



CHAPTER IV

RESULTS

This research study concerned the evaluation of youth empowerment against DHF project in primary schools located in Klongthom Neua Sub-district, Klongthom District, Krabi Province. The study investigated the project coverage, continuation and problems or obstacles which hindered the 3rd-6th grade teachers' performances in implementing this project. In addition, it also explored knowledge, attitudes and DHF prevention and control practices of 270 students at grade 3rd –6th of primary schools. Research tools of this study were an interview guideline for the teachers, a questionnaire for the students in Klongthom Neua Sub-district, Klongthom District, Krabi Province. Time duration of this study started from May-October 2006. After the data collection, using these three research tools, the researcher categorized the data analysis into three sections as follows;

1. Data of teachers
2. Data of students

4.1 Data of teachers

Part 1 Demographic data of the teachers; use percentage.

Part 2 General information about the youth empowerment against DHF project in primary schools; use percentage.

Part 3 Data about opinions towards problems in implementing the youth empowerment against DHF project; use percentage.

4.1.1 Demographic data of teachers

This research study aimed to evaluate the coverage and continuation of activities in the project and identified problems or obstacles which hindered the project implementation by interviewing twelve teachers who were involved in the implementation of the youth empowerment against DHF project with students at the 3rd- 6th grade of the primary school.

Demographic data of teachers (sex, age, marital status, educational background, work experience as governmental teachers, current job post and monthly income)

The followings are results of the study regarding the demographic data of the teachers;

Sex; three-fourths of the respondents were female against male.

Age; seven of the respondents were aged below 45 and five were over 45.

Marital status; the results found that three-fourths of the respondents were married.

Educational background; eleven of the respondents graduated with a Bachelor's degree and one with a Master's degree. The total number of all of the respondents was twelve.

Work experience as the governmental teacher; the average number of years serving as the governmental teacher was 16.5. The least number of years as the teacher was 1 and the highest was 34.

Regarding the current job post, 9 people were teachers and educational staff level 2 (75%), followed by level 1 (1 person or 8.3%), level 3 (1 person or 8.3%) and temporary teacher post (1 person or 8.3%).

The average monthly income was 17,579 baht. The lowest amount of the monthly income was 7,260 baht and the highest was 34,000 baht.

Table 1: Work experiences serving as teacher in the government sector

Work experiences in the government sector (years)	Frequency
0-5	2
6-10	2
11-15	2
16-20	2
21-25	1
26-30	2
31-35	1
Total	12

Work experiences serving as teacher in the government sector

Four respondents served as a teacher in the government sector for less than 10 years; 4 respondents for 11-20 years; 3 respondents for 21-30 years and 1 respondent for over 31 years.

Current job post; Three-fourths of twelve respondents were teachers.

4.1.2 General information about the youth empowerment against DHF project

One hundred percent of the respondents were aware of the project and could give a correct answer of the year when the project was firstly launched.

Knowing about the project and the project's objectives

Based on the survey with twelve teachers, one hundred percent of them were aware of the project and understood the project's objectives.

DHF prevention and control training

Regarding the training on DHF prevention and control, results showed that less than half of the teachers (41.7%) had ever attended the training before.

This table presents the percentage of teachers' general information concerning the youth empowerment against DHF project

Regarding the DHF prevention and control training, were 5 (41.70%) of the respondents passed the training while 7 (58.3%) did not attend the training.

Table 2: Training on DHF prevention and control

Training	Frequency	Percentage
Did not attend the training	7	58.3
Attend the training	5	41.7
Total	12	100.0

Teaching experiences on DHF

Additionally, results revealed that 11 teachers had teaching experience on DHF (91.7%) and only one teacher did not (8.3%).

Coverage

Percentage of teachers completing the questionnaire categorized by teaching/learning activities

All of the twelve teachers completed the questionnaire.

Frequency of teaching

All of the twelve teachers who completed the questionnaire taught DHF to students once a week and each session took approximately one hour.

Continuation**Surveys of larval breeding sources in schools**

Results showed that 83.3% of the respondents conducted the surveys of larval breeding sources in schools 1-2 times per month and the rest 16.7% did not.

Table 3: Teachers' opinions towards problems in implementing the youth empowerment against DHF project

Type of problems	No problem (%)	Low level (%)	Moderate level (%)	High level (%)
1. Lack of an introductory meeting to present policies and objectives of the project implementation to the teachers.	41.7	50.0	8.3	0
2. Lack of implementation planning; such as, making learning schedules.	66.7	25.0	8.3	0
3. Shortage of teachers who can organize activities.	75.0	16.7	8.3	0
4. Lack of cooperation	83.3	8.3	8.3	0
5. Lack of knowledge and understanding about implementation of activities.	66.7	16.7	16.6	0
6. Support on materials and equipment for DHF prevention and control in schools.	50.0	41.7	8.3	0
7. Implementation of activities on DHF prevention and control	66.7	25.0	8.3	0
8. Monitoring and support by school directors	75.0	25.0	0	0
9. Supervision and monitoring of health personnel who are in charge of the area	75.0	16.7	8.3	0

Results on problems in implementing the youth empowerment against DHF project were as follows; lack of an introductory meeting with teachers to present policies and objectives of the project, no problem at all (41.7%); having few problems (50% at the low level of problems) and having problems at a moderate level (8.3%

Support on materials and equipment in DHF prevention and control; 50.9% of the respondents thought there was no problem; 41.7% responded that there were few problems and 8.3% replied that there were problems at a moderate level.

Problems in implementing the project and recommendations

Teachers had high teaching workloads and also were assigned to do so many other tasks. Additionally, no public personnel were available to supervise and monitor students' surveys.

Recommendations: public health personnel should be assigned to regularly follow-up and supervise surveys and attempts to get rid of larval breeding sources which would be conducted by students. In addition, DHF prevention and control training programs should be organized for staff responsible for DHF.

Table 4: The percentage of teachers' attitude towards problems in implementing the youth empowerment against DHF project

Level of problem	Frequency	Percentage
None	5	41.7
Low level (few problems)	6	50.0
Moderate level	1	8.3
High level	0	0
Total	12	100.0

Factors which may be correlated with the coverage and continuation of teachers' performances in implementing the youth empowerment against DHF project

4.2 Data of students

Data analysis was conducted as follows;

- Demographic data of students; use percentage.
- Knowledge about DHF, use percentage and mean.
- Data on attitudes towards DHF, use percentage and mean.

- Data on practices for DHF prevention and control, use percentage.
- Analysis and comparison of data on knowledge, attitudes and practices on DHF prevention and control in the pre and post training periods, use Chi-square test and t- test.

Demographic data of students

The total number of students who completed the questionnaire was 270 and results on their demographic data analysis (sex, age groups and current status as the student) are presented as follows;

Sex: 50.4% of the students were male and 49.6% were female.

Age; Based on the results, it was found that the average age of the students was 10.5 years (standard deviation = 1.2) and the youngest was 8 years old while the oldest was 13. Students aged 10 were the majority (28.5%), followed by 12 years old (25.9%) and 9 years old (21.9%).

Table 5: The percentage of students completing the questionnaire, categorized by their demographic data

Sex	Frequency	Percentage
Male	136	50.4
Female	134	49.6
Total	270	100.0

Age	Frequency	Percentage
8-9 years	65	24.1
10-11 years	126	46.66
12-13 years	79	29.24
Total	270	100.0

Knowledge about DHF fever prevention and control

Each question in the completed questionnaires were analyzed and categorized into two sections; one was the general knowledge about DHF and the other was the knowledge on surveys and elimination of larval breeding sources. Below are results found from the study concerning knowledge of the students;

General knowledge about DHF

Results revealed that the students had the general knowledge at the mean score of 6.93 and 77.4% of the students could correctly answer this question “*Aedes aegypti* are the carrier of the DHF” which had the highest score compared to other questions and the question “*Aedes aegypti* tend to bite people during the day” gained the lowest score among the students for the number of correct answer at only 13.3%.

Table 6: The frequency and percentage of questions in the general knowledge category which students could provide correct answers in the pre- post training period

General knowledge category	Pre-training		Post-training	
	No. of correct answers	Percentage	No. of correct answers	Percentage
1. DHF is caused by virus.	189	70.0	189	70.0
2. The carrier of the DHF is the <i>Aedes aegypti</i> .	209	77.4	207	76.7
3. <i>Aedes aegypti</i> . tend to bite People during the day.	36	13.3	52	19.3
4. <i>Aedes aegypti</i> . usually lay their eggs in clear standing water in a container.	158	58.5	125	46.3
5. DHF frequently occurs in young children.	121	44.8	118	46.3
6. DHF often occurs in the rainy season.	176	65.2	193	71.5
7. People with DHF usually have high fever, Feeling of nausea or vomit and have rashes or bleeding spots on their body.	137	50.7	126	46.7
8. Students will be able to suggest or understand what they should do when they come across with someone with DHF symptoms.	136	50.4	134	49.6
9. Preventive measures can help reduce the outbreak of DHF.	117	43.3	148	54.8
10. Abate sand can be beneficial in killing the mosquito larvae.	190	70.4	168	62.2
11. Abate sand, if put in the standing water, can help prevent the mosquito breeding for 3 months.	68	25.2	102	37.8
12. Putting guppy fish in a water container in order to kill the mosquito larvae for the mosquito control.	170	63.0	146	53.3
13. Stored water containers/ tanks for drinking without being covered should be cleaned every 7 days.	163	60.4	150	55.6

Table 7: Activities on DHF prevention and control for students pre- post training period

Activities	Pre-training		Post-training	
	No. of correct answers	Percentage	No. of correct answers	Percentage
1. Flower vases with standing water and fresh flowers/ plants	131	48.5	180	40.4
2. Buckets/ jars/ pots/ tanks of drinking water	156	57.8	130	48.1
3. Water containers in the bathroom or Toilet	130	48.1	117	43.3
4. Plant saucers	61	22.6	69	25.6
5. Lotus basins or reservoirs	110	40.7	123	45.6
6. Base plates of kitchen cabinets	76	28.1	97	35.9
7. Accumulated water in old tires	146	54.1	135	50.0
8. Discarded bottles, plastic bags and fruit shells	95	35.2	111	41.1

Knowledge about DHF

The average score for students was 26.74 and the larval breeding source which the students could answer the most was buckets/ pots or tanks for drinking water (57.8%) and plant saucers had the lowest score of correct answers by the students.

Regarding knowledge on DHF prevention and control, here are questions which were answered by the students and scored less than 50%; flower vases (48.5%), water containers in the bathroom or toilet (48.1%), lotus basins or reservoirs (40.7%), discarded bottles, plastic bags and fruit shells (35.2%), base plates of kitchen cabinets (28.1%), plant saucers (22.6%) and buckets/ pots or tanks for drinking water (57.8%) and old tires with standing water (54.1%) were the only two questions which scored over 50%.

Table 8: Pre-test Data on Students' Attitudes towards DHF Prevention and Control

Activities	Agree	Not sure	Disagree
1. DHF is a fatal disease.	76.7	21.9	1.5
2. DHF prevention is our responsibility.	72.2	21.1	6.7
3. Restricting and checking for the availability of potential breeding habitats should be conducted 1-2 times per year.	22.6	44.1	33.3
4. Chemical fogging to kill mosquitoes is the best DHF preventive measure.	45.2	44.8	10.0
5. Elimination of larval breeding sources is a waste of times and very complicated.	20.4	35.2	44.4
6. Reduction and elimination of larval breeding sources is the preventive measure to help students stay away from DHF.	82.6	9.6	7.8
7. Students should be rewarded every time they conduct the survey and make efforts to eliminate larval breeding sources.	35.9	32.2	31.9
8. Students are satisfied with the youth empowerment against DHF project.	69.6	23.7	6.7
9. Students think the youth empowerment against DHF project is useful.	62.6	29.6	7.8
10. The youth empowerment against DHF project wastes the students' time for learning.	23.0	27.8	49.3
11. The youth empowerment against DHF project should be continually supported.	62.6	27.8	9.6

Table 9: Post-test Data on Students' Attitudes towards DHF Prevention and Control

Activities	Agree	Not sure	Disagree
1. DHF is a fatal disease.	87.4	9.6	3.0
2. DHF prevention is our responsibility.	70.0	25.6	4.4
3. Restricting and checking for the availability of potential breeding habitats should be conducted 1-2 times per year.	27.0	41.5	31.5
4. Chemical fogging to kill mosquitoes is the best DHF preventive measure.	14.1	41.5	44.4
5. Elimination of larval breeding sources is a waste of times and very complicated.	43.7	36.7	19.6
6. Reduction and elimination of larval breeding sources is the preventive measure to help students stay away from DHF.	72.2	18.5	9.3
7. Students should be rewarded every time they conduct the survey and make efforts to eliminate larval breeding sources.	30.7	35.2	34.1
8. Students are satisfied with the youth empowerment against DHF project.	64.4	25.6	10.0
9. Students think the youth empowerment against DHF project is useful.	60.0	28.5	11.5
10. The youth empowerment against DHF project wastes the students' time for learning.	41.1	29.6	29.3
11. The youth empowerment against DHF project should be continually supported.	53.7	34.8	11.5

Scores of these questions which measure their attitudes can be classified into positive and negative; questions 1, 2, 6, 8, 9, 11 were positive attitudes and 3, 4, 5, 7, 10 represented negative attitudes. Results revealed that overall students had the mean score on their attitudes at 26.10 points. The lowest score was 17 points and the highest was 34 (standard deviation = 3.427). Factoring the score into ranges, results showed that 61.10% were in the moderate score level (mean = 1.50-2.49), followed by the high level (38.90%, mean = 2.50-3.00).

Table 10: The percentage of students' attitudes in the pre- post training period.

Level of attitude	Pre-training		Post-training	
	Frequency	Percentage	Frequency	Percentage
Low level	0	0	0	0
Moderate level	165	61.1	154	57.0
High level	105	38.9	116	43.0
Total	270	100.0	270	100.0

Data on the implementation of DHF prevention and control activities

Learning about DHF

Table 11: The percentage of students who were taught about HDF prevention and control in the pre- post training period.

Teaching/learning activity	Pre-training		Post-training	
	Frequency	Percentage	Frequency	Percentage
No	162	60.0	0	0
Yes	108	40.0	270	100.0
Total	270	100.0	270	100.0

Surveys of larval breeding sources

Results showed that 40% of the students conducted the survey and made attempts to reduce larval breeding sources while the rest (60%) did not. Areas where they conducted the surveys were mostly outdoor, inside the building and its neighborhood (13.7%).

Leaders in the surveys and eliminations of the breeding sources; 63.2% said teachers were the leader and 25.8% replied that students led such implementations.

Time duration on the survey of the larva breeding sources; 25.9% said it was done after school; 25.2% during the lunch break and 19.3% said in the morning prior to the school morning announcement.

Table 12: The percentage of students who had ever conducted the survey in the pre-post training period.

Activity	Pre-training		Post-training	
	Frequency	Percentage	Frequency	Percentage
Yes	190	70.4	180	66.7
No	80	29.6	90	33.3
Total	270	100.0	270	100.0

Implementation of other activities in relation to DHF in schools or in the class; such as, exhibitions, slogan or essay contests; 30.7% of the students participated in these activities and 69.3% did not.

Receipt of forms for the survey and eliminations of larval breeding sources, 41.5% of the students responded that they had received the form and 58.5% did not.

Submission of the form; 64.8% of the students submitted the form every week and the rest 34.8% submitted by month.

Providing information and knowledge about DHF to others; 37.4% of the students provided information about DHF to others while 62.6% did not.

Regarding the knowledge about DHF, the students were asked who they think should provide such knowledge, 50% thought teachers should provide them information about DHF, 41.5% responded it should be the role of public health personnel and 8.5% answered that it should be both teachers and public health staff.

Analysis of knowledge, attitudes and practices in DHF prevention and control

Comparison of knowledge in the pre and post training periods

All knowledge categories; there was an increase of 2.79% in term of students' overall knowledge after the training.

General knowledge about DHF; there was an increase of 0.64% in term of students' knowledge about DHF after the training.

Knowledge on the surveys and elimination of larval breeding sources; there was a decrease of 0.56% after the training.

Table 13: A comparison of students' scores representing their knowledge in the pre and post training periods.

Knowledge category	Frequency	x	S.D	t-test	P-value
All knowledge categories					
Pre-training	270	6.93	2.241	15.816	<0.001
Post-training	270	9.72	1.882		
General knowledge on surveys and eliminations of larvae breeding sources					
Pre-training	270	3.93	2.228	-2.876	0.004
Post-training	270	3.37	2.208		

Confidential Interval P= 0.05

Analysis of the implementation of DHF prevention and control activities in the pre and post training periods

Comparison of the implementation of DHF prevention and control activities

Learning about DHF

Forty percent of the respondents said they had learned about DHF prior to the training and the number increased to 100% after the training. There was a statistically significantly difference between the pre and post training periods.

Surveys and eliminations of larval breeding sources in schools

Results showed that prior to the training, 29.6% of the respondents had conducted the survey and eliminations of the breeding sources and the number soared to 70.4% after the training. There was a statistical significantly difference between the pre and post training periods.

The prevalence of CI was zero in all of these three schools for both pre and post training periods in each month.

Table 14: CI Prevalence in the Pre and Post Training Periods in Three Schools Located in Klongthom Nuea Sub-district which Participated in the Youth

School	CI prevalence in pre-training	CI prevalence during training	CI prevalence in post-training
	June	July	August
Baan Bang Tiaw	0	0	0
Baan Bang Kram	0	0	0
Baan Khlongthom Nuea	0	0	0

4.3 Factors which affected knowledge, attitudes and practices of students in the youth empowerment project against DF are presented below;

Factors which can influence knowledge

Based on the correlation analysis between sex, age and grade with knowledge, there was no statistical significant difference as shown in tables 15-17.

Table 15: Correlations between Sex and Knowledge

Sex	Knowledge		P-value
	Medium	Good	
Male	45.59(62)	54.41(74)	0.134
Female	38.06(51)	61.94(83)	

Table 16: Correlations between Age and Knowledge

Age	Knowledge		P-value
	Medium	Good	
8		100(6)	0.113
9	45.77(27)	54.23(32)	
10	41.56(32)	58.44(45)	
11	32.65(16)	67.35(33)	
12	50.00(35)	50.00(35)	
13	33.33(3)	66.67(6)	

Table 17: Correlations between Grade and Knowledge

Grad	Knowledge		P-value
	Medium	Good	
Grade 3 rd	43.5(27)	56.5(35)	0.104
Grade 4 th	41.9(31)	58.1(43)	
Grade 5 th	32.8(22)	67.2(45)	
Grade 6 th	49.2(33)	50.8(34)	

4.4 Factors which can influence attitudes

Results from the correlation analysis between sex, age and grade with attitudes indicated a statistical significant difference at $P < 0.05$ as shown in tables 18-20.

Table 18: Students' Attitudes towards Youth Empowerment against DHF Project by Sex

Sex	Attitudes		P-value
	Medium	Good	
Male	70(51.5)	66(48.5)	0.041
Female	84(62.7)	50(37.3)	

Table 19: Students' Attitudes towards Youth Empowerment against DHF Project by

Ages

Age	Attitudes		P-value
	Medium	Good	
8	1(16.7)	5(83.3)	0.011
9	25(30.5)	34(69.5)	
10	43(59.7)	34(40.3)	
11	31(75.5)	18(24.5)	
12	49(77.1)	21(22.9)	
13	5(55.6)	4(44.4)	

Table 20: Students' Attitudes towards Youth Empowerment against DHF Project by

Grade

Grad	Attitudes		P-value
	Medium	Good	
Grade 3 rd	26(41.9)	36(58.1)	0.001
Grade 4 th	37(50.0)	37(50.0)	
Grade 5 th	41(61.2)	26(38.8)	
Grade 6 th	50(74.6)	17(25.4)	

4.5 Factors which can influence practices

Referring to the correlation analysis between sex, age and grade with practices, results showed no statistical significant difference as shown in tables 21-23.

Table 21: Correlations between Sex and Practices

Sex	Practices		P-value
	Low	Moderate	
Male	128(94.1)	8(5.9)	0.454
Female	124(92.6)	10(7.4)	

Table 22: Correlations between Age and Practices

Sex	Practices		P-value
	Low	Moderate	
8	6(100)		0.892
9	55(93.3)	4(6.7)	
10	72(93.0)	5(7.0)	
11	79.8(44)	5(10.2)	
12	66(94.3)	4(5.7)	
13	9(100)		

Table 23: Correlations between Grade and Practices

Grad	Practices		P-value
	Low	Moderate	
Grade 3 rd	58(93.5)	4(6.5)	0.472
Grade 4 th	70(94.6)	4(5.4)	
Grade 5 th	60(89.6)	7(10.4)	
Grade 6 th	64(95.5)	3(4.5)	

According to the students' data, it was found that sex, age and grade were correlated to students' attitudes but not correlated to their knowledge and practices

towards the youth empowerment against DHF project in all of these three schools at the third-sixth grades.