



## CHAPTER II

### LITERATURE REVIEW

This chapter covers concepts, theories and relevant research studies which the researcher has compiled from textbooks, documents and journals and used as guidance in developing this research project to empower key community leaders residing in Kao Din sub-district, Kao Panom district, Krabi province on the prevention and control of hypertension and diabetes milieus. Contents in this chapter will be presented by section as follows;

Section 1: Hypertension and diabetes mellitus

Section 2: Related theories

- Empowerment theory
- Self-efficacy theory

Section 3: Related research studies

Section 4: Conceptual framework

#### **Section 1: Hypertension and diabetes mellitus**

##### **Hypertension**

Hypertension is the force of the blood pushing against the walls of the arteries. High blood pressure is a medical condition in which the blood pressure is deviated from the normal level but it has yet to be clearly defined between the normal and high levels of blood pressure. World Health Organization/ International Society of

Hypertension (WHO/ISH) has proposed the hypertension diagnosis standard which is directly associated with increased risks of having cardiovascular disease (CVD). WHO/ISH suggests that blood pressure should be accurately and repeatedly measured at different occasions and Systolic Blood Pressure (SBP)  $\geq 140$  mm Hg and/or Diastolic Blood Pressure (DBP)  $\geq 90$  mm Hg (Department of Medical Services, Ministry of Public Health, 1998).

The Bureau of Medical Technical Department, Ministry of Public Health has developed blood pressure classifications which are adapted from seminar reports of hypertension care and treatments in Thailand (1995 and 1996) and the sixth report of the joint national committee on prevention, detection, evaluation and treatment of high blood pressure (1977) which can be concluded as follows (see table 1);

Table 1: Classifications of Blood Pressure

	Systolic blood pressure (mm Hg)	Diastolic blood pressure (mm Hg)
Normal	< 130	< 85
High normal	130 – 139	85 – 89
Mild hypertension	140 – 159	90 – 99
Moderate hypertension	160 – 179	100 – 109
Severe hypertension	180 – 209	110 – 119
Extremely severe hypertension	$\geq 210$	$\geq 120$

Due to the instability of the blood pressure, hypertension diagnosis must be conducted based on several blood pressure measurements at different occasions. Patients should be in sitting position and a blood pressure meter or digital blood pressure device should be regularly checked for its reliability with the mercury meter.

Recommended procedure for blood pressure measurement 4 step

- Patients should sit and relax for a minimum of five minutes before the blood pressure measurement.
- Use an arm cuff with a bladder sized 12-13 cm. and a bigger size is required for patients with large arms.
- Encircle the arm cuff at the top of the arm and at roughly the same vertical height as the heart, regardless of the patient's position.
- Use the Korotkoff sound (DBP if the sound disappears)

### **Diabetes mellitus**

Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia which results from defects in insulin secretion, insulin action, or both.

The chronic hyperglycemia of diabetes is associated with long-term damage, dysfunction and failure of various organs, especially the eyes, kidneys, nerves, heart, and blood vessels. The basis of the abnormalities in carbohydrate, fat, and protein metabolism in diabetes is caused by deficient action of insulin secretion and/or less responsiveness of tissues to insulin. Deficient insulin action results from inadequate insulin secretion and/or diminished tissue responses to insulin at one or more points in the complex pathways of hormone action. Impairment of insulin secretion and defects in insulin action frequently coexist in the same patient, and it is often unclear which abnormality, if either alone, is the primary cause of the hyperglycemia (Endocrine Society of Thailand, 2000).

The Endocrine Society of Thailand (2000) has classified diabetes mellitus into 4 types based on the American Diabetes Association's classifications in 1997;

**Diabetes mellitus type 1** results from an autoimmune destruction of the beta cells of the pancreas. The minority of patients will not know causes of this form of diabetes mellitus and they finally have to become dependent on insulin to prevent ketoacidosis.

**Diabetes mellitus type 2** is categorized by insulin resistance together with abnormalities of insulin secretion in pancreas.

**Other specific types of diabetes mellitus** refer to a health condition which is affected by abnormalities of hormones, medications or chemical substances or others.

**Diabetes mellitus during pregnancy** is the diabetes or abnormality of glucose resistance which is detected in the first diagnosis during pregnancy.

Criteria used for diabetes mellitus diagnosis, based on laboratory results, are as follows (Endocrine Society of Thailand, 2000);

1. Plasma glucose during fasting period of at least 8 hours is at or above 126 mg/dL at least twice or;
2. Plasma glucose at any time is at or above 200 mg/dL together with signs and symptoms of diabetes mellitus (frequent urination, increased fluid intake, weight loss without reasonable causes) or;
3. Two hours after an intake of glucose in the amount of 75 grams, plasma glucose is at or above 200 mg/dL at least twice.

## **Section 2: Concepts and theories**

### **Empowerment theory**

#### **Definition of the empowerment**

Appaport (referred in Banpuan, 2004) defined empowerment as a process which individuals, groups and communities have capabilities to have control over their lives.

Minkler (referred in Banpuan, 2004) said that empowerment is a process which individuals and communities are capable of controlling and collaborate to take action in order to make changes in their lives and surroundings where they live.

Wallerstein and Bernstein (1988) recommended that empowerment is a learner-centered educational approach which encourages learners to participate in the learning process by using dialogues to exchange knowledge and opinions and motivate them to work together to identify problems and analyze causes and the problem background. The learners have to use their judgment to view the society as it should be and develop strategies to solve the problems to accomplish their desired goal. This education approach does not only promote the learner's self-respect but also elevates their self-efficacy. In addition, it motivates them to have healthier behaviors which can have impacts on the group level and result in community transformations. Empowerment is the process which can be widely applied in health promotions, individual and community developments, improvement of quality of life and social equality establishment.

Empowerment is an individual, group and community development process which enables people to solve their personal and community problems. Recently, health education are applied the empowerment process to strengthen individuals and

groups in health promotion, especially with key community persons who will be the health promotion leaders; such as, village committees, health volunteers or members of tambon administration organizations. The empowerment process is a one of the best strategy for key community leaders capacity building in community diagnosis and community development. Empowering key community leaders to learn about factors contributing to health problems, its assist them in finding the solutions for certain health problems. Moreover, the key community leaders will also learn to believe in their own and their group's capacity in working together to solve problems and improve health status of their own self, family and community.

### **Importance of the empowerment**

As mentioned earlier, Empowerment refers to increasing the spiritual, political, social or economic strength of individuals and communities. It often involves the empowered developing confidence in each individual capacity.

Those doing the empowering should help the group in any way possible, particularly with tasks which they cannot yet do for themselves. In time, they can learn how to do many of these tasks on their own. Help with tasks which the marginalized people can do for themselves. Initiative and motivation are increased when people have a more positive attribution style. This influences self-belief, resilience when faced with set-backs, and the ability to visualize overcoming problems. The implication is that 'empowerment' suits some more than others, and should be positioned in the broader context of an 'enabling' work environment.

Empowerment has been used to train individuals or communities in order to alter their behavior, life-style leading to the health improvement of the communities. The WHO policy (1991) to improve the public health states that "The final goal of

self-care is to empower individuals and communities to enhance their abilities to manage and strength their health system”

### **Evaluation of education empowerment**

Wallerstein and Bernstein (1994) suggested that an evaluation of education empowerment should be consistent with the following concepts of the education empowerment process;

1. First concept is the participation of learners in educational activities or working together in the community. It will support individuals to realize their own self values and capabilities. Measurable variables are self-esteem and self-efficacy which will enable them to take control of changes and solving problems.

2. Second concept is the related outcome which results from gatherings of individuals and their collaboration for any specific activity.

3. Third concept is the change which has impacts towards surroundings.

### **Principles of education empowerment**

Bishop et al. (1988; Arnold and Bruke 1983) pointed out key principles of education empowerment as follows;

1. Learning process emphasizes individual empowerment by supporting learners to understand linkages between their own selves and surroundings and it is believed that people have capacities to improve health status in the individual, group and community levels.

2. Learning process starts from experiences of learners and they are encouraged to think and analyze problems, using their judgment to link their own

problems with social factors. This will help them understand the problems and lead to behavior changes which are being or will be initiated by individuals in the future.

3. Learning process allows learners to actively participate and supports them to be involved in each and every step, starting from topic selection which is of interest and importance to the learners, activity planning, participation in discussion and activity arrangement and self-evaluation and project evaluation.

4. Group learning requires all group members to learn from one another. Public health personnel will change their roles and responsibilities to facilitate or coordinate the learning process, instead of passing the knowledge like in the old days. Changing the roles and responsibilities supports emerging of new knowledge which reflects the reality and makes the group become energetic and active to take action to solve problems or change something as they wish.

5. Learning process triggers changes in knowledge, attitudes, feelings and skills which can immediately occur or can be delayed after an intervention.

6. Learning process is flexible and continuous. Contents, approaches and learning materials can be adapted to meet the needs of learners and groups. In addition, learning process is not confined within the classroom setting because they can learn a great number of things from their direct experiences and through their self-experiment at all time.

7. Learning process is fun and entertaining. Contents, approaches, and learning materials can be adapted to meet the needs of learners and groups, so they do not feel that they are forced to learn and the contents are irrelevant to them or they are forced to do something which is beyond their capacities.



8. Curriculum used in the learning process must be formulated with clear goals. This will be helpful when selecting steps, techniques, equipment and activities appropriately to facilitate their learning and assist them to accomplish their desired goals.

From the aforementioned principles, education empowerment does not only refer to teaching techniques which must be selected appropriately for situations and it is not a combination of various teaching techniques but the education empowerment is a philosophy and theory in arranging education for individuals because each technique (such as, small group discussion, role play) can be applied with any type of teaching concepts. For instance, some techniques should not be used with a conventional teaching concept because learners will lose their interest and become dependent or disempowered. In conclusion, teaching techniques can make learners become empowered or disempowered, depending on concepts and capacity of people who will apply these techniques and target audiences with whom they will use the techniques.

### **Empowerment learning process**

Empowerment learning is a student-centered learning process which allows involvement of learners in planning and arranging learning activities. These will create empowerment mechanisms for learners as they can truly be involved in the learning process. Here are major components of the empowerment learning process (Chuchat et al. 1995 and Pensirinipha, 2001);

1. Experiencing: Experiences are the key of the learning process and the first step in the reflection process which mirrors experiences which we have encountered, felt and heard. These past experiences are the beginning of the learning process and

for the Education for All, it has to be based on exchanges of real life experiences in order to create as many learning opportunities as possible for learners.

2. Naming experiences is the second step of the learning process. It explains what happens in a situation, what we have said or done, how we feel, what other people say about it, why this situation is important and what we do not understand. In the learning process of the Education for All, there will be an exchange of experiences, feelings, values with others and attempts to connect them with our lives.

3. Analysis of an experience is the next step which we attempt to fully understand the experiences; such as, who is powerful in this place, who is the most influential person, who is the most trustworthy, who has the authority to make a decision, who is affected by the decision making and what are similarities with prior situations. This study aims to help learners to thoroughly understand factors in any certain situation.

4. Planning is another step when the learners start planning strategies about what they will implement and it leads to action. Principles of the Education for All emphasize on changes and it is believed that learning without any action would lead to inactiveness and ineffectiveness. As a result, in the process of strategy development and putting the strategy into practice, planners have to stimulate and ask themselves what they want and what they wish to take action and how they use their learning

5. Doing is the last step which covers not only testing, searching, experimenting and implementation but also refers to awaiting, listening and monitoring because doing is a real life experience which we have to think and consider. After acquiring some new bodies of knowledge from new experiences, the new experiences will be emerging goals of our learning process. Doing will result in

more experiences and will be a new cycle for learner's participation in education empowerment.

### **Roles of the empowerment educator**

Duangsa et al. (referred in Pensirinipha, 2001) said that the educator's roles in the education empowerment must be shifted from an instructor who passes on the knowledge in the conventional learning approach to become a coordinator and facilitator because the education empowerment believes in self-efficacy of individuals who can learn from their own experiences and exchange knowledge and opinions with others. In addition, it suggests that the learning process will happen when learners think and make an analysis of something until they fully understand it by themselves. This is like there is a new body of knowledge in the learner. So, the role of the educator is to stimulate learners to engage in a learning process by creating supportive learning environments which allow active participation from the learners and encourage them to exchange experiences and opinions. This will lead to new creative bodies of knowledge and help the learners improve their thinking and implementation skills to bring about changes in the individual and social level.

Supportive environments for education empowerment must allow an educator and learners to learn from each other and both parties are sources of knowledge and thoughts, instead of the educator acts as an expert or specialist in any particular subject. So, to check if the teaching and learning process is arranged in accordance with the education empowerment, the first indicator must be that both educator and learner are equally important in participating in activities or process for any specific educational activities.

In arranging education empowerment, the educator should be aware of its concepts and have thorough understanding about the education empowerment principles. In addition, the educator must be proficient at necessary skills and techniques of the education empowerment in order to gain trust and develop a curriculum in compliance with the education empowerment principles, leading to achievements of teaching and learning arrangements as planned. So, the educator should be trained on techniques in arranging education empowerment for their target populations. During the process of planning for action, the educator can select certain techniques which are appropriate for their target group or adapt them for proper arrangements.

Most techniques of empowerment education promote dialogues among learners in exchanging knowledge and thoughts and facilitate an analysis of real life problems including those of their interest. In addition, these techniques which are related to gestures, movements, drawings, song writing, etc, help groups of learners understand and analyze problems together. Activities which concern arts, music performances and inventions can help learners to become creative and when individuals think and collaborate in some activities; such as, role-playing or song writing, it will make them feel they have capacities and increase their self-respect, leading to empowerment.

### **Group activities and education empowerment**

Chuchart et al. (1995) explained that activities in the participatory training can be classified into three categories based on purposes of the training as follows; 1) general activities for individual capacity improvement, 2) problem analysis and planning, and 3) promoting supportive learning environments. Participatory training

does not emphasize on theories or lectures but participants of the training will acquire theories, knowledge and guidance for problem solutions from their life experiences and activities which they have participated. However, this does not mean that the participatory training will not have any lectures.

In this part, activities will be classified into 3 groups by main purposes as follows;

1. Activities which aim to improve or build individual capacity; this is an important purpose of the participatory training. Individuals need to learn about their own self and accept other people's capacities and opinions. Building individual's capacity about teamwork, trust and acceptance of one another are crucial, especially in the training. Participants in the training must first possess these attributes. So, activities aiming to improve individual capacity will usually be organized at the beginning of the training to help the participants to;

1.1 Express their expectations towards the training

1.2 Build good relationships with other participants

1.3 Improve teamwork skills

1.4 Understand and accept opinions of other members in the group

2. Activities which aim to build problem analysis and planning skills; one of expectations from participatory training is that after learning from activities in the training, participants can identify critical problems and make plans to solve the problems. In addition to increased capacities in problem identification, planning and problem solving, an indirect outcome is that they become more confident to continue their work.

3. Supportive activities; this kind of activities are often considered as entertainment but several of these activities aim to build good relationships among participants and reduce differences of personal social status. This is very important for the participatory development and participation in governance. The relationships between participants must be equal, not hierarchical. In addition, these activities can the participants to reduce or release stress during the training.

Pensirinipha (2001) made some recommendations about education empowerment evaluation that it is essential to clearly understand purposes to apply empowerment process. Once it is clear, indicators for the evaluation can be determined appropriately and the following three indicators are used in the evaluation;

1. If the empowerment is the means which initiates effective and efficient learning process, the evaluation will measure behavioral variables which are the outcomes from learning; such as, knowledge, attitudes, belief and practices.

2. If the empowerment is the ends occurring to target populations, the evaluation will measure individual or group empowerment. However, if it concerns the individual empowerment on general issues, self-esteem could be a variable to be measured and in case of individual health issues, self-efficacy or actual behaviors should be used as measurable variables

3. For the group empowerment, the evaluation should measure the gathering of members in arranging group activities, satisfaction of the gathering, social support of the group members, etc.

In case of needs for impact evaluation of the empowerment towards public health problem solving, changes of environmental sanitation and reduction of public

health problems should be measured. These are the outcomes of individual and public behaviors in solving their health problems.

However, to evaluate outcomes of the empowerment, it could be a combination of type 2 and 3 altogether to make it more sensible and stronger in explaining impacts which occur or do not occur.

### **Self-efficacy theory**

Main concepts of the self-efficacy theory are based on the social learning theory, developed by Albert Bandura (as referred in Traetulakarn, 1998), Canadian psychiatry who had studied and developed the theory since 1962. Later in 1986, Bandura extended his social learning theory to include personal belief in their self-efficacy which can influence and motivate people to accomplish certain tasks. So, it has become an important concept to link 'knowing what to do' with 'actually doing it'.

According to the main concepts of the social learning theory which Bandura believes that individual behaviors do not simply happen and can be altered solely because of environments but individual factors also play an important role and the combination of several individual factors must be reciprocal determined with behavioral and environmental factors. So, causes of behaviors must have a reciprocal determinism among these three factors;

Internal person factor = P

Behavior condition = B

Environmental condition = E

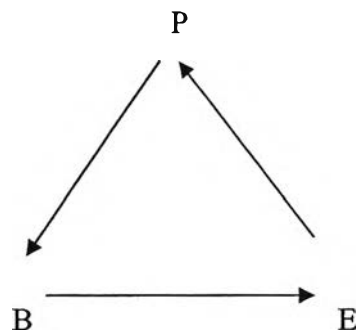


Figure 1: Reciprocal determinism of internal person factor (P), behavior condition (B), and environmental condition (E)

Although these three factors are reciprocal determined, it does not mean that they have equal influence over the others. Some factors may have more influence than the other two and the influence of these three factors may not occur at the same time. Time may be needed for reciprocal determinism.

From the aforementioned concept, Bandura (as referred in Mongkolsin, 2001) developed the self-efficacy theory which believes that individual perception of his/her own capacities can affect their action. Individuals may have the same level of capacities but they may have different behaviors or at different degrees. Even in a case of an individual, if s/he realizes his/her own capacities in different situations, s/he can have different behaviors in these situations. Bandura says that individual capacities are not fixed but flexible depending on situations. So, the efficiency of their expression is determined by perceived self-efficacy which can be defined as a decision made by individuals about their capacities to manage and take action to accomplish their goals. So, if an individual believes that s/he has capacities, s/he will be persevere, patient and does not give up until s/he succeeds.

Bandura (1977; as referred Traetulakarn, 1998) suggested four techniques for self-efficacy improvement as follows;



1. Mastery experience is the most efficient technique to improve self-efficacy because it comes from direct experiences and success can add more self-efficacy. So, self-efficacy improvement requires training programs for individuals to be equipped with sufficient skills to become successful and at the same time makes them realize their self-efficacy to accomplish their goal. It will motivate them to apply their acquired skills efficiently. Individuals who realize their self-efficacy will not easily give up but will work hard to accomplish their desired goal.

2. Modeling: if individuals make observations of other cases which are complicated but at the end earn satisfactory outcomes, it will make the observers feel they can also be successful if they work hard and do not feel despair. One modeling technique which can empower individuals to feel capable of doing things is to encourage individuals who are afraid of taking action to look at other people who have similar problems and it can help them relieve some of their fears.

3. Verbal persuasion is used to tell individuals that they are competent and can be successful. This technique is quite easy and widely used; however, verbal persuasion alone sometimes does not work. So, to make people successfully improve their self-efficacy, this technique should be applied while supporting them to experience some success. This can be done by gradually providing capacity building for them and they will achieve success in each step of their efforts. Verbal persuasion should be used with other techniques to yield positive outcomes for the self-efficacy improvement.

4. Emotional arousal can affect the perception of self-efficacy when individuals are threatened. In making a decision, individuals may have concerns and stress which are possibly caused by physical arousal which, in severe cases, can cause

poor judgments and performances. Individuals usually expect success when they are not in a situation which they are aroused by unsatisfactory factors. Fears may make them more terrified and if people experience some failures, it will have negative effects on their perception of self-efficacy.

Bandura (1977; as referred in Traetulakarn, 1998) also suggested 4 processes to activate individual capacity which are related to self-efficacy perceptions and can affect human behaviors;

1. Cognitive processes; there are a variety of forms of self-efficacy beliefs on the cognitive processes. Human behaviors are regulated by valued goals and self-appraisal of capabilities. People who have a high sense of efficacy visualize success scenarios which provide positive guidance and supports for their performances. But those who doubt their efficacy often visualize failure scenarios and it is difficult for them to achieve much while fighting self-doubt. .

A major function of thought is to enable individuals to predict events and develop ways to control those which affect their lives. Such skills require effective cognitive processing of information which contains many ambiguities and uncertainties.

2. Motivational processes; most human motivation is cognitively generated. People motivate themselves and guide their actions anticipatorily by the exercise of forethought. They form beliefs about what they are capable of doing and anticipate likely outcomes of prospective actions. They set goals for themselves and plan courses of action, designed to achieve their future goals.

Motivations based on goals or personal standards are controlled by three types of self influence; namely, self-satisfying and self-dissatisfying reactions to one's

performance, perceived self-efficacy for goal attainment and readjustment of personal goals. Self-efficacy beliefs contribute to motivation in several ways; they determine the goals people set for themselves; how much effort they expend, how long they persevere in the face of difficulties; and their resilience to failures. When faced with obstacles and failures, people who have self-doubts about their capabilities give up quickly. On the other hand, those who have a strong belief in their capabilities try harder and when they fail, they look at it as a challenge to make them feel more motivated and stronger. These attributes can contribute to performance achievements.

3. Affective processes; people's beliefs in their coping capabilities have effects on how much stress and depression they experience in threatening or difficult situations, as well as their level of motivation. Perceived self-efficacy to exercise control over stresses plays an important role in anxiety arousal. People who believe they can exercise control over threats do not conjure up disturbing thought patterns (feeling concerned). But those who believe they cannot manage threats experience disturbing high anxiety arousal and dwell on their coping deficiencies. They view many aspects of their environment as surrounded by danger and magnify the severity of possible threats. Through such inefficacious thinking they distress themselves and impair their level of functioning. Perceived coping self-efficacy regulates avoidance behavior as well as anxiety arousal. The stronger the sense of self-efficacy, the bolder people are in taking on threatening activities.

4. Selection processes; beliefs of personal efficacy can shape the course lives take by influencing their types of activities and environments people choose. People avoid activities and situations which they believe exceed their coping capabilities but they readily undertake challenging activities and select situations they judge

themselves capable of handling. People cultivate different competencies, interests and social networks that determine life courses. Any factor that influences choice behavior can profoundly affect the direction of personal development. This is because the social influences operating in selected environments continue to promote certain competencies, values and interests long after the efficacy decisional determinant had rendered its effect.

### **Section 3: Relevant studies**

Kamolpetch et al. (1999) studied the effectiveness of the empowerment among key leprosy contact cases in searching for new cases in Nakhonratchasima province and the study showed improvements in an experimental group after the intervention in terms of (1) knowledge about leprosy, compared to the pre-intervention period and (2) physical examination for leprosy, compared to the pre-intervention period and the control group. Additionally, it revealed that after the intervention, there were other improvements in the key leprosy contact cases, compared to the pre-intervention, as follows; knowledge about leprosy, expectations towards the outcome and referring/taking leprosy contact cases to have a physical examination for leprosy. Regarding their expectations towards self-efficacy, the study showed that after the intervention, they felt they had less self-efficacy than the pre-intervention. The results of this study demonstrated that the empowerment program could help leprosy contact cases have more knowledge about leprosy and motivate them to have the physical examination for leprosy. So, the empowerment program should be implemented in other vulnerable areas which are prone to leprosy and with other group leaders.

Intarasomwang (2000) studied the effectiveness of empowerment program for HIV prevention among pregnant women in the antenatal care unit of Phra Mongkulkhao hospital. Results revealed that the empowerment program statistically significantly increased the following aspects in the experimental group; HIV prevention knowledge, self-appreciation, self-efficacy expectations and self-care for HIV prevention.

Boonyakongrat (2001) explored effects of hypertension and diabetes mellitus participative screening service on consuming rate and satisfaction of clients, Hunkha district, Chainat province. The consuming rate in villages which had strong participation was significantly higher than those with poor participation. Likewise, clients' satisfaction in the villages with strong participation was significantly higher than those with weak participation.

Petchrak et al. (2001) studied the program development to promote mental health by empowering health volunteers on prevention of mental health problems in communities. Results showed that after the intervention, an experiment group had higher scores than the pre-intervention and the scores were significantly different with the pre-intervention on the following aspects; level of knowledge and belief in risks of having mental health problems, belief in severity of the mental health problems, belief in benefits of following health volunteer's recommendations, relationships between people and health volunteers and their behaviors in prevention of mental health problems. On the other hand, the control group had slightly higher scores at post-intervention, if compared with the pre-intervention and the pre and post scores were not significantly different. Moreover, that fact that the experiment group joined forces with key leaders in each community and organized a mental health promotion

program which empowered health volunteers to plan and arrange activities by themselves resulted in significant improvements of their mental health, compared to the control group which organized a routine conventional program. However, there should be a person or a group of people taking direct responsibilities to make these activities move forward continuously and become more sustainable.

Muangkum (2002) investigated outcomes of the empowerment of communities in Chalermprakiet district, Nan province on hookworm disease prevention and control. Her study revealed that the empowerment program provided an opportunity for community leaders to learn about severity and risks of getting hookworm disease in their community and they had statistical significant higher expectations in their self-efficacy in prevention and control of the disease. What's more, the empowerment program could motivate the community leaders to develop some plans and initiate, by themselves, an implementation for prevention and control of hookworm disease and this ultimately helped reduce the number of new infection cases of the disease.

Homchan (2002) studied the effectiveness of self-care empowerment among diabetes mellitus patients in Lomsak hospital, Petchaboon province. Results of this study showed that after the intervention, an experiment group has some positive changes in the following issues; knowledge about diabetes mellitus, self-efficacy expectations, expectations in outcomes of self-care behaviors and level of glucose in blood. All of these were found higher than the pre-intervention and had higher scores than those of the control group at a statistically significant level of 0.05. Additionally, it was found that their self-efficacy expectations were significantly correlated with diabetes mellitus patient's self-care behaviors.

Settawatcharanich (2003) explored outcomes of the empowerment among students at pratom 6 in Nonthaburi province on smoking. Results of this study pointed out that immediately after the intervention, students in the experiment group had a significant higher perception about benefits of non-smoking, prevention of smoking and commitments of non-smoking, compared with the pre-intervention period. In addition, their perception on obstacles and commitments of non-smoking was significantly lower than the pre-intervention. During an one-month follow-up period, students in the experiment group had significant higher scores on perceptions about benefits of non-smoking, prevention of smoking and commitments of non-smoking, compared to the pre-intervention and also the control group but there was no significant difference between these two groups on obstacles of non-smoking.

Banpuan (2004) studied the effectiveness of the empowerment among key community leaders on prevention and solution of amphetamine problem in Sai Ma sub-district, Muang district, Nonthaburi province. Results showed that after the intervention, an experiment group had a significant higher mean score of knowledge and understanding about amphetamine and health, laws and regulations on amphetamine, attitudes towards the use of amphetamine and their roles as the leader in amphetamine prevention than the pre-intervention period. When comparing the mean scores between the experiment and control groups, it showed that the experiment group had a higher level of knowledge and understanding on about amphetamine and health, laws and regulations on amphetamine, attitudes towards the use of amphetamine and their roles as the leader in amphetamine prevention than the control group at a significant level of 0.05. Moreover, this study revealed that

religion, self-efficacy belief and willingness to be the leader of amphetamine prevention are positively correlated with the leader's performance.

Based on literature review of documents, theories and relevant research studies, it can be concluded that health promotion among people requires their participation, starting from identification of problems, analysis of causes and factors relevant to the problems, formulating strategies in tackling the problems and implementation. All of these procedures will occur, depending on support from public health officers in building capacity of people through the empowerment process, so that people are capable of managing and taking action to solve public health problems in their community. This will cause positive changes in self health care, prevention and disease control and also yield changes at the group and community level leading to good health and good quality of life. So, the researcher is interested in conducting a research on "Prevention and Control Hypertension & Diabetes Mellitus through Empowering Key Community Leader" in order to solve health problems concerning hypertension and diabetes mellitus in Khao Din sub-district, Khao Panom district, Krabi province.



#### Section 4: Conceptual framework

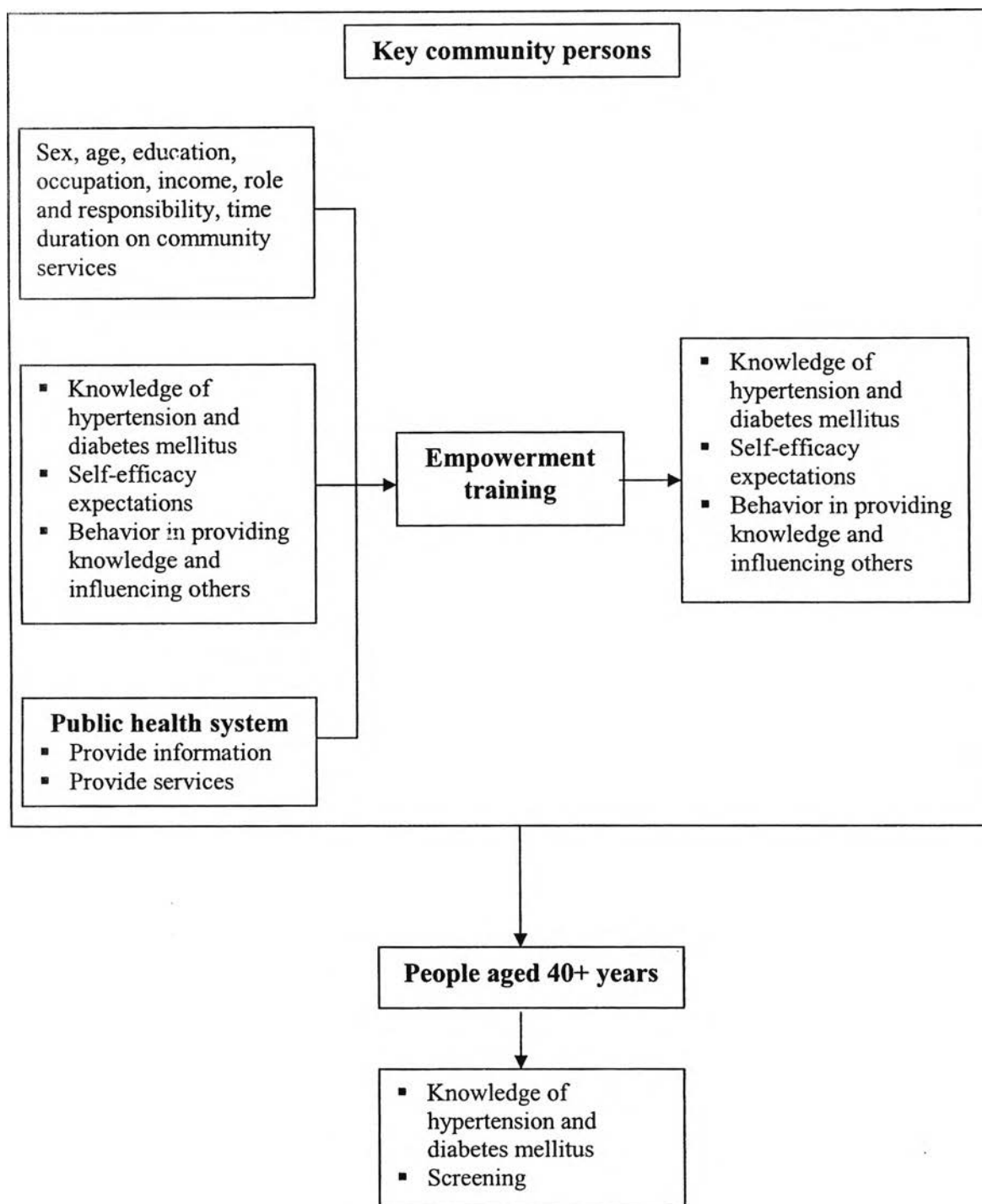


Figure 2: Conceptual framework