Self-Management Improvement Program Combined with Community Involvement in Thai Hypertensive Population: An Action Research

Jeamjai Srichairattanakull MSc*, Wonpen Kaewpan DrPH*,
Arpaporn Powattana PhD*, Panan Pichayapinyo PhD*

** Department of Public Health Nursing, Faculty of Public Health, Mahidol University, Bangkok, Thailand*

Objective: *To investigate the effectiveness of a program that utilizes community involvement to improve the self-management strategies among people living with hypertension.*

Material and Method: *Forty-four subjects, aged 35 to 59-year-old, with hypertension in Nakhon Pathom Province, Thailand, were randomly allocated to either an experimental group (n = 22) or a control group (n = 20). The experimental group attended a program to improve self-management methods based on social cognitive theory (SCT). The program lasted 12 weeks, consisted of 1½ hours meeting once a week, including group meetings and home visit monitoring. Mann-Whitney U test and Friedman test were employed to analyze the program's effectiveness.*

Results: *After the program, the mean rank of the perceived self-efficacy for the self-management strategies was statistically different between the two groups (p = 0.023). In the experimental group, after the twelve week, the mean rank of perceived self-efficacy and outcome expectancy increased and diastolic blood pressure decreased after the eight week.*

Conclusion: *The program applied social cognitive theory (SCT) to promote self-management techniques, increased the health promoting behavior among hypertensive people.*

Keywords: *Hypertension, Self-management strategies, Family support, Community involvement*

J Med Assoc Thai 2014; 97 (4): 456-66
Full text. e-Journal: *http://www.jmatonline.com*

The prevalence of hypertension, one of the leading causes of death in Thailand, has been increasing[1]. Lifestyle modifications and compliance with treatment have been recommended by the Joint National Committee (JNC VII) in order to improve symptoms. This includes increase physical activity, moderation of alcohol consumption, weight reduction, and practicing the Dietary Approaches to Stop Hypertension (DASH) dietary plan, which focuses on sodium and fat intake reduction and high fiber intake increment[2]. Moreover, World Health Organization-International Society of Hypertension (WHO-ISH) suggested that smoking cessation and stress management also have impact on blood pressure[3]. Previous studies have demonstrated that these lifestyle changes can reduce blood pressure by 2 to 20 mmHg[2]. Consequently, the Thai Ministry of Public Health has launched many lifestyle modification programs that are mostly free of charge. They include increasing physical activity, dietary control, medication adherence, smoking cessation, decreased alcohol consumption, and managing stress[4]. However, a survey from a Thai National Study in 2005 reported that approximately 15% of hypertensive people did not decrease their salty diet, 30% of them had physical activity less than 30 minutes per day and less than three days per week, 56% had poor compliance in taking antihypertensive medications, 61% were still drinking, 63% had not stopped smoking, and 23% had not practiced stress management[5].

Self-management techniques have been recognized as a strategy to successfully improve lifestyle modifications for people with chronic diseases[6], whereas Directory Observed Therapy (DOT) program is a strategy acted on by other people to monitor whether the patients take their medications as prescribed[7]. In order to manage lifestyle properly and continuously, people should believe in their capabilities to perform the desired behavior[8]. Previous studies have shown that if hypertensive people have a high level of efficacy, healthy behaviors are more likely to be performed successfully, and if the outcomes occur

Correspondence to:
Kaewpan W, Department of Public Health Nursing, Faculty of Public Health, Mahidol University, 420/1 Rajchavithi Road, Rajchathawee, Bangkok 10400, Thailand.
Phone & Fax: 0-2354-8542
E-mail: wonpen.kae@mahidol.ac.th, phwkp123@gmail.com

according to their expectations, this will reinforce their level of perceived self-efficacy[9]. Belief in their efficacy has been improving their applications of self-management strategies[10]. Social support from family, positive modeling, and peer support also improve self-efficacy and outcome expectancy[11]. Thus, previous study had tried to create interventions for lifestyle modification using self-efficacy theory as a framework[12]. However, according to literature reviews, most studies have been conducted from the perspectives of the researchers, who were outsiders of the community. Moreover, the data of Non-Communicable Disease Institute, Ministry of Public Health [MOPH][5] showed that many people with hypertension continued to engage in risky behaviors for hypertension. As Bandura[8] stated, when the outsiders intended to change the community, community efforts may decline after the end of the projects. For this reason, people with hypertension could not continue their improvement. One recommended strategy is the community involvement in order to achieve behavior maintenance[13]. Thus, intervention for self-management behavior improvements combined with community involvement are the strategies that would increase participation in the process and should be conducted among hypertensive people in Thailand.

Objective

The purpose of the present study was to investigate the effectiveness of a self-management improvement program combined with community involvement by strengthening perceived self-efficacy, outcome expectancy, and self-management techniques among hypertensive people. In addition, health status, including body mass index, waist circumference, systolic blood pressure, and diastolic blood pressure were also examined.

Material and Method

Design

The present study involved a quasi-experimental design with two groups and a pre- and post-test design. It was conducted between February and May 2012 in Mahasawad Sub-district, Putthamonthon District, which is a suburban community in Nakhon Pathom Province.

Study sample and procedure

Subjects were randomly selected from two of four villages in Mahasawad Sub-district, Putthamonthon District, Nakhon Pathom Province. The inclusion criteria were people aged 35 to 59-years-old, who had systolic blood pressure (SBP) ≤180 mmHg and diastolic blood pressure (DBP) ≤120 mmHg, were living in this community for at least six months, had been taking antihypertensive drugs of at least one kind, and were able to perform physical activities. Calculation of the sample size was done using power analysis[14] with a large effect size, a power of 80%, alpha of 0.05; the sample size was 50 persons. They were randomly assigned into the experimental group of 25 and the control group of 25.

Data were collected by self-administered questionnaire at the beginning, the eighth week, and the twelfth week. Ethical considerations of this study were made and approved by the Mahidol University Institutional Review Board (MUPH 2011-208).

Intervention

The study intervention was divided into three phases (Table 1). The first phase was conducted at the first and third weeks with the purpose of enhancing community involvement to improve the self-management strategies for people with hypertension in the community. The strategy was emphasized on the group discussion regarding hypertensive situation and severity, benefits of lifestyle modification, and the way to adjust their self-management. People participating in this phase were health care volunteers, community leaders, hypertensive people, family members, and health care providers. There were no activities in the second and fourth weeks.

The second phase was conducted between the fifth and sixth weeks to increase levels of perceived self-efficacy, outcome expectancy, and self-management strategies among hypertensive people. The program was composed of eight sessions for 1½ hours once a week, and two home visits during this period. The activities included providing information on hypertension and lifestyle modifications, group discussions with role models, practicing of exercise and relaxation, health screening and giving feedback on the results, as well as reinforcement by providing praise and encouragement via lived models, family members, and stakeholders. Then, home visits by health care volunteers trained by the researcher was provided in the thirteenth and fourteenth week in order to monitor blood pressure, medicine taking, and behavior modification and motivation of people with hypertension to maintain their self-management. There was no activity in the fifteenth week.

Table 1. Detail of the program to improve self-management for people with hypertension by session

Week	Topic	Objective	Method
1st	Hypertension situation	To create awareness and enhance community involvement	Focus group discussion regarding hypertension situation in the community, factors affected hypertension, and benefits of lifestyle modification
2nd			No activity
3rd	The way to adjust their self-management	To enhance community involvement improving people with hypertension	Focus group discussion regarding to find the way to adjust their self-management and plan to improve people with hypertension
4th			No activity
5th-6th	Perceived self-efficacy for self-management	To increase people's awareness about the severity of hypertension	Physical arousal: physical checking up and results feeding back
		To increase people's capability to perform desired behaviors	Modeling: group discussion and experience sharing among lived model regarding symptoms, severity, and controlling hypertension
	Outcome expectation of self-management	To enhance people's benefits perception of self-management	Verbal persuasion: providing hypertension information and lifestyle modification
	Self-management	To motivate to modify lifestyles	Verbal persuasion: providing appreciation and will power regarding dietary and weight control, exercise, stress management, smoking cessation, and moderation of alcohol consumption, and drug and appointment compliance
7th-11th	Perceived self-efficacy for self-management	To strengthen people's belief in their capability to perform desired behaviors	Mastery skill: 1) Assessing and evaluating behavior modification, sharing experience regarding results, barriers, and overcomes during each week, and repeating practicing self-management (exercise and muscle relaxation) 2) Demonstrating and practicing: - choose proper food controlling hypertension and weight and calculate BMI - exercise: Chi Kong and check pulse - stress management: muscle relaxation 3) Sharing experience and group discussion: - control diet and weight - exercise - drugs and appointment compliance - stress management - smoking cessation - moderation of alcohol consumption

Table 1. (cont.)

Week	Topic	Objective	Method
7th-11th	Outcome expectation for self-management	To increase expectancy of performing self-management outcome	Verbal persuasion: providing more benefits information of: - dietary and weight control - exercise - drugs and appointment compliance - stress management - smoking cessation - moderation of alcohol consumption Mastery skill: sharing experience regarding feeling after practicing
	Self-management	To motivate to improve self-management	Verbal persuasion: providing will power and encouragement to perform self-management
12th	Perceived self-efficacy and outcome expectancy for self-management	To strengthen people's belief in their capability and people's outcome expectancy to perform self-management	Physical arousal: physical checking up and providing the results Mastery skill: 1) Assessing and evaluating performing self-management during 8 weeks 2) Discussing regarding results, barriers, overcomes, and how to sustain self-management
	Self-management	To motivate continuing performing self-management	Verbal persuasion: providing praise and will power to continue performing self-management
13th-14th	Perceived self-efficacy and outcome expectancy for self-management	To strengthen people's belief in their capability to perform self-management	Physical arousal: physical checking up and providing the results
		To increase perception of self-management outcome expectancy	Mastery skills: discussing regarding results, barriers, and overcomes of continuing self-management
	Self-management	To motivate continuing self-management	Verbal persuasion: providing praise and will power to continue performing self-management
15th			No activities
16th	Perceived self-efficacy and outcome expectancy for self-management	To strengthen perceived self-efficacy and outcome expectancy for performing self-management	Physical arousal: health status checking and providing the results Mastery skill: 1) Assessing and evaluating performing self-management 2) Discussing about the results and how to continue practicing self-management
	Self-management	To motivate continuing self-management	Verbal persuasion: providing praise and will power continuing to perform self-management and giving souvenir

The final phase was to evaluate people's perception of self-efficacy, outcome expectancy, self-management, and their health status. The benefits of the program and ways to modify their behaviors were provided in this phase.

The control group received only treatment and basic services at the Community Hospital and Health Promoting Hospital. The basic services were health checkups and group health education.

Outcome measures

1) Primary outcomes were to determine the levels of perceived self-efficacy, outcome expectancy, and applications of self-management strategies.

Perceived self-efficacy was used to evaluate the people's confidence to perform self-management. The scale consisted of a 33-item list, which ranged from 1 (cannot do it definitely) to 5 (can do it definitely). The total scores ranged from 5 to 165. The higher scores indicated higher confidence in conducting self-management. The Cronbach Alpha Coefficient of the study was 0.81.

Outcome expectancy was used to evaluate the expectation of the results of performing self-management strategies. The scale consisted of a 23-item list, which ranged from 1 (totally disagree) to 5 (totally agree). The total scores ranged from 5 to 115. The higher scores indicated higher outcome expectations for performing self-management. The Cronbach Alpha Coefficient of the study was 0.87.

Self-management was used to evaluate the performance of self-management to control hypertension, including weight control, physical activity, dietary control, compliance with anti-hypertensive drugs and keeping appointments, stress management, moderation of alcohol consumption, and smoking cessation. The scale consisted of a 25-item list, which ranged from 1 (never) to 5 (usually). The total scores ranged from 5 to 125. The higher scores indicated better performance of self-management. The Cronbach Alpha Coefficient of the study was 0.75.

All instruments were reviewed for content validity, clarity, and language appropriateness by five experts in the study of hypertension, behavioral sciences, and the area of family studies. The Content Validity Index (CVI) was between 0.8 and 1.0.

2) Clinical outcomes of the study included systolic blood pressure (SBP), diastolic blood pressure (DBP), body mass index (BMI), and waist circumference.

Blood pressure was measured twice after the subjects sat still for at least five minutes using a digital blood pressure monitor, and the average of these values was used.

Waist circumference was measured between the lower rib margin and the iliac crest, at the end of a normal expiration by using a tape measure to record values in centimeters.

Weight and height were measured and used to calculate BMI (kg/m^2) for all subjects. Classifications of being overweight and obesity were determined using BMI cut-off points issued by the Public Health Ministry of Thailand.

Statistical analysis

Descriptive statistics were used to describe the subjects' characteristics and using Chi-square or Fisher's exact test of categorical data for comparison between experiment and comparison groups. According to non-normal distribution of all variables, the Friedman was used to identify the difference of the data between baselines, week 8, and week 12 within the groups and the Mann-Whitney U test was used to evaluate the differences between the experimental and comparison groups. Data were analyzed conservatively according to the "intention to treat" principle. A p-value <0.05 was considered statistically significant.

Results

Forty-two subjects completed the program with 22 from the interventional group and 20 from the control group. The dropped out rate was 16%, while the causes of withdrawal were workload, health problems, and moved out (Fig. 1).

The mean age of the experimental and control subjects were 51.3 and 51.8 years old, respectively. The majority of the experimental group was female (88.2%), whereas the majority of the control group was male (55%). The median of monthly family incomes of the experimental and comparison groups were 10,000 and 11,000 baht/month, respectively. Moreover, the majority of both groups were married, primary school educated, employed, and working. All subjects took at least one antihypertensive drug, such as a diuretic based on the hospital's clinical practice guidelines. No significant differences in socio-demographic data between the experimental and the control groups were observed at the baseline ($p>0.05$) (Table 2).

At the beginning, there were no differences of perceived self-efficacy, outcome expectancy, and

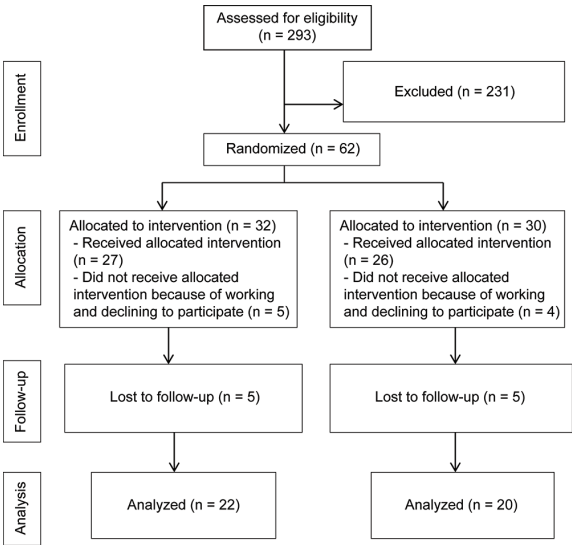

Fig. 1 Study flow chart.

self-management between experimental and control group (p = 0.545, 0.079, and 0.960, respectively). Moreover, there were no differences of clinical outcomes including SBP, DBP, waist circumference, and BMI between the experimental and the control groups (Table 3).

For the experimental group, levels of perceived self-efficacy and outcome expectancy increased significantly in the twelfth week (p = 0.001 and p<0.001, respectively) compared to the baseline. DBP was statistically decreased at the eighth week compared to the baseline (p = 0.019). However, SBP, BMI and waist circumference did not significantly change over the duration of the study (p = 0.170, 0.275, and 0.442, respectively) (Table 4).

When comparing the study outcomes between the experimental and the control groups, the statistically significant different outcomes were not found. However, the perceived self-efficacy was statistically significant different at the twelfth week (p = 0.023) (Table 3).

Discussion

The findings showed the effectiveness of the program combining community involvement to improve the applications of self-management among hypertensive people. This is consistent with Bandura[15] who indicated that people who have confidence to act would be better performing the desired behaviors. The program intervention enhances hypertensive people's levels of perceived self-efficacy and outcome expectancy by using four strategies indicated by Bandura[15], including mastery skill (sharing and discussing about experiences of performing self-management, and practicing skill), modeling (discussion with living models), verbal persuasion

Table 2. Socio-demographic characteristics of sample

Data	Experimental group (n = 22)	Comparison group (n = 20)	p-value
Age (year) (mean ± SD)	51.3±6.0	51.8±6.3	0.912
Income (baht/month) (median (P_{25}, P_{75}))	10,000 (4,500, 14,000)	11,000 (8,000, 19,000)	0.449
Gender			
Male	7 (31.8%)	11 (55.0%)	0.129
Female	15 (68.2%)	9 (45.0%)	
Marital status			
Single/separate	1 (4.5%)	5 (25.0%)	0.072
Married	21 (95.5%)	15 (75.0%)	
Education level			
Primary school	20 (90.9%)	15 (75.0%)	0.229
Secondary school and higher	2 (9.1%)	5 (25.0%)	
Occupation			
Merchant	5 (22.7%)	5 (25.0%)	0.796
Hired	11 (50.0%)	8 (40.0%)	
Farmer	6 (27.3%)	7 (35.0%)	
Caregivers			
Wife	9 (40.9%)	8 (40.0%)	0.151
Husband	7 (31.9%)	6 (30.0%)	
Children and relatives	6 (27.2%)	6 (30.0%)	

Table 3. The difference of outcomes between experimental and comparison groups

Data	Median		p-value
	Experimental group	Comparison group	
Perceived self-efficacy			
Baseline	118.00	116.50	0.545
Week 8th	120.00	115.50	0.133
Week 12th	124.50	115.50	0.023
Outcome expectancy			
Baseline	86.50	92.00	0.079
Week 8th	91.50	95.50	0.261
Week 12th	95.00	95.00	0.614
Self-management			
Baseline	100.00	97.00	0.960
Week 8th	99.00	101.00	0.980
Week 12th	100.00	102.50	0.782
Body mass index (BMI) (kg/m^2)			
Baseline	27.07	24.74	0.302
Week 8th	26.23	25.17	0.351
Week 12th	26.29	25.08	0.326
Systolic blood pressure (SBP) (mmHg)			
Baseline	129.75	127.50	0.307
Week 8th	125.50	130.50	0.734
Week 12th	124.75	126.50	0.900
Diastolic blood pressure (DBP) (mmHg)			
Baseline	86.75	84.00	0.435
Week 8th	79.75	81.50	0.465
Week 12th	80.50	80.75	0.677
Waist circumference (cm)			
Baseline	88.50	83.50	0.345
Week 8th	86.50	85.50	0.890
Week 12th	84.75	85.25	0.960

Table 4. The difference of outcomes within the experimental group

Data	Median			p-value
	Baseline	Week 8th	Week 12th	
Perceived self-efficacy	118.00	120.00	124.50	0.001
Outcome expectancy	86.50	91.50	95.00	<0.001
Self-management	100.00	99.00	100.00	0.025
BMI	27.07	26.23	26.29	0.275
Waist circumference	88.50	86.50	84.75	0.442
SBP	129.75	125.50	124.75	0.170
DBP	86.75	79.75	80.50	0.019

(encouraging and reinforcing), and physical arousal (providing feedback of the physical checkups and lifestyle modification monitoring). This is also supported by previous study reported that the more people with hypertension increase their direct experience, gain better physical conditions, and increase their motivation, the more they increase their confidence about the self-management[12]. Moreover, the program included family and community support that was initiated during skills practicing and home visiting could provide greater benefits by boosting the subjects' confidence to perform the desired behaviors[15].

There are many benefits to this program that improves the applications of self-management combined with community involvement over the DOT program. First, people who practice self-management can control and change their lifestyles by themselves when they perceived their capabilities, while people in the DOT program needed someone to take care of them[7]. Secondly, in order to sustain behavioral change, people need to perform, independently, which is supported by previous study which has indicated that people who possessed knowledge of self-management were more likely to increase physical exercise and reduce consumption of improper diet[16]. Furthermore, this program combined with community support help people living with hypertension to maintain their behaviors[17].

The program significantly affected the perception of self-efficacy and outcome expectancy at the twelfth week, while did not affected self-management behaviors. This can be explained by the notion that perceived self-efficacy and outcome expectancy could be increased in a short period of time, whereas the application of self-management might need more time to produce positive results[18]. Furthermore, this might be an effect of the study strategies using family and community involvement to heighten the subjects' confidence in performing the desired behaviors[15]. Strengthening the benefits of home visit activity at the ninth and tenth week was to encourage family and the community to closer participate in making them understand the real problems and to improve the applications of the self-management for hypertensive people and could, as a result, enable the community to participate with hypertensive people and their family members to find solutions that meet their needs and the relevant context. Thus, people's self-management increased after joining the program. However, the score did not show statistically significant difference.

Noticeably, self-management was not significantly different between the two groups over time, but it gradually increased in the experimental group, whereas it decreased in the control group. This reflects that in order to sustain behavioral modifications over time might be needed in order to help people manage themselves. According to the results of this study, people living with hypertension changed their perception in the twelfth week, while their self-management behaviors were not changed. Accordingly, the programs that need to achieve behavior modifications need more time to be applied.

When compared to the control group, levels of perceived self-efficacy were statistically significantly different at the twelfth week, whereas, outcome expectancy, self-management, and health status indicators showed non-significant effects in the experimental group. These underscored an effect of outcome expectancy on people's level of self-management. In this study, outcome expectancy was achieved by providing information, discussions with living models, and self-evaluations; however, according to Bandura[15], outcome expectancy was influenced by their level of satisfaction and their level of self-devaluation to perform such behaviors. Therefore, if people have self-criticism when they check the feedback results in their deviation in a short period, it would result in rejection of the lifestyle modifications. Thus, the greater the outcome expectancy is, the greater the improvement in the applications of self-management strategies.

Despite the fact that blood pressure was improved at the end of study, SBP could not significantly improve compared to the baseline. These findings are similar to several other studies[12]. This might be an effect of age and genders of the participants. In the present study, the average age of the subjects was 51.3 years old, which often having higher SBP, and less ability to control SBP when compared to DBP[19]. People who were 50 years or older and who were women with unchanged BMI may experience less ability to changes SBP[20]. Moreover, the majority of the experimental group had BMI measurements between 25.0 and 29.9 kg/m^2 and waist circumferences of more than 90 cm, which indicated that they were obese. This could activate the renin-angiotensin system to increase salt retention, resulting in blood pressure elevation[20].

Interestingly, the findings showed the program did not affect the health status indicators, such as BMI and waist circumference. Waist circumference is related to the BMI[21], whereas BMI is dependent on weight[22]. To maintain a healthy weight, it is necessary to have a healthy diet and sustained program of physical activity[23]. However, the results showed the self-management behaviors included dietary control and physical exercises among the people with hypertension were not statistically different at the eighth week. In addition, the majority of the members of the experimental group were women in the 50- to 59-year range, for which weight is difficult to reduce[24], due to a decline in the volume of subcutaneous fat and a redistribution of fat from

subcutaneous to visceral depots[25], and they have larger abdominal subcutaneous adipose tissue area than males[25]. Thus, the study showed that the experimental group had significantly unchanged BMI and waist circumferences. This unchanged BMI finding was similar to several other studies[26] and the unchanged waist circumference finding was similar to Balcazar et al[27].

The present study had some limitations. First, the study had a small sample size resulting in a non-significant effects outcome because the study was an action research that used only one community. All people with hypertension in the community were selected based on inclusion criteria and their voluntary. Due to loosing follow-up, the sample size of each group was reduced. Thus, the further study should be concerned about sample size to confirm the results. Secondly, the majority of the subjects were middle aged and female. The results in this study might not similar to the other studies, which used the younger subjects. Thus, any future study should be concerned with this limitation.

Conclusion

The program utilizing community involvement development based on SCT could improve the levels of self-efficacy and outcome expectancy among hypertensive people. People with hypertension could significantly improve their DBP at the eighth week, compared to the baseline. However, the program did not improve the SBP, BMI, and waist circumference among the subjects.

What is already known on this topic?

According to previous studies regarding to improving hypertension, almost studies were conducted in the researcher view. Nearly 60% of studies focused on patients at hospitals. Only 13% of studies included family members and community, which were found plays an important role to support people with hypertension in the program. Furthermore, developing interventions rarely gave community opportunity to involve in the progress. For the results of interventions, they have demonstrated increased self-efficacy, which in turn was associated with improved self-management and blood pressure levels in people with hypertension. However, studies found that people with hypertension did not maintain their behaviors and health improvement over time because they lacked inspiration and social support when intervention activities ended. In addition, doing activities without people participating to make decision may be appropriate with their culture and lifestyle but may not encourage them to engage and maintain their self-management.

What this study adds?

Based on SCT theory, researchers believed that developing interventions to improve personal factors (self-efficacy) and environment (family support) could shape behaviors (self-management) for people with hypertension. Moreover, doing activities with people participating to make decision may be appropriate with their culture and lifestyle and may enhance them to engage and maintain their self-management. For this reason, the researchers developed the intervention improving self-management among people with hypertension by community involvement in order to increase possibility of appropriateness and succeed in meeting the health needs of people in the community and included family support in the program in order to maintain self-management behaviors among people with hypertension.

Acknowledgements

I would like to thank Praboromrachanok Institute, Public Health Ministry for funding the present study. Moreover, I would like to thank Boromarajonani College of Nursing, Bangkok for its strong support, including the recognition of the time needed to conduct this study.

Potential conflicts of interest

None.

References

1. Population and Social Research Institute. Thai health in 2010. Bangkok: Mahidol University; 2010.
2. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL Jr, et al. Seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. Hypertension 2003; 42: 1206-52.
3. 1999 World Health Organization-International Society of Hypertension Guidelines for the management of hypertension. Guidelines Subcommittee. J Hypertens 1999; 17: 151-83.
4. Hoontrakul S, Somboontanont W. Developing self-care competency to prevent complication in hypertensive clients in the community. J Royal Thai Army Nurses 2012; 13: 38-44.
5. Non-communicable Disease Institute, Ministry

of Public Health. Report of risk behaviours for non-communicable disease and trauma survey. Nonthaburi: Ministry of Public Health; 2005.
6. Bodenheimer T, Lorig K, Holman H, Grumbach K. Patient self-management of chronic disease in primary care. JAMA 2002; 288: 2469-75.
7. California TB Control Branch. Information for physicians regarding Directory Observed Therapy (DOT) for active tuberculosis [Internet]. 2012 [cited 2013 Oct 17]. Available form: http://www.malph.org
8. Bandura A. Social foundations of thought and action. New Jersey: Prentice-Hall; 1986.
9. Allen NA. Social cognitive theory in diabetes exercise research: an integrative literature review. Diabetes Educ 2004; 30: 805-19.
10. Pearson ML, Mattke S, Shaw R, Ridgely MS, Wiseman SH. Patient self-management support programs: an evaluation [Internet]. 2007 [cited 2013 Jan 28]. Available from: http://www.ahrq.gov/research/findings/final-reports/ptmgmt/ptmgmt.pdf
11. Lorig KR, Holman H. Self-management education: history, definition, outcomes, and mechanisms. Ann Behav Med 2003; 26: 1-7.
12. Kim MT, Kim EY, Han HR, Jeong S, Lee JE, Park HJ, et al. Mail education is as effective as in-class education in hypertensive Korean patients. J Clin Hypertens (Greenwich) 2008; 10: 176-84.
13. National Progressive Primary Health Care Network. Community involvement in hospitals: key findings and recommendations, Chapter 2: Community involvement in health [Internet]. 1996 [cited 2010 Apr 12]. Available from: http://www.hst.org.za/pphc/commun/chap2.htm
14. Polit DF, Hungler. Nursing research: principles and methods. 3rd ed. Philadelphia: J.B. Lippincott; 1987.
15. Bandura A. Self-efficacy: the exercise of control. New York: W.H. Freeman; 1997.
16. Tidy C. Diabetes education and self-management programs [Internet]. 2010 [cited 2013 Oct 17]. Available form: http://www.patient.co.uk/doctor/diabetes-education-and-self-management-programmes
17. Breuer D. Community participation in local health and sustainable development: approaches and techniques. European Sustainable Development and Health Series 4. Geneva: World Health Organization; 2002.
18. Puska P, Koskela K, McAlister A, Mayranen H, Smolander A, Moisio S, et al. Use of lay opinion leaders to promote diffusion of health innovations in a community programme: lessons learned from the North Karelia project. Bull World Health Organ 1986; 64: 437-46.
19. Tesfaye F, Nawi NG, Van Minh H, Byass P, Berhane Y, Bonita R, et al. Association between body mass index and blood pressure across three populations in Africa and Asia. J Hum Hypertens 2007; 21: 28-37.
20. Droyvold WB, Midthjell K, Nilsen TI, Holmen J. Change in body mass index and its impact on blood pressure: a prospective population study. Int J Obes (Lond) 2005; 29: 650-5.
21. Thoenes M, Neuberger HR, Volpe M, Khan BV, Kirch W, Bohm M. Antihypertensive drug therapy and blood pressure control in men and women: an international perspective. J Hum Hypertens 2010; 24: 336-44.
22. Sutin AR, Ferrucci L, Zonderman AB, Terracciano A. Personality and obesity across the adult life span. J Pers Soc Psychol 2011; 101: 579-92.
23. Franklin SS, Larson MG, Khan SA, Wong ND, Leip EP, Kannel WB, et al. Does the relation of blood pressure to coronary heart disease risk change with aging? The Framingham Heart Study. Circulation 2001; 103: 1245-9.
24. Lamon-Fava S, Wilson PW, Schaefer EJ. Impact of body mass index on coronary heart disease risk factors in men and women. The Framingham Offspring Study. Arterioscler Thromb Vasc Biol 1996; 16: 1509-15.
25. World Health Organization. Waist circumference and waist-hip ratio: report of a WHO expert consultation Geneva, 8-11 December 2008. Geneva: WHO Document Production Services; 2011.
26. Eriksson KM, Westborg CJ, Eliasson MC. A randomized trial of lifestyle intervention in primary healthcare for the modification of cardiovascular risk factors. Scand J Public Health 2006; 34: 453-61.
27. Balcazar HG, Byrd TL, Ortiz M, Tondapu SR, Chavez M. A randomized community intervention to improve hypertension control among Mexican Americans: using the promotoras de salud community outreach model. J Health Care Poor Underserved 2009;20:1079-94.

โปรแกรมการพัฒนาการจัดการตนเองโดยการมีส่วนร่วมของชุมชนในประชาชนชาวไทยที่เป็นโรคความดันโลหิตสูง: วิจัยเชิงปฏิบัติการ

เจียมใจ ศรีชัยรัตนกูล, วันเพ็ญ แก้วปาน, อาภาพร เผ่าวัฒนา, ปาหนัน พิชยภิญโญ

วัตถุประสงค์: *เพื่อประเมินประสิทธิผลของโปรแกรมการพัฒนาการจัดการตนเองของประชาชนที่เป็นโรคความดันโลหิตสูงตามแนวคิดทฤษฎี Social Cognitive Theory*

วัสดุและวิธีการ: *กลุ่มตัวอย่างคือประชาชนที่เป็นความดันโลหิตสูงในจังหวัดนครปฐม ที่มีอายุ 35-59 ปี และถูกสุ่มอย่างง่ายมาเป็นกลุ่มทดลอง (22 ราย) เพื่อเข้าร่วมโปรแกรมการพัฒนาการจัดการตนเองซึ่งพัฒนาตามทฤษฎี Social Cognitive Theory และกลุ่มเปรียบเทียบ (20 ราย) ซึ่งจะได้รับการบริการตามปกติ โปรแกรมการพัฒนาการจัดการตนเองใช้ระยะเวลา 12 สัปดาห์ ครั้งละ 1 ½ ชั่วโมง ประกอบด้วยการให้ความรู้เกี่ยวกับโรคความดันโลหิตสูงและการป้องกัน การตรวจสุขภาพ การแจ้งผลการตรวจ การใช้ตัวแบบ และการอภิปรายเกี่ยวกับประโยชน์และอุปสรรคในการจัดการตนเอง การฝึกปฏิบัติการออกกำลังกาย และการผ่อนคลายกล้ามเนื้อ การสนับสนุนให้มีการจัดการตนเองโดยครอบครัวและการติดตามเยี่ยมบ้าน สมาชิกครอบครัวได้เข้าร่วมกิจกรรมในสัปดาห์ที่ 1, 2 และการเยี่ยมบ้าน การวิเคราะห์ประสิทธิผลของโปรแกรมใช้สถิติ Mann-Whitney U test และ Friedman test*

ผลการศึกษา: *หลังการทดลอง กลุ่มทดลองและกลุ่มควบคุมมีการรับรู้ความสามารถในการจัดการตนเองแตกต่างอย่างมีนัยสำคัญทางสถิติ (p-value = 0.023) เมื่อเปรียบเทียบภายในกลุ่มทดลอง การรับรู้ความสามารถในการจัดการตนเอง และผลลัพธ์ที่คาดหวังในการจัดการตนเองเพิ่มขึ้นในสัปดาห์ที่ 12 และความดันโลหิตไดแอสโตลิก ลดลงในสัปดาห์ที่ 8*

สรุป: *โปรแกรมการพัฒนาการจัดการตนเองที่ประยุกต์จากทฤษฎี Social Cognitive Theory ให้ผลลัพธ์ที่ดีที่สามารถนำไปประยุกต์ใช้ในการส่งเสริมให้กับผู้ป่วยโรคความดันโลหิตสูงสามารถจัดการตนเองได้*