



CHAPTER V

CONCLUSIONS, DISCUSSIONS AND RECOMMENDATIONS

There are three parts included in this chapter

1. Conclusions
2. Discussions
3. Recommendations

1. Conclusions

The prevalence of DHF still high among primary school children, the disease can be detrimental effects to them. The prevention and control this disease related to behaviors, it was needed to study about behaviors and related factors that used for planning to solve this problem. This cross-sectional survey research, aimed to study the level of prevention and control behaviors against DHF among primary school children in Chulaporn District, Nakhon Si Thammarat Province and the relationship between predisposing factors, enabling factors, and reinforcing factors

The study population was the 4-6 grade children in the schools of the Department of Primary Schools, Chulaporn District, Nakhon Si Thammarat Province in 2003, and academic year. The sample consisted of 407 children that were selected by using cluster-sampling technique. Self-administered questionnaires were applied to

collect the data. The data were described in frequency, percentage, mean, and standard deviation, and t - test, One-way ANOVA, and Pearson product-moment correlation coefficient were applied to test for the relationship between predisposing factor (grade level, gender, knowledge, attitude) enabling factors (parent's income, the sufficiency of the resource for prevention and control DHF), reinforcing factors (social support from teachers, parents) and preventive and control behaviors against DHF.

1.1 Socio - demographic factors of samples and of their parent and relationship with preventive and control behaviors against DHF.

More than half of the samples in this study were female (55.0%), 33.2%, 35.9% and 31.0% of them were the 4th, 5th and 6th respectively. The average age of the samples was 11.07 years. The majority was 11 years old (66.6%). The majority was living with both parents (82.1%).

Nearly three-quarters of their fathers' were agriculture (74.9%). The majority of them were educated at primary school children level (60.9%). More than three-quarters of their mothers' were agriculture (76.7%). The majority of them were educated at primary school children level (68.6%).

The significantly difference between the mean score of preventive and control behaviors against DHF and grade level ($p < 0.05$), this meant preventive and control behaviors against DHF would be difference in the each level of grade., Grade 6 has mean score higher than grade 5 and 4. Gender showed no significant difference between the mean score of preventive and control DHF ($p = 0.07$). Therefore,

prevention and control of DHF in female and male are not difference. Age showed a significant positive relationship with prevention and control behavior ($r = 0.160$, $p = 0.001$). The relationship between occupation of the children's father and preventive and control behaviors against DHF showed no relationship ($p > 0.05$).

1.2 The association between Predisposing, Enabling, Reinforcing factor, and preventive and control behaviors against DHF.

1.2.1 Predisposing factors

1.2.1.1 Knowledge concerning DHF and prevention and control of it..

The average score on knowledge in relation to the DHF and prevention control was 12.5 (from a total of 17 scores). Nearly half of the sample had moderate (44.7%) knowledge level. This followed by a high level of knowledge (37.8%), and a low level of knowledge (17.4%). When considering an association; knowledge and preventive and control behaviors against DHF also showed significant positive relationships ($R=0.231$, $P=0.001$). This result indicates that children had more high level of knowledge about DHF would have more appropriate preventive and control behaviors against DHF than those who had low level of knowledge about DHF.

1.2.1.2 Attitude towards DHF in prevention and control of DHF.

The average score was 44.4 (from a total of 54 score). Nearly half of the sample had a fair attitude level (45.7%). Association of attitude towards DHF and preventive and control behaviors against DHF showed a significant positive

relationship ($R=0.231$, $p < 0.001$) and it meant that the primary school children had more good attitudes, they would have more appropriate preventive and control behaviors against DHF.

1.2.2 Enabling factors

1.2.2.1 Parent's income

Parent's income average income was 6,635.38 Baht per month. The highest number of parent's income was less than 5,000 Baht, and that comprised 58.2% of all income ranges, followed by 5,001-15,000 Baht, at 36.6%, and finally those parents with income of 15,000 Baht per month or more was, at 5.2%. Relationship between income and prevention and control of DHF showed no relationship ($R=0.031$, $p=0.532$), accordingly, even though the parent had different income, the samples preventive and control behaviors against DHF would not dissimilar.

1.2.2.2 Sufficiency of resources for prevention and control of DHF.

Most respondents had received insufficient resources for prevention and control of DHF at home and school (insufficiency of mosquito nets, covered objects, and abate sand). The percentage of respondents that received sufficient information was 29.0%. There was significant difference ($p<0.05$), means, primary school children who had sufficiency of resources would better mean scores on preventive and control behaviors against DHF than the insufficient group.

1.2.3 Reinforcing factors

1.2.3.1 Social support from teachers.

The greatest number of respondents replied that they had received social support from their teachers, high level (50.6%), followed by a low level (26.5%), and a low moderate at level lowest 22.9%.

Social support in emotional, or praise from teachers related to prevention and control DHF, found 77.9% had received more than or equal 1 time in the previous semester and 21.1% said they never received.

The relationship between social support from teachers and preventive and control behaviors against DHF was positive significant ($R=0.285$, $p<0.001$), that the children receiving more social support concerning the prevention of DHF would more appropriate preventive and control behaviors against DHF.

1.2.3.2 Social support from parents.

The greatest of the respondents, 39.3%, rated a low level of social support from their parents for the prevention and control of DHF, followed by high level (38.8%), and a moderate level of social support (21.9%). The average score of social support was 13.03 (total 20 scores).

Social support in emotional, or praise from parents related to prevention and control of DHF, found 75.7% had received more than or equal 1 time in the previous semester and 24.3% said they never received.

Social support from parents showed positive significant with preventive and control behaviors against DHF ($R= 0.260$, $p < 0.01$). That meant the children receiving more social support concerning the prevention of DHF from parents would have more appropriate preventive and control behaviors against DHF.

1.2.3.3 Accessibility to information from various mass media sources on the prevention and control of DHF.

The primary school children rated the most frequently received Information on DHF was from television (93.9%), followed by teachers and newspapers (92.2% and 89.9%). The least receipt of information was by posters (41.8%), followed by exhibition boards (57.2%), and broadcast (61.9%).

1.3 Preventive and control behaviors against DHF.

The study revealed a fair level of preventive and controls behaviors against DHF (36.9%), followed by poor and good level at 33.2% and 30.0%, respectively. The average score was 75.07 (total 100 scores). When considering each item, the most correctly on preventive and control behaviors against DHF was cleaning areas around the house at 84.3%, observing and eliminated larvae in water container in the bathroom at home, and observed and eliminated mosquito larvae in drinking and utility jar at home at 82.0% and 80.3%, respectively. The least practice was sleeping under mosquito nets at 30.7 %, using mosquito repellent cream 49.4% and always covering containers at home after use, at 53.1%.

2. Discussions

2.1 Socio-demographic Characteristics of sample group and their parents

Grade level showed significant difference ($p < 0.05$) with preventive and control behaviors against DHF. The relationship between gender and preventive and control behaviors against DHF showed no significant association ($p > 0.05$). The result had agreed with the study of Chooanong Arsarat (1994) in health behavior on DHF among the primary school children. The result revealed that the practice between these groups was not different. The similar result was found in the study of Sujitra Pookaoluan (1997) that female and male of primary school children showed no relationship with prevention and control of Iodine insufficiency disease, in Krabi Province. In aspect of occupation of parents; the study showed no relationship with prevention and control of DHF ($p = 0.171$) this reveals the real influencing factor might be the social supports, information receiving, knowledge, and prevention and control of DHF.

2.2 Knowledge about DHF and prevention and control

Nearly half of respondents of knowledge level about DHF were in the moderate level (44.7%). This was agreed with the study of Chooanong Arsarat (1994) and Nuanlaor Wiwatworapun which found that the primary school children's practice on preventive and control of DHF were at the moderate level. The reason might be because the children had accessed information of DHF from teachers (92.2%) (Table 13). and also health education campaign of each school were promoted to prevent and control on DHF.

When considering each item of knowledge regarding DHF and prevention control, which had 17 items, the study revealed that almost all of the students (98.8%) knew that the *Aedes aegypti* mosquito was the vector for DHF, 94.6% of them knew that student were at high risk group to be infected by this disease. The study found 91.9% of the students knew that the DHF was caused by an infected mosquito bite; 90.9% knew the life cycle of the mosquito. Only 21.4% correctly answered the question concerning the length of effective time of abate sand to eliminating larvae but 47.4% knew the importance of cleaning containers or flowerpots every 7 days if the larvae were found. The children of this study had moderate showed lacking of knowledge on prevention and control of DHF, it might be due to the student had seldom received the correct knowledge and might be the persons who had responsible to advise has ambiguous knowledge.

Knowledge about DHF and preventive and control behaviors against DHF showed positive significant relationship($r= 0.231$, $p< 0.001$). This agreed with the study of Chalus Klinubon (1998) that knowledge of DHF of grade 6 students in Petchaburi province had positive relationship with behaviors of prevention and control. This can be explained that knowledge is the principal factor for any actions.

2.3 Attitude towards DHF and prevention and control

Attitude toward prevention and control of DHF ranged in the fair level (45.7%). This is difference from the study of Choo-anong Asarath (1994) that found the children's attitude was at the good level. The attitude of children in this study range from fair to good may be owing to instruction, motivation, and information received

from parents, teachers, and medias as well as the real practice that correspond with Kamolrat Larsuwong who had mentioned that attitude can be change due to the above factors.

Two incorrect attitudes towards prevention and control of DHF of the children were revealed. The first was dieting can gain complete physical health enough to prevent and control of DHF and the last was the elimination of mosquito breeding sources only 1 or 2 times a year is effective enough. Therefore, if the children did not clearly understanding in prevention and control of DHF, they may loss or not cooperate to eradicate the cause of DHF.

Attitude showed significant relationship with preventive and control behaviors ($r = 0.201$, $p < 0.05$), this can be explained that attitude towards health arising from experience, instructions, and mode of practice is the immediate stimulant to actions. Knowledge and information giving might change attitude as Prapapen Suwan (1983) mentioned that if some of these factors changed, the rest will also be impacted and initiated some activities as found in the study of Nalinee Makornsen (1995).

2.4 Parent's income

The highest number of parent's income was less than 5,000 Baht, and that comprised 58.2% of all income ranges. The study revealed that parent's income had no relationship with preventive and control behaviors against DHF ($r = 0.031$, $p = 0.532$). This agreed with the study of Sawang Chaikit (1996), but difference from the study of Kannika Suwana (1998) which showed income of family had affected prevention and

control behavior. To describe this result, people still need to support themselves for some equipment such as mosquito nets, and repellent cream even some resources were support by the government for such as abate sand.

2.5 Resources for the prevention and control DHF

The results of this study showed a significant difference ($p= 0.029$) with preventive and control behaviors against DHF, indicating that children who had sufficient resources including mosquito nets which are in good condition, lids for all water containers, and abate sand supply for the whole year would have difference appropriate preventive and control behaviors against DHF than children who did not have sufficient resource. Most of the sample (71%), had insufficiency resources for the prevention and control DHF. This finding is consistent with the finding from Makmog, S.'s study (1999,126 - 127) that the sufficiency of resources for the prevention and control of DHF has a relationship with behaviors in preventing and controlling DHF of school - age children. Therefore, the resources for prevention and control DHF have important and necessary for children to prevent and control DHF if they had insufficiency of resource, it may be barrier to control the disease.

2.6 Social support from teachers in the prevention and control of DHF.

Social support from teachers regarding prevention and control DHF, showed a positive significant relationship($r = 0.285$, $p < 0.001$) and preventive and control behaviors against DHF. This result indicates that children receiving more social support concerning the prevention of DHF would have more appropriate preventive and control behaviors against DHF than those who received less social support. This finding is

consistent with the study conducted by Saeunk, P. (1992:89) which found that social support from teachers and parents has a relationship with the performance of activities for the prevention of DHF in prathom 6 student in Muang District, Nonthaburi. People receiving helps and services will find the performance of health behavior possible and easier (Dhilon& Philip, 1994:95 -98). Social support may also encourage individuals to conduct health behavior base on suggestion from other people (Danielson, et al., 1993:217). Social support in the prevention and control DHF from teachers will make children feel that they are sympathized and are mental and emotional supported.

2.7 Social support from parents in prevention and control of DHF.

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2.8 Accessibility to information regarding Dengue Haemorrhagic Fever and prevention and control of it.

The most frequently received information on DHF was from television, followed by teachers and newspapers. The least receipt of information was by posters, followed by exhibition boards. This study agrees with what was found in Pompimol Puangneon (1983) and Sawangjai Chaikit (1985). The reason why the student had received more information from these medias may be due to the Ministry of Public Health had promoted the campaign to eliminate breeding sources throughout rainy season during the previous year. The student rated the most person who provided them the information regarding DHF were teachers. This can be said, the children can be received the most adequate knowledge from teachers and they would practice to prevent and control DHF more frequently and correctly. The other sources that the children had less accessed to information by posters, was by posters, exhibition boards, leaflets, that have to read event from sources were available by the Ministry of Public Health. The children, therefore, not keep their mind on reading. So, it has to provide any strategy to develop gorgeous sources for all children, for example, the broadcast that can more contribute knowledge, attitudes and preventive behaviors against DHF.

2.9 Preventive and control behaviors against DHF.

The results of this study indicate the overall preventive and control behaviors against DHF of the sample at a fair level, (36.9%). It was found that the preventive and control behaviors in aspects of prevention of mosquito bites, eradication of fully growth mosquitoes and elimination of breeding sites and mosquitoes larvae. This finding is consistent with the study conducted by Chalus Klinubon (1998) that revealed the

moderate level. The reason of this result may be according to their knowledge of prevention and control of DHF. Schwartz, (quoted in Chooanong Asarat, 1994), presented the relationship between knowledge, attitude, and practice. As level of knowledge can influence practices, thus, any instruction and motivation from parents, teachers, and health care workers or various receipt of information from an educational aid would help the student to practice all prevention and control more effectively.

When considering each item, the student rated they frequently cleaning areas around the house and followed by, observing and eliminated larvae in water containers in the bathroom at home, and changing water in vase for decorative plants or flesh flower at school. This activity related to the result of this study that revealed 89.4% of the student was received advises from their teachers to Cleaned area around the house and removed discarded objects. The other factors that may involve their behavior might be due to they were assigned to do the activities for prevention and control of DHF. The other activities that the students of this study regularly practice were the survey and clean areas around their households and eliminate any object such as coconut shells, cans, and anything that can hold water. This agree with percentage of the student who were received the motivation to do these activities, at 75.5%.

The least practice for prevention and control of DHF were sleeping under mosquito nets, using of repellent cream, chemical spray, and herbal plants to prevent getting bitten by mosquito, and covering water containers after use (every time) at home. The obstacle of this practice might be because lacking of any resource to eliminate mosquitoes larvae and breeding sources. The result was agreed with many

studies that revealed the supporting by providing all necessary equipment will promote prevention and control behavior of the student. One significant factor found, as a majority problem in this study was minimizes practiced on habitually prevention and control of DHF disease. Therefore, the epidemic of DHF can be found throughout the year and in all over regions of Thailand.

3. Recommendations

Base on the results of this study, the researcher recommends that prevention and control of DHF measures and strategies be set up as follow:

1. Provision of information regarding elimination of breeding sources; mosquito larvae; and not being bitten by Aedes mosquito to decrease the chance being infected by DHF for all level of grade of children to increase number of observer and surveyor group, of primary and junior secondary school children. The benefit of this practice will lead to decrease number of infected children by DHF.
2. Promotion of adequate abates sand chemical for all community and provides appropriate education such as frequently instruct and persist in knowledge's evaluation. Available of abate sand providing and instruction of proportion of chemical and water; period of effective chemical action; and appropriate container, should be educated.
3. All media sources be provided, by the Ministry of Public Health, to all schools and communities should be attractive and eye- catching.
4. DHF Training programs for all teachers should be widely promoted to guarantee the role of the teachers in providing accurate instruction of

DHF prevention and control; and situation of the disease should be promptly reported to the school administrators.

5. Information through various media should be evaluated for their effectiveness and all over disseminate.
6. There should be skill improvement to primary school children on survey and eliminated breeding site of larvae with workshop meeting in order to, increase knowledge and skill that can prevent and control DHF.
7. There should be cooperate parents or guardian for encourages children to prevent and control DHF.

Recommendation for further study

1. There should be a study applying on finding of this survey research to intervention health education program.
2. Technique of qualitative research should be integrated into the study to get more accurate answers on sensitive questions about knowledge, attitude, behaviors in prevention and control of DHF and social support from parents and teachers.
3. There should be study about knowledge, attitude, and behaviors in preventive and control against DHF of parents because the finding of this study found that social support and motivation of the parents had relationship with preventive and control behaviors against DHF of the primary school children.