perception and performance of village health volunteers to prevent and control dengue hemorrhagic fever. Such finding was in congruence with the finding of Sumate Thippayachat (1990) that there was no relationship between age and work performance. However, the finding disagreed with the findings of Preeyaporn Wonganutroj (1992), Amporn Chantaraksa (1993), and Apassara Wongsampan (1995) that age was found to be associated with work performance.

Marital status

According to the study findings, marital status was not associated with perception and performance of public health volunteers to prevent and control dengue hemorrhagic fever. Similarly, Sumate Tippayachat (1990) found that there was no relationship between marital status of public health staff of health centers in Phitsanuloke Province and performance outcomes. However, contradictory findings were reported by Tassanee Srichan (1985) and Jeerapa Pinyosap (1989) who conducted a study with heads of health stations in Lampang and Udon Thani Provinces and found that there was a positive relationship between marital status and work performance.

Occupation

It was discovered that occupation was not associated with perception of village health volunteers, but occupation was related to performance of village health volunteers to prevent and control dengue hemorrhagic fever. Similar findings were reported by Montri Duangprueksa (1998) who investigated the opinions of members of Tambon Administration Organization on participation in management of forest resources. The findings showed that members of the TAO who had different occupations did not have different opinions toward management of forest resources. Likewise, Chatchai Tosinthiti (1986) found that members of the House of Representatives who had different occupations before being elected were not different when it came to attitudes toward social, cultural, and economic effects of establishment of casinos in Toongkularonghai Area.

Duration of being village health volunteers

The study findings suggested that duration of being village health volunteers ws not associated with perception and performance of village health volunteers to prevent and control dengue hemorrhagic fever. Plengpin Manyu (1997) found that knowledge and practice about environmental problems of members of Tambon Administration Organization were not related to duration of residence in the community. Similarly, Montri Duangpreuksa (1998) found that members of Tambon Administration Organization who had different duration of residency did not have different opinions toward management of forest resources.

Other positions in the community

The study findings indicated that there was no relationship between position in the community and perception and performance of village health volunteers to

prevent and control dengue hemorrhagic fever. However, this finding was in contrast to the finding of Naris Khamnurak (1995) who reported that people who were members of a social group had more participation in rural development than those who did not belong to any group. In addition, Thianchai Burapachanok (1989) studied participation of the community in sanitary activities in fundamental public health self-dependent villages in Rayong Province and found that the subjects who had a title or position in the village had more participation in community participation. Finally, Somsak Kulsarawut (1997) investigated readiness of community members to conserve water resources and found that those who were village committee members had more knowledge about water conservation than those who were not committee members.

History of illness with dengue hemorrhagic fever

The findings revealed that there was no association between history of illness with dengue hemorrhagic fever and perception and performance of village health volunteers to prevent and control dengue hemorrhagic fever. On the contrary, Monjira Thamangraksat (2002) found that illness experience was associated with perception of contagious diseases which were new problems. Also, Yukolthorn Thongrat (1997) reported that the study subjects who had a long history of illness had better perceived health status than those in other groups.

Previous training

According to the findings, village health volunteers with different backgrounds in training had different role perceptions. In other words, those who had undergone training had a higher level of perception than those who had not. This maybe because training provides participants with a chance to have academic and

professional development, and it also enables them to receive correct and accurate information from a reliable source.

Income

Income was found to be associated with role perception of village health volunteers regarding prevention and control of dengue hemorrhagic fever. Likewise, a study conducted by Division of Health Education, Ministry of Public Health (1978) with village health volunteers in Samerng District, Chiang Mai Province, revealed that village health volunteers who had a good financial status were more willing to dedicate their time to work for the community members than those who were not as well to do. One plausible explanation is that village health volunteers who were well to do had more time to perform their roles as they did not have to concentrate on earning more income to support their families. On the contrary, Sanya Khaosawang (2000) investigated the perception and performance of developers to support Tambon Administration Organizations in Samut Songkram Province and reported that income of the members of the Tambon Administration Organizations was not associated with their performance.

Role performance of village health volunteers regarding prevention and control of dengue hemorrhagic fever

The findings showed that close to three-quarters of the subjects, or 72.7%, had a poor level of role performance. It is worth noting that all, or 100%, of the subjects had the perception that dissemination of knowledge of dengue hemorrhagic fever is very crucial; however, all of them had a very poor level of performance when it came to this. At the same time, village health volunteers were responsible for acquiring

health education materials, abate sand, and fish that fed on mosquito larvae for the community. They were also in charge of eliminating the breeding grounds of mosquito larvae in temples, schools, and infant development centers every week. However, their performance was still at a poor level. This may be because these activities were too difficult for village health volunteers to carry out alone and they needed cooperation from different groups or clubs in the village. Besides, there were other local agencies that also perform the aforementioned activities such as health centers of the Tambon Administration Organization, infant development centers, etc.

Differences between perception and performance of village health volunteers in high-risk villages and low-risk villages

According to the study findings, village health volunteers living in high-risk villages had a higher level of perception and performance to prevent and control dengue hemorrhagic fever when compared to those living in low-risk villages. A review of literature revealed that there was no study carried out to compare the differences in villages. However, this finding could be explained that due to the epidemiology of dengue hemorrhagic fever which becomes widespread every other two years, village health volunteers who lived in the villages where there was no spread of dengue hemorrhagic fever tended to lack necessary awareness to prevent and control the disease as they should have.

Relationship between role perception and role performance of village health volunteers regarding prevention and control of dengue hemorrhagic fever

Role perception was found to be associated with role performance of village health volunteers regarding prevention and control of dengue hemorrhagic fever. According to the study findings, village health volunteers' role perception was higher than role performance. One possible explanation is that they did not receive sufficient cooperation from the villagers. In addition, the demographic characteristics of the community may pose obstacles to their operation, and not all village health volunteers received support in the form of abate sand. Thus, their performance was not at a good level. Similar findings were reported by Pavinee Pengsart (1986) who investigated role perception of village health volunteers in the rural areas in Muang District, Khon Khan Province. She found that village health volunteers' role perception affected their role performance. Likewise, Chatsuda Chinprasartsak (1997) carried out a study to explore role perception of health education teachers in elementary schools in Lopburi Province and discovered that these teachers' role perception was higher than their role performance.

5.3 Recommendations

Based on the findings of this study, the following recommendation could be made:

1. The findings indicated that most of the village health volunteers' role perception was at a good level, but their role performance was at a poor level. As a consequence, consistent and continuous training need to be provided to particular groups of village health volunteers with a low level of performance such as female village health volunteers and village health volunteers who were not agriculturists, etc.

2. The findings also suggested that the role performance of village health volunteers regarding prevention and control of dengue hemorrhagic fever was still at a poor level. This indicated that some activities to prevent and control dengue hemorrhagic fever may be too difficult for village health volunteers to carry out alone such as organizing motivational activities, providing health education materials about dengue hemorrhagic fever, and coordinating with different groups or clubs in the village. Thus, cooperation from public health officials and from different agencies is needed to enable village health volunteers to better perform their tasks.

5.4 Suggestions for Further Study

1. Similar studies should be conducted with other individuals and organizations in the community that also play a significant role in preventing and controlling dengue hemorrhagic fever such as community leaders, teachers, students, religious leaders, etc.

2. Studies should be carried out to investigate and evaluate the performance of public health officials in preventing and controlling dengue hemorrhagic fever.

3. Studies should also be conducted to further explore village health volunteers' perception of severity of the disease, risks of the disease, and perceived benefits of action.

4. Comparative studies should be carried out to compare role perception and role performance of village health volunteers in the municipality and in rural areas to better determine the roles of village health volunteers in each area. Studies may be conducted in other districts for comparison as well.