

RESEARCH ARTICLE

Health Behavior after A Multiprofessional Intervention and Training for Ongoing Volunteer-Based Community Health Programme Intervention in the North-East of Thailand: What Changed and What not?

Kesinee Saranrittichai^{1*}, Wiporn Senarak¹, Supanee Promthet², Surapon Wiangnon³, Patravoot Vatanasapt³, Supot Kamsa-ard³, Prasert Wongphuthorn⁴, Malcolm Anthony Moore⁴

Abstract

This qualitative research within the project entitled “Multiprofessional Intervention and training for Ongoing Volunteer-based Community Health Programs in the Northeast of Thailand (MITV-NET)” was aimed at explaining changes of health behavior of community people in the Northeast after the intervention. The participants comprised 15 community volunteers and 27 villagers. Data were collected by indepth interview, focus group discussion, participation and non-participation observation, and note taking. Analyses were conducted in parallel with data collection, through content and comparative analysis. It was found that the health behavior fell into 2 categories: easy-to-change and difficult-to-change. The former involved fun activities joined by community people that improved their health or made them recover from illnesses after a short period without becoming addicted. These activities could be done by themselves, for example, exercising and cooking. The difficult-to-change health behavior is habitual, for example, chewing betel nuts or eating uncooked food. The following factors were found affecting behavioral changes: 1) underlying disease; 2) enjoyment in doing activities; 3) habitual behaviour; 4) improved health in a short period; 5) ability of community leaders and volunteers; and 6) community health-supporting resources. It is suggested that improving people’s health requires cooperation of community people through fun activities and some initial external support. People who persist in bad habits should be encouraged to stop by showing them health deteriorating effects.

Keywords: Community-based intervention - health behaviour - exercise - food - North-East Thailand

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Introduction

Presently, the non communicable diseases are an important health problem of the world. The first cause of death in the world is the heart disease, and the second is stroke (WHO, 2011). It has been anticipated that by 2015, non-communicable diseases will be the cause of death of over 50 percent of the world population. The Thai health index indicates cancer, tumor, and accidents as the top reasons for death. The rate of non-communicable diseases is rapidly and continuously increasing, particularly hypertension, heart diseases, and diabetes (Kanjanaajitra et al., 2010), especially among the elderly. Physical deterioration happens at old age and closely relates to non-communicable diseases as well as health behaviors of each person.

Health behavior is both intrinsic, e.g., awareness, interest; and extrinsic, e.g., care, prevention, support, maintenance, and management of one’s own health (Taylor,

1991). Health behaviors can dictate an individual’s health. If we keep an eye on our health, the chance to develop a disease or health problem is little. On the other hand, risk behaviors often affect health and bring health problems (Saranritichai, 2006). Our surrounding, friends and family in particular, are influential on our health as well. A study by Saranritichai et al. (2007) showed that family’s sexual socialization and adolescent’s sexual health behaviors were simultaneously affected each other. School is also affected individual health behavior. Study showed good school atmosphere reduces alcoholic drinking habit of students and danger from motorcycle riding (Simon et al., 2011).

In addition, community is also affecting community members’ health. Recent studies showed community people changed their lifestyles to prevent diabetes, and the incidence of the second type of diabetes together with other risk factors were reduced when people’s BMI and blood pressure decreased (Hadi et al., 2010). Community

¹Faculty of Nursing, ²Faculty of Public Health, ³Cancer Unit, Faculty of Medicine, Khon Kaen University, ⁴UICC Asian Regional Office, Tokyo, Japan *For correspondence: kesinee@kku.ac.th

health service that aims to promote community people's health can be achieved by several approaches, for instance, instruction, consultation, reduction of risk factors. Implementation has been both successful and unsuccessful depending on a number of conditions. Studies showed that mobile health service units for people aged 15-75 years had an effect on screening smokers and reduction of alcoholic drinking (Jackson et al., 2004). Behavioral changes may be limited among those who do not have support from their families, those with low incomes, those facing neighboring problems, those not receiving health services, and those with misunderstanding or wrong information (Noemi et al., 2006). Besides, operation time also has some impact. Community short-term health programs are not really successful (Franks, 2011). It was also found that expense can prevent villagers to participate in certain activities. A study on weight losing and smoking refrain showed that costs for consultation prevented patients from joining programs (Krist et al., 2011).

Learning is a process to change both intrinsic (motivation, belief, feelings towards benefits, etc.) and extrinsic (exercise, eating) behaviors. Additionally, community learning from education program can change people's behaviors. The effectiveness of Healthy Aging and Happy Aging (HAHA) program, which has the major component of education, counseling, and exercise for elderly people with hypertension could not only decrease blood pressure level but also improved social functioning as well (Park et al., 2011). Nevertheless, even though learning activities have been organized, changes at a community level may be little. A 2-year study applying a health promotion program (community intervention on health-related behaviour) showed no changes in exercising, smoking, and alcoholic drinking, whereas very few changes occurred in vegetable eating habit (Kloek et al., 2006). A study on health care for hypertension cases in Northeast families revealed that many families (55.5%) still did not know how to take care of their health when compared to other regions (Primary Health Care Committee, 2002).

Implementation of the "Multiprofessional Intervention and Training for Ongoing Volunteer-Based Community Health Programs in the Northeast of Thailand" involved training volunteers via MITV-NET by a multiprofessional team. The volunteers would in turn train the people. After the intervention, volunteers and community people had obtained more knowledge. However, they still need to be taught how to prevent cancer, diabetes, and hypertension, respectively. Risk behavior in smoking was found at a very high level, e.g., 82.3 percent among males and 1.9 percent among females (Promthet et al., 2011). Thus, this research was aimed at studying the health behaviors of the volunteers and community people after the MITV-NET training to see if any changes occurred. If there were changes, then what behaviors had changed, what behaviors had not changed, and why.

Materials and Methods

This research work was part of an experimental study on "Multiprofessional Intervention and training for

Ongoing Volunteer-based Community Health Programs in the Northeast of Thailand" which was implemented during 2009-2010. The purpose was to qualitatively explain the changes of health behaviors of population in the Northeast after the training after implementing the project. The participant were comprised of 15 community volunteers and 27 villagers.

Before implementation the project, the survey was conducted (Promthet et al., 2011). and situational analysis was performed according to problems and needs of villagers. The project implementation was organized according to situational analysis from villagers point of views. Health education provided to villagers were about diabetes mellitus, hypertension, oral cavity cancer, lung cancer, cervical cancer, breast cancer, liver cancer and CHCA. The two activities were organized: exercising and training on health care to prevent cancer, hypertension, and diabetes. Project was evaluated health knowledge (Promthet et al., 2012) but the changing of health behaviors has still unknown. This research aim to answer the health behavior changing.

Data were collected from indepth interview, focus group discussions, participation and non-participation observation, and note-taking. Analyses of data were in parallel with data collection and were composed of three stages: data organizing, data display and conclusion, and data interpretation and verification (Miles and Huberman, 2004; Potisita, 2007).

Context of the study sites

This research was conducted at a rural and suburban area. The majority of the population hold agriculture as their main occupation. Most of the land is farmland where chemicals are used on a wide scale to increase products, denoting high production costs. Some farmers have increased their use of bio fertilizers and compost to reduce cost and retain soil surface properties. Nowadays, most able-bodied villagers have turned to the industrial sector in Bangkok and other cities to work as laborers. Many factories are located in the vicinity, including shoe factory, furniture factory, tofu factory, medical instrument factory, and garment factory. Villagers started to work in these factories because they earn more, and the occupation is more stable. However, during the paddy season, they usually take leave and help the family plant or harvest the crops. Villagers see factories as an income source that helps reducing unemployment although they bring about pollution that destroys health. For example, houses near a factory cannot retain rainwater for use. Employees may develop chemical-related diseases. However, villagers do not consider these problems serious. Moreover, the factories provide medical services in the form of regular health examination. Therefore, the important income sources of villagers are the industrial factories, which provide greatest revenues followed by rice farming and cattle raising which are done by many families.

The elderly in the study areas completed primary education, whereas youths completed secondary school (Grade 9). The number of youths continuing their education in high schools or vocational schools equals those becoming laborers.

There are different community group activities, e.g., village volunteers, housewife group, OTOP groups, water pumping group, etc. The groups sometimes connect and work with other groups effectively, since one villager can be a member of more than one group. They have become acquainted with each other and are able to discuss, exchange ideas and experiences and information among groups. A group leader is the important person who manages and administers community work, too.

Prevalent community diseases include respiratory diseases, muscular diseases, alimentary diseases. Congenital diseases found in the elderly are diabetes, hypertension, and cancer, with a slightly higher number of diabetes than hypertension. Common cancer cases that cause death include liver cancer caused by alcohol drinking and eating uncooked food such as freshwater fish and uncooked beef. Those who died from liver cancer usually were detected at the last stage. For patients having diabetes, their blood sugar is checked every 3 months at the health station in order to prevent and reduce severity. Diabetes was the second cause of death in the community following cancer. Lately, medical examination has been carried out regularly, and thus the symptoms were diagnosed at an early stage, making treatment more effective.

Major health care centers in villages are the sub-district health promotion hospitals where professional nurses and public health officers are in charge. These are not enough for people's needs. Some communities do not have a sub-district health promotion hospital; villagers need to go to private clinics. If a patient's symptom is serious, he must be transferred to a district hospital or a hospital in Khon Kaen. In addition, there is a community primary health care center. Quack doctors, mediums, shaman, sorcerers, traditional massagers can always be found in villages. Health professionals and village health volunteers work together, with VHVs being responsible for campaigning disease prevention information. This makes villagers become alert of health care. Health officers also provide information for healthy consumption of food in community schools. The "Or. Yor. Noi Group" was set up with over 20 members to manage good health and happiness for community people.

Results

The following section presents general background information of informants, community health operation components, project activities, project participation by community people, patterns of community project implementation, and factors affecting project participation.

General background information of informants

Informants include 12 villagers and 15 volunteers aged between 40 and 60 years. There were more females than males in both groups. Villagers with congenital diseases were nearly equal to those without any diseases in the villager group, as shown in Table 1.

Perception and participation of the project

Villagers were informed of the project from the health

volunteer or villagers who were interested in assisting in the project, project officer, and health officer. Most of the villagers who joined the project believed it was resulted in good mental and physical health, particularly with some who had chronic disease such as diabetic mellitus, hypertension, or leg pain. As the 49 years old lady saw the usefulness from the training and said "**I think exercise is useful and joyful. It's much better than doing nothing**" The factors influencing project participation included: sex, age, congenital diseases, attitudes towards the project, and public relation of the project.

It was found that most participants were elderly women who stayed at home, had free time and were able to join the activities every time. Even many other villagers were found acknowledged of these activities, but some were not able to join. Some had to work, children had to go to school, and some thought the time frame was not suitable to their daily routine. For example, some villagers were not able to participate in the morning exercise because of their household duties; or few thought it was not proper to play the music in the early morning, for it was annoying.

Factors influencing project perception and participation were: 1) Sex – The study revealed more female participants than males, owing to their availability (only doing housework); 2) Age – Most participants were females of higher age range; 3) Underlying disease – Community people have long-term diseases; the mostly found diseases were diabetes and hypertension; 4) Attitudes towards the project – This means perceiving the usefulness of the project, especially to the body and mind, which was the major motivation drawing participation. Good attitudes included usefulness, applicability for their health, enjoyability, having friends, happiness; 5) Public relation for the project – Perception of project implementation. It was found that although public relation was conducted through the community broadcasting network, most participants joined the project because of the persuasion from health volunteers or health station officers, or project officers.

Health behavior changing of community people

After the multiprofessional intervention and training for volunteers, the study revealed two types of health behaviors, the easy-to-change behaviors and the difficult-to-change behaviors.

Table 1. General Information of Informants

General information		Villagers (n=12) Number	Volunteers (n=15) Number
Gender	Male	-	4
	Female	12	11
Age	20-29	-	1
	30-39	-	3
	40-49	1	7
	50-59	4	2
	60-69	7	2
Underlying diseases	None	7	-
	Diabetes	3	-
	Hypertension	2	-
	Leg pain	-	2

Easy-to-change health behavior: The easy-to-change behaviors were the behavior that contribute villager to have fun, made health better in a short time and have leader to lead those behaviors such as exercise and eating behavior.

Exercising behavior, it was found that villagers like and were happy to exercise. The majority reported that it was enjoyable to meet friends. Their tension was released, and their sickness improved. Some said, **“I have my leg pains, but after I do the exercise, my leg pains were gone”**. As the 48-year woman said, **“It’s fun to exercise with friends. Now I no longer have back ache after doing this exercise.”** Another 52 years old lady said **“Having exercise makes me happy not only good for health but have fun with friends and the tension is released as well”**.

It was obvious that community people who have fun with friends and their health were better during participate in exercise were continue to do exercise after programme completion. Not doing these activities might result in risk of disease and life. Some old ladies said **“The activities were fun and entertaining. We enhanced health both within a short period. When I can not have exercise, I will have leg pain”** Examples are exercising and eating habit.

In addition, the study revealed that trained health volunteer and tools from the project were important for community people to continue doing exercise. Volunteer villagers were key persons who lead the villagers having exercise as the project completion. One health volunteer mentioned, **“After the project completion, I used supplemented tools which were used during project implementation. I feel confident after training from project officer and now I am the leader for leading exercise. I am confident to be the leader”**.

Eating and cooking habits, it was found that most villagers were alert in food. They would avoid food that causes cancer such as uncooked food or roasted food on iron rods. A 60-year lady who participated in the project said, **“I used to eat uncooked fermented fish. Now I boil it first.”** Another women aged 58 years said, **“I never washed the iron for roasting, but now I do.”**

Nevertheless, some villagers still eat uncooked food. They were aware of the danger and tried to eat less of this kind of food. The reason was one of the favorite tastes. One 54 years old man said, **“I still eat uncooked lab, koi. They’re tasty. But I will eat less.”**

Difficult-to-change health behaviors: Behaviors those were difficult to change were addicted behaviours such as smoking, drinking alcohol which depended on an individual. If the behavior is a habit, it is hard to change even though the information related to the danger from the behavior was well perceived. This type of behavior was individually perform, not as a group and did not create fun or enjoyment, but was habitual. An example is chewing betel nuts. A 60-year woman said, **“I know. I’m told. But I can’t stop having it. Whenever I stop, I’d return to it again. It’s addiction.”** A 55 years old man reported, **“Exercising is good. My waist does ache much now. I’ll go on exercising. But I’ll continue smoking. If I’m going to die, let it be. I’m still fine now.”**

Factors affecting health behavior change

The study showed how much people in the community changed their behaviors depends on 5 important factors. The 5 factors affecting changes of health behaviors of people in the community were as the followings.

1) Underlying disease, the study showed that people with underlying diseases could join and did join an activity became healthy, the symptom improved. This made the activity continue.

2) Having fun in doing activities, the study showed that people community people would join the activities that had fun more than other activities.

3) Habitual behaviour, results showed that community people could not quit their addicted behaviors even they knew that it was not good for health.

4) Improved health in a short period, it has been shown that people join an activity continuously if they see the immediate results from it. On the other hand, people will not join the activity that does not yield any effect on their health.

5) Ability of community leaders and volunteers, support from the community makes the community strong. Operations in the community are continuous. It was shown that supporting sources can be a knowledgeable or competent person in the community, for example a health professional, or a leader who supports the project or supports tools for training or provides monetary support for activities. With volunteers or leaders in the community, different activities can be ongoing. Leaders must be devoting, determined, enthusiastic, sacrificing, patient, seeing benefits of others rather than for oneself. These individual should have leadership, and can train and educate others. News and information related to health will then be disseminated thoroughly in the community. People will be able to finally take care of their own health. A woman aged 45 years said, **“The project led us to do this. Now we can do it on our own. We can exercise. I can lead.”**

6) Community health-supporting resources, community health-supporting resources came from individuals or organizations outside the community in the form of articles and resource persons in order to provide knowledge and develop people’s potential to take care of their own health. This resource person will encourage villagers to be alert in health implementation, and launch the project at the beginning. When this support ends and the community people can continue to operate on their own, the external support will decline until it is no longer necessary in some activity. The study revealed that exercising was the project supported activity at the first start. After a period of implementation, it was found that leaders could lead the exercising, and people continued to join. However, some activity required support from outside, for example, educating people in some disease which necessitated a specialized person.

7) Characteristics of activities, activities that allow group forming and were entertaining without annoying others will draw people to join. When people join these activities, they have fun and their health improves. Their behaviors also changed. A 57 years old lady said, **“I enjoy it. There are a lot of friends. When I exercise, it**

is better than staying home. It's good for my health.”

Discussion

Health behaviors of villagers in the community after the intervention were found at different levels. Some were easily changed and some were difficult to change or could not be changed at all. Villagers who were ill or aware of their illness would change their behaviors in order to improve their health. For example, those who had arthritis would join the exercise activity. This correlates to the study by Coleman (2012) who found that more than 50% of hypertensive patients adopted their lifestyle-modification once they were aware of the effects of the disease. It was also found that easy-to-change behaviors were group activities, organized by group members, not requiring much budget or other supporting sources. This activity was exercising. Hard-to-change behaviors included addiction behaviors such as smoking and drinking. This contrasted to the study by Kloek et al. (2006) on implementation to promote health. They found that after 2 years of intervention, the behaviors not affected included eating vegetables, exercising, smoking, and drinking alcohol; whereas eating fruit was the behavior receiving only little effect.

The study reflected that community self-reliance necessitated support at the first stage since the community was unable to implement health care programs. Support can be from outside in parallel with development of learning media, instruments for exercising, or other necessary items. Support from within the community is also necessary, especially in training community volunteers. Volunteers should be allowed to operate programs when they have acquired knowledge and skills and are able to conduct activities. That is when the community can rely on itself without assistance from the project. Activities such as exercising can be operated by the community itself.

Illnesses of people in the community have an effect on their own health care behaviors. Those who are sick or have congenital diseases are interested and join the activities more than those who are not. They found that their health is better after exercising. This is in accordance with the study by Kohut et al. (2009), which showed that exercise can reduce severity of chronic illnesses. Exercise improves health and makes more people see the importance of exercise and participate in exercising activities.

References

Coleman MT, Pasternak RH (2012) Effective strategies for behavior change primary care. *Clinics in Office Practice*, **39**, 281-305.

Denny SJ, Robinson EM, Utter Jb, et al (2011). Do schools influence student risk taking behaviors and emotional health symptoms? *J Adolescent Hlth*, **48**, 259-67.

Franks H, Hardiker NR, McGrath M, McQuarrie C (2011). Public health interventions and behaviour change: Reviewing the grey literature. Public Health, In Press, Corrected Proof.

Harati H, Hadaegh F, Momenan AA, et al (2010). Reduction in incidence of type 2 diabetes by lifestyle intervention in

a middle Eastern community. *Am J Prev Med*, **38**, 628-36.

Jackson MD, Coombs MP, Wright BE, et al (2004). Self-reported non-communicable chronic diseases and health seeking behaviour in rural Jamaica, following a health promotion intervention: a preliminary report. *Int Congress Series*, **1267**, 59-68.

Kanchanajitra C, Pothisita C, Archavanitkul K, et al (2010). Thai health 2010: capitalism in crisis, opportunity for Society? Nakhorn Patom: Institute for Population and Social Research, Mahidol University.

Kipke DM, Boyer C, Hein K (1993). An evaluation of an AIDS Risk Reduction education and Skills Training (Arrest) program. *J Adolescent Hlth*, **14**, 533-9.

Kloeka GC, Frank J, van Lenthe A, et al (2006). Impact evaluation of a Dutch community intervention to improve health-related behaviour in deprived neighbourhoods. *Hlth and Place*, **12**, 665-77

Krist AH, Woolf SH, Johnson RE, et al (2011). Patient costs as a barrier to intensive health behavior counseling. *Am J Prev Med*, **38**, 344-8.

Kohut LM, Sim Y-J, Yu S, et al (2009). Chronic exercise reduces illness severity, decreases viral load, and results in greater anti-inflammatory effects than acute exercise during influenza infection. *J Infectious Dis*, **200**, 1434-42.

Miles MB, Huberman AM (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. 2nd ed., CA: Sage Publications, Newbury Park.

Noemi B. Albarran1, Martha N. Ballesteros, Gloria G. Morales, Maria I. Ortega. 2006. Dietary behavior and type 2 diabetes care. *Patient Education and Counseling*, **61**, 191-9.

Park Y-H, Song M, Cho B-I, et al (2011). The effects of an integrated health education and exercise program in community-dwelling older adults with hypertension: a randomized controlled trial. *Patient Education and Counseling*, **82**, 133-7

Pothisita C (2007). *Science and arts of qualitative research*. 3rd ed. Nakhon Pathom: Social and Demographic Research institute, Mahidol University.

Primary Public Health Committee, Office of Permanent Secretary, Ministry of Public Health, 2002. *Research report on Self-health care of Thai families*. Bangkok: The Express Transportation Organization of Thailand Printing Press.

Promthet S, Saranritichai K, Kamsa-Ard S, et al (2011). Situation analysis of risk factors related to non-communicable diseases in Khon Kaen Province, Thailand. *Asian Pac J Cancer Prev*, **12**, 1337-40.

Promthet S, Wiangnon S, Senarak W, et al (2012). Evaluation of health education in the multi-professional intervention and training for ongoing volunteer-based community health programme in the North-East of Thailand. *Asian Pac J Cancer Prev*, **13**, 1-4.

Saranritichai K, Sritanyarat W, Ayuwat D (2006). Adolescent sexual health behaviors in Thailand: implication for prevention of cervical cancer. *Asian Pac J Cancer Prev*, **7**, 615-8.

Saranritichai K (2007). *Sexual socialization in adolescent family and adolescent sexual health: a case study of rural Isan families*. Thesis towards PhD degree. Graduate School. Khon Kaen University.

World Health Statistic (2011). Retrieved from <http://www.who.int/mediacentre/factsheets/fs310/en/index4.html> on March 15, 2012