An Effect of Walking Exercise Applying the Theory of Planned Behavior in People at Risk of Hypertension

Udomlak Duangpunmat MS* ,
Surintorn Kalampakorn PhD**, Panan Pichayapinyo PhD**

** Faculty of Nursing, College of Asian Scholar, Khon Kaen, Thailand*
*** Faculty of Public Health, Mahidol University, Bangkok, Thailand*

Objective: *To investigate an effectiveness of walking exercise program applying the Theory of Planned Behavior in people at risk of hypertension in Samut Sakorn province.*
Material and Method: *The present study is a quasi-experimental research. The inclusion criteria were people aged 35-59 years old, systolic blood pressure 120-139 mmHg, and diastolic blood pressure 80-89 mmHg. Participants were randomly selected into the experimental group (n = 34) and the comparison group (n = 34). The experimental group received activities including health information, benefits of walking exercise, group discussion in exercise barriers, modeling and experience exchange, walking exercise practice, and practice on using walking monitoring booklet at the baseline and the 2nd week, whereas the comparison group received only health information and the booklet practice at the beginning of the intervention. Data were collected by self-administered questionnaires at the baseline, 2nd week, and 6th week. Statistical analysis was performed using Chi-square, Independent t-test, and repeated measures ANOVA.*
Results: *The experimental group made significant improvements in attitude towards walking exercise, perceived behavior control, subjective norm, walking exercise intention, and walking exercise over time ($p<0.05$). However, no statistically significant differences between the experimental and the comparison groups were found in subjective norm, systolic and diastolic blood pressure from baseline to the 6th week. The experimental group had a significant higher mean difference score of attitude towards walking exercise, perceived behavior control, walking exercise intention, walking exercise, weight, and BMI compared to those in the comparison group ($p<0.05$). Subjective norm scores in the experimental group were more likely to increase from baseline to the 6th week, but not a significant difference.*
Conclusion: *Walking exercise programs applying the Theory of Planned Behavior should be recommended in people at risk of hypertension. Health professionals should also be motivated to practice with this program.*

Keywords: *Walking exercise, Hypertension, Theory of planned behavior, Risk population*

J Med Assoc Thai 2013; 96 (Suppl. 5): S122-S130
Full text. e-Journal: *http://www.jmatonline.com*

Hypertension is recognized as a major risk of cardiovascular disease, one of leading causes of death in Thailand, and its prevalence has been increasing with an approximately 778 per 100,000 people in 2007 compared to 341 per 100,000 people in 2002[1]. A number of studies demonstrated that physical activity could reduce blood pressure and the incidence of hypertension. Staffileno et al[2] found that women who had physical activity such as walking for 150 minutes accumulated had a significant decrease systolic and diastolic blood pressure. A meta-analysis studied by Whelton et al[3] indicated that people who engaged aerobic exercise for at least 30 minutes for most had approximately 4 mmHg reduction compared to those who did not. It is consistent with the recommendation according to JNC VII which indicated that in order to prevent hypertension regular physical activity at least 30 minutes per day, most days of the week should be performed and the preferred activity in older adults is walking[4,5]. Therefore, physical activity such as walking exercise improvement should be promoted for prevention of high blood pressure, particularly among people at risk of hypertension.

The Theory of Planned Behavior[6] has been widely used in research to explore and predict people in performing healthy behaviors[7-9]. Ajzen[6] indicated that behavior occur when the people can perform or not perform such behavior at will and also proposed three determinants of intentions including attitude toward behavior, subjective norm, and perceived behavior control. "Attitudes" refers to people's determinant to whether performing a particular behavior

Correspondence to:
Pichayapinyo P, Department of Public Health Nursing, Faculty of Public Health, Mahidol University, Bangkok 10400, Thailand.
Phone & Fax: 0-2354-8542
E-mail: panan.pic@mahidol.ac.th

is a pros or cons, whereas subjective norm involved their perceptions of the social pressures they are under to either perform or not perform the behavior. Perceived behavioral control is a perception of the overall ease or difficulty in performing such behavior. A number of studies demonstrated that attitude, perceived behavior control, and motivation from family and friends were associated with physical activity such as brisk walking[10,11]. However, no study investigated factors influencing walking exercise among Thai population at risk of hypertension.

Therefore, the purpose of the study was to investigate the effect of applying the Theory of Planned Behavior to attitudes towards walking exercise, perceived behavior control, subjective norm, intention to perform walking exercise, and walking exercise among Thai people at risk of hypertension. In addition, body weight, body mass index (BMI), and blood pressure were also examined.

Material and Method

Study design

A quasi-experimental research with two-group, pretest-posttest design conducted between December 2010 and January 2011 was used to investigate an effect of walking exercise. Participants were randomly recruited at a health promotion hospital in Samut Sakorn province. The study was approved by the Mahidol University's Ethical Committee with the approved number MUPH2010-195. A full explanation was provided before participants began participating in the study. Participation was voluntary with consent obtained and anonymity guaranteed. The present study was carried out according to the Declaration of Helsinki.

Subjects

Participation in the study was voluntary. Eligibility criteria included people aged 35-59 years old, had systolic blood pressure 120-139 mmHg and diastolic blood pressure 80-89 mmHg, had no history of illness with hypertension, and were able to participate in walking exercise. Power analysis was conducted to estimate the sample size needed for the present study. To achieve 80% power with a large effect and an alpha of 0.05, a minimum of 28 participants per group accounting for attrition was projected[12]. Allowing for an attrition rate of 20%[13], a total of 68 participants (34 participants per group) of 122 persons at risk of hypertension recorded in the hospital, were invited to participate in the present study.

Procedure

As the participants were enrolled, they were simple randomly assigned into the comparison and experimental groups. A comparison group received a 60-min health education session including health information about hypertension and its prevention, and practiced walking time monitoring at the time of randomization. No further intervention contact was provided except at the 2nd and 6th week for data collection. For the experimental group, participants received health education supplemented by intervention program of 1 to 2 hours per session. The goal of the intervention was to accumulate 150 minutes of walking exercise per week.

The 1st week objectives focused on improvement of people's attitudes toward walking exercise and intention to perform exercise. Activities included providing a 60-min health education session including health information regarding hypertension information and its prevention, discussion about experience in walking exercise with role model and intention to engage in the exercise. Discussion after performing walking experience among groups was done in order to increase social norm influence. It included walking exercise practice for improving people's confidence in performing exercise and building their capability to control their behaviors. Each session of walking exercise consisted of a 10-min warm up period, 30-min walking exercise, and a 10-min cool-down period. Booklet for walking time monitoring developed by the researcher was also provided for motivating people's intention. They were encouraged to practice at home at least 3 to 5 other days. The 2nd week objectives and activities were repeated. No activity was provided for the 3rd week to the 6th week. Data were collected in both groups at the baseline, the 2nd week and the 6th week.

Questionnaire

Participants were asked to complete questionnaires at the time of enrollment, at the 2nd and 6th week. The questionnaires included the following:

Sociodemographic information included gender, age, education, marital status, occupation, income, health history, body weight, BMI, and blood pressure.

Attitude towards walking exercise measures modified from Jitramontri[14] was assessed using eleven items ($\alpha = 0.81$). A total score could range from 11 to 55, and the higher the score, the greater the individual's perception of walking exercise is good.

Subjective norm measures was a single

question for measuring how likely people would like to perform walking exercise that the reference group of exercise wanted. The group included friends and family (such as relatives, couple, children, and parents). Responses ranged from "not at all" to "the most influence". The higher the score, the greater the individual's felt it was okay for them to perform walking exercise.

Perceived behavior control measures modified from Jitramontri[14] was measured how easy it would be to perform walking exercise, and how much control they believed they would have over their walking exercise. It was assessed using 9 items ($\alpha = 0.78$). A total score could range from 9 to 36, and the higher the score, the greater the perception of individual's control over walking exercise.

Walking exercise intention was measured whether people would engage in performing walking exercise for at least 150 minutes within 1 week. It was assessed using a visual scale with a scale of 0 (definite will not to) to 10 (definite will).

Walking exercise was asked as people's actual performing walking exercise in minutes per week within the past 30 days.

Statistical analyses

Data were analyzed by using computerized statistical analysis software (SPSS version 18). Intention-to-treat analyses were used. Differences between the experimental and comparison group were examined by using Chi-square test for categorical and Independence t-test for continuous variables. Repeated measures ANOVA were performed to determine whether there were significant changes in body weight, BMI, blood pressure, attitude towards walking exercise, subjective norm, perceived behavior control, intention, and walking exercise across time based on effect of the intervention. A p-value < 0.05 was considered as the criterion of statistical significance.

Results

A baseline comparison of two groups on sex, age, educational level, income, and marital status showed no statistically significant differences (p = 0.71, 0.57, 0.39, 0.71, and 0.39 respectively). The majority of the participants in both groups was married women with low income, and finished at the primary school level, and those in the experimental group were employed compared to those in the comparison group (p = 0.04). Additionally, no statistically significant baseline difference in systolic and diastolic blood pressure, attitude towards walking exercise, perceived behavioral control, and walking exercise intention (p = 0.22, 0.15, 0.28, 0.71, and 0.29 respectively). However, the mean of body weight, BMI, and walking exercise in the experimental group were greater than those in the comparison group (p = 0.03, 0.07 and <0.001, respectively), and friends were the group that influences people in performing walking exercise in the experimental group at the baseline (p = 0.04) (Table 1).

Table 1. Comparison mean scores of the study outcome measures at baseline

	Experimental group (n = 34)	Comparison group (n = 34)	t	p-value*
	Mean ± SD			
Weight (Kg)	65.62 (11.1)	59.97 (10.3)	2.16	0.03
Body mass index (Kg/m^2)	26.58 (4.4)	24.63 (4.3)	1.84	0.07
Blood pressure (mmHg)				
Systolic	128.32 (7.3)	125.62 (10.6)	1.22	0.22
Diastolic	74.62 (7.2)	77.18 (7.3)	-1.45	0.15
Attitude towards walking exercise	43.21 (3.5)	42.21 (3.9)	1.10	0.28
Perceived behavior control	27.50 (4.0)	27.21 (2.3)	0.37	0.71
Subjective norm				
Friends	1.71 (0.9)	1.29 (0.6)	2.12	0.04
Family	2.47 (1.2)	2.44 (0.9)	0.11	0.91
Walking exercise intention	8.38 (1.6)	7.94 (1.8)	1.07	0.29
Walk (min)	85.15 (42.25)	53.53 (43.91)	3.02	<0.001

* p<0.05

As shown in Table 2, repeated measures ANOVA demonstrated a significant effects for attitude towards walking exercise ($F = 16.28$, $p \leq 0.001$), perceived behavior control ($F = 85.47$, $p < 0.001$), friends as a subjective norm ($F = 15.38$, $p < 0.001$), family as a subjective norm ($F = 5.16$, $p = 0.03$), walking exercise intention ($F = 14.61$, $p < 0.001$), and walking exercise ($F = 22.37$, $p < 0.001$), with most outcome measures improving over time. However, there was no statistically significant effect for systolic ($F = 0.85$, $p = 0.36$) and diastolic blood pressure ($F = 2.06$, $p = 0.16$) weight ($F = 0.43$, $p = 0.51$), and BMI ($F = 0.07$, $p = 0.79$). Additionally, groups by time interaction effects were found for attitude towards walking exercise ($F = 6.41$, $p < 0.001$), perceived behavior control ($F = 27.96$, $p \leq 0.001$), walking exercise intention ($F = 7.27$, $p \leq 0.001$), walking exercise ($F = 8.43$, $p \leq 0.001$), weight ($F = 4.53$, $p = 0.01$), and BMI ($F = 4.39$, $p = 0.02$). However, no significant group by time interactions were found on friends as a subjective norm ($F = 2.61$, $p = 0.07$), family as a subjective norm ($F = 2.42$, $p = 0.09$), systolic blood pressure ($F = 0.55$, $p = 0.57$), and diastolic blood pressure ($F = 0.05$, $p = 0.94$). That is, no significant differences between the experimental and the comparison groups were found in subjective norms and blood pressure from baseline to the 6th week.

When performing independent t-test analysis to compare the mean differences of factors between groups, a significant difference in mean score of perceived behavior control, walking exercise intention, walking exercise, weight, and BMI between baseline to the 2nd week, and between baseline to the 6th week were observed, whereas the significant difference in mean score of attitude towards walking exercise were found between baseline to the 2nd week ($p < 0.05$). In addition, the mean score of friends as subjective norm was more likely to increase between baseline to 6th week, but not with significant differences ($p = 0.05$) (Table 2).

Discussion

The findings provide evidence to support that the Theory of Planned Behavior is a useful guiding framework to develop activity for promoting healthy behavior such as walking exercise. The study program can successfully improve attitude towards walking exercise, subjective norms, perceived behavior control, intention, and walking exercise, which is consistent with previous studies[9,13]. Noticeably, people who received the program demonstrated the greater gains of outcome measures at the 2nd week compared to the comparison group. These findings suggested some motivation before the 6th week for continuing and maintaining walking exercise, and a further study should be conducted to confirm the result.

Two interesting findings were found in the present study. Attitude towards walking exercise was more likely to decrease after the 2nd week of intervention, and no significant differences between the experimental and the comparison groups in the amount of subjective norm contributed to people's performing walking exercise from baseline to the end of the present study. This might underscore an impact of perceived behavior control and walking exercise intention on people's performing physical activities. This is supported by previous studies. Plotnikoff et al[7,10] found that perceived behavior control was a strong factor associated with physical activity. Everson[11] indicated that attitudes and subjective norm were at least important factors in predicting intention to perform physical activity. A study of Rivis and Sheeran[15] also showed that subjective norm made a smaller contribution in predicting intention than did attitude and perceived behavioral control. Therefore, a further study regarding physical activity interventions would need to search for strategies for mainly increasing perceived behavior control and intention. Discussion with positive model focused on how to overcome barriers is an example.

Despite no significant change in body weight and BMI, after the 6th week intervention the experimental group showed improvement whereas the comparison group showed decline. Additionally, no different change in systolic and diastolic blood pressure over time was found. Possibly, the walking exercise in the study might not fully intense and the period of intervention was short for lowering weight and blood pressure. A number of studies demonstrated weight and BMI improvement after engaging in physical activity over 6 months[16-18]. A study conducted by Gutin et al[19] also indicated that moderately intense physical activity for 2-3 hours per week would result in child weight lost. Vianna et al[20] found that walking three times a week at an intensity level for 4 months could significantly decrease the diastolic blood pressure. This is consistent with a systematic review conducted by Lee et al[21] which indicated that moderate to high-intensity walking (65-85% of maximum heart rate), 3-5 days/week, for 20-60 min continuous or accumulated with duration of intervention ranged 8-19 weeks (mean length was 19 weeks) can reduce blood pressure.

The present study should be interpreted within the context of its limitations. First, the number of

Table 2. Mean, mean difference, and repeated measures ANOVA of the outcome measures for the experimental and comparison groups at baseline, the 2nd week, the 6th week of intervention

	Experimental group (n = 34)	Comparison group (n = 34)	p#	p@		
	Mean (SD)			Time	Group	Time x Group
Attitude towards walking exercise						
Baseline	43.21 (3.5)	42.21 (3.9)		<0.001	<0.001	<0.001
2nd week	47.79 (2.5)	43.21 (3.9)				
6th week	45.29 (3.3)	43.29 (3.9)				
2nd week-baseline	4.59 (3.9)	1.00 (5.5)	<0.001			
6th week-baseline	2.09 (3.9)	1.09 (5.7)	0.39			
Perceived behavior control						
Baseline	27.50 (4.0)	27.21 (2.3)		0.02	<0.001	<0.001
2nd week	31.56 (2.9)	25.47 (1.6)				
6th week	30.94 (2.9)	25.47 (1.6)				
2nd week-baseline	4.06 (4.4)	-1.74 (2.5)	<0.001			
6th week-baseline	3.44 (4.4)	-1.74 (2.5)	<0.001			
Subjective norm						
Friends						
Baseline	1.71 (0.9)	1.29 (0.6)		<0.001	<0.001	0.07
2nd week	2.12 (0.9)	1.71 (0.7)				
6th week	3.06 (1.1)	2.12 (0.9)				
2nd week-baseline	0.41 (1.1)	0.41 (1.1)	1.00			
6th week-baseline	1.35 (1.1)	0.82 (1.1)	0.05			
Family						
Baseline	2.47 (1.2)	2.44 (0.9)		0.02	0.03	0.09
2nd week	3.12 (0.9)	2.56 (0.8)				
6th week	2.88 (1.0)	2.32 (0.8)				
2nd week-baseline	0.64 (1.3)	0.11 (1.1)	0.08			
6th week-baseline	0.41 (1.4)	-0.11 (1.1)	0.08			

* $p<0.05$; # Independent t-test; @ Repeated measure ANOVA

Table 2. (cont.)

	Experimental group (n = 34)	Comparison group (n = 34)	p[#]	p[@]		
	Mean (SD)			Time	Group	Time x Group
Walking exercise intention						
Baseline	8.38 (1.6)	7.94 (1.8)		<0.001	<0.001	<0.001
2nd week	9.59 (0.8)	8.03 (1.7)				
6th week	9.44 (0.9)	8.00 (1.6)				
2nd week-baseline	1.21 (1.3)	0.09 (1.7)	<0.001			
6th week-baseline	1.06 (1.4)	0.06 (1.8)	0.01			
Walk (min)						
Baseline	85.15 (42.25)	53.53 (43.91)		<0.001	<0.001	<0.001
2nd week	140.88 (68.1)	67.65 (55.4)				
6th week	145.88 (73.1)	73.97 (59.9)				
2nd week-baseline	55.74 (53.1)	14.12 (42.5)	<0.001			
6th week-baseline	60.74 (65.5)	20.44 (46.9)	<0.001			
Weight (Kg)						
Baseline	65.62 (11.1)	59.97 (10.3)		0.98	0.51	<0.001
2nd week	62.94 (12.0)	63.03 (12.2)				
6th week	62.65 (11.3)	63.35 (12.0)				
2nd week-baseline	-2.68 (6.6)	3.06 (11.8)	0.02			
6th week-baseline	-2.97 (10.8)	3.38 (11.7)	0.02			
Body mass index (Kg/m^2)						
Baseline	26.58 (4.4)	24.63 (4.3)		0.89	0.79	0.02
2nd week	25.55 (5.1)	26.02 (5.9)				
6th week	25.51 (5.3)	26.15 (5.8)				
2nd week-baseline	-1.03 (2.6)	1.39 (5.2)	0.02			
6th week-baseline	-1.07 (4.4)	1.51 (5.1)	0.03			

* $p<0.05$; [#] Independent t-test; [@] Repeated measure ANOVA

Table 2. (cont.)

	Experimental group (n = 34)	Comparison group (n = 34)	$p^{\#}$	$p^{@}$		
	Mean (SD)			Time	Group	Time x Group
Systolic blood pressure (mmHg)						
Baseline	128.32 (7.3)	125.62 (10.6)		0.25	0.36	0.58
2nd week	125.82 (7.6)	125.03 (11.6)				
6th week	127.21 (6.9)	125.09 (11.3)				
2nd week-baseline	-2.50 (8.2)	-0.59 (7.9)	0.33			
6th week-baseline	-1.12 (7.7)	-0.53 (7.8)	0.76			
Diastolic blood pressure (mmHg)						
Baseline	74.62 (7.2)	77.18 (7.3)		0.71	0.16	0.94
2nd week	74.41 (7.7)	76.62 (7.5)				
6th week	74.24 (7.2)	76.26 (8.2)				
2nd week-baseline	-0.21 (7.1)	-0.56 (5.3)	0.82			
6th week-baseline	-0.38 (7.7)	-0.91 (6.3)	0.76			

* $p<0.05$; # Independent t-test; @ Repeated measure ANOVA

subjects was limited: the majority of subjects were women, from which the results might not be generalized in the male population. This calls for a greater number particularly male in the sample size in the future for further study. Second, the present study was conducted for six week, which might not be sufficient time for weight and blood pressure changes. Thus, longitudinal study should be considered to test the results and determinants of change.

Conclusion

The present study findings provide partially supported the usefulness of the Theory of Planned Behavior in walking exercise program among people at risk of hypertension. Subjective norms, perceived behavior control, intention, and walking exercise were improved overtime, whereas attitude towards walking exercise was increased only at a few weeks. However, outcome measures including weight, BMI, and blood pressure did not differ from the baseline to the end of intervention.

Acknowledgement

The authors wish to thank the assistance of health professionals. Without their help and enthusiasm in the data collection process, this study would not have been possible.

Potential conflicts of interest

None.

References

1. Ministry of Public Health. Annual report 2008. Nonthaburi: Thailand: Bureau of Non-Communicable Disease, Department of Disease Control; 2009.
2. Staffileno BA, Minnick A, Coke LA, Hollenberg SM. Blood pressure responses to lifestyle physical activity among young, hypertension-prone African-American women. J Cardiovasc Nurs 2007; 22: 107-17.
3. Whelton SP, Chin A, Xin X, He J. Effect of aerobic exercise on blood pressure: a meta-analysis of randomized, controlled trials. Ann Intern Med 2002; 136: 493-503.
4. US. Department of Health and Human Services. JNC 7 express: The seventh report of the Joint National Committee on prevention, detection, evaluation, and treatment of high blood pressure. Bethesda, MD: NIH Publication; 2003.
5. US Department of Health and Human Services.

Physical activity and health: a report of the Surgeon General. Morbidity Mortality Weekly Report 1996; 45: 591-2.
6. Ajzen I. From intentions to actions: a theory of planned behavior. In: Kuhl J, Beckman J, editors. Action-control: from cognition to behavior. Heidelberg: Springer; 1985: 11-39.
7. Plotnikoff RC, Lubans DR, Costigan SA, Trinh L, Spence JC, Downs S, et al. A test of the theory of planned behavior to explain physical activity in a large population sample of adolescents from Alberta, Canada. J Adolesc Health 2011; 49: 547-9.
8. Hagger MS, Chatzisarantis NLD, Biddle SJH. A meta-analytic review of the theories of reasoned action and planned behavior in physical activity: Predictive validity and the contribution of additional variables. J Sport Exerc Psychol 2002; 19: 36-51.
9. Kelley GA, Kelley KS, Tran ZV. Walking and resting blood pressure in adults: a meta-analysis. Prev Med 2001; 33: 120-7.
10. Plotnikoff RC, Lubans DR, Trinh L, Craig CL. A 15-year longitudinal test of the theory of planned behavior to predict physical activity in a randomized national sample of Canadian adults. Psychol Sport Exerc 2012, 13; 521-7.
11. Everson ES, Daley AJ, Ussher M. Brief report: the theory of planned behaviour applied to physical activity in young people who smoke. J Adolesc 2007; 30: 347-51.
12. Cohen J. Statistical power analysis for the behavioral sciences. 2nd ed. New Jersey: Lawrence Erlbuam Associates; 1988.
13. Kelley K, Abraham C. RCT of a theory-based intervention promoting healthy eating and physical activity amongst out-patients older than 65 years. Soc Sci Med 2004; 59: 787-97.
14. Jitramontree N. Exercise promotion: walking in elders. J Gerontol Nurs 2010; 36: 10-8.
15. Rivis A, Sheeran P. Social influences and theory of planned behavior: Evidence for a direct relationship between prototypes and young people's exercise behavior. Psychol Health 2003; 18: 567-83.
16. Annesi JJ, Johnson PH. Relative effects of reduced weight and increased physicalactivity on hemoglobin A1C: Suggestions for behavioral treatments. Int J Clin Health Psychol 2013; 13: 167-70.
17. Finlayson G, Cecil J, Higgs S, Hill A, Hetherington M. Susceptibility to weight gain. Eating behaviour traits and physical activity as predictors of weight gain during the first year of university. Appetite 2012; 58: 1091-8.
18. Andrade AM, Coutinho SR, Silva MN, Mata J, Vieira PN, Minderico CS, et al. The effect of physical activity on weight loss is mediated by eating self-regulation. Patient Educ Couns 2010; 79: 320-6.
19. Gutin B, Barbeau P, Owens S, Lemmon CR, Bauman M, Allison J, et al. Effects of exercise intensity on cardiovascular fitness, total body composition, and visceral adiposity of obese adolescents. Am J Clin Nutr 2002; 75: 818-26.
20. Vianna MV, Ali CS, Gomes AL, Guimaraes AC, Seixas-da-Silva IA, do Rego AR, et al. Aerobic conditioning, blood pressure (BP) and body mass index (BMI) of older participants of the Brazilian Family Health Program (FHP) after 16 weeks of guided physical activity. Arch Gerontol Geriatr 2012; 54: 210-3.
21. Lee LL, Watson MC, Mulvaney CA, Tsai CC, Lo SF. The effect of walking intervention on blood pressure control: a systematic review. Int J Nurs Stud 2010; 47: 1545-61.

ผลของโปรแกรมการออกกำลังกายด้วยการเดินที่ประยุกต์ทฤษฎีพฤติกรรมตามแผนในประชากรกลุ่มเสี่ยงโรคความดันโลหิตสูง

อุดมลักษณ์ ดวงผุนมาตย์, สุรินธร กลัมพากร, ปาหนัน พิชยภิญโญ

วัตถุประสงค์: เพื่อศึกษาผลของโปรแกรมการออกกำลังกายด้วยการเดินที่ประยุกต์ทฤษฎีพฤติกรรมตามแผนในประชากรกลุ่มเสี่ยงโรคความดันโลหิตสูงในจังหวัดสมุทรสาคร

วัสดุและวิธีการ: การวิจัยกึ่งทดลอง (quasi-experimental research) เกณฑ์การคัดเข้าของกลุ่มตัวอย่าง ได้แก่ อายุระหว่าง 35-59 ปี ความดันโลหิตซิสโตลิก อยู่ระหว่าง 120-139 มิลลิเมตรปรอทและความดันโลหิตไดแอสโตลิก อยู่ระหว่าง 80-89 มิลลิเมตร สุ่มกลุ่มตัวอย่างและทำการแบ่งเป็นกลุ่มทดลอง 34 ราย กลุ่มเปรียบเทียบ 34 ราย โดยกลุ่มทดลองได้รับกิจกรรมประกอบด้วยการให้ข้อมูลสุขภาพด้านความรู้โรคความดันโลหิตสูงและการป้องกัน ประโยชน์การออกกำลังกายด้วยการเดิน การอภิปรายแสดงความคิดเห็นร่วมกันเกี่ยวกับอุปสรรค ของการออกกำลังกาย การใช้บุคคลต้นแบบรวมทั้งแลกเปลี่ยนประสบการณ์ในกลุ่ม ฝึกปฏิบัติการออกกำลังกาย ด้วยเดินและการใช้สมุดบันทึกการออกกำลังกายด้วยการเดินในสัปดาห์แรกและสัปดาห์ที่ 2 ในขณะที่กลุ่มเปรียบเทียบ มีเพียงกิจกรรมการให้ความรู้และการฝึกใช้สมุดบันทึกการออกกำลังกายด้วยการเดินเมื่อเริ่มการวิจัย การเก็บรวบรวม ข้อมูลทำก่อนการทดลอง สัปดาห์ที่ 2 และสัปดาห์ที่ 6 ตามลำดับ วิเคราะห์ข้อมูลด้วยสถิติ Chi-square, Independent t-test และ Repeated measures ANOVA

ผลการศึกษา: กลุ่มทดลองมีทัศนคติในการมีพฤติกรรมการออกกำลังกาย การรับรู้การควบคุมพฤติกรรม การคล้อยตามกลุ่มอ้างอิง เจตนาในการมีพฤติกรรมการออกกำลังกาย และพฤติกรรมการออกกำลังกายด้วยการเดินดีขึ้นตลอดระยะการศึกษา ($p<0.05$) แต่อย่างไรก็ตามไม่พบความแตกต่างอย่างมีนัยสำคัญทางสถิติ ระหว่างกลุ่มทดลองและกลุ่มเปรียบเทียบด้านการคล้อยตามกลุ่มอ้างอิง ค่าความดันซีสโตลิกและไดแอสโตลิกตั้งแต่ก่อน การทดลองถึงสัปดาห์ที่ 6 กลุ่มทดลอง มีค่าความแตกต่างคะแนนเฉลี่ยสูงในด้านทัศนคติในการมีพฤติกรรม การออกกำลังกาย การรับรู้การควบคุมพฤติกรรม เจตนาในการมีพฤติกรรมการออกกำลังกาย พฤติกรรมการออกกำลังกาย น้ำหนักและค่าดัชนีมวลกายเมื่อเปรียบเทียบกับกลุ่มเปรียบเทียบ ($p<0.05$) การคล้อยตามกลุ่มอ้างอิง มีแนวโน้มเพิ่มขึ้นจากก่อนการทดลองถึงสัปดาห์ที่ 6 แต่ค่าความแตกต่างคะแนนเฉลี่ยไม่แตกต่างกันอย่างมีนัยสำคัญ

สรุป: ควรมีการแนะนำการใช้โปรแกรมการออกกำลังกายด้วยการเดินที่ประยุกต์ทฤษฎีพฤติกรรมตามแผนในกลุ่มเสี่ยงโรคความดันโลหิตสูงและควรกระตุ้นบุคลากรทางสุขภาพให้ฝึกปฏิบัติการใช้โปรแกรม