

The Effectiveness of Melati Book Program to Improve Healthy Behavior and Reduce Blood Pressure in Hypertensive Patients at Sidorejo Kidul Community Health Center in Salatiga

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ABSTRACT

Background: 319 cases of hypertension patients occurred in the community health center in the last 2 years throughout 2019 and 256 cases up to March 2020. Therefore, fighting hypertension was one of the main programs at Sidorejo Kidul Community Health Center. This program was realized by publishing and distributing Melati Book or Books Against Hypertension to hypertension patients. However, the hospital has never conducted a study on whether the distribution of the Melati Book was effective in fighting hypertension in patients in Sidorejo Kidul Community Health Center.

Subjects and Method: The study method was Quasi-experiment. This study used a random-number method to obtain the sample. A sample of 150 hipertensive patients was classified into 2 groups: 75 patients were in the intervention group and 75 other patients were in the control group. The data were analyzed by t-test.

Results: After intervention, mean score of healthy behavior in the intervention group

(Mean= 3.57; SD= 0.10) was higher than the control group (Mean= 0.49; SD= 0.19) and it was statistically significant ($p < 0.001$). After intervention, mean score of systolic blood pressure in the intervention group (Mean= -32.59; SD= 1.02) was lower than the control group (Mean= -6.83; SD= 1.02) and it was statistically significant ($p < 0.001$).

Conclusion: Melati book can be used to improve the healthy behavior and reducing blood pressure in hypertensive patients at Sidorejo Kidul Community Health Center in Salatiga.

Keywords: melati book, healthy behavior, decrease in blood pressure

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BACKGROUND

Hypertension or high blood pressure is a chronic disease that occurs due to excessive and inconsistent blood pressure in the arteries, associated with increasing systemic arterial pressure, both diastolic and systolic, or even both continuously (Sutanto, 2010).

Hypertension is related to healthy living behavior. It is a behavior related to a person's efforts to maintain and improve his/her health status (Notoadmodjo, 2014). Becker (1979), in Notoadmodjo (2014), classified healthy living behaviors into several parts: doing regular exercise, having non-smoking habits, eating a balanced diet, consuming no drugs and alcohol, control-

ling stress, getting enough rest, and having a positive lifestyle for health.

According to the results of preliminary observations conducted by researchers at Sidorejo Kidul Community Health Center, 319 cases of hypertension sufferers occurred in the community health center in the last 2 years throughout 2019 and 256 cases up to March 2020. Therefore, fighting hypertension was one of the main programs at Sidorejo Kidul Community Health Center. This program was realized by publishing and distributing Melati Book or Books Against Hypertension to hypertension patients.

The distribution of this book was expected to provide information or knowledge about hypertension problems to patients, thus motivating patients to change their lifestyle to be healthier; this book was also expected to control the development of patient blood pressure. However, the effectiveness of distributing the Melati Book to fight hypertension in patients at Sidorejo Kidul Community Health Center has never been conducted.

It encouraged the researchers to conduct an in-depth study on the effectiveness of distributing Melati Book to improve healthy behavior and reduce blood pressure in hypertensive patients.

SUBJECTS AND METHOD

1. Design of the study

This was a quasi-experiment.

2. Population and Sample

The population of this study was all hypertensive patients in Sidorejo Kidul Community Health Center, Salatiga. This study used a random sampling technique to obtain the sample.

The sample of this study was 150 study subjects: 75 subjects in the control group and 75 other subjects in the intervention group.

3. Study Variables

The dependent variables were blood pressure and healthy behavior. The independent variable was the Melati book program.

4. Operational definition of variables

Melati Book or Book Against Hypertension was a book that contained education on healthy living behaviors and the results of measuring blood pressure for monitoring patient blood pressure. This book was distributed to hypertensive patients at Sidorejo Kidul Community Health Center as one of the main programs to fight hypertension Sidorejo Kidul Community Health Center.

Healthy living behavior was patient behavior related to efforts to fight hypertension such as checking-up for blood pressure, not smoking, having a low-fat diet, doing regular exercise, consuming fruits and vegetables, and consuming medication regularly (Yes=1, No=0).

Decrease in blood pressure was a medical condition where there was a decrease in blood pressure in hypertensive patients under 140/90 mmHg to be normal-high, normal, or optimal (Normal-High, Normal, Optimal).

5. Instruments of the study

This study used a questionnaire, Melati Book, and Blood Pressure Monitor.

6. Data analysis

This study used bivariate analysis with the t-test. It compared the results of the sample that was given the intervention: Melati book and non-Melati book.

7. Research ethics

This study was carried out after obtaining permission from the Ethics Committee of Moewardi Hospital, Solo City, with EC Number:1.240/XI/HREC/2020.

RESULTS

There were 15 subjects of the study. Based on the results of the study, most of the

study subjects in the intervention group aged 41-60 years (44%) and most of the study subjects in the control group aged 41-60 years (54.70%). Based on the education category, most of the study subjects had senior high school education, both in the intervention group (69.30%) and in the control group (50.70%). According to the sex category, most of the study subjects were male, both in the intervention group (53.30%) and in the control group (56%).

Most of study subjects in the intervention group had normal systolic blood pressure (70.70%), while in the control group, most of the study subjects had stage 1 hypertension (42.70%). Most of the study subjects in the intervention group had normal diastolic blood pressure (80%), while in the control group, most of the study subjects had stage 1 hypertension (69.30%). This data is in Table 1.

Table 1. Sample Characteristics

Variables	Characteristics	Intervention Group		Control Group	
		n	%	n	%
Age (year)	18-40	32	42.70	22	29.30
	41-60	33	44.00	41	54.70
	>60	10	13.30	12	16.00
Education	Primary School	11	14.70	10	13.30
	Junior High School	8	10.70	18	24.00
	Senior High School	52	69.30	38	50.70
	Diploma	1	1.30	3	4.00
	Bachelor	3	4.00	6	8.00
Sex	Male	40	53.30	42	56.00
	Female	35	46.70	33	44.00
Systemic blood pressure	Normal	53	70.70	8	10.70
	Normal High	7	9.30	14	18.70
	Stage 1 Hypertension	12	16.00	32	42.70
	Stage 2 Hypertension	3	4.00	21	28.00
Systemic blood pressure	Normal	60	80.00	18	24.00
	Normal High	1	1.30	5	6.70
	Stage 1 Hypertension	14	18.70	52	69.30

To examine the difference in the mean of healthy behavior between the intervention group and the control group before-after intervening and the difference

in the mean before-after intervening, the test was carried out using the T-Test method. Based on this test, the following results were obtained.

Table 2. The results of the t-test on the difference in the mean of healthy behavior

Healthy Behavior	Mean	SD	p
Pre-intervention			
Intervention	1.89	0.16	<0.001
Control	3.21	0.17	
Post-intervention			
Intervention	5.46	0.18	<0.001
Control	3.70	0.13	
Post – pre-intervention			
Intervention	3.57	0.10	<0.001
Control	0.49	0.19	

Table 2 shows that the healthy behavior before intervening between the inter-

vention group and the control group differed significantly (p<0.001). The

difference in the mean before intervening occurred due to the quasi-experimental study design. It made the two groups not comparable at baseline. Therefore, the effectiveness of the intervention (Melati book program) was determined by comparing the difference in healthy behavior before intervening. The difference in

healthy behavior before-after intervening in the intervention group (Mean= 3.57; SD= 0.10) was greater than the control group (Mean= 0.49; SD= 0.19); it was statistically significant ($p < 0.001$). As a result, the Melati book program was effective in improving the healthy behavior in adults with hypertension.

Table 3. The results of the t-test on the difference in the mean of systemic blood pressure

Systemic Blood Pressure	Mean	SD	P
Pre-intervention			
Intervention	161.10	1.10	<0.001
Control	154.71	1.04	
Post-intervention			
Intervention	128.51	1.22	<0.001
Control	147.88	1.67	
Post – pre-intervention			
Intervention	-32.59	1.02	<0.001
Control	-6.83	1.02	

Table 3 shows that the systolic blood pressure before intervening between the intervention group and the control group differed significantly ($p < 0.001$). The difference in the mean before intervening occurred due to the quasi-experimental study design. It made the two groups not comparable at baseline. Therefore, the effectiveness of the intervention (Melati's book program) was determined by com-

paring the difference in the systolic blood pressure before-after intervening. The difference in the systolic blood pressure before-after intervening in the intervention group (Mean= -32.59; SD= 1.02) was greater than the control group (Mean= -6.83; SD= 1.02); it was statistically significant ($p < 0.001$). As a result, the Melati book program was effective in reducing systolic blood pressure in adults with hypertension.

Table 4. The results of the t-test on the difference in the mean of diastolic blood pressure

Diastolic Blood Pressure	Mean	SD	P
Pre-intervention			
Intervention	97.69	0.50	<0.001
Control	93.32	0.47	
Post-intervention			
Intervention	83.38	0.48	<0.001
Control	88.96	0.48	
Post – pre-intervention			
Intervention	-14.31	0.52	<0.001
Control	-4.36	0.49	

Table 4 shows that the diastolic blood pressure before intervening between the intervention group and the control group

differed significantly ($p < 0.001$). The difference in the mean before intervening occurred due to the quasi-experimental

study design. It made the two groups not comparable at baseline. Therefore, the effectiveness of the intervention (Melati's book program) was determined by comparing the difference in the diastolic blood pressure before-after intervening. The difference in the diastolic blood pressure before-after intervening in the intervention group (Mean= -14.31; SD=0.52) was greater than the control group (Mean= -4.36; SD= 0.49); it was statistically significant ($p < 0.001$). As a result, the Melati book program was effective in reducing diastolic blood pressure in adults with hypertension.

DISCUSSION

This study showed that the Melati book program was effective in improving healthy behavior in adults with hypertension. After intervening in the Melati book program, the increase in healthy behavior in the intervention group (Mean=3.57; SD=0.10) was greater than the control group (Mean=0.49; SD=0.19); it was statistically significant ($p < 0.001$)

The results showed that the Melati book program was effective in reducing systolic blood pressure in adults with hypertension. After intervening in the Melati book program, the decrease in systolic blood pressure in the intervention group (Mean= -32.59; SD=1.02) was greater than the control group (Mean=-6.83; SD=1.02); it was statistically significant ($p < 0.001$).

This study showed that the Melati book program was effective in reducing diastolic blood pressure in adults with hypertension. After intervening in the Melati book program, the decrease in diastolic blood pressure in the intervention group (Mean=-14.31; SD=0.52) was greater than the control group (Mean=-4.36; SD = 0.49); it was statistically significant ($p < 0.001$).

Based on the results of this study, the behavioral theory by Bloom (1908) could be used as a theoretical basis in improving healthy behavior and reducing blood pressure in hypertensive patients at Sido-rejo Kidul Community Health Center, Salatiga. Providing education to hypertensive patients was by distributing Melati Book contained problems related to hypertension, including what was hypertension, risk factors for hypertension, signs, and symptoms, etc., and the attachment contained blood pressure table sheet. It would be written by the officer. Each patient had a blood pressure check-up. It was the right step to increase patient knowledge, thus changing the patient's life behavior to be healthier and reducing patient's blood pressure.

AUTHOR CONTRIBUTION

Ony Suciati collected the data, wrote the manuscript. Didik Gunawan Tamtomo and Bhisma Murti did data interpretation.

CONFLICT OF INTEREST

This study was conducted without any commercial or financial relationship that could be interpreted as a potential conflict of interest.

FUNDING AND SPONSORSHIP

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