

Factors Associated with Hindrance to Lowering Blood Pressure in Hypertensive Prolanis Patients at Ajibarang I Public Health Care Center Banyumas Regency

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ABSTRACT

Hypertension is a condition of abnormal and continuous increasing blood pressure, which has been checked several times. It is caused by some risk factors so that blood pressure cannot be maintained properly. The risk factors for hypertension that cannot be changed include age, gender, and genetics. Modifiable risk factors include smoking, a low fiber diet, dyslipidemia, and excessive salt consumption. In particular, dyslipidemia is a metabolic disorder characterized by an increase in total cholesterol, LDL, triglycerides, and HDL. Individuals who suffer from hypertension must receive regular care. One is by following Prolanis, so their high blood pressure does not cause disease complications. This study aimed to determine what factors were associated with hindrance to lowering blood pressure and the relationship of HDL levels and physical activity with blood pressure in patients with hypertension Prolanis at Ajibarang Public Health Center I. This quantitative research utilized the total sampling technique and the method of examining HDL levels of precipitation. The study was conducted in June 2022. It is shown that the relationship between HDL levels with systolic blood pressure and diastolic blood pressure were $p = 0.870$ and $p = 0.870$, respectively. Meanwhile, the relationship between physical activity and systolic blood pressure and diastolic blood pressure were $p = 0.055$ and $p = 0.754$, respectively. It meant that there was no relationship between HDL levels and physical activity with blood pressure in hypertension Prolanis patients at Ajibarang Public Health Center I.

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1. Introduction

Hypertension is a condition of normal and continuous increase in blood pressure that is checked for several times and is caused by risk factors so that blood pressure cannot be maintained properly (Azizah & Hartanti, 2016). Data from the World Health Organization (WHO) until now hypertension is still a big problem because this disease attacks 22% of the world's population with the incidence of hypertension in Asia reaching 36% (Tirtasari & Kodim, 2019). Based on data from the Basic Health Research (Riskedas) in 2018, the prevalence of hypertension sufferers in Indonesia is 34.1% and for the Central Java region, the prevalence of hypertension is 37.57%. The prevalence of hypertension sufferers in Banyumas district is 38.90% and in the Ajibarang I Health Center area there are 23.6% hypertension sufferers.

According to the Indonesian Ministry of Health (2018), there are three classifications of hypertension based on systolic and diastolic pressure, namely: pre-hypertension (systolic blood pressure 120-139 mmHg and diastolic 80-89 mmHg), level 1 hypertension (systolic blood pressure 140-159 mmHg).), mmHg and a diastolic blood pressure of 90-99 mmHg), grade 2 hypertension (systolic

blood pressure 160 mmHg and a distolic blood pressure of 100 mm Hg). Hypertension is also based on its etiology into primary and secondary hypertension. In addition, hypertension is also distinguished based on the course of the disease into benign and malignant hypertension.

The Indonesian Ministry of Health through the Directorate General of Prevention and Control of Non-Communicable Diseases (Ditjen P2PTM) (2018) also explained that there are two risk factors for hypertension, namely those that cannot be changed and those that can be changed. Non-modifiable risk factors include: age, gender, and genetics. Modifiable risk factors include: smoking, low-fiber diet, dyslipidemia, excessive salt consumption, lack of physical activity, stress, being overweight or obese, and alcohol consumption.

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The results of a preliminary study conducted on Prolanis patients at the Ajibarang I Health Center found that of 148 active patients who made regular visits, there were 96 hypertensive patients with 45 of them not experiencing a decrease in blood pressure despite taking antihypertensive drugs. Therefore, the author wants to know the factors that are related to

2. Method

The study was conducted using an observational method and using a cross sectional design that compares physical activity and results of HDL levels with blood pressure in hypertensive Prolanis participants at the Ajibarang Health Center, Banyumas Regency. HDL levels were checked using the precipitation method. The number of samples was determined by the total sampling method. Data analysis was carried out by testing the normality of the data and continued with the Spearman and Mann-Whitney U correlation test.

3. Result and Discussion

3.1 Result

Table 1
Characteristics of Respondents

No	Parameter	Jumlah	Persentase	Rerata ±SD	Median (Min;Max)
1	Age	45	100%	58,96 ± 7,734	57,00

					(50;76)
2	Gender				
	Man	14	31,10%		
	Woman	31	68,90%		
3	Jenis Hipertensi				
	Hipertensi tipe 1	42	93,90%		
	Hipertensi tipe 2	3	6,70%		
4	Berat Badan	45	100%	50,71 ± 8,953	60,71 (43;87)
5	Lama Kepesertaan	45	100%	4,31 ± 2,224	3,00 (1;7)
6	Riwayat Hipertensi Anggota Keluarga				
	Yes, ada	8	17,80%		
	No ada	37	82,20%		
7	Kebiasaan Merokok				
	Yes	12	26,70%		
	No	33	73,30%		
8	Aktivitas Fisik				
	Tinggi (>3x seminggu)	27	60%		
	Sedang (1-2x seminggu)	18	40%		
	No pernah	0	0%		
9	Konsumsi Garam				
	Tinggi (1 sendok teh per hari)	5	11,10%		
	Cukup (<1 sendok teh per hari)	40	88,90%		
10	Riwayat Pemeriksaan HDL				
	Yes, Pernah	22	48,90%		
	Belum pernah	23	51,10%		
11	Konsumsi Alkohol				
	Yes	0	0,00%		
	No	45	100,00%		
12	Konsumsi Obat Hipertensi				
	Yes	42	93,30%		
	No	3	6,70%		

Based on the results of the univariate analysis in Table 1, it is known that the average age of the respondents is 58.96 (7.734) years, the median is 57 years. The youngest age in this study was 50 years and the oldest age was 76 years. The results of the analysis of gender in Table 1 show that there are more female respondents than male, namely 31 respondents (68.89%) and 14 respondents (31.11%). All respondents examined in this study were hypertensive patients whose characteristics can be seen in Table 1. The type of hypertension that most suffered by respondents was level 1 hypertension as many as 42 respondents (93.33%) while level 2 hypertension as many as 3 respondents (6.67 %). The characteristics of the respondents' body weight in Table 1, the average weight of the respondents was 50.71 (8.953) kg with a median of 60.71 kg. The heaviest weight is 87 kg and the lightest is 43 kg. Body weight that often appears is 60-69 kg. In Table 1, the characteristics of respondents who have family members with a history of hypertension in their family are 8 respondents (17.78%), this is less than respondents who do not have family members with a history of hypertension, which are 37 respondents (82.22%). In Table 1 there are also characteristics of respondents based on smoking habits. From the results of data collection, it was found that 72.22% of respondents did not have a smoking habit. While 26.67% of respondents have a smoking habit.

Characteristics of respondents based on salt consumption, it was found that as many as 40 respondents (88.89%) consumed salt in sufficient quantities, namely <1 teaspoon per day. Meanwhile, 5 respondents (11.11%) consumed quite a lot of salt, namely > 1 teaspoon per day.

Characteristics of respondents can also be seen based on a history of examination of HDL levels. In Table 1 above, it can be seen that 22 respondents (48.89%) have had HDL levels checked and 23 respondents (51.10%) have never checked HDL levels.

Characteristics of respondents based on alcohol consumption showed that all respondents or 45 respondents (100%) did not consume alcohol. From the table, data obtained from 93.33% of respondents consume anti-hypertensive drugs on a regular basis. Meanwhile, 6.67% of respondents do not routinely take anti-hypertensive drugs.

Table 2
Respondents' Blood Pressure Measurement Results

No	Parameter	Jumlah (n)	Persentase (%)	Rerata (SD) (mmHg)	Median (Min;Max) (mmHg)
1	Tekanan Darah Sistolik (mmHg)				
	140-149	24	53,3	146,00 (8,367)	140,00 (140;180)
	150-159	18	40		
	160-169	1	2,2		
	170-179	1	2,2		
	180-189	1	2,2		
2	Tekanan Darah Diastole				
	70-79	1	2,2	91,20 (4,526)	90,00 (70;100)
	80-89	0	0		
	90-99	40	88,9		
	100-109	4	8,9		

The results of blood pressure measurements in Table 2 are divided into 2, namely systolic blood pressure and diastolic blood pressure. In systolic blood pressure, the mean value was 146.00 (8.367) mmHg and the median was 140.00 mmHg. The minimum systolic blood pressure value is 140 mmHg and the maximum is 180 mmHg. In diastolic blood pressure, the mean value was 91.20 (4.526) mmHg and the median was 90.00mmHg. The minimum diastolic blood pressure value is 70 mmHg and the maximum is 100 mmHg.

Table 3
Distribution of Respondents Physical Activity

No	Parameter	Jumlah (n)	Persentase (%)
1	Aktivitas Fisik		
	Tinggi (>3x seminggu)	27	60%
	Sedang (1-2x seminggu)	18	40%
	No pernah	0	0%

Physical activity in Table 3 shows that all respondents do physical activity with moderate intensity (1-2x a week) as many as 18 respondents (40%) and physical activity with high intensity as many as 27 respondents (60%).

Table 4
HDL Level Check Results

No	Parameter	Jumlah (n)	Persentase (%)	Rerata (SD) (mg/dl)	Median (Min;Max) (mg/dl)
1	Kadar HDL (mg/dl)				
	20-29	3	6,7	43,47 (9,329)	43,00 (23;60)
	30-39	12	26,7		
	40-49	19	42,2		
	50-59	10	22,2		

From the univariate analysis that has been carried out, the mean data obtained from the examination of HDL levels is 43.47 (9.329) mg/dl with a median of 43.00. The highest HDL level is 60 mg/dl and the lowest HDL level is 43 mg/dl.

Table 5

Data Normality Test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pengukuran Sistol	.297	45	.000	.670	45	.000
Pengukuran Diastole	.373	45	.000	.593	45	.000
Hasil pemeriksaan kadar HDL	0,067	45	.200*	0,977	45	0,494

Normality test was carried out on HDL and hypertension levels which were processed using the Saphiro-Wilk test. The test was used because the number of samples was 50. In Table 5 above, the normality test on the data from the examination of HDL levels and the type of hypertension obtained a p value (significance) < 0.05 so that the data is declared to be not normally distributed.

Table 6

Spearman Correlation Analysis Results

Kadar HDL	
Sistol	r = 0,025
	p = 0,870
	n = 45
Diastole	r = 0,141
	p = 0,356
	n = 45

Based on Table 6, it is known that the p value = 0.870 which means that there is no relationship between HDL levels and systolic blood pressure ($p > 0.05$). The Spearman correlation value of 0.025 indicates a weak correlation strength. The results of the analysis of HDL levels with diastolic blood pressure have a p value = 0.870 which means that there is no relationship between HDL levels and systolic blood pressure ($p > 0.05$). Spearman correlation value of 0.141 which indicates that the strength of the correlation is weak.

Table 7

Mann-Whitney U Analysis Results of Physical Activity with Systolic Blood Pressure

Aktivitas Fisik	Jumlah	Tekanan Darah Sistol (mmHg)		Nilai P
		Median	(Minimum-Maximum)	
Tinggi (3x seminggu)	27	140	(140-150)	0,055
Sedang (1-2x seminggu)	18	150	(140-180)	

Based on Table 7, it is known that the median systolic blood pressure in respondents who do high physical activity (3x a week) is 140 mmHg with a minimum blood pressure of 140 and a maximum of 150 mmHg. Meanwhile, systolic blood pressure in respondents who did moderate physical activity (1-2x a week) had a median of 150 mmHg with a minimum blood pressure of 140 mmHg and a maximum of 180 mmHg. The p value in Table 7 is 0.055, which means that there is no relationship between physical activity and systolic blood pressure ($p > 0.05$).

Table 8

Mann-Whitney U Analysis Results of Physical Activity with Diastolic Blood Pressure

Aktivitas Fisik	Jumlah	Tekanan Darah Diastole (mmHg)		Nilai P
		Median	(Minimum-Maximum)	
Tinggi (3x seminggu)	27	140	(140-150)	0,754
Sedang (1-2x seminggu)	18	150	(140-180)	

Based on Table 8, it is known that the median diastolic blood pressure in respondents who do high

physical activity (3x a week) is 90 mmHg with a minimum diastolic blood pressure of 90 mmHg and a maximum of 100 mmHg. For respondents who did moderate physical activity (1-2x a week) the median diastolic blood pressure was 90 mmHg with a minimum diastolic blood pressure of 70 mmHg and a maximum of 100 mmHg. The p-value from the analysis in Table 8 is 0.754, which means there is no relationship between physical activity and diastolic blood pressure ($p > 0.05$).

3.2 Discussion

This research was conducted on June 4, 2022 at the Ajibarang Health Center, Banyumas Regency which has a large number of residents aged more than 50 years, namely 299 people and the number of hypertension sufferers as many as 5,859 people consisting of residents aged > 15 years. Respondents in this study were hypertensive patients who became Prolanis patients aged 50 years, had grade 1 and 2 primary hypertension and fasted for 10-12 hours. The number of respondents was determined by inclusion criteria and total sampling technique so that the number of respondents was 45 people. This research is an observational study and uses a cross sectional design.

The data obtained in this study are primary data. Researchers examined HDL levels in respondents' serum samples which were examined using the precipitation method. The respondent's blood pressure was measured directly by the health worker who was in charge of the prolanis activity at the Ajibarang Health Center I. The respondent's physical activity was obtained by recalling the respondent, namely the respondent filled out a questionnaire containing several questions related to this research.

Hypertension is one of the top 10 diseases in the working area of Ajibarang Health Center I. Hypertension is influenced by 2 risk factors, namely those that cannot be changed and those that can be changed. Non-modifiable risk factors include: age, gender, and genetics. Modifiable risk factors include: smoking, low fiber diet, dyslipidemia, excessive salt consumption, lack of physical activity, stress, overweight or obesity, and alcohol consumption (Kemenkes RI, 2018). Researchers conducted a univariate analysis to see the characteristics of respondents based on risk factors for hypertension which included: age, gender, family history of hypertension, smoking habits, salt consumption, and alcohol consumption. Bivariate analysis was carried out to see the relationship between HDL levels and hypertension and the relationship between physical activity and hypertension.

a. Age

The age of the respondents in this study was 50 years. The age of the most respondents is in the range of 50-54 years with a total of 18 respondents (40%) and the average age is 58.96 (7.734) years. Age is a factor of hypertension that cannot be changed. This is in accordance with research conducted by Yunus et al (2021) which states that when entering the age of 50 years, the function of the body's organs decreases due to the aging process. Aortic narrowing that occurs at the age of over 50 years is also a cause of hypertension, because the ability of arterial distension to dilate has decreased, resulting in an increase in systolic blood pressure (Sari & Livana, 2016).

According to Zhu et al. (2016), aging has a relationship with physiological changes that cause an increase in systolic blood pressure, an increase in arterial blood pressure, an increase in pulse pressure, and a decrease in the body's ability to respond to sudden hemodynamic changes. Aging that occurs causes narrowing and hardening of the lumen of blood vessels called atherosclerosis resulting in structural changes and an increase in vascular calcification that contributes to an increase in systolic blood pressure.

The occurrence of atherosclerosis can be caused by low levels of HDL. The results of the research conducted by Rafsanjani et al (2019) have similarities with this study, namely respondents aged > 46 years have low HDL levels and are at risk for suffering from blood vessel and heart disease. Low HDL levels are due to a person's metabolic ability which decreases with age if it is not balanced with a healthy lifestyle. If a person has low HDL levels, the risk of atherosclerosis will increase. This will result in an increase in blood pressure.

b. Gender

The researcher analyzed 45 Prolanis hypertension patients and showed that 31 respondents were female (68.90%) and 14 respondents were male (31.10%). In a study conducted by Ayukhaliza, there were 66.7% female respondents who suffered from hypertension and 33.3% were male respondents. This shows the similarity of the results obtained by the researchers, namely hypertension is more common in women than men, although the theory suggests that men are more at risk of developing

hypertension than women.

The high prevalence of hypertension in women is due to several factors, one of which is the influence of hormones on women. As you age, the hormone estrogen will decrease, especially if you enter menopause. The reduced estrogen hormone will affect the increase in blood pressure (Meliana, 2021). In this study, the majority of female respondents had entered menopause.

Menopause is a factor that causes the increasing tendency of hypertension in women. Estrogen has a major role in regulating HDL levels in the body. In menopausal women, low estrogen levels cause HDL levels to also decrease and if this is not followed by a good lifestyle, it will lead to atherosclerosis. The occurrence of atherosclerosis will have an impact on blood pressure which has increased (Falah, 2019).

c. Family History of Hypertension

Family history is one of the factors of hypertension that cannot be changed. This is related to genetics that are passed from parents to children. Individuals from families with hypertension have a greater risk of suffering from hypertension compared to individuals from families without hypertension.

Based on the results of the study, the researchers found that 8 respondents (8%) were individuals from families with a history of hypertension and 37 respondents (82.20%) did not have family members with a history of hypertension. Researchers also found that there was 1 respondent who had a high systolic blood pressure of 150 mmHg, diastolic blood pressure of 90 mmHg, and the respondent had a family member with a history of hypertension. In addition, it was also found that 1 respondent had a systolic blood pressure of 180 mmHg and a diastolic blood pressure of 100 mmHg, but the respondent did not have a family member with a history of hypertension.

WidYesrtha et al (2016) conducted a study on the factor of family history of hypertension with results showing that there is a relationship between hypertension and family history. If both parents are hypertensive, the incidence of hypertension in their offspring increases to 4 to 15 times compared to normotensive parents. If parents suffer from essential hypertension, then 44.8% of their children will also suffer from hypertension. However, if one of both parents has hypertension, the chance of developing hypertension in children is 12.8% (WidYesrtha et al, 2016).

d. Smoking habit

Hypertension and smoking are two important factors in the occurrence of atherosclerosis, acute myocardial infarction, and coronary heart disease (Gumus et al. 2013). In this study, 33 respondents (73.30%) were active smokers, all of whom were male. Smoking is a modifiable hypertension factor. However, smoking has become a part of people's lives even though smoking triggers hypertension. A similar study was conducted by SYeshrir et al (2021) which showed data that the majority of respondents who were hypertensive patients did not have a smoking habit (78.2%).

Nicotine found in cigarettes can cause an increase in blood pressure because nicotine is absorbed in the blood vessels in the lungs when smoking cigarettes. Nicotine will then be circulated by blood vessels to the brain, and the brain will send a signal to the adrenal glands to release epinephrine. Epinephrine will make blood vessels narrow so that the heart will work harder to pump blood and cause blood pressure to increase. In addition to nicotine, carbon monoxide also causes the heart to pump more extra because oxygen is replaced by carbon monoxide when smoking cigarettes (Samiadi, 2016).

e. Salt Consumption

Salt consumption is one of the hypertension factors that can be changed in addition to smoking habits and physical activity. From the results of interviews based on questionnaires, researchers found that as many as 40 respondents (88.90%) had a habit of consuming sufficient salt, namely < 1 teaspoon per day and 5 respondents (11.10%) had a habit of consuming excessive amounts of salt (1 tablespoon). tea per day). With different results from researchers, research conducted by Purwono et al (2020) showed that 54.9% of respondents had a high salt consumption pattern and proved that excessive salt consumption can increase blood pressure.

In Indonesia, excessive salt consumption is a factor causing hypertension. Excessive salt consumption causes the concentration of sodium in the extracellular fluid to increase. To normalize again, it is necessary to draw out the intracellular fluid which results in an increase in the volume of extracellular fluid. This increase in extracellular fluid volume will increase blood volume and have an impact on the onset of hypertension (Purwono, 2020).

f. **Alcohol Consumption**

Consuming alcohol in this study is having a habit of drinking alcoholic beverages. Alcoholic beverages are drinks containing ethyl alcohol or ethanol which are processed through fermentation and distillation with the material being made using agricultural products (SYeshrir et al, 2021). Excessive alcohol consumption that occurs in the community will have an impact on health, namely the occurrence of liver function disorders which have an impact on the performance and function of the heart which is also disrupted. Alcohol will stimulate epinephrine or adrenaline which causes the arteries to shrink and also water and sodium accumulation (JaYesnti, 2017).

According to Malonda et al (2012) approximately 5% of hypertension cases are caused by alcohol. In his research proved that alcohol consumption has an effect on hypertension. Increased alcohol consumption for a long time will affect cortisol levels in the blood so that the Renin Angiotensin Aldosterone System (RAAS) increases. The RAAS is a hormone that regulates the balance of blood pressure and fluids in the body. If a person consumes alcohol, the volume of red blood cells in his body will increase and the viscosity of the blood will also increase. Increased blood viscosity will cause blood pressure to also increase and cause hypertension (JaYesnti, 2012).

3.3 Relationship between HDL levels and blood pressure

HDL is an indicator of dyslipidemia. Dyslipidemia is a cholesterol metabolism disorder characterized by increased levels of Low Density Lipoprotein (LDL), total cholesterol, triglycerides, and decreased levels of HDL. Dyslipidemia is one of the hypertension factors that can be changed because it is related to lifestyle (Kemenkes, 2018). From the results of the examination of HDL levels as shown in Table 4, the researchers obtained data that the mean HDL levels were 43.47 (9.329) mg/dl with a median of 43.00. The highest HDL level is 60 mg/dl and the lowest HDL level is 43 mg/dl. The majority of respondents had low HDL levels (<40 mg/dl for women and <50 mg/dl for men) as many as 44 people and there was only 1 person with high HDL levels, namely 60 mg/dl.

The analysis of the Spearman correlation test in Table 6 showed that there was no significant relationship between HDL levels and systolic and diastolic blood pressure ($p > 0.05$). The results of the Spearman correlation test conducted by the researchers showed that the p value was 0.870 in the analysis of the relationship between HDL levels and systolic blood pressure and 0.356 in the analysis of the relationship between HDL levels and diastolic blood pressure. By using of 0.05, it can be concluded that the value of $p > \alpha$ which means that H_0 is accepted or there is no relationship between HDL levels and blood pressure (systolic and diastolic). The r value in the Spearman correlation also shows a less significant correlation strength, namely $r = 0.025$ in the analysis of the relationship between HDL levels and systolic blood pressure and a weak correlation with $r = 0.141$ in the relationship between HDL levels and diastolic blood pressure.

3.4 Relationship between physical activity and blood pressure

Physical activity is an activity that uses energy or energy to carry out various physical activities such as sports, walking, running, etc., physical activity is often defined as exercise and is one of the risk factors for hypertension (Dana et al, 2018). In this study, the physical activity in question is an activity that uses the body's energy and is not only exercise, but some daily activities such as doing housework, doing agricultural activities in the fields, doing respondent work such as being a construction worker and so on.

According to Hasanudin et al (2018), regular physical activity is considered to be able to increase the efficiency of the heart's work. Individuals who do regular physical activity and are active generally have lower blood pressure than individuals who rarely or never do regular physical activity. In Table 7 and Table 8 it is stated that as many as 27 respondents (60%) have high physical activity (>3x a week) and 18 respondents (40%) have low physical activity (1-2x a week). However, the high intensity of physical activity did not affect blood pressure.

From the data obtained, the researchers then analyzed the bivariate test using the Mann-Whitney U test and obtained p of 0.055 for the analysis of the relationship between physical activity and systolic blood pressure and p of 0.754 for the relationship between physical activity and diastolic blood pressure. With a value of $\alpha = 0.05$, the p value > is obtained so that it can be concluded that H_0 is accepted or it can be said that there is no relationship between physical activity and blood pressure.

4. Conclusion

From the research that has been done, the following conclusions can be drawn: First, the average age of the respondents is 58.96 (7.734) years with the oldest being 50 years old and the youngest 76 years old. The gender of the majority of respondents is female (68.8%) and male (31.11%). Respondents with a family history of hypertension were 17.78%. Respondents who have a smoking habit are 26.67% and all of them are male. As many as 88.89% of respondents have a pattern of sufficient salt consumption, which is <1 teaspoon per day. All respondents do not have the habit of consuming alcohol. Second, there is no relationship between physical activity and systolic blood pressure, with the results of the analysis obtained that the value of p (0.055) > so that H_0 is accepted. There is also no relationship between physical activity and diastolic blood pressure with p value (0.754) > . Third, there is no relationship between HDL levels and systolic blood pressure, with p value (0.870) > so that H_0 is accepted. The value of r is 0.025 which gives the meaning of a less meaningful relationship. HDL levels with diastolic blood pressure also have no relationship with p value (0.356) > . The r value of 0.141 indicates a weak relationship. And finally, the factors that most influence the barriers to lowering blood pressure in hypertensive Prolanis patients at the Ajibarang Health Center are age and gender.

The advice given by the first researcher is that it is necessary to do research on the effect of adherence to antihypertensive drug consumption on blood pressure in prolanis hypertensive patients. Then in conducting the HDL examination, it is necessary to pay attention to the temperature during incubation. Try incubation at a stable temperature so that the chemical reactions that occur can run optimally. And lastly, this research is not perfect, so further and more detailed research is needed on the factors that affect blood pressure or hypertension.

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