ANALYSIS OF THE EFFECT OF FUNCTIONAL CALENDAR MEDIA ON ADHERENCE TO TAKING HYPERTENSION MEDICATION IN THE DOWN-REFERRAL PROGRAM AT THE BANJARMASIN PARTNER PHARMACY

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Abstract

Hypertension is the most common disease suffered by people in Indonesia. Providing functional calendar media can improve hypertension patient compliance in taking medication, compliance is an important factor in the success of hypertension treatment programs. This study aims to analyze the effect of functional calendar media on adherence to taking hypertension medication in the referral program at Mitra Pharmacy Banjarmasin. This study was conducted with a pretest-posttest control group design. The population and sample were hypertensive patients who were not compliant with hypertension therapy at Mitra Banjarmasin Pharmacy, the research was conducted in April 2023 with a total sample of 68 people. The sampling test was carried out using the total sampling method. Data collection using the HILL-BONE adherence scale, data were analyzed by wilcoxon and mann whitney tests.Compliance of hypertensive patients before getting functional calendar media is categorized as non-compliant and compliance of hypertensive patients after getting functional calendar media has increased. Based on the results of the Wilcoxon test, the p value 0.00 is smaller than 0.05, which means that there is an increase in adherence to taking hypertension patients' medication with the provision of functional calendar media.There are differences in adherence to taking medication before and after getting functional calendar media and there are differences between the intervention group and the control group.

Keywords: Hypertension, Adherence, Functional Calendar Media

Introduction

Hypertension is a health problem that is quite dangerous throughout the world because it is the main factor that leads to cardiovascular disease such as heart attack, heart failure, stroke and kidney disease. (WHO, 2018). Blood pressure is the pressure that comes from the heart which functions to move blood throughout the body so it is very important in the circulatory system of the human body. Hypertension is often called the Silent Killer, something that can silently cause sudden death without symptoms. Deaths that occur due to the effects of hypertension itself or other diseases caused by hypertension. Hypertension occurs when blood pressure is too high or is experiencing an increase in systolic blood pressure of more than 140 mmHg and diastolic blood pressure of more than 90 mmHg

in two measurements with an interval of 5 minutes at rest (Ministry of Health of the Republic of Indonesia, 2014). The global prevalence of hypertension is 22% of the world's total population. The incidence of hypertension is 25.8% in those aged over 18 years and the incidence of hypertension increased to 34.1% in 2018 (WHO, 2018). The highest prevalence of incidents by province occurred in South Kalimantan (44.1%), while the lowest incidence occurred in Papua (22.2%) (Basic Health Research, 2018). Hypertension in Indonesia has increased by 8.3%, namely from 2013 of 25.8%, an increase in 2018 of 34.1%. There was an increase of 8.1%. Prevalence data based on hypertension measurements in people under 18 years of age according to province, there was an increase of 10% from the previous value from 34.1% to 44.1% in 2018 (Ministry of Health, 2018). In the province of South Kalimantan, hypertension sufferers reached 44.1%. Hypertension sufferers often attack younger people aged less than 30 years. The prevalence among adults aged 18-24 years and 75 years of hypertension was 13.2% and 69.5% in 2018 (Basic Health Research, 2018). The impact of hypertension will cause various complications if it affects the heart, such as coronary heart disease, congestive heart failure, if it affects the brain, there may be a stroke and if it affects the kidneys, chronic kidney failure will occur. Complications that can occur are very serious diseases and have an impact on the sufferer's psychology due to their low quality of life, especially in cases of stroke, kidney failure and heart failure (Nuraini, 2015). Efforts to prevent complications and other risk diseases require pharmacological and non-pharmacological treatment. Pharmacological treatment involves regularly taking antihypertensive medication every day and controlling blood pressure according to doctor's recommendations. Non-pharmacological treatment involves adopting a healthy lifestyle such as controlling weight, controlling stress, reducing salt intake, low cholesterol, not smoking and not consuming alcohol (Utami & Raudatussalamah, 2016). Non-compliance with taking medication is the cause of therapy failure, this has an impact on worsening the patient's condition because complications and damage to body organs will occur. Compliance with taking medication for the majority of hypertension sufferers who regularly take medication was 54.4%, while the population who did not regularly take medication was 32.27% and 12.33% did not take medication at all. Reducing blood pressure in several meta-analyses shows that the reduction in risk factors for coronary heart disease is around 20-25% and the risk of stroke is around 35-40%. (Pujasari, 2016). Hypertension sufferers must comply with taking medication every day regardless of whether they have pain or symptoms. Compliance with taking medication is very necessary to control blood pressure in sufferers. Hypertension treatment is carried out for life and to maintain stable blood pressure it is necessary to take medication for hypertensive patients. Hypertension is the cause of death at 23.7% of the total 1.7 million deaths in Indonesia in 2016 (Anitasari, 2019). The referral service program can be provided by Community Health Center pharmacies and pharmacies or clinical pharmacy installations that

collaborate with BPJS Health. The referral chronic drug service program is provided for Diabetes Mellitus, Hypertension, Heart Disease, Asthma, Chronic Obstructive Pulmonary Disease (COPD), Epilepsy, chronic mental health disorders, stroke (Minister of Health Number 59, 2014). Functional calendar media as a reminder to take hypertension medication is very useful in increasing the fulfillment of treatment for hypertension patients. The increase in compliance of hypertensive patients before receiving functional calendar media was in the low category and after receiving functional calendar media increased (Mahdiaty, 2021).

Materials and Methods

Research Location

Data collection for this research was carried out at the Mitra Banjarmasin Pharmacy which is located on Jalan Letjend S. Parman No. 48 Banjarmasin, South Belitung, West Banjarmasin District, Banjarmasin City, South Kalimantan 70114.

Research Time

The research will be carried out at Mitra Banjarmasin Pharmacy in November 2022-June 2023.

Research Objectives

The target of this research was hypertensive patients who were non-compliant with therapy in the referral program at Mitra Banjarmasin Pharmacy.

Type and Research Design

The type of research used is quantitative research with experimental methods using a pretest-posttest control group design by taking samples and then carrying out a pretest first to find out which samples are classified as high level of compliance, medium level of compliance and low level of compliance which will be included in a randomized control trial. in 4 groups, namely compliant intervention, non-compliant intervention, compliant control and non-compliant control, then giving treatment to the non-compliant intervention group in the form of calendar media and at the end a post test was carried out, after the post test was completed, it continued with analysis to see the effect of using functional calendar media on increasing medication adherence in hypertensive patients.

Population

The population in this study was all hypertensive patients referred to the Mitra Banjarmasin Pharmacy with a population of 68 patients in December 2022.

Sample

The sampling technique for this research uses nonprobability sampling, namely total sampling is a sampling technique where the number of samples is the same as the population. The samples in this study were hypertensive patients who received referral therapy at Mitra Banjarmasin Pharmacy.

The inclusion criteria and exclusion criteria in the research conducted at Mitra Banjarmasin Pharmacy are as follows.

a. Inclusion Criteria

Inclusion criteria are the criteria for research subjects to be representative in the research sample who meet the requirements as a sample.

1) Respondents are willing to take part in the research

2) The patient suffers from hypertension

3) Outpatient treatment patients

4) The patient does not comply with taking medication

b. Exclusion Criteria

Exclusion criteria are criteria for research subjects not being able to represent the sample because they do not meet the requirements as a research sample. Respondents who are not willing to be research samples

Data Collection Techniques

The data collection technique in this study used documentation techniques which were used as material for analysis, such as prescriptions for treatment of hypertension patients who received referral treatment at Mitra Banjarmasin Pharmacy. Data components collected through patient prescriptions include name, gender, age, medication, telephone number, and number of patient visits in the last 1 month.

Data Analysis

1. Univariate Analysis

Univariate analysis aims to explain the characteristics of each research variable. In general, this analysis only produces frequency and percentage distributions of each variable (Notoatmodjo, 2018). Univariate analysis in this study was obtained from gender, age and the patient's level of compliance with taking medication assessed from the Hill¬-Bone questionnaire.

a. To determine the level of adherence to taking hypertension medication in the referral program using univariate analysis.

2. Bivariate Analysis

If univariate analysis has been carried out, the results will be known for the characteristics or distribution of each variable and the bivariate analysis can be continued (Notoatmodjo, 2018). This analysis aims to find differences in knowledge before and after being given functional calendar media to see the effect of increasing compliance. Changes in medication adherence scores using pretest and post test data analysis for each treatment group and control group using the Wilcoxon Signed Rank Test and Mann Whitney. To determine the effect of functional calendar media on adherence to taking hypertension medication using comparative analysis.

Results and Discussion

A. Respondent Characteristics

Analysis of the characteristics of research respondents was described based on gender, age and level of compliance with taking hypertension medication.

1) Characteristics of Respondents Based on Gender

Table 1 Characteristics of Respondents Based on Gender

No	Gender	Total	Persentase (%)
1	Male	31 people	45,58%
2	Female	37 people	54,41 %
	TOTAL	68 people	100%

The data in table 1 shows that the majority of respondents were female, numbering 37 people (54.41%), while men numbered 31 people (45.58%). This is adjusted to the Ministry of Health of the Republic of Indonesia which states that more women suffer from hypertension than men. Women who enter menopause will experience an increase in blood pressure. This is influenced because before menopause women are protected by the hormone estrogen which functions to increase HDL

cholesterol levels, so that if LDL cholesterol levels are high it will result in high blood pressure (RI Ministry of Health, 2019).

2) Characteristics of Respondents Based on Age

Table 1 Characteristics of Respondents Based on Age

No	Age	Total	Persentase (%)
1	40-44 years old	9	13,23%
2	45-49 years old	10	14,70%
3	50-54 years old	13	19,11%
4	55-59 years old	10	14,70%
5	>60 years old	26	38,23%
	TOTAL	68	100%

The data in table 2 shows that the majority of hypertensive patients aged > 60 years amounted to 26 people (38.23%). One factor that can influence blood pressure is age. Age is related to high blood pressure (hypertension). As a person ages, the risk of developing hypertension will become greater (Ministry of Health of the Republic of Indonesia, 2013). This happens because the large arteries lose their flexibility and become stiff, therefore the blood with each heart beat is forced to pass through narrower blood vessels than usual and this results in an increase in blood pressure.

B. Univariate Analysis

a. Hypertension Patient Compliance Before Giving Calendar Media

Table 2 Hypertension Patient Compliance Before Giving Calendar Media

No	Obedience	Total	Persentase (%)
1	Obedient	0	0
2	Disobedient	34	100%
	TOTAL	34	100%

The data in table 3 shows that when giving the questionnaire before being given the functional calendar media, a large number of respondents had a level of non-compliance, namely 34 people (100%).

b. Hypertension Patient Compliance After Being Given Calendar Media

Table 3 Hypertension Patient Compliance After Being Given Calendar Media

No	Obedience	Total	Persentase (%)
1	Obedient	32	94,11%
2	Disobedient	2	5,88%
	TOTAL	34	100%

The data in table 4 shows that when administering the questionnaire after being given functional calendar media, a large number of respondents had a level of compliance, namely 32 people (94.11%) and 2 people (5.88%) who did not comply.

c. Compliance of Intervention Group Hypertension Patients

Table 4 Compliance of Intervention Group Hypertension Patients

No	Obedience	Total	Persentase (%)
1	Obedient	32	94,11%
2	Disobedient	2	5,88%
	TOTAL	34	100%

The data in table 5 shows that the compliance of hypertensive patients in the intervention group who were given a functional calendar was effective in increasing compliance to 32 people (94.11%) and 2 people (5.88%) who were non-compliant.

d. Control Group Hypertension Patient Compliance

Table 5 Control Group Hypertension Patient Compliance

No	Obedience	Total	Persentase (%)
1	Obedient	16	47,05%
2	Disobedient	18	52,95%
	TOTAL	34	100%

The data in table 6 shows the compliance of hypertensive patients in the control group who were not given treatment in the form of a functional calendar, 16 people (47.05%) complied and 18 people (52.95%) did not comply.

C. Bivariate Analysis

1) Wilcoxon Test Results

Table 6 Wilcoxon Test Results

Group	Total(n)	p value
Patient compliance before being given calendar media	34	0,000
Patient compliance after being given calendar media	34	0,000

The data in table 7 shows the results of statistical testing with the Wilxocon test showing a p value of 0.000 which is smaller than 0.05, so it can be interpreted that there is a significant difference in compliance between hypertensive patients after and before being given calendar media. These data show that functional calendar media is effective in increasing adherence to medication use in hypertensive patients.

2) Mann Whitney Test Results

Table 7 Mann Whitney Test Results

Group	Total (n)	p *value*
Intervention group patient compliance	34	0,000
Control group patient compliance	34	0,000

The data in table 8 shows the results of statistical testing using the Mann Whitney test showing a p value of 0.000 which is smaller than 0.05, so it can be interpreted that there is a significant difference in compliance between hypertensive patients in the intervention group and the control group.

Discussion

Based on the discussion above, there are differences before and after being given functional calendar media as seen from the results which show that the level of compliance has increased and there is an influence of functional calendar media in increasing adherence to taking medication in hypertensive patients.The results of the bivariate analysis were carried out to determine the differences before and after being given functional calendar media to see the effect of increasing compliance which increased compliance in taking medication from non-compliant patients to 34 people (100%).

Based on the Wilcoxon statistical test in table 7, it is known that the p value is 0.000, which is less than 0.05, so it can be concluded that the hypothesis is accepted, meaning that there is an influence of functional calendar media on increasing adherence to taking medication in hypertensive patients.

Based on the Mann Whitney statistical test in table 8, it is known that the p value is 0.000, which is less than 0.05, so it can be concluded that there is a significant difference in the intervention group which was given treatment in the form of functional calendar media and the control group which was not given treatment.

Conclusion

Based on the research that has been done, it can be concluded that functional calendar media is effective for increasing hypertension patients' compliance in taking medication in the use of functional calendar media. Increased compliance of hypertensive patients before getting functional calendar media including non-compliant, after getting functional calendar media has increased compliance which increases the success of hypertension treatment.

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