

CHAPTER IV

Data Exercise

4.1 Introduction

The data exercise is an activity to collect information based upon the data collection techniques and questionnaire guidelines which were developed as a part of my thesis. It was done for the testing both of the techniques and guidelines which will be used for the study. The aim of the study is to develop Information, Education and Communication (IEC) strategies for the promotion of the use of ITNs for malaria prevention among the people at the village level. It was undertaken at Pholkam Village, Pholhong District, Vientiane Province in Laos in July 1998. The collection of necessary information in terms of knowledge, attitude and practice about malaria and the use of Insecticide Treated Bed Nets (ITNs), socio-cultural and economic and perception of IEC are identified relevant in respect to malaria transmission. Therefore, both qualitative and quantitative approaches have been used in the study design. The study is a cross-sectional survey to explore the relevant information needed to develop appropriate IEC strategies for malaria prevention in the future. The outcomes of the data exercise were used to improve the data collection techniques and questionnaire guidelines. For example, which questions the participants did not understand, sequence of the questions especially in questionnaire guidelines for the household surveys, difficult words, long sentences, adding, missing out and local terms etc.

4.2 Instruments used for data exercise.

The questionnaire guidelines used for data exercise was separated into four sets in terms of data collection techniques such as household survey, focus group discussion, observation checklist and review of secondary data. This was done for the reason that there are different kinds of participants or target group in each technique.

The questionnaire guidelines for the household survey was separated into three parts: general information, basic for malaria information, treatment seeking behavior and prevention for malaria. It was quantitative within closed questions. These questionnaire guidelines included knowledge, attitude and practices of the people about malaria and ITNs use, socio-cultural and economic. For example, what and how people know, understand about malaria in terms of causes, symptom, treatment and prevention?, where do they get information?, etc. (see Appendix 1)

The questionnaire guidelines for focus group discussion was separated into three parts such as general information, treatment seeking behavior and prevention for malaria. But, this guideline was qualitative with opened questions to get as many ideas from the participants as possible. It included questions about knowledge, attitude and practice of people on malaria prevention and treatment. The questionnaire guidelines concerning existing IEC materials related to its comprehension, attractiveness and acceptance. Its ability to induce involvement, inducement to act and suggestions for

changes by participants was also included in the same guidelines for the focus group discussions (see Appendix 2).

The questionnaire guidelines for the observation included the questions on the house's condition, surroundings of the house and the village's condition, real practice of the people in terms of malaria prevention and health services. The checklist by tick (✓) was used for the yes answers and by cross (x) for no answers in terms of the above variables mentioned (see Appendix 3).

The questionnaire guidelines for the review of secondary data included general information, health status or problem, malaria situation and malaria control activities as well as any record related to the study (see appendix 4). The questions included what the records, reports, books have shown about malaria in Pholkham Village at the different levels. The documents and reports were found at the village office from the head man and volunteer health workers, and health staff at the Health Post Lak 52, Malaria Station, Vientiane Provincial Health Services, Institute of Malarology, Parasitology and Entomology and Center of Information and Education for Health.

4.3 Objectives of data exercise

4.3.1 General objectives:

To test data collection techniques and collection tools which were designed in the proposal of the thesis.

4.3.2 Specific objectives:

(1). To determine the validity and quality of all questionnaire guidelines in terms of wording, sequences, understanding of people, missing points and addition if necessary from the respondents and research members.

(2). To identify the appropriateness and effectiveness of data collection techniques based upon the topic on developing IEC for the promotion of the use of ITNs for malaria prevention.

4.4 Methodology

4.4.1 Techniques used for data collection

Four techniques were used and tested for data collection and the instruments during the data exercise in Pholkham Village, Pholhong District, Vientiane Province.

(a). Household surveys

Interviews with representatives was done from house to house by two interviewers from Health Post Lak 52 and me (Khamphithoune). 35 households (35 representatives) out of the total 295 households were selected for this technique by the simple random sampling technique. Random sampling is the selection of the number of study units from a defined status population (Agyepong et al., 1995). A representative of each household (adult) was selected for the interview such as mothers, fathers, grandmothers and grandfathers. One interviewer was responsible for fifteen forms.

(b). Focus group discussion

One group including twelve participants (9 males and 3 females) were selected to attend a focus group discussion. The selection was done with the co-operation of the head of the village and his team based upon the participant's qualification and characteristics requirements. The discussion was done at 19.00 p.m. to 22.00 p.m. at the house of the head of the village by the moderator and assisted by a note taker and an observer. A tape recorder was also used during the discussion. The asking of question was begun with general information, health problems of the village and followed along with the questionnaire guidelines.

(c). Observation

Observation was carried out for 2 days at the same village. As there was no map of the village, the selection of the household numbers for this technique was done by asking the head of the village based upon the different zones and conditions of the village in terms of social and structure condition, health problems and services. Ten households out of a total household numbers 295 were selected. This was a small sample because it just was for test and exercise only.

(d). Archival sources (review of secondary data)

The records, and reports from head man, and volunteer health workers of Pholkham Village, reports from Health Post Lak 52 and Malaria Station, Vientiane Provincial Health Services, Institute of Malariology, Parasitology and Entomology and

Center of Information and Education for Health were collected and scanned during the exercise.

4.4.2 Population and sample

The total population of Pholkham Village is 1,252 (662 females and 590 males). There are 295 households and 301 families. At this time, the data exercise was just to test data collection techniques and instruments of my thesis, so only a small sample was selected for the exercise as follows:

This village was in the ITNs program area and all population or households had received ITNs from IMPE in early 1996. Therefore, thirty five households (thirty five representatives) were selected by simple random sampling technique for household survey.

One group included twelve participants was called by the head man of the village based upon the qualification needs for focus group discussion. There were 9 males and 3 females and ten households were selected for observation.

4.4.3 Duration

The data exercise was done during one month (1st to 31st July 1998) and it included transportation, pre-field, field activities, data management, interpretation, and report writing: 3 days for preparation, 4 days for household survey, 1 days for focus

group discussion. 2 days for observation checklist, 4 days for documentation reviews and the other days were used for data management, keying data in to computer, interpretation and report writing to the Government and applied to my thesis.

4.5 Activities

4.5.1 Pre-field

Prior to going to the field, a draft study design was prepared through which work could be started. The draft study design was still open to change as and when necessary during and after the data exercise. In this regard correspondences and contact were made to the Center of Information and Education for Health (CIEH), Institute of Malariology, Parasitology and Entomology (IMPE) to request an agreement letter for conducting the data exercise in order to get good participation from lower levels. It was suggested by Dr. Somchay Pholsena Director of CIEH that health education for malaria prevention especially for the promotion of the use of ITNs should be the priority of our program at the present and in the future. I also went to the IMPE and was given health education materials for testing when I conducted a focus group such as posters, leaflets, manuals and flip charts for malaria prevention and the use of ITNs. Information about the ITNs program in Pholkham Village was introduced. It was also suggested to cooperate with a person who had experience and responsibility for the ITNs program by Dr Ratanaxay, Chief of Administration Division, IMPE

On the 6th July 1998 I went to the Malaria Station, Vientiane Provincial Health Services (MD, VPHS) and District Health Services (DHS), both of these offices are located in the same place. At that time, I briefed the Directors of MS, VPHS and DHS about the objectives of my duty. It was suggested that I change the pilot village of my data exercise from Nathong Village to Pholkham Village which I had selected before, because there was heavy rain and transportation problems. Malaria information was oriented to me by the Director of the Malaria Station. It was suggested that I work with staff at Health Post Lak 52. And Pholkham Village was also selected for my data exercise. Pholkham Village has been the responsibility of Health Post Lak 52 since 1996.

On the 7th July 1998, I went to the Health Post Lak 52. I received cooperation from Dr. Khamsing, Head of the Health Post. Two staff in this health post (Mr. Thavone and Mr. Bounkham, both are nurses) were introduced to participate in my data exercise. Health problems, and the malaria situation of Pholkham Village was oriented to me by Dr. Khamsing at the same time. In the same day, I introduced and oriented the two staff who were selected to work with me about the objectives and how we can succeed with this duty. The progresses and questionnaire guidelines were also introduced to two of them. They were trained on how to fill in the form and helped to understand each question. "If do not understand please ask me, otherwise it will be a problem or data bias" Khamphithoune said. In the evening of the same day, Mr. Thavone, Bounkham and I went to visit the head of Pholkham Village. The objective of the duty, time schedule, activities and target population were discussed and set up.

4.5.2 Field activities

On the 8th July 1998, the data exercise was done at Pholkahm Village according to the planning and outline discussed with the head of the village the day before. The field activities were based upon the data collection techniques.

Household surveys were done for 3 days (8th to 10th July 1998) by 2 staffs from Health Post Lak 52. They went from house to house according to the house number selected for the sample size. One representative in the house (adult) was interviewed. The interviewing was based upon questionnaire guideline. About 20-25 minutes were spent on interviews.

The focus group discussion was done at 19.00 to 22.00 p.m. on the 11th July 1998 at the house of the head of the village with a total of twelve participants (9 males and 3 females). Participants were made to sit in a circle, with one facilitator (Khamphithoune), one note taker (Mr. Thavone) and one observer (Mr. Bounkham). A tape recorder was used with permission to record the discussion. The discussion was based upon the questionnaire guidelines, The moderator always tried to encourage everybody to speak out and give the ideas rather than answering yes and no. In focus group discussion, existing IEC materials for malaria prevention were tested to the participants in terms of comprehension, culture appropriate, attractiveness, acceptance, involvement and inducement to action and suggestions for changes to improve them in the future.

The observation checklist was done on the 12th and 13th July 1998 in the same village. Ten houses in different zones were observed. The observation management was separated into two times such as day and night because in the day time I could see only house condition and surroundings, but I could not see the real practices of the people of the use of ITNs

The Review of secondary data was done from the 14th to 17th July 1998. The documents and records from Health Post Lak 52, Malaria Station, Vientiane Provincial Health Services, Institute of Malariology, Parasitology and Entomology and Center of Information and Education for Health were reviewed.

4.6 Data management

After finishing the information and data collection from the field, the data from the household surveys was keyed and analyzed into computer in EPI-INFO program version 6.0 at the CIEH. I got some help from staff at the CIEH who had more experience with the EPI-INFO program. The focus group discussion, observation checklist and review of secondary data were revised and summarized again. After that, all data and information of each collection technique were classified into category group based upon the questionnaire guidelines as the follow:

General information: general information of the village, occupation, education, health problem and situation, socio-economic etc.

Basic malaria information: knowledge and awareness of malaria in terms of cause, symptom, treatment and prevention for the both qualitative and quantitative data.

Treatment seeking behavior: treatment types usually used, the places mostly visited when they have fever and malaria such as Government hospital, private clinic, malaria clinic and pharmacy.

Prevention for malaria: types of malaria control measures, personal and family protection, health control program etc. The testing of existing IEC was classified in terms of comprehension, culture appropriate, acceptance, attractiveness, involvement, and inducement to act.

After analysis, the outcomes of data exercise was organized according to the following items: The findings, interpretation, discussion. lesson learned and limitations. The last part of the data exercise was the application to my thesis for MPH degree at the College of Public Health, Chulalongkorn University in order to prepare for my thesis examination in late 1998.

4.7 The findings of the data exercise

This section shows a description of what was actually done in the field with each technique in terms of data collection and interpretation of the finding. Since the primary objectives of the data exercise were to test and refine data collection techniques and pre-test the questionnaire guidelines, the following paragraphs will discuss the

lessons learned in that area and how the techniques could be improved based on this. The following paragraphs also present and introduce the natural and artificial setting of the village and the brief situation of general information, knowledge, attitude and practice and human aspect of the villagers and village.

4.7.1 Introduction to the village

Pholkham village is located at Phol Hong District, Vientiane Province, 53 km from Vientiane Municipality to the north on the road 13. There are three ethnic groups: Lao Lum 75%, Lao Sung 15% and Lao Therng 10%. A total population is 1,252 (662 female and 590 males), 295 households and 301 families. There is a forest around the village and one lake behind it (as known Nong Din Chi). Almost all the people are farmers and wood cutters. The main agriculture cultivation is rice. The weather is hot and humid. The Majority of the people live on agriculture such as corn, paddy farming and some are related with fishery and wood cutting after they finished with their rice field. 80% of people in this village migrated from Xieng Kuang Province (north of Laos) since the Lao war about 15 years ago. But, they have still moved and related between this province (Xieng Kuang) to their present village (Pholkham). Xieng Kuang Province is a province with a high incidence rate of malaria (IMPE, 1996). The surface transportation of Pholkham village is plan and is comfortable in relation to other villages. They are no water taps. Water from well and rainwater is used for drinking and consumption. There is a primary school and a small market in this village.

4.7.2 Households surveys

a) General information

The total sample was 35 people. 52.9% were male and 47.1% female. The age ranged from 20-75 years old. 85.3% were married and staying together. 82.4% of the respondents were farmer. 11.8% had non-formal education and 52.9% educated up to primary level. The family size was quite big ranging between 3-15 members in a family. 26.5% had 8 people in one family. On Average, 4 children in the family was 23.5%, but some families had 11-12 children as well. 54.5% of the people in this village are Buddhist and 42.4% are Animist. Information about health or disease prevention given to the people usually came from the head of the village and friends.

b) Basic malaria information

Out of the total of 35 informants, 79.4% knew about malaria. 60% said that people who have a fever, headache, sweating and chills had been called malaria or “Kai Noua or Kai Pa”. *Kai Noua or Kai Pa is a fever with a temperature but it is cold inside the body, looks like a cold fever.* 82.4% knew that malaria was caused by mosquito bites and 30 respondents said malaria is caused by going to the forest. 29 people said that it is caused by not using bed net and ITNs. About 16% respondents believed that malaria was caused by ghosts or drinking unboiled water. 2-3 months ago there was no malaria in this village. There had been seven malaria cases in one family in the last five months. 92.0% out of 25 interviewees (only 25 people responded to this question) said that malaria usually occurred in rainy season rather than other seasons because in the rainy season people go to the field for work without carrying the net. 59.8% out of 24

people (only 24 people responded to this question) said that malaria symptoms includes headache, fever and sweating.

c). Treatment seeking behavior

For the question on what did you do when you got malaria? Out of 25 respondents 48% said that they took anti fever medicine, 40.8% went to the hospital or clinic and 12.0% used self medication. For the question about, "where did you usually go?" 46.4% went to the Government hospital and 28.6% went to the private clinic. Quinine as the first medicine was used by 44.6% and paracetamol by 22.2%.

d). Prevention for malaria

90% out of a total of 35 respondents understood that malaria can be prevented. The techniques cited were drainage, cleaning surrounding, residual spraying, using repellent and coil, eliminating water collection, use of bed nets or ITNs, anti malaria drugs and keeping away from mosquitos. Out of 33 people, 66.7% had sufficient bed nets for their families, 12.1% had nets but not enough for the family and 21.2% had no bed nets at all. Out of 30 respondents 50% said they had no ITNs, 40% had insufficient ITNs and 3% had ITNs and enough for all family members. But ITNs had not been re-impregnated since the end of 1996. Out of the total respondent, only 32 people gave the answer about sleeping under nets and ITNs. 78.1% sleep under nets, 6.3% sleep under ITNs and 12.0% never slept under them at all. 73.5% sleep under the net every day. The reason for non-use of bed nets was heat 81.8%. 48.1% of the people had no bed nets because of lack of money and 52.6% due to lack of health services. Almost, all the people who had bed nets, bought them by themselves.

4.7.3 Focus group discussion

The focus group discussion was done in the house of the head of the village. Twelve participants were attended; nine males and three females. The youngest participant was 21 years old and oldest participant was 78 years old. Most participants were between 25-38 years old. One of the women was a volunteer health worker and one was a teacher at the primary school of Pholkham Village.

a). Knowledge and awareness

The common diseases in this village are malaria, diarrhea, pneumonia, colds and fever. Ten participants said that malaria is the main health problem to the people in their village while three respondents said that diarrhea is the main problem because their family members had suffered from this disease during last 2 months before the focus group discussion was conducted. The local terms of malaria have been called Kai Nuo, Kai Pa or Malaria (as previous explained). Ten participants said that malaria is caused by mosquito bites while two people said that is caused by consuming inappropriate food and dirty or unboiled water. Half of the participants knew about the symptoms of malaria, for example, fever, headache, sweating and chilling. Two participants who were the teacher and volunteer health worker said that if the mosquito bites others who are infected with malaria and then bite you later, you will get malaria. All participants said that you also have a chance to get malaria if you do not use ITNs or nets. Going to the forest without carrying bed nets and wearing a short cloth can result in mosquito bites and the development malaria. Only one participant who was

old said malaria was caused by ghosts. Malaria increases in rainy season because there were more mosquitoes in this period. A few people said that mosquito nuisance was a problem rather than malaria.

b). Treatment seeking behavior

Four participants said that there are many pharmacies and private clinics providing treatment with good services and save time compared to the Government hospital. Therefore, when they get a fever or malaria they mostly went to the clinic and pharmacy for treatment. A few people use self medication, only fever could be cured but malaria still remained in the body. Eleven people knew that there was a Health Post Lak 52 at the village, one km away from the village to the south. Two people who knew had never gone to the health post because of lack of medicine and poor services. Three participants did not know where or what the Health Post Lak 52 was?. One participant used a traditional healer for treatment as she believed in ghosts when her son suffered from malaria. There was a family doctor who resigned 5 years ago. A few people used to get treatment from him when they had health problems because they did not need to go far and they had good relationship with him. Sometimes the family doctor gave treatment in the patient's houses.

c) Prevention of malaria

c.1 Personal and family protection

Eleven participants said that malaria can be prevented by protecting from the mosquito bite. Only one participant said that it cannot because ghosts are the cause of this disease. The reason is that this participant used to receive treatment from the traditional healer when her family members suffered from malaria. All people had bed nets and were sleeping under nets only during the night, “if we do not use bed nets we can not sleep because of mosquito bites and the mosquito nuisance” said participants. No participants used bed nets when they went to the field and forest. In early 1996, every household got ITNs from the malaria program which were freely distributed. Half of them said that ITNs was not enough particularly for big families. The re-impregnation was done in June and December 1996 after the distribution. Then, the project was cancelled. 50% of the participants said that they did not usually use it because it was quite hot and bad smelling compared to ordinary nets. A few people thought that it may have side effects and toxicity if they touched the ITNs. DDT spraying was used 5 years ago. Mosquito coils and burning fires wood for smoke are the best techniques and are usually used to avoid mosquito bites and nuisance.

c.2 Maintenance of house and surroundings

A few people said that poor environment is not the cause of malaria because malaria mosquito live in the forest and they thought that you will get malaria in the forest rather than in the house. Almost, all the participants gave the idea about cleaning the house, and campus such as drainage, draining water collection, pits, burrows etc. can protect from malaria. A few participants said that cleaning the nets is also a method to protect malaria because the nets will be clean, therefore you can see and kill the

mosquito when they are touching or inside your net, otherwise it can not because you can not see them.

c.3 Health education and information

All people said that health education particularly IEC material is most important to increase people's knowledge and awareness of malaria prevention. They also said that all information was given by volunteer health workers and the head of the village and sometime by health staff from the Health Post Lak 52 and Malaria Station at the Vientiane Provincial Health Services when they visited them but not only malaria information. The posters, brochures, flip charts, tape cassettes on malaria were given but it was not enough. During the ITNs program, health staff from central level (IMPE) visited and encouraged them about the use of ITNs. At that time we had a lot of IEC material, some could be understood but some could not. There are no loudspeakers in this village.

c.4 Information on existing IEC material

The last of focus group discussion, existing IEC materials such as posters, leaflets, manuals and flip charts for malaria prevention which were provided to me by Dr. Rommany Pholsena were tested to find out the perception of the people on these materials. The poster was hung on the wall in front of them and the leaflets were distributed to every participant. Half of them said have never seen these materials before while others had seen them at the Health Post Lak 52 and at the house of the

head of the village. According to the questionnaire guidelines, the ideas and understanding of the participants showed that:

c.4.1 Comprehension and cultural appropriate

Nine participants said that the message of the poster and leaflet were clear. According to them it told us how to protect from malaria. Most words were easy to understand but some were not so clear because the sentences were too long. Three respondents could explain the content to the participants completely and clearly. They said that it did reflect their situation and the real practices for malaria prevention because malaria is a serious disease in this village. They said that it will be good if there were enough for every household because they could see every day and then they might be able to understand and practice it.

c.4.2 Attractiveness

All participants liked them especially the poster which talked about "mosquitos are more dangerous than tigers". Since long year they had never seen mosquito bigger than tiger. Posters were very nice because there contained many pictures and colors but the leaflets were not clear. Their suggestions was that it would be better if the mosquitos picture was smaller than the tiger in the poster, because the real situation might be accepted more than an artificial situation.

c.4.3 Acceptance

The participant said that all IEC materials were accepted because their knowledge about malaria would be increased if they have them in their houses particularly the leaflet because it included malaria control activities related to religion. For example, one picture of parasite investigation is done in the temple. So, “if health staffs and the malaria control activities can do as in the picture then the Lao people would not be suffering and malaria can be eradicated soon” participants said. IEC materials would be nice if all pictures were by photograph. One photo in the leaflet was not clear and this caused confuse. The title and content on the poster and leaflets should include local terms about malaria such as Kay Noua or Kai Pa for easy understanding.

c.4.4 Involvement and inducement to act

The poster and leaflet were appropriate to the real situation because the message given was that if you sleep under nets you will not be bitten by mosquitos. This message will help the people to take action. Half of participants said that they could use these materials to explain to their friends, their family members and those who become sick with malaria.

c.4.5 Suggestions for changes

The participants suggested that size of the poster should be bigger, multiple colors, short sentence and letters should be clear. It was suggested not to use the difficult words. Real pictures and situations should be considered and used in the materials. For the people in the rural areas, explanation by pictures would be better and more clear than words or sentences. IEC distribution without explanation is not enough for rural people. Therefore, besides distribution, health personal should also advise and explain to the people as much as possible. Visits by health staff to the people at least once per month would be better, otherwise they would still use self medication and not go to the hospital.

4.7.4 Observations

One of the techniques to collect data in the original study is observation. It was done in Pholkham Village using the observation checklist. It is an important method for data collection in the qualitative approach. The aim is to identify human behavior, socio-economic status such as real conditions of the houses and surroundings and the real practice of the villagers in relation to malaria prevention.

a). Socio-economic status

1). House conditions

All of the ten houses observed were found to have windows. But, there were differences in the numbers of windows in each house; seven houses had three windows and three houses had one window. None of windows were found to have screening.

Similarly, screening of the doors was not found. The house walls of six houses were made of wood but four houses were made of bamboo pieces. The roof of four houses was made of tin and six houses had straw roofs. None of houses had a ceiling (table 4.1).

2. Demographic census

The clusters of the households were found scattered in the north and south of the village, but at the central area it was quite dense. The population density was also found to be higher in the central area.

3. Physical setting (inside of the house)

Among the ten houses it was observed that four houses had two sleeping rooms and six houses had one sleeping room. [During the observation, it was noted that in any house this sentence has no point?] Seven houses had three bed nets each and three houses had two bed nets (table 4.1). All of the bed nets were hung on the wall. Three homes had sleeping places outside the house.

4. Surrounding environment and domestic pets

In the observed houses of the village, cattle were seen in two houses. Chickens, pigs and dogs were also seen in all houses. There were no garbage containers, open waste and water disposals around the house were noted. People used water from the well for consumption. Drainage canals were not seen at all. There was forest around the village. Despite of this vegetable gardens in the backyards of their houses were seen. There is Din Chi Lake approximate 6,400 sqm behind the village. There was a

small road through the village from north to south. Mosquito larvae was seen in the water collected around the well. There was mosquitoes larvae in the water container of two houses as well.

5. Location and provisions of health services and clinics

There was a volunteer health worker who came and participated in the observation. Two formal clinics were seen in the central part of the village. There were four small pharmacies. each pharmacy has a certificate hanging on the wall. But, the sellers in two pharmacies looked different from the photo in the certificate of the pharmacies. Health Post Lak 52 was located about 1 km from the village. I could not see the traditional healers who were mentioned in the focus group discussion.

6. Occupation and agriculture

The main occupation of the people in the village was farming, forest related work and fishery. So, during the observation in the day, many adults were not seen because they had gone to their farms. Both genders were seen at work near the village but the majority was males. The main crops in the village were corn and rice. Agriculture fields were near to the households with an average distance of approximately 50 m.

7. Human behavior aspect

During the observation, the risk behavior of people in terms of malaria transmission was attempted to be observed. Regarding the treatment seeking behavior

it was observed that two people came to the clinic whose blood was examined and given some medicine before going back home. At the moment, in the other site, there were three people coming to the pharmacy to buy medicine. At the Health Post Lak 52, there were many patients as this health post had responsibility for 5 villages in that community.

During the observation at night, burning fire wood for smoke was seen in three households for the reason of protecting the cattle and themselves from mosquitos. The mosquito nets were used only after nine or ten p.m. and heat was the reason them. Other risky behavior of the people sitting around in the open was seen in the evening and at night for drinking and social gathering.

8. Information and health campaign

There was a notice board in the house compound of the head of the village. On the board, posters on malaria and diarrhea prevention were seen together with other messages such as activities of the village, announcements etc. At the clinics and pharmacies posters on hygiene, polio eradication, and vaccination campaign were found.

Table 4.1: Summary of the condition of 10 houses from the observation checklist

| Items | Description | Number of houses |
|------------------|----------------|------------------|
| Window per house | 3 windows | 7 |
| | 1 window | 3 |
| Screening | of windows | 0 |
| | of doors | 0 |
| Ceiling | present | 0 |
| | Absent | 10 |
| Type of wall | wood | 6 |
| | bamboo | 4 |
| Bed nets | two bed nets | 3 |
| | three bed nets | 7 |
| Type of roofs | Tins | 4 |
| | straws | 6 |

4.7.5 Archival sources (review of secondary data)

The review of secondary data was done at many places. Records from the head of the village showed information about the population and other activities of the village. The records from the Health Post Lak 52 showed the health problems of the people in Pholkham village. Three years ago, malaria was the major problem rather than diarrhea and pneumonia. But, since 1996 it had been reduced as shown in the following (table 4.2).

Table 4.2 Health Problems in Pholkahm Village

| Year | Population | Malaria case | | Diarrhea | Pneumonia | Total |
|--------------|------------|--------------|-----------|-----------|-----------|------------|
| | | Microscope | Clinic | | | |
| 1996 | 1164 | 25 | 35 | 12 | 30 | 107 |
| 1997 | 1212 | 15 | 21 | 32 | 18 | 86 |
| 1998 | 1252 | 12 | 18 | 19 | 28 | 77 |
| Total | | 52 | 74 | 63 | 76 | 270 |

Sources: Health Post Lak 52., July, 1998

The records from the Malaria Station, Vientiane Provincial Health services was the same as the records from Health Post Lak 52, because, all of data and information was reported from this health post. The records from IMPE showed the activities of the ITNs program in this village in 1996. There were 295 single and 112 family ITNs distributed to the people and re-impregnation was done two times in June and December of the year 1996.

4.8 Interpretation

After analysis, the finding and results from all data collection techniques: household surveys, focus group discussion, observations and the review of secondary data, the following could be drawn:

1) General information

The gender, age and marital status were not very significant because of the small sample of the data exercise. The occupation was very important to malaria transmission

as shown in the figures, 82.4% were farmers. These people always work in the field or related to the forest. So, they have more chance of being exposed to mosquito bites. This is the cause of malaria transmission. The level of education showed that 11.8% had no formal study and 52.4% were educated up to primary school level. This is quite low education because some people could not read. These lead to difficulty in understanding the printed material for malaria prevention. Most of big families are poor and of low income. So, they can not access health care services. The people who are of Animist religion belief in ghosts. Therefore, when they get sick the traditional healer will be the first person in their treatment seeking behavior. This causes delay for scientific treatment and malaria becomes severe. Din Chi Lake is not flowing and is located behind of the village. It might be a good breeding place for malaria mosquito. This characteristic of lake is favorable for malaria. The dense forest around of the village also provides good shelter for forest dwelling vectors which prefer to feed both on forest animals as well as human beings.

2) Knowledge and awareness

The perception of people about malaria as a problem indicates that they mostly have knowledge about the disease. But, it is notable that people think mosquito nuisance is a bigger problem than malaria. The basic knowledge of the respondents, in terms of malaria is quite high, such as 79.4% knew about malaria, 60% knew about the symptoms and 82.7% knew about the causes of malaria. But, prevention in real practice has not been done based upon their knowledge. For example, they did not carry the nets when they go to the field or forest. This is favorable to mosquito

exposure. Regarding the belief and understanding of some people it still believed that malaria is caused by ghosts, consuming inappropriate food and drinking unboiled water or dirty water. These beliefs and understandings shows that they are not aware about malaria which promotes at risk behavior for malaria transmission. People with higher education like the teacher and volunteer health worker have more knowledge and understanding about malaria than other participants as they said “only infected mosquitos can cause malaria”. This group of people might pay a lot of attention to the transmission of the disease rather than lower educated people.

3) Treatment seeking behavior

The treatment-seeking behavior of the people is very important for the malaria control program. The result of data collection showed that 48% took anti-fever drugs and 12.0% used self medication. This behavior leads to the resistance of the malaria parasite to the drugs, because the drug does not contain the required full dose and also people do not take the full course of the treatment. People’s behavior of approaching the family doctor and traditional healer for treatment is a risky behavior because those people who give treatment to patients, do not have the knowledge about the scientific treatment.

It was felt that the sellers in two pharmacies were not health staff because they looked different to the certificate's photo on the wall of the pharmacies. These people might mistake drugs given for treatment to the patients due to lack of scientific knowledge of drugs and treatment. This would lead to the development of resistance to

malaria. The number of patients attending the Health Post Lak 52 (table 4.2) shows that malaria cases decreased from 1996, 1997 and 1998 as 25, 15 and 12. But, when looking at the finding of observation and focus group discussion results we can see that about 70% of the sick people in the village have been treated by the use of self medication, sellers in pharmacies and clinics. The other reasons for the decrease in the number of malaria patients is that people did not come to the Health Post Lak 52 as there was a lack of medicine and it took time.

4) Prevention for malaria

The people knew and understood that malaria could be prevented by many techniques as the responses shown 75% up to 96.8% by drainage, cleaning house and surrounding, use of the mosquito coil and burning fire wood for smoke, using bed nets or ITNs, and residual spraying. According to the real practice they have different behavior. For example, some people had not used bed nets because of heat and some do not like it. For personal and family protections some have used bed nets, ITNs, coil and burning fire wood for smoke. These are the best techniques for malaria prevention. But, they did not use these techniques all the time especially the use of bed nets, such as they was not carried when they go to the field or forest. 48.1% are poor so can not buy bed nets or afford health services. These people lead to the failure to control malaria as they have a higher chance of being exposed to mosquito bite and will act as a bridge for malaria transmission to others in the village. The ITNs program was cancelled because it did not show satisfactory a effect for malaria control. This was due to people not using it for the reason of side effects and heat. This situation show that people have the

wrong understanding and may be influenced by the lack of IEC or health services or lack of participation from the people.

During the observation, I saw most of house walls in village were made of wood tree and bamboo pieces where there are multiple openings and remained unscreened. Similarly, neither doors or windows of the house were screened. This condition provides entry for mosquitos inside houses and rooms. Every house was found with two or three numbers of bed nets in the sleeping room. But, in real practice it was observed that people had started to sleep under nets at about nine or ten p.m. This caused a risk of being exposed to mosquito bites in the early evening which would be favorable for malaria transmission. There was water collected around the well made by people in the village. This provides a breeding site for vectors and larvae and which would increase the vector density. During the observation, the major occupation of people was farming, forest work and fishing. These people work in the forest or field in early morning and come back in late evening. There were higher chance to be exposed to malaria. People's behavior like spending time in the evening and at night for drinking also provide opportunity for mosquito bite and a favorable environment for malaria.

5) The perception on IEC

Information, education and communication particularly health education materials or health campaigns are very important to increase the knowledge and awareness of people for malaria prevention. In the past, IEC material was not enough,

some inappropriate to the real situation, unclear pictures, difficult words for reading, local terms were not included in materials. All of these could lead to people not understanding and rejecting the materials. This has not caused a change in knowledge, attitude and practice. Health education campaigns were not enough during the ITNs program in 1996, which caused misunderstandings amongst the people. Therefore, health education campaigns without IEC materials support or giving IEC materials without health education campaign is not enough for rural people.

The proper mix between health education campaign and IEC materials is necessary for malaria prevention during the control activities especially for the use of ITNs. It will be better if there is co-operation between concerned organizations and the IEC program such as health education programs and malaria control programs. Otherwise health education programs and malaria control programs alone may not be successful and lead to malaria. This can be seen by the still high transmission rate of malaria proving the failure of the program.

4.9 Discussion

Generally, people in the village of developing countries have low socio-economic status. Their level of income shows inability to buy health care services, use protective measures and increase the quality of dwellings such as the quality of houses. In respect to malaria transmission the proper use of bed nets or ITNs is a suitable preventive measure and has been found highly effective for a long time in many

countries. The use of bed nets or ITNs is the traditional, cheaper and more affordable method to interrupt transmission. The method of the use of ITNs does not require special knowledge. In reality many people have knowledge about malaria but the behavior aspect has not changed. It only seeks people's awareness in their behavior. So, people should be motivated to use ITNs compulsorily during sleeping time by the help of health education.

There are many control measures to interrupt malaria transmission such as the prevention of mosquito bites, control of mosquito breeding grounds and killing adult mosquitos. But, all of these activities should be supported by IEC. otherwise, it will not be successful as there will be lack of participation and people will misunderstand. To encourage community participation and understanding for the use of ITNs and change behavior about the treatment and prevention of malaria. IEC should be used. The IEC should be appropriate for rural people based upon their knowledge, ability, culture and economic status.

Looking at the housing conditions of village, entry of the vector inside the house and rooms is without any resistance increasing the chance to feed on people and transmit malaria. So, the practice of screening doors, windows and others opening should be promoted.

For treatment seeking behavior, improving health services and participation with private sectors such as pharmacy, clinic, traditional healer and family doctor

should be considered as much as possible. This would control the use of self medication and the creation of drug resistance in malaria.

There has been a problem of the ITNs program in the past in many places of Laos included Pholkham Village. Most people did not use ITNs and re-impregnation was continued. Later, the ITNs programs were cancelled. Efforts should be made by community participation to ensure availability through intervention like community financing schemes for the procurement of bed nets or ITNs and IEC promotion for the expansion and sustainability of the program for malaria control.

From the above it can be concluded that there are many control strategies for malaria prevention and it could be affected by many factors such as socio-culture and economic, knowledge and behavior of people and health services. All strategies will succeed and be sustained if the people know and accept that it is their problem and they should be responsible and participate in the program. This means that people can be involved through motivation and health education which then leads to community participation in areas such as personal and family protection through health services.

4.10 Lesson learned

The original techniques for data collection were triangulation. All of these techniques could get more information and a lot of data. But, informal discussion and interviews should be included because the local people can speak out and answer in

informal rather than formal situations. The questionnaire guidelines were tested and changes were made such as the sequences, difficult words and local terms etc. Closed questions were very difficult to respond, to because some answers was not included in the options given. The researchers had to explain this situation so many times to them before they understood. Similarly, the observation checklist was tested and necessary amendments were made. The observation was done twice (day and night). This was done for better observation of the real practices of the use of bed nets. Due to a misunderstanding between head of the village and research team, the focus group discussion was held with many participants with different characteristic such as some were teacher, volunteer health workers and the head of the village. These people knew and spoke more about malaria than others and led to other participants keeping quiet.

As for the research team, each member should have the same understanding and clear concept of the study and questionnaire guidelines. Otherwise, it will cause different interpretations of the same question among the members. Therefore, before starting the research, the facilitator or leader should train and explain about the concepts and guidelines as much as possible till they understand well. Good participation and co-operation from the Government and concerned organizations from central to rural levels are important for the success, for example; CIEH, IMPE, MS., VPHS and Health Post Lak 52 through the head and people at the village need to be involved. And, to get more information, co-operation with private sectors such as clinic, pharmacy, traditional healer and family doctor should be considered.

The followings are the lessons learned during the different stages of the data exercise: *Data collection*:- Informal discussions with the people should be included during the field activities of the study. It should be done by involving them in some activities or social gathering as appropriate. *Questionnaire development*: To develop better questionnaires the local terms and easy question based on people's understanding and literacy level should be used through the involvement of the different participants during the design. They should be health staff, volunteer health workers and community people if possible. With the close-ended question, a blank space should be added to record people's ideas and suggestions and provide space for responses from the people that has not been anticipated. *Observation*: In this section I had learned that this can also be done during the household survey which would save time. *Focus group discussion*: To solve the problem that occurred during the focus group discussion, the guideline for the composition of the group such as homogeneous, same background etc. should be used. The number of participants should not be more than 6-8 because time management is difficult and the questions and answers cannot not be generalized for/by all participants.

4.11 Limitations

The village where I went for my data collection, the population consisted of tribal groups (Lao Sung and Lao Theung) who moved from Xieng Kuang Province in the north of Laos. So, the research members spoke their local language with was different which made understanding for both the participants and interviewers during

the interviews difficult. This caused confusion and fewer responses. I was given many kinds of IEC materials for malaria prevention, general information and some malaria situation of the study site. But, the staff who have experience with malaria was not included in my research team because they did not have no time. I assumed that if he or she was there, it might be beneficial and could encourage people to give ideas.

During the observation I tried to get more information from the clinics and pharmacies where people usually come for treatment. But, those pharmacy and clinic owners tried to hide what he or she is doing and giving to the patients. During the data collection, it was rainy season with caused transportation problems as well as the fact that most people had gone to their fields. At that time, I was given the suggestion to change the pilot village of study from Nathong Village where the ITNs program was still being implemented now to Pholkahm Village where the ITNs program was cancelled since late 1996. To solve the problems caused by rainy season like transportation an unavailability of people at home my proposal will be implemented after the rainy season.

The limitations that were seen during the exercise and the methods were considered to solve them when I will conduct my study: *Language problem*: a person who is working in that particular area and knows about the local language will be included in the research team. The time schedule of the project will be discussed with those who are concerned before starting the project, in order to have better cooperation and suitable time from/for every agency. The lack of participation from private sector

such as pharmacy, clinic etc. does not directly affect my study because my study is to identify information with respect to the use of ITNs and malaria for developing IEC for malaria prevention. Therefore, only the participation from them to give the correct information for the prevention of malaria to the patient after treatment in their clinic or pharmacy will be suggested and asked.