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# THE RELATIONSHIP BETWEEN BLOOD PRESSURE CONTROL AND THE DEGREE OF HYPERTENSION IN HYPERTENSIVE PATIENTS AT THE OUTPATIENT POLY OF BHAYANGKARA BRIMOB HOSPITAL KELAPADUA DEPOK IN 2023

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**Abstract**

Background: Based on a preliminary study conducted at Bhayangkara Brimob Hospital Kelapadua Depok, it was found that as many as (90%) 18 out of 20 patients with hypertension claimed not to have made efforts to control blood pressure. Purpose: To determine the relationship between blood pressure control and the degree of hypertension in hypertensive patients at the outpatient poly of Bhayangkara Brimob Hospital Kelapadua Depok. Methods: Cross sectional through a point time approach where samples were taken using a total sampling of 50 respondents. Data analysis using chi square test. Results: Shows blood pressure control is associated with the degree of hypertension (p-value 0,007). Conclusion: There is a relationship between blood pressure control and the degree of hypertension. It is expected that the hospital can provide information and health education about efforts to control blood pressure during home treatment, so that blood pressure can be controlled properly and the impact of complications from hypertension can be avoided.

**Keywords**: Blood Pressure Control, Degree of Hypertension

## Introduction

Hypertension is becoming a health problem in all parts of the world and as one of the main risk factors for cardiovascular disease. Hypertension is also referred to as a non-communicable disease, because hypertension is not transmitted from person to person. Non-communicable diseases are chronic diseases that cannot be transmitted to others. Non-communicable diseases are still one of the health problems of concern in Indonesia today. This is because the emergence of Non-communicable Diseases (NCDs) in general is caused by the lifestyle of every individual who does not pay attention to health (Riskesdas, 2018).

Hypertension or commonly known as high blood pressure really needs to get attention from every individual. This is because hypertension can attack everyone without any signs appearing on the body. One way to overcome health problems is to prevent the occurrence of hypertension for the general public and the prevention of recurrence in people with hypertension in particular (Anshari, 2020).

Prevention of recurrence or control of hypertension needs to be done by all people with hypertension so that there is no more severe increase in blood pressure. But unfortunately not all people with hypertension can control the disease. This is because the level of knowledge and attitudes of people with hypertension about disease control is not the same (Anshari, 2020).

Data released by (WHO, 2020) shows that around 26,4% of the world's population has hypertension with a ratio of 26,6% of men and 26,1% of women. As many as approximately 60% of people with hypertension are in developing countries, including Indonesia. Based on Basic Health


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Research (Riskesdas, 2018) the prevalence of hypertension in Indonesia is 34,1%. This phenomenon shows an increase compared to the prevalence of hypertension in Riskesdas in 2013 of 25,8%. It is estimated that only 1/3 of cases of hypertension in Indonesia are diagnosed, the rest are undiagnosed.

In the report on Health Service Coverage for People with Hypertension Based on Blood Pressure Measurement Results by District/City of West Java Province in 2020, Depok City occupies the 17th position (21,8%). And based on the report of the top 10 diseases at Bhayangkara Brimob Hospital obtained data from January to October 2023, hypertension occupies the 4th position with a total of 5.363 visits. This can be due to the high prevalence of hypertension at this time.

Hypertension can be prevented and controlled by cultivating healthy living behaviors. Healthy living behaviors include consuming foods with balanced nutrition that meet nutritional needs with elements rich in fiber, low fat and low sodium (less than 6 grams of sodium per day), exercising regularly, getting enough rest, thinking positively, not smoking, and not consuming alcohol because cigarettes and alcohol can increase the risk of hypertension. However, the lack of adequate public knowledge about hypertension and its prevention tends to increase the incidence of hypertension (Wahid, 2018).

Based on the results of a preliminary study conducted at the Bhayangkara Brimob Kelapadua Hospital in Depok in November 2023, researchers obtained data showing that as many as 18 out of 20 patients with hypertension admitted to not making efforts to control blood pressure. Based on the descriptions above, researchers are interested in conducting a study entitled "The Relationship of Blood Pressure Control with the Degree of Hypertension in Hypertensive Patients in Outpatient Poly at Bhayangkara Brimob Hospital Kelapadua Depok in 2023".

## Methods

### *1.1 Research Design*

This research is a quantitative research with a cross sectional study approach, which is a study to study the dynamics of correlation between risk factors and effects through an approach, by approaching, observing and collecting data at once at a time (point time approach), so that the object of research is only observed once (Notoatmodjo, 2018).

### *1.2 Setting and Samples*

This research will be carried out at Bhayangkara Brimob Kelapadua Hospital in Depok in December 2023. Sampling must be carried out in such a way that a sample that can truly represent (representative) and can describe the actual state of the population is obtained, then in determining the sample must have inclusion criteria. Inclusion criteria are the general characteristics of the research subjects of a target population that are reachable and to be studied. The following are the sample inclusion criteria in this study: willing to be a respondent, outpatient of Bhayangkara Brimob Hospital Kelapadua Depok with hypertension, aged over 35 years, and patients who can read and write, and fill out questionnaires completely. The following are the criteria for sample exclusion in this study: not willing to be a respondent, Not an outpatient with hypertension at Bhayangkara Brimob Hospital Kelapadua Depok, under 35 years old, and cannot read and write or does not fill out the questionnaire that has been given by the researcher.

Sampling in this study used total sampling techniques, which was as many as 50 respondents. Due to the population under 100 people, according to (Sugiyono, 2018) census or total sampling is a sampling technique where all members of the population are sampled all. Research conducted on a population of under 100 people should be conducted by census, so that all members of the population are sampled as all subjects studied or as informing respondents.

*1.3 Measurement and Data Collection*

Data collection techniques in this study by filling out questionnaires for blood pressure control and blood pressure checks for hypertension. After the type of research instrument is determined, the next step is to test the validity and reliability of the instrument, a good instrument must meet the requirements of valid and reliable. For this reason, researchers conduct validity and reliability tests first before the instrument is used in research. Based on the SPSS results, 5 out of 5 blood pressure control questions were valid. For reliability tests using SPSS for windows with Cronbach's Alpha model measured based on Cronbach's Alpha scale 0 to 1, results were obtained for blood pressure control questionnaires with Cronbach's Alpha value of 0.787. Then it can be declared a reliable research questionnaire.

*1.4 Data Analysis*

The data were analyzed and interpreted by testing hypotheses using the IBM SPSS Statistics 23 computer program corresponding to the following stages of analysis: univariate analysis to find out and analyze the characteristics of the research subjects, and bivariate analysis to determine the relationship between two variables, namely, the independent variable and the dependent variable (level of patient satisfaction) by testing the chi square statistical test with a limit of meaning is said to be meaningful when it has a p value of ≤ 0.05.

*1.5 Ethical Considerations*

This research is conducted by providing an explanation to prospective respondents about the purpose and objectives of the research, if prospective respondents agree to participate in the research, prospective respondents are required to sign informed consent. This research has obtained a research permit from the head of the Nursing Study Program, Abdi Nusantara Institute of Health Sciences, which was shown to RSUD Bhayangkara, Brimob, Kelapadua, Depok. The study used 40 references from 2004 to 2023.

## Results

1.1. *Characteristics of Respondents*

**Tabel 1. Frequency Distribution of Respondents' Characteristics**

| **Gender** | **Amount** | **Percentage** |
|---|---|---|
| Male | 22 | 44,0% |
| Female | 28 | 56,0% |
| Total | 50 | 100% |
| **Age** | **Amount** | **Percentage** |
| 35-45 Years | 3 | 6,0% |
| 46-55 Years | 8 | 16,0% |
| 56-65 Years | 27 | 54,0% |
| 66-75 Years | 12 | 24,0% |
| Total | 50 | 100% |
| **Outpatient Room** | **Amount** | **Percentage** |
| Internal Medicine Poly | 27 | 54,0% |
| Heart Poly | 15 | 30,0% |

| | | |
|---|---|---|
| Nerve Poly | 8 | 16,0% |
| Total | 50 | 100% |

Based on table 1 on the sex characteristics of respondents, there were 22 respondents who were male (44,0%), and as many as 28 respondents were female (56,0%).

Regarding the age characteristics of respondents were 3 respondents aged 35-45 years (6,0%), as many as 8 respondents aged 46-55 years (16,0%), as many as 27 respondents aged 56-65 years (54,0%), and as many as 12 respondents aged 66-75 years (24,0%).

Regarding the characteristics of the outpatient room, respondents were 27 respondents at the Internal Medicine Poly (54,0%), as many as 15 respondents at the Heart Poly (30,0%), and as many as 8 respondents at the Neurological Poly (16,0%).

1.2. *Blood Pressure Control*

**Table 2. Frequency Distribution of Blood Pressure Control**

| Blood Pressure Control | Amount | Percentage |
|---|---|---|
| Positive | 25 | 50,0% |
| Negative | 25 | 50,0% |
| Total | 50 | 100% |

Based on table 2 on blood pressure control, as many as 25 respondents behaved positively towards blood pressure control (50,0%), and as many as 25 respondents behaved negatively towards blood pressure control (50,0%).

1.3. *Degree of Hypertension*

**Table 3. Frequency Distribution of Degrees of Hypertension**

| Degree of Hypertension | Amount | Percentage |
|---|---|---|
| Normal | 11 | 22,0% |
| Prehypertensive | 16 | 32,0% |
| Stage I Hypertension | 12 | 24,0% |
| Stage II Hypertension | 11 | 22,0% |
| Total | 50 | 100% |

Based on table 3 about the degree of hypertension, there were 11 respondents with normal blood pressure (22,0%), as many as 16 respondents with prehypertensive blood pressure (32,0%), as many as 12 respondents with stage I hypertension blood pressure (24,0%), and as many as 11 respondents with stage II hypertension blood pressure (22,0%).

1.4. *The Relationship of Blood Pressure Control With The Degree of Hypertension*

**Table 4. The Relationship of Blood Pressure Control With The Degree of Hypertension**

| | | Degree of Hypertension | | | | Total | *p value* |
|---|---|---|---|---|---|---|---|
| | | Normal | Prehypertensive | Stage I Hypertension | Stage II Hypertension | | |
| **Blood Pressure Control** | Positive | 6 (24,0%) | 13 (52,0%) | 4 (16,0%) | 2 (8,0%) | 25 (100%) | 0,007 |
| | Negative | 5 (25,0%) | 3 (12,0%) | 8 (32,0%) | 9 (36,0%) | 25 (100%) | |
| **Total** | | 11 (22,0%) | 16 (32,0%) | 12 (24,0%) | 11 (22,0%) | 50 (100%) | |

Based on table 4 about the relationship between blood pressure control and the degree of hypertension, as many as 6 respondents behaved positively and the degree of hypertension was normal (24,0%), 13 respondents behaved positively and the degree of hypertension was prehypertensive (52,0%), 4 respondents behaved positively and the degree of hypertension was stage I hypertension (16,0%), and 2 respondents behaved positively and the degree of hypertension was stage II hypertension (8,0%). While as many as 5 respondents behaved negatively and the degree of hypertension was normal (25,0%), as many as 3 respondents behaved negatively and the degree of hypertension was prehypertensive (12,0%), 8 respondents behaved negatively and the degree of hypertension was stage I hypertension (32,0%), and 9 respondents behaved negatively and the degree of hypertension was stage II hypertension (36,0%).

**Discussion**

In the results of processing research data on Chi Square test results, results were obtained with Asymp values. Sig. (2-sided) 0,007 ≤ 0,05 so that these results prove that there is a significant relationship between blood pressure control and the degree of hypertension in hypertensive patients at the outpatient poly of Bhayangkara Brimob Hospital Kelapadua Depok in 2023.

This is in line with research conducted by (N. R. Fatmia, 2019) the results showed the type of food in hypertensive patients from 68 respondents with good categories of carbohydrate sources (54,4%), animal protein sources (50,0%), vegetable protein sources (45,6%), fat sources (30,9%), vegetable sources (38,2%), fruit sources (44,1%) and beverage sources (44,1%). The frequency of eating with the category is not good (100%). The number of meals in the good (41,2%) and less good (58,8%) categories. The diet of 68 respondents with good (44,1%) and poor (55,9%) categories. This shows that most hypertensive patients in the Working Area of the Guntur Health Center have a poor diet.

In another study conducted by (I. Kurniawan & Sulaiman, 2019), the results of this study showed a relationship between exercise, stress, and diet levels of hypertension. From the results of statistical tests using the chi square test with a confidence level (95%) with α = 0,05 obtained exercise with a level of hypertension p value = 0,031<0,05, stress with a level of hypertension p value = 0,018<0,05 diet with a level of hypertension p value = 0,014<0,05.

In another study from (L. Suarni, 2017) the results of this study showed that the relationship between diet and the occurrence of hypertension in hypertensive patients at PTPN II Hospital Bangkatan Binjai in 2017. Strengthened by research (D. W. Febriana, 2016) the results showed a picture of poor diet (52,3%), a picture of the frequency of drinking coffee with moderate consumption categories (26,7%), a picture of smoking frequency with a non-smoking category (52,3%). Based on the results of statistical tests with chi square tests show there is a significant relationship between diet and the

incidence of hypertension with a p value of 0,001<0,05, there is a significant relationship between the frequency of drinking coffee with the incidence of hypertension with a p value of 0,042<0,05.

Prevention of recurrence or control of hypertension needs to be done by all people with hypertension so that there is no more severe increase in blood pressure. But unfortunately not all people with hypertension can control the disease. This is because the level of knowledge and attitudes of people with hypertension about disease control is not the same (Anshari, 2020).

Researchers assume that increasing patient knowledge about hypertension will encourage a person to behave better in controlling hypertension so that his blood pressure remains under control. Good behavior can be applied by changing lifestyles such as limiting fatty foods, reducing salt foods, not smoking, not consuming alcohol, regular exercise, and avoiding stress. Positive behavior regarding hypertension also has an impact on patient compliance in treatment. Patients with a good level of knowledge about hypertension will be subject to treatment. Along with the increase in positive behavior about hypertension control, hypertensive patients can manage the disease, so that patients become better and avoid complications of hypertension.

**Implication and Limitations**

In conducting this study, the author encountered several obstacles, including limitations of control activities that can affect blood pressure during examination.

**Conclusion**

Based on the results of research on the relationship between blood pressure control and the degree of hypertension in hypertensive patients at the outpatient poly of Bhayangkara Brimob Hospital Kelapadua Depok in 2023, conclusions can be drawn: There is a relationship between blood pressure control and the degree of hypertension in hypertensive patients with p value = 0,007. It is known that blood pressure control in hypertensive patients at the outpatient poly that as many as 25 respondents behave positively (50,0%), and 25 respondents behave negatively (50,0%). The degree of hypertension in hypertensive patients at the outpatient poly is as many as 11 respondents had normal blood pressure (22,0%), 16 respondents had prehypertensive blood pressure (32,0%), 12 respondents had stage I hypertension blood pressure (24,0%), and 11 respondents had stage II hypertension blood pressure (22,0%).

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**Author Contribution**

Author 1 and Author 2 contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

**Conflict of Interest**

The results of this research can be used as an additional literature for the development of nursing science, and to meet the requirements of obtaining Bachelor of Nursing Degree for Author 1.

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