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The Effect of Community-Based Intervention on Self-Management of Hypertension Patients

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ABSTRACT

Introduction: Hypertension is one of the chronic diseases that can cause complications. Patients need a support system in the management of the disease. One of the ways to prevent hypertension complications is by using self-management. Community involvement is integrated into the program to have a social support system in performing self-management. **Objective:** This study aimed to determine the effect of a community-based intervention on the self-management of hypertension patients in one district in West Java. **Methods:** The study method is a quasi-experiment with pre and post-test control group design. The samples consist of 60 respondents taken by using the cluster sampling technique. The subjects were divided into control groups who were given routine treatment from primary health care and intervention groups who were given community visit groups about self-management for four weeks, including health education, counselling, and support. The data were collected using a questionnaire about hypertension self-management sub-variables: diet, smoking, physical activities, stress management, body weight control, alcohol, blood pressure monitoring, and medication. The data analysis techniques were descriptive and inferential statistics using a t-test. **Results:** The study showed that the total score for self-management after the intervention was significantly higher than the total score before the intervention (M= 131.62; SD = 12.9; p=0.02). The intervention group's self-management total scores were considerably higher than the control group in the 4th week (p=0.005). **Discussions:** Community nurses can do one of the interventions by involving the community and forming hypertension volunteer groups that can act as educators to increase hypertension self-management.

Keywords: community, education program, hypertension, peer group, self-management

ABSTRAK

Pendahuluan: *Hipertensi merupakan salah satu penyakit kronis yang dapat menimbulkan komplikasi. Pasien membutuhkan sistem pendukung dalam pengelolaan penyakitnya. Salah satu cara untuk mencegah komplikasi hipertensi adalah dengan menggunakan manajemen diri. Keterlibatan masyarakat diintegrasikan ke dalam program untuk memiliki sistem dukungan sosial dalam melakukan manajemen diri.* ***Tujuan:*** *Penelitian ini bertujuan untuk mengetahui pengaruh intervensi berbasis komunitas terhadap manajemen diri pasien hipertensi di salah satu kabupaten di Jawa Barat.* ***Metode:*** *Metode penelitian yang digunakan adalah quasi-experiment dengan pre and post-test control group design. Sampel terdiri dari 60 responden yang diambil dengan menggunakan teknik cluster sampling. Subyek dibagi menjadi kelompok kontrol yang diberikan pengobatan*

rutin dari pelayanan kesehatan primer dan kelompok intervensi yang diberikan kelompok kunjungan masyarakat tentang manajemen diri selama empat minggu, meliputi pendidikan kesehatan, konseling, dan dukungan. Pengumpulan data dilakukan dengan menggunakan kuesioner tentang subvariabel manajemen diri hipertensi yang terdiri dari diet, merokok, aktivitas fisik, manajemen stres, kontrol berat badan, alkohol, pemantauan tekanan darah, dan obat-obatan. Teknik analisis data yang digunakan adalah statistik deskriptif dan inferensial menggunakan uji-t. ***Hasil:*** *Hasil penelitian menunjukkan bahwa skor total manajemen diri setelah intervensi secara signifikan lebih tinggi daripada skor total sebelum intervensi (M= 131,62; SD = 12,9; p=0,02). Skor penuh manajemen diri kelompok intervensi jauh lebih tinggi daripada kelompok kontrol pada minggu ke-4 (p=0,005).* ***Diskusi:*** *Perawat komunitas dapat melakukan salah satu intervensi dengan melibatkan masyarakat dan membentuk kelompok relawan hipertensi yang dapat berperan sebagai edukator untuk meningkatkan self-management hipertensi.*

Kata kunci: *masyarakat, program pendidikan, hipertensi, peer group, manajemen diri*

INTRODUCTION

Cardiovascular disease is a significant cause of morbidity and mortality worldwide (Patel, Ordunez, Connell, Lackland, & Dipette, 2018;). According to data from the World Health Organization (WHO), in 2013, ischemic heart disease and stroke are ranked first and two of the top 10 causes of death in the world, which causes 7 million (11.2%) and 6.2 million (10.6%) people Based on all data collected from the WHO, in 2015, it is estimated that deaths from heart and blood vessel disease will increase to 20 million, and they will continue to grow until 2030, with an estimated 23.6 million people dying from heart and blood vessel disease (WHO, 2020). In Indonesia, in 2018, the prevalence of hypertension occurring at ≥ 18 years of age reached 34.1% (Ministry of Health, 2018). Hypertension was found in 90,382 people in 2016 in West Java. 2.46% of the total population ≥ 18 years of age from those examined as many as 8,029,245 people spread across 26 districts/cities (West Java Health Office, 2016). Based on data from the West Bandung District Health Office in 2013, there were 37,128 total visits of hypertensive patients in the West Bandung district (West Bandung District Health Office, 2014). One area that has the highest hypertension population is the DTP Rajamandala Community Health Center. Based on data from the DTP Rajamandala Health Center in 2015, there were 3,110 total visits of hypertensive patients in the DTP Rajamandala Health Center working area and occupying the three most extensive diseases each month (DTP Health Center Rajamandala, 2015).

Management in patients with hypertension is essential, one of which uses a self-management model for patients. Self-management of hypertension patients can be seen from knowledge about the disease and its symptoms, adherence to treatment, healthy lifestyle changes, and blood pressure monitoring (Warren & Semour, 2012). Based on research by Hayes (2010) states that, good management is one of them by stopping smoking habits, maintaining a healthy diet and healthy physical activity. Study conducted by Prasetyo, Sitorus & Gayatri (2012) found that self-efficacy, social support, education and complications have a significant relationship with self-care management.

Self-management in patients with hypertension is expected to improve knowledge, attitudes, and treatment-related to hypertension. Self-management can be carried out through community-based education programs. The formation of Hypertension caring community groups is an effort of a community nursing program designed to increase public knowledge so that the community has the power to build itself through interaction with the environment. The formation of community care groups is a community-based education program that can be interpreted as an educational program from the community, by the community, and for the organization (Bagong, 2005). The previous study by Saraswati et al. (2014) reported that community-based education programs could improve self-management. Another study reported community-based intervention about self-management of Hypertension and Diabetes

Mellitus patients could improve blood pressure and blood glucose (Sari, Yamin & Santoso, 2017). As the systematic review, self-management programs is found among the reviewed studies on enhancing self-efficacy in Koreans with hypertension and diabetes mellitus (Jang & Yoo, 2012). This study aimed to identify the influence of Hypertension care groups on the self-care of hypertensive patients in Cipatat District, West Bandung Regency.

METHOD

Research Design

The type of research used in this study is quasi-experimental using a research design of one group pretest-posttest with a control consisting of two groups.

Population and Samples

The population is people who have hypertension. The samples consist of 60 respondents taken by using the cluster sampling technique. The samples were divided into the intervention group and the control group with 30 respondents. Sampling the area in this study is to use probability sampling techniques with a consecutive sampling approach according to the inclusion criteria. Pre-test and post-test were carried out in each group.

Instrument

The questionnaire consisted of a questionnaire about the characteristics of respondents (questionnaire A), a questionnaire about self-management of hypertension consists of weight control, exercise, diet, stress management, stopping alcohol behaviour, blood pressure monitoring and treatment of hypertension (questionnaire B).

Research Procedure

The implementation of a community-based self-management education program for hypertensive patients was carried out on each respondent who was included in the intervention group in the study. In contrast, the control group was given a self-management program after four routine check-ups.

Trained cadres carry out the implementation of this community-based self-management program. The cadre training was carried out by the research team, which was carried out several times. The movement for cadres or volunteers who care about hypertension consists of communication training, hypertension self-management and measuring blood pressure in patients using a digital sphygmomanometer.

Trained cadres or volunteers carry out self-management implementation for four weeks on respondents. Before implementation, the research team carried out a pre-test. The first and second weeks are hypertension self-management education. Education is carried out together with the patient's family. The third and fourth weeks are follow-ups on the implementation of self-management ca the respondents. After that, the researchers conducted post-test measurements.

Data Analysis

Data analysis used univariate and bivariate. Univariate analysis using frequency distribution and percentage. Bivariate analysis using t-test.

Ethical Clearance

Implementing the community-based self-management program has received permission from the West Bandung district health office.

RESULTS

Based on the table, it can be known. All Muslim respondents in the control and intervention groups were 100%. More sex was women than men in the control group, 87.5%, while all women were in the intervention group. The most elementary education level in the control group is 66.7%, and the intervention group is 62.5%. In the control group, 91.6% and 92.5% of intervention groups were not working. Based on the table, it can be seen that the variables of age, gender, education, and occupation show a p value> 0.05. This indicates that the four variables in the intervention and control groups are homogeneous.

Table 1. Frequency Distribution and Analysis of Homogeneity Test Social Demographic Characteristics of Respondents in the Intervention Group and Control Group (N = 60)

Characteristic	Control Groups		Intervention Group		*p*
	f	%	f	%	
Age					
< 45 years old	4	16,7	6	26,1	0,494[2]
>45 years old	20	83,3	17	73,9	
Religion					
Moslem	24	100	24	100	-
Gender					
Male	3	12,5	0	0	0,234[1]
Female	21	87,5	24	100	
Marital Status					
Not yet	1	4,2	0	0	0,584[1]
Married	17	70,8	17	70,8	
Widow	6	25	7	29,2	
Education Background					
Not	1	4,2	0	0	0,562[1]
Elementary	16	66,7	15	62,5	
Junior	4	16,7	7	29,2	
Senior School	3	12,5	2	8,3	
Employment					
Not employment	22	91,6	23	95,8	0,600[1]
Labourer	1	4,2	1	4,2	
Entrepreneur	1	4,2	0	0	

Note : 1=*Chi Square,* 2 = Fisher Exact

Table 2. Differences in Mean Pretest and Postest Hypertension Self-Management

Variable	Intervention Group		Control Group		P-value
	Mean	Standard Deviation	Mean	Standard Deviation	
Before	117,05	13,7	120,77	11,216	0,195
After	123,57	9,009	131,62	12,92	0,027

Table 3. Differences in Mean Pretest Values and Posttest Self-Management Hypertension between Intervention Groups and Control Groups

Variable	Intervention Group		Control Group		P-value
	Mean	Standard Deviation	Mean	Standard Deviation	
Before	123.57	9.009	117.05	13.7	0.057
After	131.62	12.92	120.77	11.216	0.005

Based on table 3, the results of testing the hypothesis p-value is 0.057. This shows that self-management between the intervention and control groups had no significant difference before being treated. Based on the results of hypothesis testing, a p-value of 0.005 was obtained which sh,owed that hypertension self-management after being given a community-based education program was significantly different. Thus it can be concluded that community-based education programs greatly influence self-management in elderly hypertension in sub-district West Java.

DISCUSSION

Based on the results of paired t-test, it can be seen that in the control and intervention groups' results obtained, there are differences in values between pre-test and post-test. The intervention group had more meaningful distinctions. The results showed a different test of the average self-management of hypertension before and after the intervention of the hypertensive care group in the control group, and the intervention found that there were significant differences, which meant that there was an influence of community-based education programs on hypertension self-management. Based on the study results, programs that have been routinely carried out may improve hypertension self-management behaviour. Still, the increase in hypertension self-management behaviour is higher in the control group.

This can be caused by factors that can influence community-based education programs towards changes in behavioural self-management of hypertension, namely the self-management theory used, the methods used, and the media for implementing education and motivation programs for hypertensive patients. The self-management theory used in this study is the CDSMP theory. Implementing CDSMP aims to improve coping, especially in patients with chronic diseases such as heart disease, hypertension, and DM. The program's implementation based on this theory emphasises more on providing health education to improve understanding and monitoring of diseases, skills in maintaining a healthy life, and strategies to enhance emotional well-being (Bandura, 2004).

Research conducted by Junling et al. (2012) regarding the formation of group visits for hypertensive patients in China in 1024 hypertensive patients stated that patients who were

included in the group visit would receive health services in a group format and experienced a significant reduction in blood pressure, while dietarybehaviourr, drug consumption, and physical activity have increased. Several choices of interventions that can be done to carry out self-management are by providing education and information by using a handbook for patients, conducting interviews angivingng motivation by health care providers, support and mencouragement from peers, and the implementation of self-management programs led by people who can provide inspiration, support and role models for patients. By the opinion that intervention efforts should focus on community empowerment, in this case involving cadres to be able to influence the lifestyle of hypertensive patients, especially in vulnerable groups (Camphell, 2014), and can be an alternative policy in improving health services (Fulton, 2011)

This community-based education program can be successful due to 4 things: material, educator, media and time. Each respondent involved in the study is entitled to receive material on hypertension, the pillars of hypertension care and self-management. the pillars of hypertension treatment provided are by the JNC (Chobanian, 2003). Several studies related to the material's content have been studied, which distinguishes it from other research related to the method used. This is supported by Flynn, et al., (2013) who conducted research on the effects of self-management interventions for hypertension clients with the re,sults showing that implementing health education programs using booklet media can improve self-management behaviour. This is supported by other research, which states that self-management interventions in people who suffer from chronic diseases include activities that focus on patient needs, decision making, problem-solving, emotional management, improving patients' ability to manage disease conditions and encouraging patients to be active in health services.

Based on research on Diabetes Mellitus clients conducted by Sari et al. (2017), additional educational methods carried out by the community and carried out by cadres improve patient self-management outcomes. This can be proven from the results of self-management of hypertension in this study. In addition, the educators, trained cadres, can act as reminders, support systems and controllers for the respondents' self-management.

The media and the time of giving are influential things in this research. Attractive and educative media used are modules that have been tested and shown to respondents. According to theory, excellent and beautiful media can increase the significance of the knowledge gained by respondents. In addition, the time of providing education also influences the importance of this study. This education is based on several studies that report that behavioural changes can be seen within a month. These results are also in accordance with research conducted by Lee (2013) in the community towards 23 elderly for the control group and 26 elderly for the intervention group in patients with hypertension using self-care programs through health education and discussions for 5 sessions.

CONCLUSION

There are differences in the average values of pre-test and post-test self-management of hypertension in the intervention group before and after the education carried out by the Hypertension Care group. Community-based education programs can be used as one of the district's policies in the prevention and management of hypertension self-management programs.

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