

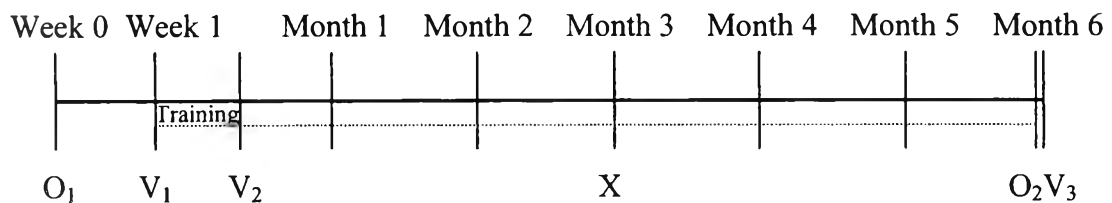


CHAPTER III

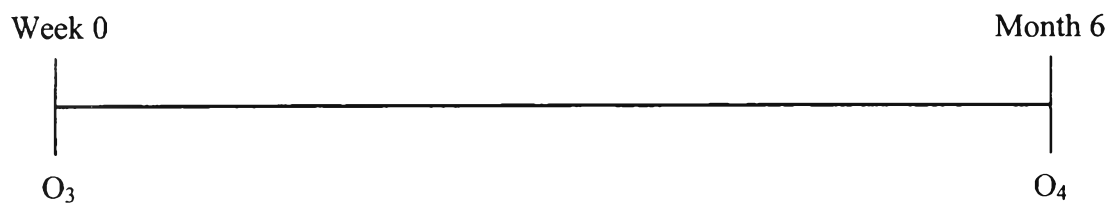
Research Methodology

This quasi-experimental research study has two sample groups; one is the experimental and the other is the control. The experimental group attends an empowerment training program for key community leaders on hypertension and diabetes mellitus prevention and control while the control group does not have any intervention. Data will be collected before and after the experimental periods as shown in the research design below;

Experimental group



Control group



O₁ and O₃ refer to the data collection which is conducted before the experimental period with people aged 40 and older on their hypertension and diabetes mellitus knowledge and screening behaviors for hypertension and diabetes mellitus.

V₁ refers to the data collection which is conducted before the training with key community leaders on their hypertension and diabetes mellitus knowledge, self-efficacy expectations and behaviors in providing knowledge and influencing other people to have hypertension and diabetes mellitus screening.

V₂ refers to the data collection which is conducted after the training with key community leaders on their knowledge about hypertension and diabetes mellitus and self-efficacy expectations.

V₃ refers to the data collection which is conducted after the experimental period with key community leaders on their hypertension and diabetes mellitus knowledge, self-efficacy expectations and behaviors in providing knowledge and influencing other people to have hypertension and diabetes mellitus screening.

O₂ and O₄ refer to the data collection which is conducted after the experimental period with people aged 40 and older on their knowledge about hypertension and diabetes mellitus and screening behaviors for hypertension and diabetes mellitus.

Training refers to a two-day empowerment training program for key community leaders which applies empowerment theory and self-efficacy theory.

X refers to monthly monitoring phase to support and facilitate the implementation of key community leaders.

Research population

Populations of this research study are people aged 40 and older as they are the risk group of hypertension and diabetes mellitus residing in Kao Din sub-district, Kao Panom district, Krabi province.

Sample groups

1. Key community leaders are one village headman, 4 assistants to the village headman, 2 members of Tambon Administrative Organization, 21 health volunteers, 2 key leaders of woman occupational groups in Moo 5, Kao Din sub-district, Kao Panom district, Krabi province, totaling 30 persons.

2. People aged over 40 and older are the risk group of hypertension and diabetes mellitus residing in Moo 5, Kao Din sub-district, Kao Panom district, Krabi province, totaling 142 people.

Selection of the sample groups

The following steps are conducted in the selection process;

1. Province, District and Sub-District using purposive selection.
2. Villages will be selected by lot drawing, using simple random sampling without replacement. Names of all nine villages in Kao Din sub-district, Kao Panom district, Krabi province are written in slips of paper for lot drawing. Moo 5 is the first slip which is picked up to represent the experimental group and Moo 4 is the second, representing the control group.
3. In the experimental group, purposive sampling is applied to specifically choose the following key community leaders; one village headman, 4 assistants to the

village headman, 2 members of Tambol Administration Organization, 21 health volunteers and 2 key leaders of woman occupational groups, totaling 30 people.

4. People aged over 40 are chosen for the experimental and control groups, using the simple random sampling technique. Names of all people aged 40 and older are written in slips of paper for lot drawing. There are 142 people in the experimental group and 128 people in the control group. One hundred names will be picked up for each group.

Research Instruments

Research instruments consist of 4 sets of questionnaire as follows;

Set 1 is the research tool to collect data prior to the training with the key community leaders on their knowledge about hypertension and diabetes mellitus, self-efficacy expectations and behavior in providing knowledge and influencing other people to have the screening. This set of the questionnaire can be sub-categorized into 4 parts as follows;

- **Part 1** concerns demographic data of the key community leaders; namely, sex, education, occupation, income/month, roles and responsibilities in the community and time duration on community services.
- **Part 2** comprises 24 true/false questions regarding knowledge of hypertension and diabetes mellitus. Respondents have to decide if it is true or false for each question. If their answer is correct, one point will be awarded but if they are incorrect, they will get no point. The full score is 24 points and here are the score levels;
 - High level (75.01-100%) or score = >16 points

- Medium level (50.0 -75.00%) or score 9-16 points
- Low level (0.00–50.00%) or score \leq 8 points
- **Part 3** covers 6 questions about self-efficacy expectations which consist of positive and negative statements. Likert's scale is applied for these questions, so respondents are required to select only one answer which best describes their opinion in each question. Here are criteria for score levels;

	Positive statements	Negative statements
True	3	1
Not sure	2	2
False	1	3

Range of the score = 3-18 points

- **Part 4** has 2 questions concerning behaviors in providing knowledge and influencing other people to have screening for hypertension and diabetes mellitus.

Set 2 is the research tool to collect data of the key community leaders after the training on their knowledge about hypertension and diabetes mellitus and self-efficacy expectations. This set can be sub-categorized into 2 parts as follows;

- **Part 1** includes 24 true/false questions regarding knowledge of hypertension and diabetes mellitus. Respondents have to select true or false for each question. If their answer is correct, one point will be awarded but if they are incorrect, they will get no point. The full score is 24 points and here are three score levels;
 - High level (75.01-100%) or score = >16 points

- Medium level (50.0 -75.00%) or score 9-16 points
- Low level (0.00–50.00%) or score \leq 8 points
- **Part 2** covers 6 questions about self-efficacy expectations which are positive and negative. Likert's scale is used for these questions, so respondents are required to select only one answer which best describes their opinion in each question. Here are criteria for three score levels;

	Positive statements	Negative statements
True	3	1
Not sure	2	2
False	1	3

Range of the score = 3-18 points

Set 3 is the research tool to collect data after the experimental period with the key community leaders on their behaviors in providing knowledge and influencing other people to have the screening. This set covers 3 questions; namely, providing knowledge, influencing other people to have screening for hypertension and diabetes mellitus and a list of people whom they have and influenced to have the screening.

Set 4 is the research tool to collect data before and after the experimental periods with people aged over 40 on their knowledge about hypertension and diabetes mellitus and screening behavior for hypertension and diabetes mellitus. This set can be sub-categorized into three parts as follows;

- **Part 1** concerns the demographic data of people aged over 40; namely, first and last names, age and address.
- **Part 2** concerns knowledge of hypertension and diabetes mellitus.

- **Part 3** concerns hypertension and diabetes mellitus screening.

Development of the research tools

1. Study concepts and theories and conduct literature reviews of textbooks, journals and reports which are related to empowerment for community leaders.

2. Compile the data acquired from the literature review and based on the data, design and develop a questionnaire to fully cover the research's purposes and to ensure the questionnaire meets the academic standard.

3. Consult with a research advisor and specialists to check the content's validity and completeness in the questionnaire.

4. Pre-test the revised research tools with 30 people residing in Na Kao sub-district, Kao Panom district, Krabi province and sharing common characteristics with the research population. Then, use Crobach's Alpha Coefficient to calculate the pre-test score and the result is 0.8004.

Data collection methods

1. Preparation

1.1 Submit a project proposal to Kao Panom district health office.

1.2 Review literatures and documentations which are related to hypertension and diabetes mellitus, empowerment concepts and theories and self efficacy theory which will be used in the training for key community leaders.

1.3 Ensure that the researcher and resource persons are ready for the empowerment training program.

1.4 Randomly select 2 villages; one as the experimental group and the other as the control group. Then, randomly select samples of people aged over 40; 100 cases for the experimental and another 100 for the control.

1.5 Contact and coordinate with key community leaders in the experimental group and ask for their cooperation in this study.

1.6 Arrange a venue, materials, food and beverages for the training.

2. Implementation

2.1 Use a questionnaire to collect data prior to and after the experimental periods with 200 people aged 40; 100 from the experimental group and the other 100 from the control group.

2.2 Organize a two-day training program for 30 key community leaders and sessions in the training will be conducted as planned in the agenda by the researcher and resource persons. Data of the key community leaders are collected before and after the training.

2.3 The key community leaders provide knowledge and influence other people to have screening for hypertension and diabetes mellitus.

2.4 The researcher conducts six monitoring visits.

2.5 In the post experimental period, use the questionnaire to collect data with people aged over 40; 100 from the experimental group and 100 from the control group on behaviors of the key community leaders in providing knowledge and influencing other people to have hypertension and diabetes mellitus screening.

Data analysis

Acquired data will be processed and analyzed, using a computer software program for the statistical calculation as follows;

1. Percentage and mean of the demographic data of the key community leaders.

2. Percentage and mean of the demographic data of people aged over 40.

3. Comparison of the mean score of the key community leaders between before and after training and after experimental periods on their hypertension and diabetes mellitus knowledge and self-efficacy expectations, using paired-sample T-test.

4. Comparison of the proportion between before and after experimental periods on the key community leader's behaviors in providing knowledge and influencing other people, using χ^2 – test (Mc-nemar test).

5. Comparison of the mean score of people aged over 40 between before and after experimental periods on their hypertension and diabetes mellitus knowledge, using paired-sample T-test.

6. Comparison of the proportion between before and after experimental periods on the 40-year-old or older people's screening behaviors for hypertension and diabetes mellitus, using χ^2 – test (Mc-nemar test).

7. Comparison of the proportion between the experimental and control groups consisting of people aged over 40 who have hypertension and diabetes mellitus screening, using Z – test.

Ethics of the research

1. Key community leaders

- Bann Kor Tong Health Center in Khao Din sub-district, Khao Panom district, Krabi province sent out a letter asking for cooperation and inviting research samples to attend empowerment training programs for hypertension and diabetes mellitus prevention and control. Dates, times and venues for the training were indicated in the letter and program of the training schedule was enclosed.

- Verbally request for the research samples' consents prior to data collection.

- Personal data were kept confidential.

2. Research samples aged over 40 years

- Begin with self-introduction and explain objectives of the data collection.

- Verbally request for the research samples' consents prior to data collection.

- Personal data were kept confidential.