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EFFECTIVENESS OF COMMUNITY PROGRAM ON HEALTH BEHAVIOR AND HYPERTENSION KNOWLEDGE

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ABSTRACT

This study assessed the effectiveness of a community program led by trained volunteers over eight weeks, with participants randomly assigned to intervention or wait-list control groups. Results showed that intervention group participants progressed significantly from the cognitive to the behavioral stage in motivational readiness for physical activity ($P = .001$), healthy eating ($P = .001$), stress management ($P = .001$), and adopting a healthy lifestyle ($P = .003$) compared to controls. Additionally, young participants reported increased self-management abilities ($F(1.134) = 4.957$, $P = .028$) and improved knowledge about hypertension ($F(1.160) = 16.571$, $P < 0.0005$, $\eta^2 = .094$). Traditional medical practice often overlooks psychosocial determinants of health behavior, suggesting a need for community-based, peer-led programs to complement clinical care and promote holistic population health beyond clinical settings.

Keywords: Community program, Lifestyle intervention, Psychosocial determinants, Chronic disease management, Peer-led intervention.

INTRODUCTION

A key goal of Healthy People was to provide expanded health coaches to help people with hypertension control. As the HDS-12 addresses hypertension self-management behaviors that According to predictors such as self-efficacy and readiness for change, the percentage of adults with hypertension under control will increase from 43.7% to 61.2% [1]. By partnering with a community-based program, Primary care was exemplified effectively encourage older adults to manage their hypertension. According to our hypothesis, a statistically significant improvement in knowledge and self-efficacy regarding hypertension self-management would be demonstrated by participants in the treatment group, and readiness to improve health behaviors should also be demonstrated by participants in the treatment group. [2]

METHODS

Framework for theorizing

According to the Institute of Medicine report, "Crossing the Quality Chasm", was shaped by a chronic care model

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Patient participation was one of the fundamental tenets of chronic care models. For effective disease management, the model recognizes the importance of community, health care, and self-management support. Participants were mentored by trained community volunteers who helped them build self-management skills and connect them to community resources. [3] Chronic disease management recommendations are more likely to be adhered to with CHWs by extending the provider-patient relationship in a trustworthy and culturally appropriate manner. Research shows that CHWs improve health outcomes and management of hypertension. In addition, study develops Programs that engage rural residents in physical activity that are culturally appropriate and include a heavy visual component. [4] All of these programs were written at a fifth-grade level with a heavy visual component. More information about the development of our original hypertension control project, which was adopted by a low-income, uninsured, or underinsured program in our area, can be found elsewhere. As part of the health coaching program, we recruited volunteers through various communication channels. The trained group leaders were assigned to teach 8 weekly 90-minute small-group classes. They had to pass a criminal background check,

perform well on a knowledge test, and demonstrate effective small-group teaching skills. In our county of interest, 89.5% of the residents are white, so the majority of the It was mostly white people over 50 who were Health Coaches. (See Table 1) to see what our participants looked like closely matched that of our Health Coaches (Table 1). [5]

Participants in the program

It is one of the Prevalence rates in seven states nationally. There is a striking difference between hypertension rates with average of 34.6%.² In addition to its hypertension rate of 34.6%, the county's overall health rate is 27.0%. Compared to their state and national counterparts, residents are much more obese and use tobacco and alcohol. According to studies, residents in these areas are less likely to have higher education levels, lower household incomes, and higher poverty levels than their counterparts in other parts of the state. ⁹ Studies [6] have shown that various community channels with self-referral opportunities could be utilized to recruit participants. In addition, by delivering practices through individual presentations and communication channels within the hospital increased physician referrals. A mail-out recommendation was the most effective recruitment strategy for patients with hypertension diagnosed by a physician group.

Based on the referral's age, hypertension diagnosis, and residency in County, the Project Coordinator evaluated it. On the Health Risk Appraisal (HRA) used in the study, a question about hypertension was answered by 99.93% of participants. [7] Prior to randomization, our list of eligible participants was not complete due to the fact that we recruited participants over time. After screening by the Project Coordinator, 20 participants were randomly assigned to an intervention (or wait-list) condition at a time through batch randomization. Various factors such as gender, age, race, and ethnicity were tracked over time so that equivalence between groups could be checked. To assess the completion, fidelity, and satisfaction of the program in the first implementation, we conducted a process evaluation. During the session discussions, we

added more flipchart pictures based on the findings of the process evaluation. Presented in this article are the results of the refinement program's implementation.

Measuring

At the beginning of each 8-week intervention period, baseline data were collected from the intervention and wait-list groups. In addition to data collection and storage protocols. As part of our previous studies [7,13] we used surveys that analyzed psychosocial variables such as knowledge, self-efficacy, motivation to change, and knowledge and self-efficacy of hypertension self-management. The fasting clinical test included measuring blood pressure, weight, waist circumference, triglycerides, cholesterol, and glucose while subjects were fasting. In addition to its certification, PWP HRA was also certified as a high-quality HRA by NCQA. A total of 17 items were included in the final survey, all with one correct answer and three distractor items, based on the pilot-test data.

In order to assess feelings of competence in carrying out a treatment regimen, the Perceived Competence Scale uses four items based on self-determination theory. A combined analysis across 4 items showed an alpha reliability of 0.90 for all response options. Previous projects have used this scale as well as others to assess perceived competence in hypertension self-management. [8]

STATISTICS

In order to examine the distribution of continuous and categorical variables, descriptive statistics were applied in IBM SPSS Statistics Version 23.14. The knowledge, perceived competence, and clinical values of each group were analyzed using mixed analysis of variance (between-subjects factor). [9] The apriori power of a repeated-measures analysis of variance test was calculated using G*Power 3.1.2.15 When using a repeated-measures analysis of variance, including 0.5 error probability and 0.80 power, with a 0.5 correlation between repeated measures, the total number of samples required to detect differences was determined to be 74, taking into account interactions within and between groups (group * time).

Table 1: Health Issues Related to Cardiovascular Disease and Demographics

Affecting Demographics/Health	Control (n = 84)	Treatment (n = 101)
Years of age		
The minimum	46	44
The maximum	86	91
(SD) Mean	64.5 (11.5)	64.7 (11.2)
N (%) based on sex		
A woman	53 (63.1)	72 (71.3)
A man	31 (36.9)	29 (28.7)
Number of comorbidities (%)		
Not at all	55 (65.5)	68 (67.3)
A few or many	18 (21.4)	24 (23.8)
The missing	11 (13.1)	9 (8.9)

Table 2: In the eight weeks following baseline, motivational readiness changes

Change Stage	Indications and Treatments	8-week treatment	Baseline for Control	Eight weeks of control
Healthy weight range, n (%)	n = 98	n = 64	n = 77	n = 55
In the early stages	49 (50.0)	11 (17.2)	36 (46.8)	21 (38.2)
It is late in the game	49 (50.0)	53 (82.8)	41 (53.2)	34 (61.8)
	P < .001		P = .791	
Eat a healthy diet, n%	n = 97	n = 64	n = 80	n = 57
In the early stages	44 (45.4)	11 (17.2)	25 (31.2)	15 (26.3)
It is late in the game	53 (54.6)	53 (82.8)	55 (68.8)	42 (73.7)
	P = .001		P = .815	
Become healthier/lose weight, n (%)	n = 95	n = 60	n = 76	n = 52
In the early stages	43 (45.3)	20 (33.3)	24 (31.6)	19 (36.5)
At the end of the game	52 (54.7)	40 (66.7)	52 (68.4)	33 (63.5)
	P = .189		P = .267	
Deal well with stress, n (%)	n = 94	n = 61	n = 74	n = 55
In the early stages	47 (50.0)	12 (19.7)	32 (43.2)	22 (40.0)
At the end of the game	47 (50.0)	49 (80.3)	42 (56.8)	33 (60.0)
	P = .001		P = .267	
(%) lead a healthy lifestyle as a whole	n = 96	n = 63	n = 79	n = 57
In the early stages	45 (46.9)	17 (27.0)	28 (35.4)	21 (36.8)
It is late in the game	51 (53.1)	46 (73.0)	51 (64.6)	36 (63.2)
	P = .003		P = .607	

RESULTS

The study comprised predominantly female participants (67.6%) and Caucasians (87.0%). A majority of the participants (more than half) had no comorbid conditions, while approximately one quarter reported one or more conditions, including strokes (7.3%), myocardial infarctions (9.3%), and chronic renal failure (4.0%).

The knowledge assessment was completed by 162 participants (89.2%), the perceived competence for self-management had been completed by 136 participants (73.5%), and the physical activity motivational readiness assessment had been completed by 112 (60.5%) to 121 (65.4%). The number of comorbidities and gender of completers did not differ statistically from those of noncompleters. [10]

By the end of the study, participants in the treatment group were motivated to engage in physical activity, eat well, manage stress, and maintain a healthy lifestyle (P =0.003).

For perceived competence for managing hypertension, we observed a group by time interaction, F (1,134) = 4.957, P = .028, η² = .036. [11] Specific assessments of perceived competence for self-management were higher in the treatment group than in the control group. According to Cronbach's alpha coefficient, there was good to excellent internal consistency in the perceived competence in hypertension self-management scale from baseline to posttest. Further, hypertension-related knowledge was influenced by time with F (1,160) = 16,571, P <0.0005, η² = 0.094. [12] Participants in the treatment group

demonstrated improved knowledge of hypertension compared to participants in the control group (Figure 1). Statistical analyses based on omnibus data showed no interactive relationship between the groups and time (P<0.057); however, time was found to have a significant effect on clinical values (P<0.001). [13] For both treatment and control groups, systolic and diastolic blood pressures, weight, waist circumference, and high-density lipoprotein cholesterol decreased significantly (P <0.001) and 0.036, respectively. [14] It is possible that some changes from baseline to 8 weeks postintervention may be clinically significant in the treatment group, although they are not statistically significant (Table 2).

DISCUSSION

Pharmacological interventions and clinical care alone cannot promote optimal population health. [15] When it comes to enduring lifestyle changes for chronic disease self-management, standard medical practice typically does not address self-efficacy or readiness for change. Peer-led, community-based programs complement clinical care in health systems by promoting population health beyond clinical walls. [16] Health Coaches, called CHWs in our study, can significantly enhance patient outcomes by partnering with primary care providers. The retirees expressed their appreciation for meaningful civic engagement and their eagerness to volunteer time and energy to make a difference in their community. This is another example of a community utilizing its human

resources to augment its primary care efforts. [17] If an intervention includes education, skills acquisition, peer mentoring, social support, and home blood pressure monitoring, it can be difficult to identify the percentage of improvement in readiness for physical activity and weight management, as well as perceived competence to manage hypertension. It is essential that blood pressure be monitored at home at the start of self-management, as others [18, 19] have observed. An evaluation by Cochrane21 found that self-monitors visited less frequently and spent less per year than those receiving usual care. a reduction in both diastolic and systolic blood pressure when self-monitoring was used. An Omicron blood pressure monitor along with a Personal Health Diary were provided to each participant as part of our study, and Health Coaches were present to provide instructions and monitor participant skill in using it. Providing patients with skills and confidence to control their hypertension is proven to improve hypertension control, according to studies [20] A combination of peer-provided education, skills, and social support for self-monitoring blood pressure, following a DASH diet plan, increasing physical activity, managing stress, managing medications, and ceasing tobacco use helped participants become more self-efficacious when it

came to managing hypertension and reducing stress and weight. African American hypertension patients showed strong associations between self-management self-efficacy and The self-care activities recommended by the physician have been followed five of the six times. A study conducted by the Clinical Outreach and Cardiovascular Health (COACH) trial showed that CHWs improved hypertension control in participants, suggesting that community-based outreach and education should be used along with standard hypertension therapy.

CONCLUSION

The annual incremental direct cost per capita for hypertensive individuals was \$1131, with 90% attributed to inpatient and outpatient visits, and prescription medicines. Describing an educational program, costing \$180 per individual for materials and supplies, involves recruiting, training, and directing 200 individuals annually by five volunteer community health coaches, costing \$40,000 for a full-time program coordinator. The peer-led program significantly improves predictors of hypertension self-management behaviors. While not a replacement for clinical care, even small blood pressure changes could impact stroke and coronary heart disease mortality.

REFERENCE

1. US Department of Health and Human Services. Healthy People 2020. Heart Disease and Stroke: Objectives. Washington, DC: *US Department of Health and Human Services*; 2011.
2. Douglas BM, Howard EP. *et al.*, Predictors of self-management behaviors in older adults with hypertension. *Adv Prev Med.* 2015, 2015, 960263.
3. Wagner E. Chronic disease management: what will it take to improve care for chronic illness? *Eff Clin Pract.* 1, 1998, 2-4.
4. Cosgrove S, Moore-Monroy M, Jenkins C, *et al.* Community health workers as an integral strategy in the REACH U.S. program to eliminate health inequities. *Health Promot Pract.* 15, 2014, 795-802.
5. Brownstein JN, Bone LR, Dennison CR, Hill MN, Kim MT, Levine DM. *et al.*, Community health workers as interventionists in the prevention and control of heart disease and stroke. *Am J Prev Med.* 29(51), 2005, 128-133.
6. Dye CJ, Willoughby DF, Battisto DG. *et al.*, Advice from rural elders: what it takes to age in place. *Educ Gerontol.* 37, 2011, 1-20.
7. Dye CJ, Williams JE, Evatt JH. (2015). Improving hypertension self-management with community health coaches. *Health Promot Pract.* 16, 271-281.
8. Dye CJ, Williams JE, Kemper KA, McGuire FA, Aybar-Damali B. *et al.*, Impacting mediators of change for physical activity among elderly food stamp recipients. *Educ Gerontol.* 38, 2012, 788-798.
9. South Carolina Department of Health and Environmental Control. Healthy People 2020. Heart disease and stroke: objectives. Published 2010. Updated 2011, 15, 2014.
10. Burns D, Soward AC, Skelly AH, Leeman J, Carlson J. *et al.*, Effective recruitment and retention strategies for older members of rural minorities. *Diabetes Educ.* 34, 2008, 1045-1052.
11. Joseph G, Kaplan CP, Pasick RJ. *et al.*, Recruiting low-income healthy women to research: an exploratory study. *Ethn Health.* 12, 2007, 497-519.
12. Shadish WRJr, Cook TD, Campbell DT. *et al.*, Experimental and Quasi-Experimental Designs for Generalized Causal Inference. Boston, MA: *Houghton Mifflin*; 2002, 300.
13. Dye CJ, Haley-Zitlin V, Willoughby D. *et al.*, Insights from older adults with type 2 diabetes: making dietary and exercise changes. *Diabetes Educ.* 29, 2003, 116-127.
14. IBM Corp. Released 2015. IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp.
15. Faul F, Erdfelder E, Lang AG, Buchner A. *et al.*, G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behav Res Methods.* 39, 2007, 175-191.

16. Collinsworth A, Vulimin M, Snead C, Walton J. *et al.*, Community health workers in primary care practice: redesigning health care delivery systems to extend and improve diabetes care in undeserved populations. *Health Promot Pract.* 2014, 15(2), 51S-61S.
17. Hayes A, Morzinski J, Ertl K, *et al.* Preliminary description of the feasibility of using peer leaders to encourage hypertension self-management. *WMJ.* 109, 2010, 85-90.
18. Bosworth HB, Olsen MK, Grubber JM, *et al.* Two self-management interventions to improve hypertension control: a randomized trial. *Ann Intern Med.* 151, 2009, 687-695.
19. Rogers MA, Small D, Buchan DA, *et al.* Home monitoring service improves mean arterial pressure in patients with essential hypertension: a randomized, controlled trial. *Ann Intern Med.* 134, 2001, 1024-1032.
20. Soghikian K, Casper SM, Fireman BH, *et al.* Home blood pressure monitoring: effect on use of medical services and medical care costs. *Med Care.* 30, 1992, 855-865.