Correlation of Care Compliance With Controlled Blood Pressure In Hypertension Patients

Ni Komang Winda Dwi Latri[1]*, Awan Dramawan[2], Sugijati[2]
[1]*Universitas Triatma Mulya, Jembrana, Bali*
[2]*Poltekkes Kemenkes Mataram, Mataram, Nusa Tenggara Barat, Indonesia*
* Correspondent Author: windalatri434@gmail.com

ABSTRACT
Hypertension is a condition in which there is an abnormal and continuous increase in blood pressure on several blood pressure checks caused by one or more risk factors that do not work properly in maintaining normal blood pressure. This research design uses non-experimental with the form of a correlational research design that examines the relationship between variables. Data were collected using a questionnaire. Data analysis using the Spearman Rank statistical test. The sampling technique used was purposive sampling that the sample obtained was 94 respondents.The results showed that respondents who were adherent to hypertension treatment had controlled blood pressure values. The statistical test with the Spearman Rank with shows that= 0,000, meaning that there is a relationship between treatment adherence and controlled blood pressure in hypertensive patients. This study is that there is a relationship between treatment adherence and controlled blood pressure in hypertensive patients at Meninting Health Center.

Keywords: Care Compliance, Controlled Blood Pressure, Hypertension

BACKGROUND

Hypertension is often referred to as a silent killer, a silent killer, without any prior symptoms that warn the sufferer. Although several signs and symptoms appear, it is often considered a common disorder, so that the sufferer realizes too late about the disease and then underestimates it (Yongo E., Manyala JO, K. Kito., Y. Matsushita., Outa NO, 2016). Hypertension means that the blood pressure in the blood vessels is very high, normal blood pressure is 120/80 mmHg. Blood pressure between 120/80 mmHg and 139/89 is called pre-hypertension and blood pressure more than 140/90 mmHg is considered high and is called hypertension (Susilo & Wulandari, 2011). The incidence of hypertension has increased, from around 600 million people in 1980 to 1 billion people in 2008. The latest statistical data states that 24.7% of Southeast Asia's population and 23.3% of Indonesians aged 18 years and over experience hypertension in 2014 (WHO (2013, WHO, 2015).

In Indonesia, there is an increasing prevalence of hypertension. Overall, the prevalence of hypertension in Indonesia in 2013 was 26.5%. Whereas in West Nusa Tenggara, the prevalence of hypertension was 24.3% (Riskesdas, 2013), with the highest incidence rate in North Lombok Regency at 30.8%, followed by East Lombok Regency at 30.2% and followed by West Lombok 26.7% (Riskesdas NTB, 2013). In West Lombok the incidence of hypertension in 2014 was 14,027 people and 19,904 in 2015 with the highest cases of hypertension at Meninting Health Center, with the number of hypertension sufferers in 2014 of 1,243 people and 1,481 people in 2015 (West Lombok Health Profile, 2014 and 2015). Hypertension can occur in anyone, both men and women at all ages. The risk of developing hypertension will increase at the age of 50 years and over. Almost 90% of cases of hypertension have no known cause. In fact, most cases of hypertension have no symptoms (asymptomatic) (Susilo and Wulandari, 2011).

There are several factors where a person can experience an increase in blood pressure that is far from normal (normal limit: 140/90 mmHg). These are often referred to as risk factors, including gender, age, and genetics which cannot be controlled. Meanwhile, factors that can be controlled or controlled are a healthy and balanced lifestyle including: a healthy diet, smoking habits, drinking alcoholic beverages, not exercising, being overweight (obesity) and stress. This makes people with hypertension should leave their old lifestyle and adapt to a new lifestyle in order to keep their blood pressure normal (Amelor et al., 2016).

There are two therapies used to treat hypertension, namely pharmacological therapy and non-pharmacological therapy. Pharmacological therapy is by using antihypertensive drugs which are proven to lower blood pressure, while non-pharmacological therapy or also known as lifestyle modification, which includes smoking cessation, reducing excess weight, avoiding alcohol, dietary modification and psychological aspects, among others, reduce stress, exercise, and rest (Kosasih and Hassan, 2013).

Patient non-compliance will be a serious problem faced by health professionals (Niven, 2008). Uncontrolled hypertension due to non-adherence to therapy can lead to complications of hypertension, as the brain, heart, kidney and retina are the organs most often affected by complications from hypertension. Hypertensive patients have the risk of experiencing cerebrovascular diseases such as stroke, heart disease, also the risk of cardiovascular disease such as atherosclerosis and enlarged heart muscle. Likewise with the kidneys and retina, patients with uncontrolled hypertension can experience kidney failure and vision problems and even experience blindness (Jaya, 2009, Buabeng, 2008).

The success in controlling high blood pressure is a joint effort between the patient and the treating doctor. Adherence of a patient suffering from hypertension in treatment is

not only seen based on adherence in taking antihypertensive drugs but also demands an active role and the patient's willingness to have his health checked by a doctor according to a determined schedule as well as changes in a healthy lifestyle, lifestyle changes that can be made, namely by maintaining healthy body weight, diet, physical activity, smoking cessation and alcohol consumption and stress management (Brunier et.al, 2011, Prasetyaningrum, 2014).

Treatment adherence is a major factor determining the success of therapy. Adherence and good understanding in running therapy can affect blood pressure and gradually prevent complications (Depkes, 2006). Compliance with self-care programs can be carried out by providing active participatory encouragement of patients in the program, including self-monitoring of blood pressure and diet to improve adherence, encouragement of patients not to use alcohol can have a synergistic effect with drugs, not using tobacco and nicotine products, written information regarding estimated effects as well as side effects of drugs, and teaches patients how to measure blood pressure independently (Baughman, 2010).

WHO (2008) estimates that 50% of hypertensive patients do not undergo recommended treatment after one year of diagnosis of hypertension. Blood pressure control can only be maintained at 20%. However, if the patient actively participates in the program, including self-monitoring of blood pressure and blood pressure, adherence tends to increase because feedback can be obtained immediately as a feeling of control. Great effort is needed in hypertensive patients to maintain a lifestyle, diet, and take prescribed medications regularly (Smeltzer & Bare, 2010). Likewise, according to Sudewo (2009) hypertension is a disease that cannot be cured (treated once and cured forever). But it can be controlled with a healthy and treatable lifestyle.

METHODS
Study design
This study used a non-experimental research design. Non-experimental research design with a correlational research design.
Population and sample
The population in this study were patients diagnosed with hypertension at the Meninting Health Center. With a hypertensive population of 1,481 people. The sample size in this study isas many as 94 samples who met the inclusion and exclusion criteria. The inclusion criteria of this study were patients who had been diagnosed with hypertension with or without comorbidities, aged 18-65 years, received antihypertensive drugs, 1 year of hypertension since being diagnosed by a doctor, willing to be research respondents. The exclusion criteria of this study were patients who did not receive antihypertensive drug therapy, patients aged> 65 years, new patients suffering from hypertension <1 year, hypertensive patients who were unwilling to become respondents in the study.
Research Instrument and Data Collection
The research instrument used to determine care compliance was the hypertension care compliance questionnaire. This questionnaire contains a statement containing care for hypertension sufferers and is presented with four answer choices (Likert scale), 1 = never, 2 = sometimes, 3 = often, and 4 = always with the measurement results not obedient 14-28, obedient = 29-42, and very obedient = 43-56. Data about the respondent's blood pressure was obtained from checking blood pressure using a tensimeter. data about controlled patient blood pressure= 140-159 / 90-99 mmHg, less controlled 160-179/100-106 mmHg and uncontrolled $\geq$ 180/110 mmHg.

Data Analysis

Data were analyzed using non-parametric correlation test (Spearman's Rho). If the level of significance (α) <0.05 then there is a significant correlation between the variables tested and if the value of the level of significance (α)> 0.05 then there is no significant relationship between the variables tested.

Ethical Consideration

This study has been approved by the one public health center to data collection. Each respondent was given and signed informed consent regarding the purpose, benefits and research procedure

RESULT

Table 1 Care Compliance for Hypertensive Patients at Meninting Health Center

NO.	Care Compliance	Total	
		n	%
1	Very obedient	33	35, 11%
2	Obey	51	54.25%
3	Not obey	10	10.64%
	Total	94	100%

Table 1 shows that there were 51 patients who were obedient in carrying out hypertension treatment, 33 were very obedient and 10 were not compliant.

Table 2 Blood Pressure Controlled in Hypertension Patients at Meninting Health Center

No.	Blood pressure	total	
		n	%
1	Controlled	47	50%
2	Less controlled	32	34.04%
3	Not controlled	15	15.96%
	Total	94	100%

Table 2 shows the blood pressure of hypertensive patients with controlled blood pressure as much as 47 (50%) respondents.

Table 3 Relationship of Care Compliance with Controlled Blood Pressure in Hypertensive Patients

No.	obedience	Blood pressure								ρ
		Controlled		Less controlled		Not controlled		Total		
		n	%	n	%	n	%	n	%	0,000
1	Very obedient	33	35.02%	0	0%	0	%	33	35.11%	
2	Obey	14	14.91%	32	34.04%	5	5.30%	51	54.25%	
3	Not obey	0	0%	0	0%	10	10.64%	10	10.64%	
	Total	47	49.93%	32	34.05%	15	15.94	94	100%	
α= 0.05 and = 0.000 ρ										

Table 3 shows that the highest score was respondents who obeyed the care of 51 respondents (54.25%). The results of statistical tests using the Spearman Rank on α= 0.05, it was found that = 0.000 with a correlation coefficient = 0.792, so it can be concluded that H0 is rejected and H1 is accepted, which means that there is a very strong relationship between treatment adherence and controlled blood pressure in hypertensive patients.

DISCUSSION

Based on the research conducted, it was found that the respondents were in the obedient category in carrying out treatment and the respondent's blood pressure was in the controlled category. The results of statistical tests using the Spearman Rank on α= 0.05, it was found that = 0.000 with a correlation coefficient = 0.792. This shows that there is a very strong relationship between treatment adherence and controlled blood pressure in hypertensive patients.

The results of the research that have been conducted show that hypertensive patients who are very obedient in carrying out hypertension treatment are 33 (35.11%) respondents, who are obedient in carrying out treatment 51 (54.25%) of respondents and who are not obedient to carry out treatment. Related to the results of this study, the respondent's blood pressure was in the controlled category. Respondents' blood pressure is controlled because it is influenced by the level of respondent's good adherence to hypertension care.

The uncontrolled blood pressure in the respondents was caused by not doing their activity patterns and stress management properly. Physical activities such as sports are also rarely done. Exercise and regular physical activity are useful for regulating blood pressure and keeping in shape. It is advisable to exercise regularly, at least 3 times a week, there by reducing blood pressure. Regular exercise reduces the risk of arterial disease against coronary heart disease and stroke, including hypertension, cholesterol, high blood pressure, diabetes mellitus and obesity (Hermawati, 2014)

According to researchers, adherence to controlled blood pressure, if it is linked, will find a positive relationship, meaning that if the level of adherence is high, the respondent's blood pressure is also controlled. This opinion is in line with the Ministry of Health (2006), namely that treatment compliance is the main factor determining the success of therapy. Adherence and a good understanding in carrying out therapy can affect blood pressure and gradually prevent complications.

Respondents who are adherent to treatment mean adhering to lifestyle modifications such as diet, physical activity, quitting smoking, drinking alcohol and coffee as well as stress management and blood pressure control. This is in line with the theory according to Kosasih and Hassan (2013) that there are two therapies carried out to treat hypertension, namely pharmacological therapy and non-pharmacological therapy. Pharmacological therapy is by using antihypertensive drugs which are proven to lower blood pressure, while non-pharmacological therapy or also known as lifestyle modification, which includes smoking cessation, reducing excess weight, avoiding alcohol, dietary modification and psychological aspects, among others, reduce stress, exercise, and rest.

Lifestyle management looks quite good in people of productive age. Lifestyle balance (eating healthy food and drinks (including avoiding nicotine, alcohol), programmed exercise or exercise, doing good habits and leaving bad habits, improving the natural environment or surroundings, always trying to improve science, especially about health (life long) learning), managing time and managing finances, worshiping God, mental vigilance,

emotional balance, harmonious interaction with fellow humans) greatly affect health status, especially blood pressure stability. Blood pressure of people of productive age is stable on average, however,

Blood pressure instability or uncontrolled hypertension due to non-compliance with treatment can cause complications such as the brain, heart, kidneys, and retina which are the organs most frequently affected by complications from hypertension. Hypertensive patients have the risk of experiencing cerebrovascular diseases such as stroke, heart disease, also the risk of cardiovascular disease such as atherosclerosis and enlarged heart muscle. Likewise with the kidneys and retina, patients with uncontrolled hypertension can experience kidney failure and visual disturbances and even experience blindness (Jaya, 2009).

CONCLUSION

Research shows that there is a very strong relationship between care adherence (lifestyle modifications such as diet, physical activity, quitting smoking, drinking alcohol and coffee as well as stress management and blood pressure control) with controlled blood pressure in hypertensive patients. Blood pressure of people of productive age is controlled on average, but uncontrolled blood pressure is seen in people of productive age who are less adherent to hypertension treatment with a three times greater potential to suffer from blood pressure instability.

It is hoped that nurses can motivate people to take care of hypertension (lifestyle modifications such as diet, physical activity, quitting smoking, drinking alcohol and coffee as well as stress management and blood pressure control) in order to avoid diseases caused by uncontrolled blood pressure. It is also hoped that educational institutions will add insight and knowledge on the importance of hypertension treatment to avoid complications of hypertension. For the next researcher for comparison data to continue research on the relationship between treatment adherence with other non-infectious diseases.

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