

**UNIVERSITI SAINS MALAYSIA**



**KNOWLEDGE, ATTITUDE AND PRACTICE (KAP)  
OF DENGUE FEVER PREVENTION AMONG  
COMMUNITY IN KAMPUNG DEMIT AND  
KAMPUNG BAYAM, KUBANG KERIAN,  
KELANTAN**

by

**EVA NABIHA BT ZAMRI**

**Dissertation submitted in partial fulfillment of the  
requirements for the degree  
Of Bachelor of Health Sciences (Nursing)**

**April 2009**

## CERTIFICATE

This is to certify that the dissertation entitled Knowledge, Attitude and Practice of Dengue Fever Prevention among Community in Kampung Demit and Kampung Bayam is the bonafide record of research work done by Eva Nabiha bt Zamri, matrix no. 87429 during the period of July 2008 to April 2009 under my supervision. This dissertation submitted in partial fulfillment for the degree of Bachelor of Health Sciences (Nursing). Research work and collection of data belong to Universiti Sains Malaysia



Dr. Haliza bt Abdul Rahman

Lecturer

School of Health Sciences

Health Campus

Universiti Sains Malaysia

16150 Kubang Kerian

Kelantan

Date: 23/06/09



Cik Norazliah Binti Samsudin

Lecturer

School of Health Sciences

Health Campus

Universiti Sains Malaysia

16150 Kubang Kerian

Kelantan

Date: 23/06/09.

## **ACKNOWLEDGEMENT**

By the name of Allah, the compassionate and the most merciful, praise is to the Lord of the universe who gives the best reward to the God – fearing and the great loss to the transgressor, and blessing to the last Prophet Muhamad s.a.w. First of all I would like to dedicate my appreciation to my beloved family for giving the unstoppable support to me to complete my undergraduate studies in Bachelor of Health Sciences in Nursing at Universiti Sains Malaysia.

Furthermore, I would like to thank my supportive research project supervisor, Dr. Haliza Binti Abdul Rahman and my co-supervisor, Cik Norazliah Binti Samsudin for guiding me all the way to complete my thesis as to fulfill the requirement for my graduation. A great experience obtained during conducting the project has helped me to improve my skills practically rather than only master on the theory. Apart from that, I believe by getting involved in the project has enhanced my capability which could be a great advantage and precious capital in my future career.

I also would like to express my grateful appreciation to the following ethical committee members for allowing me to accomplish my research project. Not to forget, all experts involved in validating questionnaires, Dr. Sakinah bt Harith, Dr Rapeah bt Suppian, Cik Kasmah Wati Pardi and Dr. Hasmah Abdullah. Then I would like to deliver my thankful to all lecturers who have taught and guided me to accomplish my research project. Your great contribution is undeniable and will never fade away from my life. Last but not least, thank you to all my friends and people who were directly or indirectly involved for the successful of the project. The given project was definitely gave me a tremendous exposure of nursing and health environment field especially in dengue fever.

## SUSUNAN KANDUNGAN / CONTENTS

	<b>Pages</b>
<b>CERTIFICATE.....</b>	i
<b>ACKNOWLEDGEMENT.....</b>	ii
<b>CONTENTS.....</b>	iii
<b>LIST OF TABLES.....</b>	vii
<b>LIST OF FIGURES.....</b>	ix
<b>ABSTRACT.....</b>	x
<b>ABSTRAK.....</b>	xii
<b>CHAPTER 1: INTRODUCTION</b>	
1.1 Background of The Study.....	1
1.2 Problem Statement.....	3
1.2.1 Theory/Concept .....	6
1.3 Objectives of The Study.....	7
1.3.1 General Objectives.....	7
1.3.2 Specific Objectives.....	7
1.4 Research Questions.....	7
1.5 Hypothesis.....	8
1.6 Definition of Terms (Conceptual/Operational).....	8
1.7 Significance of The Study.....	9
<b>CHAPTER 2: LITERATURE REVIEW</b>	
2.1 Seriousness of Dengue Fever.....	11
2.2 Factors Influencing Increase in Cases of Dengue .....	14

## CONTENTS (Continued)

	<b>Pages</b>
2.3 Community Involvement in the control of <i>Aedes aegypti</i> .....	16
2.4 Knowledge of Dengue Fever.....	17
2.5 Attitude Towards Dengue Fever.....	18
2.6 Practices of Dengue Control .....	19
2.7 Theoretical Framework.....	20
<b>CHAPTER 3: RESEARCH METHODOLOGY</b>	
3.1 Research Design.....	23
3.2 Population and Setting.....	23
3.3 Sample.....	23
3.3.1 Sample size.....	23
3.3.2 Sampling Design.....	25
3.3.3 Inclusion and Exclusion Criteria.....	25
3.4 Instrumentation.....	25
3.4.1 Instrument.....	25
3.4.2 Variables Measurement.....	26
3.4.3 Validity .....	27
3.4.4 Reliability.....	28
3.4.5 Translation of Instrument.....	28
3.5 Ethical Considerations.....	28

## **CONTENTS (Continued)**

	<b>Pages</b>
3.6 Data Collection Methods.....	29
3.6.1 Flow Chart of Data Collection.....	30
3.7 Data Analysis.....	29
 <b>CHAPTER 4: RESULTS</b>	
4.1 Result.....	31
4.2 Demographic Data.....	31
4.3 Level of Knowledge, Practices and Attitudes Related to Dengue Fever Prevention Among Community in Kampung Demit and Kampung Bayam .....	34
4.3.1 Level of Knowledge related to Dengue Fever Prevention	34
4.3.2 Level of Practices Related to Dengue Fever Prevention...	39
4.3.3 Level of Attitudes Related to Dengue Fever Prevention...	41
4.4 Relationship Among Community's Knowledge, Attitude and Practice of Dengue Fever Prevention With Their Demographic Background (Age, Sex and Highest Educational Level) in Kampung Demit and Kampung Bayam.....	45
4.5 Comparison the Level of Knowledge, Attitude and Practice Related to Dengue Fever Prevention Between Community in Kampung Demit and Kampung Bayam.....	48

## **CONTENTS (Continued)**

	<b>Pages</b>
<b>CHAPTER 5: DISCUSSIONS</b>	
5.1 Level of Knowledge, Attitude and Practices Related to Dengue Fever Prevention Among Community in Kampung Demit and Kampung Bayam.....	49
5.2 Relationship Among Community's Knowledge, Attitude and Practice With Their Demographic Background which are (Age, Sex and Highest Educational Level) in Kampung Demit and Kampung Bayam.....	52
5.3 Comparison The Level of Knowledge, Attitude and Practice Related to Dengue Fever Prevention Between Community in Kampung Demit and Kampung Bayam.....	54
5.4 Correlation Between Level of Knowledge and Level Practice, and Between Level of Knowledge and Level of Attitude Among Community in Both Villages.....	54
<b>CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS</b>	
6.1 Summary of The Study Findings.....	57
6.2 Strengths and Limitations.....	58
6.3 Implications and Recommendations.....	59
6.3.1 Nursing Practice.....	59
6.3.2 Nursing Education.....	59
6.3.3 Nursing Research.....	60
6.3.4 Theoretical Framework Theory .....	60
<b>REFERENCES</b>	<b>61</b>

## **CONTENTS (Continued)**

	<b>Pages</b>
<b>APPENDIX</b>	
Appendix A: Table Mean, SD, Frequency and Percentages for questionnaires.....	64
Appendix B: Consent Form.....	75
Appendix C: Questionnaires.....	83
Appendix D: Ethical Approval.....	

### **LIST OF TABLES**

	<b>Pages</b>
Table 1.1 Dengue Cases in Kampung Demit and Kampung Bayam	4
Table 2.1 Malaysian Health Statistics: Incidence Rate of Dengue Fever and Dengue Hemorrhagic Fever.....	13
Table 3.1 Table of Sample Size Determination by Krejcie and Morgan, (1970) in Noah S.M., (2002).....	24
Table 4.1 Mean, SD, Frequency and Percentages for Socio demographic Among Respondents in Kampung Demit and Kampung Bayam (n= 102).....	32
Table 4.2 Frequency and Percentages for The General Questions in Kampung Demit and Kampung Bayam (n= 102).....	33
Table 4.3 Mean, SD, Frequency and Percentages for The Level of Knowledge Related to Dengue Fever Among Respondents in Kampung Demit and Kampung Bayam (n= 102).....	35



## **LIST OF TABLES (continued)**

	<b>Pages</b>	
Table 4.4	Frequency and Percentages for The Knowledge Related to Dengue Among Community in Kampung Demit and Kampung Bayam (n= 102).....	37
Table 4.5	Mean, SD, Frequency and Percentages for The Level of Practice Related to Dengue Fever Among Respondents in Kampung Demit and Kampung Bayam (n= 102).....	39
Table 4.6	Frequency and Percentages for The Practice Related to Dengue Fever Among Community in Kampung Demit and Kampung Bayam (n= 102).....	40
Table 4.7	Mean, SD, Frequency and Percentages for The Level of Attitude Related to Dengue Fever Among Respondents in Kampung Demit and Kampung Bayam (n= 102).....	41
Table 4.8	Frequency and Percentage, for The Attitude Towards Dengue Fever Prevention Among Community in Kampung Demit (n= 102).....	42
Table 4.9	Frequency and Percentage, for The Attitude Towards Dengue Fever Prevention Among Community in Kampung Bayam (n= 102).....	44
Table 4.10	Relationship Among Community's Knowledge, Attitude and Practice with Their Demographic background which are (Age, Sex and Highest Educational Level) in Kampung Demit by Using One-way Anova and Chi Square test (n= 102).....	46

## LIST OF TABLES (continued)

	<b>Pages</b>
Table 4.11	47
Relationship Among Community's Knowledge, Practice and Attitude with Their Demographic Background which are (Age, Sex and Highest Educational Level) in Kampung Bayam by Using One-way Anova and Chi Square test (n= 102).....	
Table 4.12	48
Comparison The Level of Knowledge, Attitude and Practice Related to Dengue Fever Prevention Between Community in Kampung Demit and Kampung Bayam.....	
Table 5.1	56
Correlation Between Level of Knowledge and Level of Practice, and Between Level of Knowledge and Level of Attitude in Both Villages.....	

## LIST OF FIGURES

	<b>Pages</b>
Figure 2.1	14
Number of Dengue Fever (DF) and Dengue Hemorrhagic Fever (DHF) Cases by Year in Kota Bharu, Kelantan.....	
Figure 2.2	22
Theoretical Framework of Modified Health Belief Model.....	
Figure 3.1	30
Flow Chart of Data Collection.....	

**KNOWLEDGE, ATTITUDE AND PRACTICE (KAP) OF DENGUE FEVER  
PREVENTION AMONG COMMUNITY IN KAMPUNG DEMIT AND  
KAMPUNG BAYAM, KUBANG KERIAN, KELANTAN**

**ABSTRACT**

Nowadays, dengue fever becomes one of the important public health problems to international public health and in Malaysia (Poovaneswari, 1993). The only effective measure available to prevent and control dengue is by preventing transmission of the disease by the *Aedes* mosquito require support, cooperation and participation by the community. Therefore, it is vital to know the level of knowledge, attitude and the practices (KAP) of the community concerning the disease. A cross sectional study was conducted to assess the level of knowledge, attitudes and practices among selected communities in Kubang Kerian district which are Kampung Demit and Kampung Bayam. The number of targeted sample are (n=253) but only 102 respondents achieved. The finding shows that overall the researcher can conclude that both villages had good knowledge (51%) good attitude (100%) but medium practice (69.6%) related to prevention of *Aedes*. From the results, it can be concluded that the demographic background which are age, sex, educational level do not influence the level knowledge, practice and attitude among community in Kampung Demit ( $p > 0.05$ ). Meanwhile in Kampung Bayam, demographic background which are age and sex does not influence the level of knowledge and practice related to dengue fever where p-value  $> 0.05$ . But level of education influence the level of knowledge and practice among community in Kampung Bayam where p-value = 0.01. There is no significant association level of knowledge, attitude and practice related to dengue fever prevention between community in Kampung Demit and Kampung Bayam ( $p > 0.05$ ). Outcome of this research also stated that there is a

significant correlation between level of knowledge and level of practice, level of knowledge and level of attitude and also level of practice and level of attitude related to dengue fever prevention among community in Kampung Demit and Kampung Bayam ( $p < 0.05$ ). As the conclusion, it is recommended that a change in the approach of the health education program emphasize and improving the practice related to dengue prevention among community.

**PENGETAHUAN, AMALAN DAN SIKAP BERKAITAN DENGAN  
PENCEGAHAN PENYAKIT DEMAM DENGGI KALANGAN PENDUDUK  
KAMPUNG DEMIT DAN KAMPUNG BAYAM, KUBANG KERIAN,  
KELANTAN.**

**ABSTRAK**

Dewasa ini, demam denggi menjadi salah satu masalah utama sama ada di peringkat antarabangsa mahupun di peringkat Malaysia (Poovaneswari, 1993). Cara terbaik dan berkesan untuk mengelak dan mengawal penyakit denggi adalah dengan sokongan, kerjasama dan penyertaan daripada komuniti. Jesteru itu, adalah penting untuk mengetahui tahap pengetahuan, amalan dan sikap komuniti berkaitan dengan penyakit ini. Kajian jenis keratan lintang digunakan untuk untuk menilai tahap pengetahuan, amalan dan sikap kalangan komuniti di daerah Kubang Kerian iaitu di Kampung Demit dan Kampung Bayam. Saiz sampel seramai 253 orang ( $n=253$ ), tetapi hanya 102 orang responden yang diperolehi. Hasil kajian menunjukkan responden kedua-dua kampung mempunyai tahap pengetahuan yang baik (51%), sikap yang baik (100%) tetapi amalan yang sederhana (69.6%) berkaitan dengan demam denggi. Selain itu, berdasarkan hasil kajian latar belakang demografi iaitu umur, jantina dan tahap pendidikan didapati tidak mempengaruhi tahap pengetahuan dan amalan di kalangan penduduk Kampung Demit ( $p>0.05$ ). Begitu juga di Kampung Bayam, latar belakang demografi iaitu umur dan jantina tidak mempengaruhi tahap pengetahuan, amalan di kalangan penduduk Kampung Bayam ( $p>0.05$ ). Didapati tahap pendidikan mempengaruhi tahap pengetahuan dan amalan kalangan penduduk Kampung Bayam di mana nilai  $p < 0.05$ . Tidak terdapat perkaitan

antara tahap pengetahuan, amalan dan sikap berkaitan dengan pencegahan demam denggi kalangan penduduk Kampung Demit dan Kampung Bayam ( $p>0.05$ ). Hasil daripada kajian ini juga mendapati terdapat perkaitan antara tahap pengetahuan dan tahap praktis, tahap pengetahuan dan tahap sikap serta tahap praktis dan tahap sikap berkaitan dengan pencegahan demam denggi kalangan penduduk Kampung Demit dan Kampung Bayam ( $p<0.05$ ). Kesimpulannya pendekatan dan perubahan perlu dilakukan dalam program pendidikan kesihatan terutamanya dalam memberi penekanan bagi meningkatkan kesedaran kalangan penduduk berkaitan dengan pencegahan demam denggi.

## CHAPTER 1

### INTRODUCTION

#### 1.1 Research Background

Dengue fever is a mosquito's carrier disease and it becomes one of the important problems to international public health in the recent years. Global indexes of dengue fever had been dramatically increasing in few years back. Before year 1970, there are only 9 countries become dengue endemic. Now dengue fever became an endemic in more than 100 countries in Africa, America, East Mediterranean, South East Asia and West Pacific. There are 2500 million of peoples which are 2/5 world's community face through the risk of dengue fever. Dengue fever is regarded one of world's most widespread vector-borne disease, and about 2500 million people live in regions with the potential risk of dengue transmission

Dengue fever is a one types of complex arboviral disease which consist dengue fever (DF), dengue hemorrhagic fever (DHF), and dengue shock syndrome (DSS). Basically, there are four serotypes which are known as flavivirus DEN-1, DEN-2, DEN-3 and DEN-4. All the *Aedes* mosquitoes can act as vector of dengue viruses before transmitting to the humans. The main vector of this virus is *Aedes Aegypti* mosquitoes. Others vector of dengue virus like *Aedes Albopictus*, *Aedes polynesiensis*, *Aedes mediovittatus* mosquitoes may be involved in suburban or rural environments but are less frequently responsible for transmitting epidemics of DF and DHF (Gubler, 1988).

Dengue fever begins abruptly 3–15 (usually 5–8) days after a bite from an infected mosquito. Signs of dengue fever such as abruptly high fever and not ceasing, retro-orbital pain, and intense myalgia and arthralgia (break-bone fever). A blanching rash followed by bleeding gum and nose typically appears after a few days and is a useful clue. Symptoms that associated during this period included severe headache, loss appetite, vomiting and abdominal pain (Jacobs, 2005)

Productive larval sites in Malaysia are stored water containers in and around houses. *Aedes aegypti*, the most important vector, exploits domestic artificial water-holding containers as its breeding sites. In northeast Thailand, built-in cement containers holding water for bathing or flushing toilets are the most productive breeding sites (Chau et al., 2001).

Currently, there is no available vaccine, and development of a vaccine may or may not immediately translate into widespread use due to the high costs of introducing a new vaccine in a population. Treatment of dengue fever consists of fluid replacement, and prevention efforts focus on vector control and larval source reduction. The most dangerous type of dengue is DHF and there is no cure for it. Management of DHF is by careful monitoring of several parameters of the patient (blood pressure, haematocrit, platelet count and level of consciousness), fluid replacement, correction of coagulopathies and prevention and treatment of complications (Hairi et al, 2003).

Therefore, the most important strategy in the prevention and control of dengue lies in the control of its vector, the *Aedes* mosquito. Under the Vector-borne Disease Control Programme in the Sixth Malaysia Plan, four strategies have been developed which are (i) Anti larval measures; (ii) Anti adult measures; (iii) Health education; and (iv)



**Enforcement of the Destruction of Disease Bearing Insects Act (DDBIA) 1975 (Ministry of Health, 1991- 1995)**

In Thailand, controlling mosquitoes at their immature stages has been central to their dengue control programs (Chunsuttiwat & Wasakarawa, 1994). The urgent need for alternative approaches has become obvious and community participation is frequently invoked or advocated as a key element to achieve effectiveness and sustainability (Gubler & Clark, 1996). Hairi et al., (2003), also said due to the absence of vaccine or a cure, the only effective measure available to prevent and control dengue is by requiring support, cooperation, and participation by the community.

## **1.2 Problem statement**

Dengue vector control requires effective participation of the local community (Winch et al., 1992). Because of that, the Ministry of Health is concern with this problem plus there are many implementation involved newspaper and broadcasting as conveying information to the public. For example, health articles, health advertisement, posters, pamphlet and booklet, campaigns, health visits (house to house inspection) and health education provided to increase public's knowledge about dengue. Unfortunately, the dengue cases in Malaysia still higher from each year. Major outbreaks were reported in 1974, 1978, 1982, 1990 and 1991 and in the last decades cases of dengue in Malaysia have become more severe (Hairi et al., 2003).

The occurrence of dengue cases in Malaysia has been increasing for each year. Kelantan becomes one of the state in Malaysia reported had high percentage of dengue cases therefore it becomes as the state which is frequently get dengue cases among its

community. It has been shown that the number of admission patients in Hospital Universiti Sains Malaysia (HUSM) caused by dengue fever from 2005-2007 dramatically increased (Medical Record Unit HUSM, 2008). There are 112 patients at year 2005 increase to 376 patients at year 2007 reported had dengue fever cases. According to Weekly Dengue Report (2008), the incidence rate of dengue fever shows an upward trend from 2005 until 2007 in district of Kubang Kerian. There are from 583 cases reported in 2005 to 1887 cases of dengue fever in 2007.

Because of the incidence rate of dengue fever showing an upward trend in Kubang Kerian, the researcher chose Kampung Demit and Kampung Bayam which are located at Kubang Kerian area. Below is the table of dengue cases from year 2005 to 2007 in Kampung Demit and Kampung Bayam.

**Table 1.1: Dengue cases in Kampung Demit and Kampung Bayam**

<b>Year</b>	<b>Kampung Demit</b>	<b>Kampung Bayam</b>
<b>2005</b>	1	4
<b>2006</b>	3	28
<b>2007</b>	38	6

Sources: Weekly dengue report, 2008

In Kampung Demit the dengue cases shows an upward trend from 2005 until 2007. But it differs in Kampung Bayam whereas in 2007, the dengue cases had been decreased. Although dengue cases in Kampung Bayam decreased the researcher has its own reason in choosing this area. According to the paramedic in Kota Bharu District Health Office, most areas which had dengue cases not permanently increased. Usually, for each 3 years

dengue cases in those areas will show downward trends. One of the factors that cause dengue cases decreased is the perception of the community itself which covered of the knowledge, attitude and practice. Based from the reason, the researcher wants to compare the level of KAP between this 2 village which are Kampung Demit and Kampung Bayam.

The increasing trend in the incidence of dengue infections is a cause for concern. Since, there have been numerous efforts by health authorities to educate the public about dengue prevention it is therefore necessary to assess the level of knowledge, attitude, and practice among the community. Findings from this study would provide useful baseline information, which could improve on the educational programs, and also the monitoring and evaluation of the dengue prevention and control programs.

Although education campaigns have increased people's awareness of dengue, it remains unclear to what extent this knowledge is put into practice, and to what extent this practice actually reduces mosquito populations. The perception related dengue prevention influences the behavior of the public not fully involved in preventing dengue disease. Based from one study in Trinidad and Tobago, though the community had basic knowledge about dengue, most of them do not feel personally threatened by dengue. The community considered dengue as a serious disease and most named mosquitoes as the carrier of dengue. However most of the community said mosquitoes were annoying, not that they were disease carriers when asked why mosquitoes were a problem to them (Rosenbaum et al., 1995).

In Malaysia, it has become a major public health problem and as previously discussed due to the absence of vaccine or a cure, the only effective measure available to prevent and control dengue is by preventing transmission of the disease by the *Aedes* mosquito. Control measures require support, cooperation and participation by the community. Therefore, it is vital to know the level of knowledge, attitude and the practices (KAP) of the community concerning the disease.

This study is important because thus far, such studies related to knowledge, attitude, and practice (KAP) surveys have been relatively rare in dengue research (Guha & Schimmer, 2005). In Hong Kong, although there are some case reports and surveillance studies on dengue fever conducted, there has been no local research related dengue KAP studies (Pan and Chow, 1984). Knowledge, attitude, and practice (KAP) surveys provide a suitable format to evaluate existing programs and to identify effective strategies for behavior change.

### **1.2.1 Theory/Concept**

The Health Belief Model (HBM) has been modified and being used for this research. This model explores the modifying factors (age, sex, and highest level education) which influence the level of knowledge, attitude and practice related to dengue disease among the community. The HBM is among the most influential health behavior change models in the world and has been extensively evaluated.

### **1.3 Objectives of the study**

#### **1.3.1 General Objective**

To describe the level of knowledge, attitude and practice related to dengue fever prevention among community in Kampung Demit and Kampung Bayam.

#### **1.3.2 Specific Objectives**

1. To describe the level of knowledge, attitude and practice related to dengue fever prevention among community in Kampung Demit and Kampung Bayam.
2. To identify the relationship between demographic backgrounds which are age, sex and highest educational level with community's knowledge, attitude and practice of dengue in Kampung Demit and Kampung Bayam.
3. To compare the level of knowledge, attitude and practice related to dengue fever prevention between community in Kampung Demit and Kampung Bayam.

### **1.4 Research Questions**

1. What are the levels of knowledge, attitude and practices among community in Kampung Demit and Kampung Bayam related to dengue prevention?
2. What is the relationship between demographic backgrounds which are age, sex and highest educational level with community's knowledge, attitude and practice of dengue in Kampung Demit and Kampung Bayam?

3. What is the comparison the level of knowledge, attitude and practice related to dengue fever prevention between community in Kampung Demit and Kampung Bayam?

## **1.5 Hypothesis**

1. Ho: Demographic background (age, sex, highest educational level) do not influence the level of knowledge, attitude and practice among community in Kampung Demit and Kampung Bayam.

HA : Demographic background (age, sex, highest educational level) influence the level of knowledge, attitude and practice among community in Kampung Demit and Kampung Bayam. ( $\alpha \neq 0.05$ )

2. Ho: There is no significant difference level of knowledge, attitude and practice between the community of Kampung Demit and Kampung Bayam.

HA : There is a significant difference level knowledge, attitude and practice between the community of Kampung Demit and Kampung Bayam ( $\alpha \neq 0.05$ )

## **1.6 Definition of Terms (Conceptual)**

### **1.6.1 Dengue Fever**

A viral disease of tropical areas, transmitted by *Aedes* mosquitoes, and marked by severe pain in the head, eyes, muscles and joints, sore throat, catarrhal symptoms and sometimes a skin eruption and painful swelling of parts (Dorland's Pocket Medical Dictionairy, 2005).

### **1.6.2 Knowledge**

Knowledge is defined as the theoretical or practical understanding of a subject acquired by a person through experience and education (Oxford Advanced Learner's Dictionary, 2005). It also can be defined the theoretical or practical understanding related to dengue disease acquired by a person through experience and education.

### **1.6.3 Attitude**

Attitude is defined a way of thinking, acting or feeling (Oxford Advanced Learner's Dictionary, 2005). It also can be defined feeling, manner or behavior of a person toward dengue disease.

### **1.6.4 Practice**

Practice is defined a way of doing something that is usual or expected way in a particular organization or situation (Oxford Advanced Learner's Dictionary, 2005). It also can be defined a thing that is done regularly; a habit or a custom done in dengue control.

### **1.6.5 Community**

A group of people living in the same district or locality in which such a group lives (Oxford Advanced Learner's Dictionary, 2005).

## **1.7 Significance of the study**

This research will give contribution especially in education, research, and in nursing management. Outcome of this research, it will contribute valuable information related to level of knowledge, attitude and practice of community about dengue

prevention. There are numerous efforts by health authorities to educate the public on dengue and the *Aedes* mosquito but the dengue cases in Malaysia still increasing from each year. Finding of this study, the health education programs should be continued and intensified with emphasis on improving the education.

This research can be useful guide/ references for other researcher on next time. All the recommendation and limitation based from this research will be useful for other research, so the mistake will not repeat again. So far, such studies related knowledge, attitude and practices have been relatively rare in dengue research (Guha and Schimmer, 2005).

Outcome of this research, it will create important information related to level of knowledge, attitude and practice of community about dengue prevention. As a nurse, it is our role to educate the community in explaining, discussing with the community related to dengue disease. Nurse also can play their role by participate the health visit or health inspection from house to house.