



CHAPTER V

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

This study evaluates the youth empowerment against dengue haemorrhagic fever project in primary schools located in Klongthom Neua Sub-district, Klongthom District, Krabi Province and aimed to investigate knowledge, attitudes and practices of students grade 3rd -6th of the primary school regarding DHF prevention and control.

5.1 Discussion

In term of the demographic data of the teachers; 75% of the teachers implementing activities for DHF prevention and control in primary schools located in Klongthom Neua Sub-district, Klongthom District, Krabi Province were female and 25% were male. Most of the respondents were in the age range of 23-54 and had teaching experiences from 1-34 years. Seventy five percent of the respondents were married and 25% were single. In addition, almost all of them (91.7%) graduated with a Bachelor's degree and 8.3% held a Master's degree.

General information about the youth empowerment against DHF project is the basic information which teachers should be informed and they should understand. Results showed that 100% of the teachers were aware of the project in schools and could answer that the project had started in 2003. All of the teachers implementing activities in the project (100%) could give accurate information about the project's objectives. This is consistent with Naranon's study (2003) which revealed that 70.2%

of teachers were aware of the DHF prevention and control in schools and 70.9% understood the project's objectives.

Regarding DHF prevention and control training programs organized by supervisory organizations and public health personnel, 41.7% said there were such trainings for teachers. They thought responsible divisions or organizations on DHF should arrange training programs for teachers in charge of student's health. Acquiring knowledge about DHF prevention and control is crucial for their work performances because if teachers do not have knowledge and good understanding about DHF, they may not be able to pass on accurate information about DHF to students. Regarding teacher's experiences in teaching DHF, 91.7% of the teachers had prior experiences teaching DHF and they could give a correct answer that public health divisions were in charge of health issues in schools. The fact that teachers personally knew and had good relationships with public health personnel in their area would yield positive results for their joint work or coordination and it would be easier to request for more effective cooperation.

In terms of the coverage and continuation of the project teaching/learning activities; All of the teachers (100%) taught target populations which were students of grade 3rd – 6th. In addition, it was found that six out of twelve teachers participating in the youth empowerment against DHF project had few problems or did not have any problem (41.7%) and 8.3% said they had some problems at the moderate degree. Most of them in the schools selected in this project responded that they did not have enough teaching equipment and materials as well as technical knowledge and this is consistent with Naranon's study (2003) which found that school teachers did not have enough support on teaching materials, chemical substances and technical knowledge

about DHF prevention and control. However, they did not have a teaching manual for DHF prevention and control. Responsible public health personnel for health promotion in schools should support the manuals for teachers in all schools, so that they could make use of the manual to develop their teaching plans to cover contents and activities to survey and eliminate larval breeding sources. In addition, results of the study pointed out that teachers themselves conducted surveys and made efforts to eliminate the breeding sources; 100% of them applied physical preventive measures; 100% used chemical measures and 52.8% applied biological measures. Activities which assigned students to conduct surveys and eliminate larval breeding sources at home were achieved at 83.3%. It was indicated that the coverage of the project implementation was 91.7%.

For teachers' opinions towards problems and obstacles in implementing activities on DHF prevention and control, 40.7 % of the teachers said they faced problems while implementing activities in this project. Considering each of their problems. In addition, it was found that six out of twelve teachers participating in the youth empowerment against DHF project had few problems or did not have any problem (41.7%) and 8.3% said they had some problems at the moderate degree. Most of them in the schools selected in this project responded that they did not have enough teaching equipment and materials as well as technical knowledge and this is consistent with Naranon's study (2003) which found that school teachers did not have enough support on teaching materials, chemical substances and technical knowledge. It found that only 40% PH teachers and officials involved in the DHF project were trained on practical skills; such as, surveying breeding sites.

In this study, students of grade 3rd-6th were the research populations. Ninety percent of them completed the pre- and post-training questionnaire. The evaluation (pre-post testing) of the knowledge attitude and practices of the students under the “Youth Empowerment Against DHF Project” were as the following;

Knowledge about DHF prevention and control; the mean score of the pre-training period was 6.93 and the post - training mean score was 9.72. It was found that their knowledge improved after the training which is similar to a study by Mungklasiri et al. (2003) which concluded that knowledge about DHF prevention and control among the research populations increased after the training.

Here are the results of the general knowledge prior to the training;

- High (60-77%) on DHF virus, *Aedes*, habitat, seasonality, and three specific preventive measures. These findings are probably due to the fact that some previous training programs had been organized by PH teachers and staff members of the schools.
- Low (43%) on generic existence of preventive measures. Students, however, knew very well about three specific preventive measures (sand, fish and washing containers). The inconsistent replies might be due to poor phrasing of the questions.
- Low (44-50%) on DHF knowledge among students of the 0-14 age group, symptoms and care for DHF.
- Very low (14-25%) on *Aedes* daylight biting and sand effectiveness within 3 months

These findings are probably due to ineffective training by PH trainers but time was not available to make any observation or interview with trainers to validate this hypothesis.

These findings are found in other schools located in Klongthom district.

After the training, the results of the general knowledge were as follows;

- Much higher (60% or more) on daylight biting and sand effectiveness in 3 months
- Higher (15% or more) on DHF age group, symptoms, care, generic prevention, fish and cleaning containers A bit higher (less 15%) on virus, habitat, season and sand filling
- Minimally decreased (0.7%) on *Aedes* carrier of DHF

The increased knowledge was correlated to the pre-training situation. The lower the pre-training knowledge was, the greater the increase in the post-training became.

The decrease of '*Aedes* vector' knowledge of 0.7% was not statistically significant ($P > 0.05$) and this was consistent with Naranon's study in 2003. In addition, it was found that teachers faced several problems in implementing the youth empowerment against DHF project in the 3rd-6th grade of the primary schools and they specifically mentioned the lack of teaching materials; such as, posters and DVD to support their work. These problems occurred more often in the pre-training period than the post-training.

However, time was not available to make observation and interview with PH trainers to validate this hypothesis. Attitudes towards DHF prevention and control;

the score of the positive attitudes in the pre-training period was 26.10 and it slightly increased to 26.74% after the training. For the attitude assessment part, following questions measured knowledge of the students rather than their attitudes: DHF is a fatal disease, restricting and checking for the availability of potential breeding habitats should be conducted 1-2 times per year and chemical fogging to kill mosquitoes is the best DHF preventive measure. On the other hand, these following questions measured the attitudes of the students; DHF project was valuable and useful, DHF prevention was everybody's responsibility and they all should be rewarded and DHF preventive activities were a waste of time.

Practices in DHF prevention and control; Results showed that after the training, students' performances in DHF prevention and control were significantly improved (pre-training = 3.37 and post-training = 3.93). Results showed a statistically significant difference on students' knowledge and practices on DHF prevention and control between the pre and post training periods ($p < 0.05$). Regarding the practice, prior to the training, 70.4% of the students conducted a survey on larvae breed but the number decreased by 3.7% to 66.7% after the training. It is recommended that activities on DHF prevention and control should be regularly organized to provide knowledge for students, so that they learn more and can eventually change their behaviors and have positive attitudes towards the DHF prevention and control. Prior to the training, it was found that positive attitudes were rated at 26.10% and it increased to 26.74% after the training which is similar to Mungklasiri's study (2003) which indicated that students' positive attitudes increased afterward, so teachers should pay extra attention in arranging continuous teaching and

learning process for students, so they can apply what they have learned into practices in their lives.

Four out of eight DHF preventive activities were not improved after the training. Its may be due to the fact that the training did not sufficiently emphasize on activities and practices and mostly concentrated on giving DHF knowledge to the students. Training on activities must include practical applications of the following skills

- ‘Functional skills’; such as, mixing larvicide with water correctly
- ‘Life skills’; such as, making the decision to change water in flower vase every 7 days

According to responses of the students in these three schools located in Klongthom Nuea Sub-district, Klongthom District, they said that, prior to the implementation, they had not been given any explanation or instruction about the importance or advantages of using a form to record their survey of *Aedes* breeding sites from resource persons. Other schools in Klongthom District provided some learning opportunities for students but mainly focused on giving DHF knowledge rather than training students to conduct the survey.

Factors related to Knowledge Attitude and Practice towards DHF prevention

and controlThe statistical analysis has shown a correlation between positive attitudes with sex, age and grade. Regarding the correlation between sex, age and grade with attitudes of students towards DHF prevention and control, results revealed significant differences at $p < 0.05$ and this was consistent with Naranon’s study in 2003. This may be due to the following facts; Girls are usually more concerned about the health

than boys. However, the statistical analysis did not show a correlation between knowledge, practice and any of these factors; sex, age and grade.

5.2 Conclusions

This research was implemented in 3 schools located in Klongthom District and conducted an evaluation on the following aspects;

- The Youth Empowerment against DHF project
 - o Roles of PH teachers in the project
 - o Surveys of *Aedes* breeding sites conducted by students
- Changes of students' KAP in the pre and post training periods. The one hour training program was conducted by the researcher

The project was partly successful in mobilizing PH teachers and students, but the project effectiveness was affected by insufficient informational materials and training methods and replacement of drop out teachers.

The researcher's training program was partly successful in improving the students' knowledge about DHF but it did not improve their attitudes and practices.

5.3 Recommendations

For school directors or supervisory organizations

1. An introductory meeting should be organized to present policies and objectives of the project to all teachers involved in the project.
2. A course on DHF project should be arranged for PH teachers who have yet to take the course.
3. Public health staff and school administrators should develop an integrated curriculum covering contents on DHF and students are required to take an

examination on this subject. Additional points should be given to students who conduct a survey of *Aedes aegypti* breeding sites and those points should be accumulated for the final grading in life skills course in the curriculum.

4. Rewards; such as, public recognition and certificates, should be given to students who actively participate in PH prevention activities (e.g. survey and cleaning of *Aedes aegypti* breeding sites).

For school PH teachers and PH officials teaching in schools

1. PH trainers should conduct a pre-test on KAP of students before teaching about DHF in order to focus the teaching on gaps identified with the pre –test
2. Given the widespread negative attitudes of students towards DHF prevention, trainers should include in their courses activities that change and improve their attitudes; such as, role play, storytelling, etc.
3. In training students with limited DHF knowledge or those who have yet to undertake the process of the survey, control and elimination of mosquito breeding sites, trainers should design and implement simple activities to train them to be able to survey, control and eliminate the breeding sites. In addition, trainers should monitor their performances and developments on the following skills;
 - Functional skills; such as, practicing mixing larvaecide with water correctly
 - Life skills; such as, ‘decision making’ about surveying and keeping clean water containers around the school

For future research studies

1. The evaluation of youth empowerment against DHF project should be conducted at provincial and district levels.
2. Opinions of school directors towards the youth empowerment against DHF project should be explored.
3. Community participation in the project should also be evaluated.
4. To help understand the findings of this kind of research, the quantitative data obtained from questionnaire-based surveys should be integrated with qualitative data from the focus groups discussion, in-depth interview and observations.