Effects of an Empowerment Program on Health Behaviors and Stroke Risk Reduction of At-Risk Group in Thai Rural Community

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Background: *Unhealthy behaviors such as being overweight, have hypertension, diabetes, and dyslipidemia increase the risks of stroke. Promoting healthy behaviors could reduce the incidence of stroke, death, and disabilities. Empowerment was used in this study to help people change their health behaviors.*
Objective: *To determine the effects of an empowerment program on health behaviors and stroke risk factors reduction of people at-risk for stroke in a rural community in Thailand.*
Material and Method: *A quasi-experimental study was conducted in sixty participants identified with moderate risk for stroke, according to the Standard Operation Procedure to Prevent and Control of Stroke 2007 of the Bureau of Non Communicable Disease, from two villages in Phitsanulok. Participants were enrolled in experimental (n = 30) and control (n = 30) groups using match pair for sex, age, blood pressure, and blood sugar. The experimental group received empowerment based on the Gibson's model of empowerment (discovering reality, critical reflection, taking charge, and holding on) at week 1, 4, and 8 while the control group received routine care. The study duration was 12 weeks. Instruments used were a questionnaire regarding health behaviors and a form for recording the BMI, blood pressure, blood sugar, cholesterol, and triglyceride. Data analyses included the Analysis of Variance (ANOVA), repeated measure, and independent t-test.*
Results: *Following the implementation of the empowerment program, health behaviors of participants in the experimental group were significantly better than those of the control group ($p<0.001$). Risk factors, body mass index, blood pressure, blood sugar, cholesterol, and triglyceride of participants in the experimental group were significantly lower than those in the control group ($p<0.01$, $p<0.001$).*
Conclusion: *The empowerment program was effective in decreasing stroke risk behaviors and stroke risk factors. Future research using this empowerment intervention program should be conducted in high cardiovascular risk group and patients with other chronic diseases.*

Keywords: *Empowerment, Stroke, Risk factor, Community*

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The incidence of cerebrovascular disease or stroke, an important cause of death and disability has been increasing. Fifteen million people suffer and 5.8 million people die each year from stroke. Deaths from stroke are expected to increase to 6.7 million in 2015[1]. The increasing cost of treatment and rehabilitation are a heavy burden for patients and their families especially for the poor that stroke may be a catastrophic situation for a family. Although stroke risk factors can be alleviated through behavioral and lifestyles changes, most people experience challenges to make these changes. The risks for stroke can be categorized as non-modifiable and modifiable factors. Some modifiable risk factors related to behaviors and lifestyles include non-adherence to the treatment, smoking, alcohol use, physical inactivity, obesity, and stress[2] can be corrected. However, the modification of these risk factors is challenging. Morris et al[3] conducted a systematic review of 19 studies on factors influencing maintenance of physical activities of post stroke patients and concluded that information provision alone was not sufficient to change patients' behaviors but psychological and social factors played important role. There are many social and psychological strategies used with varying success, empowerment is a method used to help people change health behaviors.

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Empowerment is defined as a process to help patients increase awareness of their health conditions, knowledge, and skills, realization of their needs and values, motivation to make change for better conditions by setting goals, and thus, increase their autonomy[4,5]. A study in Korea by Ae Kyung, Fritschi, and MiJa revealed that empowerment intervention program could reduce hypertension, triglycerides (TG), waist circumference, fasting blood glucose[6]. Moattari (2012) found that combined individual and group empowerment improved clinical conditions, hemoglobin, hematocrit, self-efficacy, and quality of life of hemodialysis patients[7]. The Thai Hypertension Guideline 2012[8] recommends that weight reduction, appropriate diet, exercise, and optimal alcohol use could reduce blood pressure. Empowerment allows individuals to gain control in making decisions and solving their problems based on available information and resources[9].

Conceptual framework

The Gibson's conceptual model of empowerment[10] was used to guide the intervention in this study to reduce the risks of stroke. Gibson empowerment process consisted of four stages, discovering reality, critical refection, taking charge, and holding on. Discovering reality referred to the stage an individual realizes his/her situation such as disease diagnosis, prognosis, and responds emotionally, cognitively, and behaviorally. Critical reflection referred to the stage the patients critically evaluate and analyze situations. Through the process, the patients develop confidence in their knowledge and their abilities to set priority and determine their own goals. Taking charge is when patients perceived their potential, they begin to assert themselves. Holding on referred to stage patients continue to have confidence in carry on commitment to maintain healthy behaviors to reduce the risk of stroke. Gibson mentioned that social support also plays a vital role in patient empowerment. Social support may come from family, friend, healthcare professional, patient group of the same disease, and the community. Practicing healthy behaviors result in the reduction of stroke risk factors (Fig. 1).

Three research questions were addressed: 1) Are there differences on the mean health behavior scores of patients being empowered (experimental group) regarding nutrition, exercise, stress management, social support, and smoking between baseline and at 4, 8, and 12 weeks?, 2) Are mean health behavior scores of the experimental group significantly higher than those in the control group? and 3) Does the experimental group have significantly lower BMI, blood pressure, blood sugar, and lipid profile compared to those in the control group?

Material and Method

This quasi-experimental study was conducted to examine the effects of an empowerment program on behaviors and stroke risk reduction in participants with moderate risks in a rural community, the Bo-thong subdistrict, in Bang-Rakam district, Phitsanulok. There was a primary care unit (PCU) which later was promoted to be a health promotion hospital. Two out of ten villages of the sub-district were selected to be in this study, one as an experimental group, and the other as a control group. The study protocol was approved by the Research Ethics Committee of the Naresuan University. Community leaders of these two villages, PCU nurses, and local government officers provided the permission prior to conducting the research. The study was conducted during September to December 2010.

Population and participants

Based on the medical record of the PCU, 560 patients with hypertension were identified in the two villages of the sub-district. The two villages were purposively selected as experimental and control groups due to higher number of patients with potential risks for stroke. Of 560 patient lists, thirty patients from each village who were identified as having a moderate risk for stroke according to the Standard Operation Procedure to Prevent and Control of Stroke 2007 of the Bureau of Non Communicable Disease, the Ministry of Public Health (SOP-PCS)[11] were selected. Patients in the control group were matched with those in the experimental group for age, sex, blood pressure, and blood sugar. To ensure that participants in the

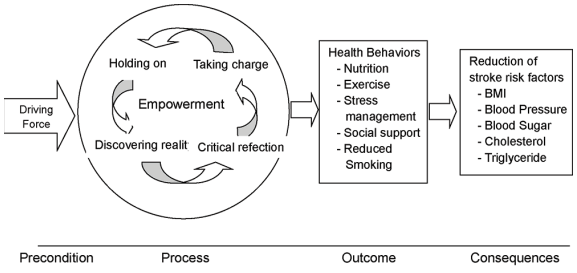

Fig. 1 Conceptual framework: the process of empowerment for stroke of at-risk group (adapted from Gibson[10]).

control and experimental group were equivalent, forty pairs were initially selected. However, due to incomplete data, 30 matched pairs were included in data analysis. All participants signed the consent forms after they were explained about the purpose of the study.

Sampling criteria included those patients who met the moderate risk factors based on the SOP-PCS, which was used as a protocol for participant enrollment. Eight risk factors of stroke in the SOP_PCS are: 1) familial history of stroke and/or ischemic heart disease, 2) smoking, 3) blood pressure of more than 140/90 mmHg, 4) Blood sugar >120 mg/dl, 5) hyperlipidemia, 6) abdominal circumference in male >36 inch, female >32 inch, or BMI >25, 7) history of stroke, and 8) history of heart disease. Participants identified with moderate risk were those people identified with three to five risk elements, or systolic blood pressure >170 mmHg, diastolic blood pressure >120 mmHg, total cholesterol >309 mg/dl, or uncontrolled diabetes.

Procedure

The research team composed of researchers, two registered nurses, and six village health volunteers. The nurses and volunteers were trained as facilitators to conduct group discussions on the empowerment process. The village health volunteers were from the local community, involved in monitoring blood pressure, record weight, and encourage patients' group discussion participations. The nurses also drew blood samples during the baseline and at twelfth week of the study.

Description of intervention

The experimental group

Fig. 2 showed the study design in the experimental and the control groups. The processes in the experimental group were:

- Baseline

The researchers met the participants at the PCU on the day of hypertension clinic with three purposes. 1) explained the study processes, asked them to participate in the study and signed consent forms, 2) measured body weight, height, calculated body mass index (BMI), took blood sample to determine blood sugar, cholesterol, and triglyceride, and 3) asked the participants to answer the questionnaire. The results of measurement, blood chemistry, and the answers to the questionnaire were analyzed for the researcher to present in the initial implementation.

- Week 1 (initial implement)

The meeting was arranged at the village hall after the baseline data were obtained. The 30 participants were divided into three groups, each group had 10 participants. The researcher and the two nurses were responsible for each group as the facilitators. The facilitators greeted the participants then everyone introduced him/herself and the expectation form the study then the facilitators asked for permission to exchange data of the participants in order to learn from each other.

The empowerment processes were used. Discover reality: The facilitators of each group disclosed the data of each participant, and revealed that everyone had moderate risk for stroke. The facilitators provided the information about stroke, risk factors, consequences, and the burdens that follow stroke. Emotional response: Then the participants were asked to expresses their feeling and emotion. Cognitive response: The facilitators let the participants ask any question regarding stroke and explained more details about risk factors, healthy behaviors, exercise, stress reduction techniques, and proper foods. At this occasion the Boonmee stick dance, yoga, and meditation were introduced. Behavioral response: The facilitators asked the participants who should be responsible for their health. The answers were themselves, with the supports of the healthcare professional. The facilitator also encouraged the participants to be optimistic and try to find good things in the situation they just realized. Critical refection: The participants were asked to reconsider their situation and evaluate their capability to maintain or improve their health. More questions were answered. The participants were ensured that the healthcare providers were willing to help them. Then they were asked to ponder over all information and find some activities that they were confident that they could do. Taking charge: When the facilitators made the participants aware of their risks and have knowledge to be able to manage themselves, the facilitators expected them to be confident and decide what were appropriate for them. The facilitators persuaded the participants to express their ideas about what they intend to do. The participants also received a diary to record their daily activities regarding diets, exercise, cigarette smoking, and stress reduction as a reminder of their own activities.

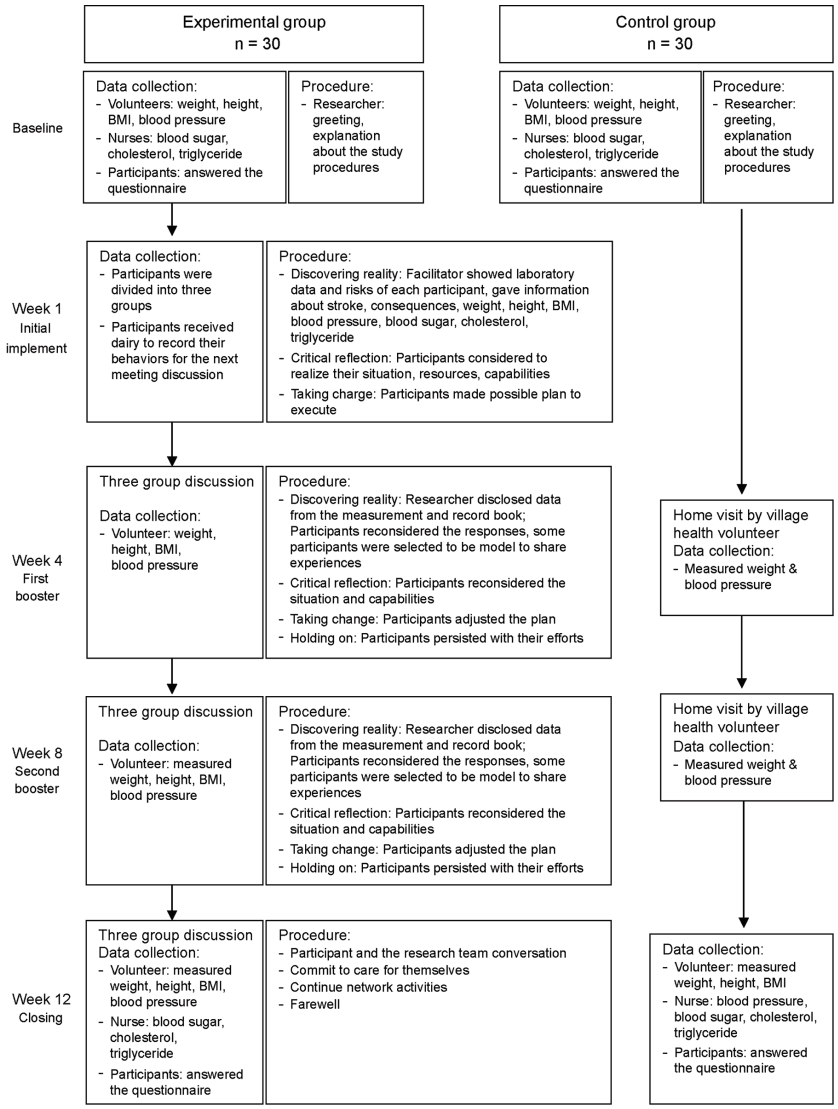

Fig. 2 The study procedures of the experimental and the control groups.

- Week 4 (first booster)

The meeting was arranged four weeks later. Body weight, height, and blood pressure were measured. Body mass index was calculated. Data were recorded to the participants' diaries. The participants were divided in to three groups as in the previous meeting. The empowerment processes then were carried out. Discover reality: In friendly ambient, the facilitators asked the participants to read what they had recorded in their diaries. Participants who could adhere to healthy behavior or reduced their weight were asked to share their experience and feeling. They were supposed to be models for other participants. Critical reflection: The facilitators asked the participants to reconsider their situation again. Taking charge: The facilitators encouraged the participants to adapt their plan of action again to be more effective or have more challenge. Holding on: The facilitators encouraged the participants to continue doing the good things that were difficult to do. At this time, some participants said that the activities were not difficult. It was not the intelligence but decisiveness that pushed them to adhere to their plan. The participants promised to persist with their efforts.

- Week 8 (second booster)

The activities in this meeting were like those in the third meeting.

- Week 12 (closing)

It was the last meeting. The researcher and the PCU nurses measured the participants' body weight, height, and calculated body mass index (BMI), and took blood samples to determine blood sugar, cholesterol, and triglyceride. The participants were asked to answer the questionnaire. Then a conversation among participants to exchange knowledge, experience, and success factors was started. Most participants found their behaviors changed to the desirable direction, body weight reduced, and they felt stronger than before. The conversation turned to the subject of continuation of the participant network in the community. The continuity of the group was discussed and planed. Finally, the researchers thanked them for their cooperation in the study and promise to report the results of the study.

The control group

Participants in the control group were in another village. They sought their monthly follow-up care at the PCU. They received routine service by the PCU nurse, which included monitoring of blood pressure, body weight, and prescription refilled. Data collection at baseline, week fourth, eighth, and twelfth was completed by the village health volunteer trained for this study. The village health volunteer also made monthly home visits to measure the participant's body weight and blood pressure at their homes (Fig. 2).

Instruments

The instruments employed in this study included 1) self-report questionnaires which consisted of two parts. The first part had six items of demographic data and seven items measuring stroke risk factors according to the SOP-PCS. The second part contained 50 rating scale items asking the participants' behaviors regarding nutrition, exercise, stress management, cigarette smoking, and social support. The content validity index of the questionnaire was 0.80 and the Cronbach's alpha coefficient was 0.87, 2) a form to record BMI, blood pressure, blood sugar, cholesterol and triglyceride, 3) the calibrated sphygmomanometer and body weight-height scale, 4) blood chemistry: blood sugar, triglyceride, and cholesterol were done by the Bang-Rakam district hospital's laboratory.

Data collection and analysis

Data collection at baseline and week 12 included participants body weight, height, blood pressure, body mass index (BMI), blood sugar, cholesterol, and triglyceride as well as self-report questionnaires asking about health behaviors regarding dietary, exercise, stress management, smoking, and social support. Data collection at week four and eight included BMI, weight, and blood pressure.

Data were analyzed using SPSS statistic software. Before data analysis, the normality of the main variable was examined by Kolmogorov Smirnov test and found to be normal distribution, therefore parametric statistics were used. To test the equivalence between groups prior to the implementation of the intervention, baseline data on health behavior variables, BMI, blood pressure, cholesterol, triglyceride, and blood sugar of the experiment and control group were compared using independent t-test and found no statistical difference between groups. Descriptive statistics were used to compute demographic data. Comparison of health behaviors scores between groups were analyzed using Analysis of Variances (ANOVA). Repeated Measurement was used for the assessment of health behavior variables. For blood pressure, BMI, and blood chemistry in various periods of the study, independent t-test was used to compare parameters between the experimental and the control groups.

Results

Demographic data and risk factors

No significant differences on demographic data were found between groups. Most participants were female (71.5%). The mean age was 61.93. (SD = 9.303), ages greater than 50 years old were 84.5%. The BMI of 24.5 and more were 58.5%.

General diagnosis and health behaviors of the study sample were described as hypertension 75%, diabetes 65%, hyperlipidemia 15%, lack of exercise 50%, overweight 59%, and smoking 10%.

About the stroke risk factors: blood pressure more than 140/90 mmHg were 59%, blood sugar ≥126 mg/dl were 64%, cholesterol ≥200 mg/dl were 42%, triglyceride ≥200 mg/dl were 47%.

Effects of empowerment

After the intervention, the mean scores of health behaviors regarding the nutrition, exercise, stress management, social support, and smoking of participants in the experimental group were significantly different from those of the control group at week four, eight, and twelve ($p \leq 0.001$) (Table 1). The change of systolic and diastolic blood pressure

Table 1. Comparison of mean score on health behaviors and outcomes of the experimental and control groups at baseline, week 4, week 8, and week 12

Variables	Baseline		Week 4		Week 8		Week 12		F (p-value)
	Experiment mean ± SD	Control mean ± SD	Experiment mean ± SD	Control mean ± SD	Experiment mean ± SD	Control mean ± SD	Experiment mean ± SD	Control mean ± SD	
Health behaviors									
Nutrition	2.72±0.20	2.65±0.21	2.90±0.27	2.72±0.19	3.12±0.31	2.66±0.18	3.28±0.31	2.70±0.26	48.537 (0.001)
Exercise	2.58±0.27	2.60±0.23	2.67±0.40	2.59±0.23	3.03±0.45	2.57±0.23	3.56±0.41	2.55±0.26	40.612 (0.001)
Stress-management	2.52±0.24	2.81±0.26	3.03±0.31	2.83±0.27	3.34±0.29	2.79±0.28	3.80±0.32	2.81±0.29	63.554 (0.001)
Social-support	2.76±0.18	2.76±0.19	3.04±0.28	2.75±0.18	3.42±0.27	3.42±0.27	3.78±0.31	2.76±0.20	82.734 (0.001)
Smoking	3.11±0.78	3.14±0.77	3.19±0.70	3.08±0.73	3.28±0.63	3.19±0.75	3.37±0.56	3.15±0.76	15.216 (0.001)
Outcomes									
Systolic BP	142.70±14.00	142.30±13.00	139.70±15.50	141.80±13.60	134.70±14.00	141.00±12.20	129.80±12.60	141.20±11.60	20.039 (0.001)
Diastolic BP	101.10±8.50	100.70±7.80	83.60±6.70	100.00±8.20	79.50±9.20	94.20±7.70	76.20±8.30	88.40±6.00	116.400 (0.001)
Body mass index	26.50±4.20	26.60±4.30	26.20±4.10	26.40±4.30	25.90±3.90	25.90±4.00	25.60±3.80	25.60±3.80	25.557 (0.001)

BP = blood pressure

and body mass index of the experimental group were significantly different from those of the control group (p≤0.001) (Table 1). Moreover, Fig. 3 showed that the mean scores of blood pressure and body mass index in the experimental group were lower than those in the control group at week four, eight, and twelve.

The changes in blood sugar, cholesterol and triglyceride of the experimental group were significantly better than those of the control group (p≤0.001) (Table 2). Fig. 4 showed the decreasing of blood sugar, cholesterol, and triglyceride from the baseline to week 12. Only the triglyceride of the control group that increase during the study.

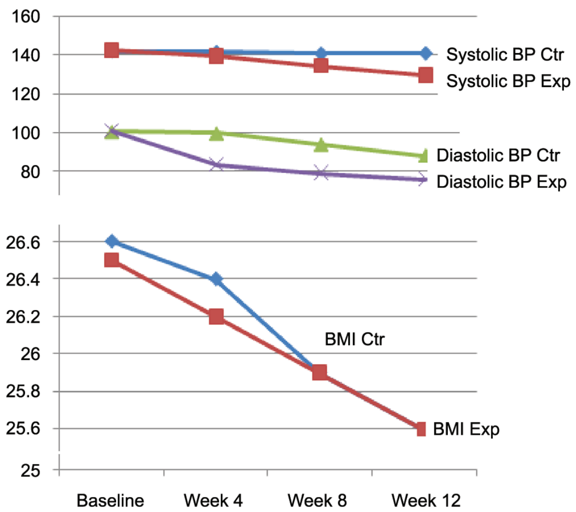

Fig. 3 Blood pressure and body mass index of the experimental and control groups at baseline, week 4, week 8, and week 12 (exp = experiment, ctr = control).

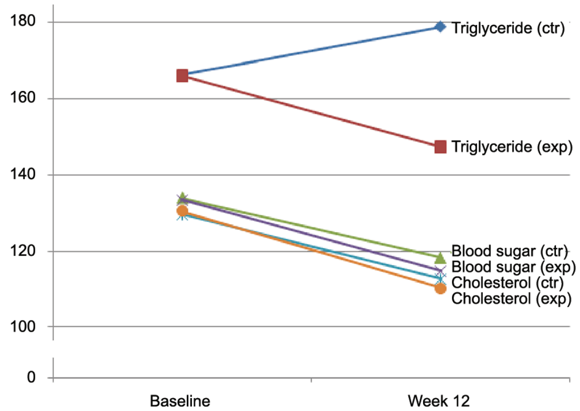

Fig. 4 Blood sugar, cholesterol, and triglyceride of the experimental and control group at baseline and week 12 (exp = experiment, ctr = control).

Table 2. Comparison of blood sugar, cholesterol, and triglyceride before and after implementation between the experimental and control group

Before and after implementation	Blood sugar (mean ± SD)	Cholesterol (mean ± SD)	Triglyceride (mean ± SD)
Experimental group			
Baseline	133.27±28.94	130.20±28.25	165.77±11.89
Week 12	114.60±15.14	110.20±20.05	147.17±7.15
Control group			
Baseline	133.77±28.45	129.43±25.30	166.13±10.20
Week 12	118.00±18.33	112.60±17.17	178.60±9.12
Significance	t = -6.279 p≤0.001	t = -6.763 p≤0.001	t = -15.07 p≤0.001

Table 3. The mean difference regarding health behavior between the experimental and the control groups at 4, 8, and 12 weeks

Variables	Baseline and week 4	Baseline and week 8	Baseline and week 12
Nutrition	0.122***	0.208***	0.308***
Exercise	0.041	0.215***	0.469***
Stress management	0.111***	0.248***	0.489***
Social support	0.133***	0.319***	0.509***
Reduce smoking	0.006	0.110***	0.318***

*** p<0.001

The mean differences of health behaviors between the experimental and control groups were statistically different (p≤0.001) in baseline and week four; baseline and week eight; and baseline and week 12; except the mean difference of exercise and smoking between baseline and week four (Table 3). The mean difference between baseline and week 12 was more than the mean difference between baseline and week eight. The mean difference between baseline and week eight was more than the mean difference between baseline and week four (Fig. 5).

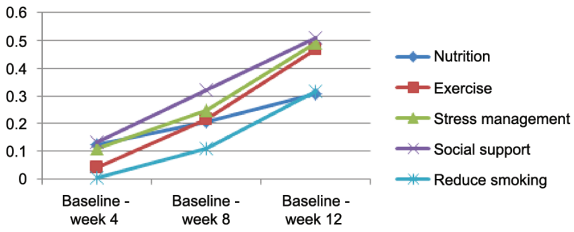

Fig. 5 The mean difference regarding health behavior between the experimental and the control groups at 4, 8, and 12 weeks.

Discussion

Findings from this quasi-experimental study revealed that empowerment process was effective in modifying participants' health behaviors therefore reducing the potential risks for stroke. Although the duration of the study was only 12 weeks, the empowerment process and trust established the improvement in behaviors and reduction of stroke risk factors.

There was no drop out during the study. This could be explained by the facts that people in the study area were accustomed to the researcher's institute, the Naresuan University. Many university projects had been implemented in the province and people gained benefits therefore they trusted in this study. Another important reason was the study procedure. The meetings were scheduled in advance and the participants accepted them. One day before the meeting, the health volunteers went to the participants' home and notified them of the meetings, and on the meeting date if there were participants' absence, the volunteers would go to and get the participants from their homes.

The empowerment processes enhance participants to realize their situation and express their feeling, gain knowledge, ponder over their situations and capabilities, share experience, initiate new beliefs and confidences, and could determine appropriate activities to reach their health goals. Continued follow-up at week four and eight might contribute to a stronger effect of the empowerment process. As a result, participants gained more competence, confidence, and aspiration through sharing their knowledge and ideas with other participants. Even if there was no intervention from week eight to week 12, the participants still maintained their health behaviors and the risks for stroke still decreased. There was no stroke incidence during the study in both the experimental and control group.

During the discover reality stage, participants realized their risks and after ponder over the whole situations and their experience about stroke, they needed to modify their lifestyle more than being taught to do. This was the benefit of the empowerment process. Multiple intervention activities including peer support from the discussion group along with the counseling and encouragement from nurses and health volunteers may prompt participants to adhere to their health plan and this was the social support according to the Gibson's model.

Trust is an important factor for patients to comply with healthcare providers' instruction or healthcare plan[12]. In this study, the sense of trusts and rapport between facilitators and patients occurred through the process of facilitating, being friendly, good listening, and respect. Cahill (1998) stated that bureaucratic approach leads to passive patient involvement rather than a humanistic perspective[13]. Trust allowed the participant expressed their thoughts, emotion, and ideas to other people in the group discussion[12,14].

In this study, healthy choice of diet, increasing physical activities, and stress management through empowerment contributed to a positive impact on blood pressure, weight, BMI, and lipid profiles. These effects were similar to the findings of the following studies. Increase physical activities resulted in lower systolic blood pressure[6,15,16], diastolic blood pressure[6,15], weight reduction[6], increase HDL-C and lower LDL_C[15], and triglyceride[6]. Edwards, Wilson, Sadja, Ziegler, and Mills stated that exercise increased parasympathetic nervous system activity therefore reducing blood pressure[17]. Moderate sodium restriction in diet could reduce diastolic pressure without effect on blood sugar and lipid in the hypertensive patients[18]. Exercise together with a healthy diet is more effective in reducing blood pressure than exercise alone[19]. Psychological stress could increase blood pressure in type 2 diabetic patients[20]. Stress also increases metabolism and cardiac function resulted in increased resting blood pressure[21]. Therefore, stress management could help reduce blood pressure.

Alteration of participant behaviors to the desirable direction during the study could be presumed. However, the researchers were confident that those behaviors would be maintained in the community because in the closing meeting the participants themselves discussed about how to maintain their behaviors through some activities such as the bicycle-riding group.

Strengths in this study included the facilitators. The researchers and the nurses acted as friends not bureaucratic officers; the health volunteers and the participants were people from the same community; the participants trusted each other. Therefore, rapport, trust, and commitment emerged from these factors. In addition, the study used a rigorous design with matched control group (age, gender, blood pressure, and blood sugar) and frequent dosages of intervention. The collaborative team approach between nurse and different levels of health volunteers, community leaders, and local government workers was the key for success in the completion of this research. The results can be applied to implement the study to other communities and other chronic diseases that require behavior modification.

This study contributed to the gap in the literature in that using the empowerment as an intervention could effectively promote desired behaviors to reduced stroke risk factors in patients who were at moderate risk for a stroke.

Despite of the strengths in this study, some limitations must be considered. One of the limitations includes lack of the participation of patients' spouse or family members. Spouse or family member might have some influence on the participants' behaviors. Future research should assess whether spouse or family member may influence the patients who are at risks for stroke in changing their health behaviors. Since multiple factors may influence the success of participants' behavioral and lifestyle change, measures of social psychological and motivational predicting behavioral change such as self-efficacy should be used to assess the potential mediator of the empowerment intervention in the future study. In addition, a longitudinal study should be conducted to measure retention of knowledge, attitude, and actual implementation of practiced skills at six months or to one year.

Conclusion

Findings in this study demonstrated that empowerment process is of great benefit to improve behaviors and reduce the risks of stroke in rural population. Using an empowerment process, the participants can gain self-efficacy, competence, and the sense of mastery of their situation that prompted them to choose and maintain healthy behaviors. Empowerment intervention delivered in a friendly environment and people trust the health care providers and can express their knowledge, feeling,

and ideas was shown to be an effective strategy. The empowerment process should be applied for other chronic illness conditions.

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Potential conflicts of interest

None.

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ผลของโปรแกรมสร้างเสริมพลังอำนาจต่อพฤติกรรมสุขภาพและการลดปัจจัยเสี่ยงโรคหลอดเลือดสมองของกลุ่มเสี่ยงในชุมชน ชนบทไทย

จรรจา สันตยากร, วิไลพร โรจนาศรีรัตน์

ภูมิหลัง: *พฤติกรรมสุขภาพที่ไม่เหมาะสม เพิ่มปัจจัยเสี่ยงต่อโรคหลอดเลือดสมองซึ่งได้แก่ น้ำหนักเกิน ความดันโลหิตสูง เบาหวาน และไขมันในเลือดสูง การส่งเสริมให้บุคคลมีพฤติกรรมสุขภาพที่ดี และลดอุบัติการณ์การตายและความพิการจากโรคหลอดเลือดสมองนั้น การสร้างเสริมพลังอำนาจเป็นกลวิธีที่ใช้ในการศึกษานี้ เพื่อเปลี่ยนพฤติกรรมสุขภาพของบุคคล*

วัตถุประสงค์: *เพื่อศึกษาผลของโปรแกรมสร้างเสริมพลังอำนาจต่อพฤติกรรมสุขภาพ และการลดปัจจัยเสี่ยงโรคหลอดเลือดสมองของประชากรกลุ่มเสี่ยงในชุมชนชนบทของประเทศไทย*

วัตถุและวิธีการ: *การศึกษาเป็นการวิจัยกึ่งทดลอง ในกลุ่มตัวอย่างจำนวน 60 คน ที่มีปัจจัยเสี่ยงต่อการเกิดโรคหลอดเลือดสมองในระดับปานกลางตามแนวทางปฏิบัติเพื่อป้องกันและควบคุมโรคหลอดเลือดสมอง กรมควบคุมโรค กระทรวงสาธารณสุขในหมู่บ้าน 2 แห่ง ในจังหวัดพิษณุโลก กลุ่มตัวอย่างที่เข้าร่วมการศึกษาถูกแบ่งเป็นกลุ่มทดลอง และกลุ่มควบคุม จำนวนกลุ่มละ 30 คน โดยการจับคู่ด้วย เพศ อายุ ระดับความดันโลหิต และระดับน้ำตาลในเลือด กลุ่มทดลองได้รับโปรแกรมการสร้างเสริมพลังอำนาจตามแนวคิดของกิ๊บสัน ได้แก่ 1. การค้นพบสภาพความเป็นจริง 2. การสะท้อนคิดอย่างมีวิจารณญาณ 3. การตัดสินใจรับผิดชอบ 4. การคงไว้ซึ่งการปฏิบัติ ส่วนกลุ่มควบคุมได้การพยาบาลปกติ ที่สัปดาห์ที่ 1, 4, และ 8 ระยะเวลาดำเนินการ 12 สัปดาห์ เครื่องมือที่ใช้ประกอบด้วย 1. แบบสอบถามพฤติกรรมสุขภาพ 2. แบบบันทึกดัชนีมวลกาย ความดันโลหิต ระดับน้ำตาล โคเลสเตอรอล และไตรกลีเซอร์ไรด์ วิเคราะห์ข้อมูลโดยใช้การวิเคราะห์ความแปรปรวนแบบวัดซ้ำ และสถิติการทดสอบค่าที*

ผลการศึกษา: *กลุ่มทดลองหลังการให้โปรแกรมการสร้างเสริมพลังอำนาจ มีพฤติกรรมสุขภาพดีกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติ ($p<0.001$) และกลุ่มทดลองหลังการให้โปรแกรมการสร้างเสริมพลังอำนาจ มีดัชนีมวลกาย ระดับความดันโลหิต ระดับน้ำตาล โคเลสเตอรอล และไตรกลีเซอร์ไรด์ ลดลงกว่ากลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติ ($p<0.01$, $p<0.001$)*

สรุป: *โปรแกรมสร้างเสริมพลังอำนาจมีผลในการเพิ่มพฤติกรรมสุขภาพและลดปัจจัยเสี่ยงโรคหลอดเลือดสมอง ข้อเสนอแนะสามารถนำไปใช้ในประชากรกลุ่มเสี่ยงต่อโรคหลอดเลือดสมอง และโรคเรื้อรังในชนบทที่มีบริบทคล้ายคลึงกันต่อไป*