CHAPTER V

DISCUSSION, CONCLUSION AND RECOMMENDATION

In this chapter, a brief description of the major findings and their significance to practice will be discussed with its' limitations. It will conclude with recommendations for further research.

5.1 Socio demographic characteristics of respondents

The results of this study showed that the demographic data were not correlated with level of practice scores except for gender. Therefore, the demographic characteristics investigated in this study were not significantly associated with level of practice excluding the variable of gender. This study only found that gender had significant association with level of practice behaviors of dengue fever prevention among the respondents. Females had good practice than males in practice of dengue fever prevention. This might be because it is believed in the population that females should take care of the households while the kids and male have other responsibilities. This study was not consistent with the study of Teetipsatit (2005) that male and female of household leader had no relationship with preventive behavior on dengue hemorrhagic fever.

Level of education status had no association with the practice of dengue prevention. This does not mean that education was not an important factor but there might be other factors which fall short to apply education into practice. One reason might be educated people will have more of other responsibilities and have less time

to practice prevention of dengue fever. People are acquainted with the correct way to do things but they are careless to put them into practice.

There was no significant association between dengue history among the family members and level of practice behaviors among the respondents ($p = 0.27$), as shown in Table 18. This indicated that dengue history was not an important confounder in this analysis.

5.2 Knowledge about dengue fever

The mean survey score was found to be 8.60 from a possible 14 points with a standard deviation of 2.45. Clearly the respondents who participated in this study had a low level of knowledge (46%) in spite of the fact that 90% of the respondents had received information regarding dengue fever. This might be because people do not absorb all the information they get and tend to forget most of the information. It is also a matter of motivation and perceived benefits. If people do not see the benefit of a given behavior they do not practice it, regardless of understanding. It might be that the educational information is insufficient to address people's understandings of disease transmission and/or the education methods used are flawed. Forty one percent of the respondents had moderate level of knowledge and it could be that the respondents who filled questionnaires had previous history of dengue fever themselves or either a member of their family.

5.2.1 Areas of high level of knowledge

The highest average percentage scored by the respondents was the question on whether empty stagnant water from old tires, trash cans, and flower pots can be a breeding place for mosquitoes. The responses indicated that 91% were aware

that empty stagnant water from old tires, trash cans, and flower pots can be mosquito breeding places.

The respondents of this study had a good knowledge regarding that stored water containers or tanks for drinking water without being covered should be cleaned every 7 days. A high percentage (87%) of the participants' responses to this question was correct. (Refer to Table 5).

Another area in which the respondents scored well is the question about dengue fever being a severe, flu-like illness that affects infants, young children and adults. An average of 86% respondents who participated in the survey got the answers correct to this question. (Refer to Table 5).

5.2.2 Areas of knowledge deficit

Majority of the respondents (70%) incorrectly, answered the question on abate sand being beneficial in killing the mosquito larvae. Referring to Table 5 only 30% could identify that abate sand as a beneficial in killing the mosquito larvae. As well as for question 12, 68% of the respondents had no knowledge about abate sand, if put in the standing water, can help to prevent the mosquito breeding for 3 months. This shows that the community is unaware of the importance of abate sand.

Another very important area that the respondents lacked knowledge was that dengue transmitting mosquito bites during day time. Refer to Table 5; only 40% of the respondents answered it correctly which means the rest 60% of the respondents had no idea regarding it. This is an important area which needs to be emphasized more during the prevention programs.

Sixty percent of the respondents felt that dengue fever can be transmitted from one person to another. This is another important issue which needs to be emphasized on.

Nearly half (54%) of the respondents were unaware that dengue can occur in all seasons. Lack of knowledge regarding dengue fever that can occur throughout the year would make people lack of awareness on preventive behavior of dengue fever.

Among the people in this community, knowledge had significant positive association with practice of dengue prevention. This result was consistent with the study of Koenraadt et al. (2006) who found out in the study that there is a direct link between knowledge on dengue prevention and container protection practices, whereas measures against adult mosquitoes are used only when people experience a mosquito nuisance problem. It was consistent with another study which was done by Van Benthem et al. (2002), who found out that people with knowledge of dengue reported a significantly higher use of prevention measures than people without knowledge of dengue

Future health education programs should put emphasis on those areas where they have a knowledge deficit about dengue fever as knowledge is positively associated with practice. Therefore, if they had better knowledge about dengue fever then they would also be likely to have a better practice regarding dengue prevention.

5.3 Attitude towards dengue fever

The mean survey score for attitude about dengue fever prevention was found to be 45.63 from a possible 60 points with a standard deviation of 5.66. Evidently, the

respondents who participated in this study had positive attitude. In spite of that they might not be concerned about practicing the preventive behaviors. The possible reason might be that most of the respondents are employed (65%) and therefore they don't find time to do activities related to practicing dengue fever prevention. There might be so many other factors hindering as behavior does not depend only on attitude and knowledge. Such as motivation, perceived benefits, social factors, taboos, etc are some of the factors that can hinder practice.

This study had no significant association with attitude and practice of dengue fever prevention. This approved with the study of Hairi et al. (2003) where they had conducted a study on Knowledge, Attitude and Practices (KAP) on dengue among selected rural communities in the Kuala Kangsar district and found out that there was no significant association seen between attitude and preventive practice on dengue. It is also consistent with the study done by Limros (2006) who conducted a study on Preventive Behaviors against Dengue Infection among Family Health Leaders in Kongkrailat District, Sukhothai Province found out that attitude showed no correlation with breeding place prevention.

This study revealed out few incorrect attitudes towards dengue prevention among the respondents. Thirty seven percent of the respondents felt that dengue control should be the responsibility of the government. Maybe these people believe and might not appreciate the importance of their role in disease prevention. The participation of the community during campaigns of dengue fever was 16% and 12% participated when the community had been sprayed. The Ministry of Health, by itself, is in no position to meet the challenge of increased disease transmission in the island.

There is a need for a determined effort of collaboration with various public and private organizations.

Majority of the respondents (41%) used mosquito coils or mosquito mats during night time only and 28% of the respondents did not use anything. Thirty percent used during day and night time and only one percent used during day time. This showed that almost half of them did not know the biting time of dengue mosquitoes. It is quite important to know the biting time of dengue mosquitoes because most people tend to protect from mosquito bites only at night and fall short to protect themselves during the day, which raises the risk of dengue infection. Future health education efforts should emphasize on this point as well.

5.5 Observation

Some of the good findings found out after observation was that only few households (25%) had water collection on the plates supporting flower pots at home. One reason might be because most of the households don't use plates to support flower pots. 5% of the household had stored water containers in the toilet. None of the houses had dirty water in the flower vases or indoor plants. This might be because most of them kept indoor plants inside their rooms and some kept flower vases outside the room in the balcony while, due to privacy concern, the observation was carried out mainly in the living area and the surroundings of the house, not the rooms. So the real picture might not have been revealed.

Observation results showed that 59% had dirty housing environment. Doors and windows in most of the houses remain closed all daytime and the inside was relatively dark. This can be a preferable resting place for Adult Aedes mosquitoes.

Therefore people living in these houses might be at risk of getting dengue fever. Seventy six percent of the respondents reported that they examined and checked around their house for any discarded item which can hold water (Table 11). But when observed 47% of the households had empty cans and discarded bottles that can hold water around the house. This might be because when people were asked they might have reported disposing discarded containers even though they are not practicing it. Discarded containers are potential mosquito breeding sites. A previous study reported that discarded containers contained plenty of organic matter and subsequently tended to produce large number of adult Aedes mosquitoes which had faster development and better survival (Tun-Lin W, et. al). Fifty four percent of the households had not covered the stored water containers/tanks and this creates a good environment for mosquito breeding places.

5.5 CONCLUSIONS

The results of this study showed that the demographic data were not correlated with practice scores except for gender. Females had higher practice behavior than males in prevention of dengue fever. Knowledge was significantly associated with practice. Hence people who have high knowledge regarding dengue fever will have a good practice in prevention of dengue fever. Measures against mosquitoes are probably only used when people experience a mosquito nuisance. Most of the people did not see dengue as a threat to their community; therefore proper prevention programs need to be developed to make the community more aware which then will motivate people to modify their behavior. Consequently this increased awareness will in turn might bring further benefits to the community and this highly beneficial

process will continue over time. Closing the gap between knowledge and practice will continue to be a vital challenge for dengue control, as well as targets for reduction of mosquitoes.

5.6 RECOMMENDATIONS

On the basis of the findings in this study, the following issues should be considered for improving preventive behavior against dengue fever among the people.

1. Public education is necessary to address the knowledge gap revealed in the study. Therefore educational programs should be organized for improving knowledge about dengue fever and it should focus mainly on increasing the awareness of the people regarding the importance of abate sand (temephos sand), that dengue fever can occur in all the season and dengue transmitting mosquito is a day biting mosquito. The office in every district should carry out these educational campaigns with the help of Ministry of Health or Vector Borne Disease Control Unit throughout the year and not only during the rainy season.
2. A management plan for dengue prevention and control should be developed by the Ministry of Health and which clearly delegates lines of authority for policy decisions and for communication and coordination.
3. Further research related to disease, vector management, factors hindering practices and behavioral changes is needed in order to develop and implement effective and reliable dengue prevention and control programs.

5.6.1 Future research suggestion

Due to time and resource limitation, the study has been conducted only in Male', the capital of Maldives and hence it might not be a representation of the country as a whole. In future, more studies should be conducted in other Atolls as well to find out the pattern of Knowledge, Attitude and Practice of dengue fever in these populations.

In the measurement tool of the practice part few questions are of double-barrelled questions and the main problem with this type of question is that one does not know which particular question a respondent has answered. In future studies, these types of questions should be avoided, especially if it is a self-administered questionnaire.

Future studies should actively look for factors hindering preventive practice of dengue fever as behavior depends on many other factors beside knowledge. Such as motivation, perceived benefits, etc.