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The "DIARII" Program To Improve Patient Independence In The Management Of Hypertension In Banjarmasin In 2022

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ABSTRACT

According to Banjarmasin City Health Office data, hypertension is still ranked among the top 10 non-communicable diseases. The increase in hypertension can be associated with unhealthy lifestyle changes. One way to make it easier for patients to control themselves, especially blood pressure control and adherence to self-management, is through health promotion programs. Therefore, researchers are interested in conducting heat promotion efforts with the "DIARII" program for the prevention and control of hypertension patients in Banjarmasin. The purpose of this study was to determine the effect of implementing the "DIARII" program in increasing the ability of patients and families to control hypertension independently. The research design used in this study was Quasi-Experimental Design with a Control Group Pre-Post Test Design. The population and samples used were 60 people with hypertension aged 26-65 in Banjarmasin. The research was conducted in several places in the city of Banjarmasin. This research has been deemed ethical by the Research Ethics Commission of the University of Muhammadiyah Banjarmasin, with the number 283/UMB/KE/IX/2022. The results showed that the value of the Wilcoxon test for family independence in the intervention group showed the importance of Sig. p Value 0.317 > 0.05 means no significant difference after the intervention. So it can be concluded that implementing the DIARII program affects the patient's ability to manage hypertension. Health promotion education interventions were found to improve the quality of life and the ability of sufferers to understand any health information they received.

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1. INTRODUCTION

Hypertension as a non-communicable disease has become a global problem until now because it is one of the leading causes of death in the world. Hypertension is still ranked 1 of the top 10 non-communicable diseases according to data recorded at the Banjarmasin City Health Office, with a total number of patients being 52,977 people in 2020. The increase in hypertension can be associated with unhealthy lifestyle changes. An unhealthy lifestyle includes smoking, lack of exercise, eating less nutritious foods, not getting enough rest, and stress. Efforts to prevent and overcome the problem of hypertension in Indonesia must begin by increasing public awareness to change lifestyle towards a healthier direction. The public usually does not realize hypertension; patients only find their hypertension after checking their blood pressure or complications arise.

One way to make it easier for patients to control themselves, especially blood pressure control and adherence to self-management, is through health promotion programs. Health promotion will provide the community with the ability to maintain, maintain and improve their own health status independently. Health promotion can be used as an independent nursing intervention to enhance the ability of patients and families to handle hypertension. The power of patients and families to treat and prevent hypertension will be assessed from two aspects: knowledge about hypertension management and family attitudes in modifying the diet of hypertensive patients.

Therefore, researchers are interested in conducting heat promotion efforts with the "DIARII" program for the prevention and control of hypertension patients in Banjarmasin. The "DIARII" program is a collection of several interventions researchers will try to do to control hypertension in the community. The DIARII program is to come and check blood pressure regularly, follow doctor's advice, take a tour of salt consumption and eat nutritious food, be diligent in exercising, remember not to smoke and drink alcohol, and get enough rest and reduce stress. The implementation of the "DIARII" program will be carried out in stages every week with the method of Counseling, Checking Blood Pressure regularly, Monitoring adherence to medication and hypertension diet, and implementing hypertension exercise. The purpose of this study was to determine the effect of implementing the "DIARII" program in increasing the ability of patients and families to control hypertension independently.

2. METHOD

The research design used in this study was Quasi-Experimental Design with a Control Group Pre-Post Test Design. This study will look at the effect of the implementation of Health Promotion with the "DIARII" Program on the independence of hypertension patients in the management of hypertension in Banjarmasin in 2022. The population and samples used in this study were hypertensive patients aged 26-65 years in Banjarmasin, as many as 50 people. The statistical test used in this study is the independent t-test if the data is usually distributed and if the information is not normally distributed using the Mann-Whitney test. This research will be conducted from June 2022 to August 2022. The place of research is the City of Banjarmasin. The method of data collection was carried out by questionnaires and also through interviews and observations for some additions that could not be obtained from the questionnaire

3. RESULTS AND DISCUSSION

Based on the research results, the results of the frequency distribution for univariate analysis are as follows,

1. Characteristics of Respondents

Table 1. Characteristics of Respondents by Age

Characteristics Intervention Group	mean	median	SD	Min-Max
Age	28.15	28.00	6.2	19 – 40
Characteristics Control Group	mean	median	SD	Min-Max
Age	28.50	29.00	6.3	20-40

The results in Table 1 show that the average age of respondents in the intervention group is 28.15 years, with a minimum age of 19 years and a maximum age of 40. Furthermore, the average age of respondents in the control group is 28.50 years, with a minimum age of 20 and a complete age of 40.

Table 2. Characteristics of Respondents by occupation

Characteristics Intervention Group	F	%
Work		
Working	1 8	60
Doesn't work	12	40
Total	30	100

Characteristics Control Group	F	%
Work		
Working	1 7	5 6.7
Doesn't work	13	43.3
Total	3 0	100

Table 2 shows the results of the respondents' job characteristics in the intervention group working 18 people (60%), and 12 people (40%) did not work. Meanwhile, the control group is working, namely 1 7 people (5 6.7 %) and 13 people not working (4 3.3 %). The results above show that more respondents are working, making the research team a little trying to manage the time of data collection. This is because the work respondents do not have much time to participate in Penkes activities or hypertension exercises. Not to mention blood pressure monitoring for each respondent, who must arrange an appointment to meet in advance.

Table 3 Characteristics of Respondents by Education

Characteristics Intervention Group	F	%
Education		
SENIOR HIGH SCHOOL	24	8 0
D3/S1	6	20
Total	3 0	100
Characteristics Control Group	F	%
Education		
SENIOR HIGH SCHOOL	2 5	83.3
D3/S1	5	16.7
Total	3 0	100

The results in Table 2 show that for most of the respondents in the intervention group with high school education, there were 24 people (8 0 %). Furthermore, the education level of respondents in the control group is also the highest school graduates, namely 2-5 people (83.3 %). Sri Haryani, et al (2014)

2. Implementation of the DIARY Program and Patient Independence in the management of hypertension

To find out about the variables in implementing the DIARY program, a questionnaire consisting of a knowledge questionnaire about hypertension diet, an attitude questionnaire in handling hypertension, and a medication adherence questionnaire. While the patient's independence in the management of hypertension is seen with the observation sheet. Pre-Test results before the intervention obtained results for the element of knowledge about the hypertension diet, as illustrated in the table below,

Table 4. Knowledge of hypertension management before implementing DIARII program interventions

Knowledge	Pre-Test		Post-Test	
	F	%	F	%
Intervention Group				
a.Less	1 5	50	0	0
b.Enough	10	33.3	8	27
c. OK	5	16.7	22	73
Total	3 0	100	3 0	100
Control Group l				
a. Not good	1 4	46.7	1 4	46.7
b.Enough	12	40	13	43.3
c. OK	4	13.3	3	10

Total	30	100	3 0	100

The results of Table 4 above show that the respondents' knowledge of hypertension management before the intervention was carried out in the intervention group mostly with fewer categories, as many as 15 people (50%). These results are not much different from the Pre-Test results in the control group, most of which are also lacking knowledge, as many as 14 people (46.7%). After being given the intervention, the respondent's knowledge about hypertension increased. In the intervention group, most of them were in a suitable category, 22 people (73%). While the results of the Post-Test in the control group are mostly still with less knowledge, as many as 14 people (46.7%),

Table 5. Patient attitudes in handling hypertension

Attitude	Pre-Test		Post-Test	
	F	%	F	%
Intervention Group				
a.Negative	22	73.3	3	30
b.Positive	8	26.7	27	90
Total	3 0	100	3 0	100
Control Group				
a.Negative	21	70	20	66.7
b.Positive	9	30	10	33.3
Total	3 0	100	3 0	100

The results of Table 5 above show respondents' attitudes about handling hypertension before the intervention. In the intervention group, mostly negative attitudes, as many as 22 people (73.3%), while in the control group, negative attitudes, as many as 21 people (70%). However, after being given the intervention, the philosophy of respondents about the hypertension diet in the intervention group experienced a significant change, namely the positive attitude of 27 people (90%). In the control group, the attitude toward diet modification mainly was still negative as many as 20 people (66.7%)

Table 6. Patient adherence to taking medication

Obedience	Pre-Test		Post-Test	
	F	%	F	%
Intervention Group				
a. Not obey	23	76.7	4	13.3
bP atuh	7	23.3	26	86.7
Total	30	100	30	100
Control Group				
a. Not obey	22	73.3	23	76.7
bP atuh	8	26.7	7	23.3
Total	30	100	30	100

Table 6 above shows that patient compliance in the intervention group was mainly non-adherent, as many as 23 people (76.7%) but experienced a change after the intervention and became compliant in 26 people (86.7%). While in the control group, before the intervention, the number of respondents who did not comply was 22 people (73.3%), and after the intervention did not change too much with the number of non-compliance, namely 23 people (76.7%).

Table 7. Patient independence in the management of hypertension

Patient Independence	Pre-Test		Post-Test	
	F	%	F	%
Intervention Group				
a.Very Low	3	10	0	0

b.Low	6	20	0	0
c.Medium	1 6	53.3	0	0
d.Height	5	16.7	9	30
e.Very High	0	0	21	70
Total	3 0	100	3 0	100
Control Group l				
a.Very Low	4	13.3	3	10
b.Low	7	23.3	8	26.7
c.Medium	1 5	50	15	50
d.Height	4	13.3	4	13.3
e.Very High	0	0	0	0
Total	30	100	3 0	100

The results of Table 7 above show that patients' independence in managing hypertension in the intervention group before the intervention was in the moderate category, with as many as 16 people (53.3%). Still, after the DIARII program, most were in the very high class, with 21 people (70%). In the control group, the patient's independence in the management of hypertension was seen at most in the moderate category, with as many as 15 people (50%). After the intervention, the results did not change, namely in the middle class, as many as 15 people (50%).

The univariate data above was then carried out by bivariate analysis to see the success of the DIARY program interventions that had been carried out. The results of the bivariate test will be described in the table below.

Table 8. Differences in knowledge, attitudes, compliance, and patient independence in managing hypertension after the intervention and control groups before and after the intervention.

Variable	Intervention Group Average ± SD		Average change	Sig (p)	Control Group Average ± SD		Average change	Sig (p)
	Pre	Post			Pre	Post		
Knowledge	47.92	81.83	33.91	0.000	47.25	47.25	0	1,000
Attitude	42.50	80.00	37.5	0.000	41.00	40,50	-0.5	0.564
Obedience	45,60	81.40	35.8	0.000	43.25	44.25	1.0	1,724
Independent Observation	46,20	84.70	38.5	0.000	48.30	48,70	0.04	0.317

The study's results in table 8 show the mean value of knowledge in the intervention group before the intervention was 47.92, and after the intervention became 8 1.83, with a mean change of 3 3.91. The mean difference shows a shift in family knowledge in the post-test results. The Wilcoxon test value for pre-test and post-test knowledge shows the importance of Sig. p Value 0.000 <0.05 means there is a significant difference after the intervention. The control group had no change in the mean for knowledge. The mean pre and post-test scores for attitudes showed the same value, namely 4 7,25. Value of Sig. p Value 1,000 > 0.05 means no significant difference after the intervention.

The mean value of attitude in the pre-test results of the intervention group was 42.50, and the mean attitude at the post-test was 80.00, with a mean change of 37.5. The difference in the mean shows a shift in the family's perspective at the time of the post-test results. The Wilcoxon test value for pre-test and post-test attitudes in the intervention group led to a Sig. p Value 0.000 <0.05 means there is a significant difference after the intervention. In the control group, the mean value at the pre-test was 41.00 and at the post-test was 40.50. There is a change in the average for attitudes of 0.5 but opposing ranks because the pre-test value is greater than the post-test. Value of Sig. p Value 0.564 > 0.05 means no significant difference after the intervention.

The mean value of adherence to the pre-test results of the intervention group was 4 5, 6 0, and the mean adherence at the post-test was 8 1, 4 0, with a mean change of 3 5, 8. The mean change indicates

a shift in patient compliance during post-test results. The value of the Wilcoxon test for pre-test and post-test adherence in the intervention group showed a Sig. p Value 0.000 <0.05 means there is a significant difference after the intervention. In the control group, the mean value at pre-test 4 was 3, 25, and post-test 4, 4, 25. There is a change in the mean for attitudes of 1, 0 . Value of Sig. p Value 1, 72 4 > 0.05 means no significant difference after the intervention.

Patient independence in the pre-test results of the intervention group was 46.20, and the mean at the post-test was 84.70, with a mean change of 38.5. The difference in standard shows a shift in family independence after the intervention. The value of the Wilcoxon test for family independence in the intervention group demonstrated the importance of Sig. p Value 0.000 <0.05 means there is a significant difference after the intervention. In the control group, the mean value for the patient's independence at the pre-test was 48.30, and the post-test was 48.70. There is a meaningful change for attitudes of 0.04. Value of Sig. p Value 0.317 > 0.05 means no significant difference after the intervention.

In this study, the average age of respondents in the intervention group is 28.15 years old, with a minimum age of 19 and a maximum age of 40. In general, the risk of hypertension increases with age due to changes in the structure of the blood vessels. However, Tirtasari & Kodim (2019) showed that the prevalence of hypertension began to shift to the younger age group. The prevalence increases progressively in each age group. The age group of 35-44 years has a 2.91 times greater risk of suffering from hypertension than the age of 18-24 years, and the age group of 25-34 years has a 1.42 times greater risk of suffering from hypertension than the age group of 18-24 years. Wardani & Ahmad (2021) added that in the 18-24 year age group, there were 0.4% with hypertension grade 1 and 0.9% with grade 2 hypertension. Suffered by the productive age. Tupac's research (2021) shows the results that someone who has older age will make a person's maturity more mature in thinking and working. Anja (2021) also added that the age of most respondents in early adulthood (21-45 years) would provide convenience in changing their level of health to better behavior k. According to the State (2021), the age of respondents ranging from 19-40 years can provide maximum results when given an intervention. Change in behavior and lifestyle should start from pre-old age or at an early age, even from adolescence or childhood, so that when adults have an optimal mentality in changing health promotion behavior (Saputra, 2019; Negara, 2022).

The large number of respondents who worked in the intervention group in this study made the research team a little trying to manage the time of data collection. This is because the work respondents do not have much time to participate in Penkes activities or hypertension exercises. Not to mention blood pressure monitoring for each respondent, who must arrange an appointment to meet in advance. This is supported by the results of research (Anja, 2021; Chrismilasari, 2022) showing that work has a role in the successful implementation of health promotion. Many respondents admitted to having difficulty participating in the performance of health promotion regarding hypertension diet because it is difficult to divide the time. However, many other studies explain that one's job affects one's knowledge and experience.

This study found that most of the respondents in the intervention and control groups were high school graduates. Generally, the higher a person's education, the better his knowledge. Education is a process of changing and increasing knowledge. Many respondents with high school education make it easier for the research team to carry out interventions. Tupac (2021), in his research, shows that respondents who have high school education have a good level of understanding and knowledge after being given the intervention compared to those who have junior and elementary education.

Zulaikhah (2018) says that knowledge is one of the predisposing factors for behavior; therefore, to educate people to have good behavior, citizens must be given knowledge. Notoadmojo (201) also adds that knowledge is very closely related to everyday behavior, when there is already knowledge that can be applied in everyday life. A lack of knowledge can affect the actions taken by a person. Therefore it is hoped that increasing knowledge and changing behavior can change patient attitudes toward managing hypertension. According to the State (2020), knowledge is the basis for behavior formation. Behavior that is based on knowledge will last longer than behavior that is not based on knowledge. Not all people with hypertension are aware of their disease, so hypertension is also called the silent killer. Therefore, increasing the knowledge of these respondents will be a solid basis for patient independence in managing hypertension (State, 2018).

After the DIARII Program intervention is completed, hypertension sufferers who are research respondents can understand how to manage hypertension appropriately and independently at home. Patients can also determine and choose the types of food, vegetables, and fruits that people with hypertension can consume. During the implementation of the intervention, respondents also consciously contributed to actively participating in hypertension exercises and counseling that had been carried out. Saldana et al. (2013) found that structured educational interventions based on individual needs where nursing professionals monitored made it possible to achieve permanent behavior concerning self-care, facilitate self-knowledge, and change in behavior patterns, in addition to mastery of skills and knowledge. In line with that, Naim (2017), in his research, also confirms that family-based educational interventions based on TPB effectively influence pregnant women's intentions to carry out nutritional optimization in 1000 HPK. Notoatmodjo (2018) explains that the results of adult education are changes in abilities, appearance, or behavior. Changes in behavior are based on changes or additions to knowledge, attitudes, or skills.

The results of observations made by researchers also found that respondents in the intervention group understood the importance of regularly controlling blood pressure to prevent hypertension from worsening. Patients also understand that participating in hypertension exercise regularly will also help control blood pressure. Patients' enthusiasm evidences this in participating in elderly gymnastics and counseling conducted by researchers. The results of blood pressure monitoring carried out by researchers also showed no significant increase in blood pressure during the implementation of hypertension in most of the research respondents. The average blood pressure of the respondents was in the systole range of 130-140 mmHg and diastolic 90-95 mmHg. This study proves that if people with hypertension can understand how to manage hypertension properly, blood pressure can be well controlled

5. CONCLUSION

The results of this study found that implementing the DIARII Program can help increase patient independence in managing hypertension. Hypertension management can be successfully carried out if hypertension sufferers have good knowledge and attitudes about handling hypertension. Handling hypertension includes medication adherence, sports activities such as hypertension exercise, blood pressure control, and medication adherence. After implementing the DIARII program, the knowledge of respondents with hypertension about hypertension increased, and their attitudes toward undergoing treatment programs and hypertension diets also gave positive results. Hypertensive sufferers are aware and willing to follow hypertension exercises and are enthusiastic about controlling blood pressure weekly.

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