

The Effect of Characteristics on The Incidence of Hypertension in The Elderly

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ABSTRACT

Background: The elderly group tends to experience health problems caused by decreased body functions due to the aging process. So it is more susceptible to suffer from hypertension.

Purpose: This study aims to determine the influence of characteristics on the incidence of hypertension in the elderly

Method: The method used is quantitative with Cross Sectional design. The population of this study is a productive age community, which is between 15-60 years. The sample was taken in a simple random manner with a sample of 245 respondents. Data collection using questionnaires. The statistical test used is the chi square test

Results: The results of this study showed a significant influence between the age of hypertension ($p = 0.000$). There is a significant influence between the history of hypertension and the incidence of hypertension (0.015). Gender was not a risk factor for hypertension ($p = 1,000$).

Conclusion: The conclusion of this study is that people aged 60-74 are 4.2 times more likely to suffer from hypertension. People who have a history of hypertension are 1.9 times more likely to suffer from hypertension. While the sex variable could not be proven in this study. So it is necessary to educate people over 60 years old and have a history of hypertension to pay more attention to lifestyle and routinely check blood pressure.

KEYWORDS: Hypertension, age, gender, history of hypertension

INTRODUCTION

This hypertension problem is a health challenge almost all over the world. An estimated 1.28% of adults aged 30-79 worldwide suffer from hypertension, two-thirds of whom live in low- and middle-income countries (1). Based on WHO data, the prevalence of hypertension is 22% of the total world population, while for the prevalence of hypertension by region, Africa is the region with the highest prevalence of hypertension with a percentage of 27%, the Eastern Mediterranean by 26% and Southeast Asia by 25% (2). WHO has a target of reducing the prevalence of hypertension by 33% by 2030 (1).

The prevalence of hypertension based on the results of blood pressure measurements in the population aged ≥ 18 years in Indonesia was 34.11%, an increase of 8.31% from 2013. Provinces with the highest prevalence in Indonesia are South Kalimantan (44.13%) and West Java (39.6%). The morbidity rate of hypertension increases with age. The prevalence of hypertension based on the highest age group is the age of 75 years and over (69.5) and the age group of 65-74 years (63.2). This is because physiologically the higher a person's age, the greater the risk of suffering from hypertension, this is because it is caused by a decrease in organ function in the body (3).

The elderly group tends to experience health problems caused by decreased body functions due to the aging process. With limited regenerative abilities, the elderly are more susceptible to various diseases, syndromes and pain compared to other adults (4). One of the most common health problems experienced by the elderly is hypertension. Hypertension is a condition where a person's blood pressure is above the normal limit. Normal blood pressure is 120-139 mmHg for systolic and 80-89 mmHg for diastolic (5).

Hypertensive disease or high blood pressure which is a problem that often occurs in most elderly (4). Hypertension is often said to be the silent disease. Risk factors for hypertension are divided into 2 groups, namely factors that cannot be changed and factors that can be changed. Factors that cannot be changed include age, gender, ethnicity, heredity. Other studies say that hypertension is more susceptible to occur in those who are obese / overweight and those who are experiencing stress / stress, the majority of hypertensive patients are more common in those who have a history of heredity in their family, and lifestyles such as smoking habits are considered a lifestyle that is not good for health related to the incidence of hypertension (6).

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The highest prevalence of hypertension in West Java is in Ciamis Regency with a prevalence of 49.6%, Bandung City itself with a prevalence of 36.79% (7). Preliminary study conducted at Puskesmas Neglasari Kota Bandung, hypertension is the second highest disease after ARI. The number of cases of hypertension is 6,031 people, 57% of whom are the elderly group. Efforts to overcome the increase in cases have been carried out such as conducting health counseling, home visits, and socialization to the community. There are many risk factors for hypertension, so that health workers have difficulty carrying out preventive activities that are prioritized. So this study aims to determine the influence of characteristics on the incidence of hypertension in the elderly.

METHOD

The type of research used is quantitative with a cross sectional research design (8). This design is used to analyze the influence of characteristics on the incidence of hypertension in the elderly. This research was conducted in the Working Area of the Neglasari Health Center in Bandung City in July-December 2021. The dependent variable is the incidence of hypertensive events. Categorized into hypertension, if systolic blood pressure ≥ 140 mmHg, diastolic ≥ 90 mmHg and not hypertension, if systolic blood pressure < 140 mmHg, diastolic < 90 mmHg. Where the data is taken from the patient's medical record data. The independent variable is a factor that cannot be modified: age, categorized into 60-74 years and 45-59 years. Gender, categorized into Female and Male. Family History, categorized as no history and no history.

The population in this study was all patients who visited and treated at the public poly recorded in the report register at the Neglasari Health Center. The sample in this study was 245 respondents. Samples are taken using a simple random technique. The instrument used is a questionnaire. The data were analyzed using univariate analysis, to see the frequency distribution of each variable studied, then bivariate analysis was carried out using the chi-square test with a significance value of 0.05.

RESULT

Table 1. Characteristic Description of Respondents

Characteristic	n=245	%
Age		
60-74	132	53,9
45-59	113	46,1
Gender		
Woman	129	52,7
Man	116	47,3
Family History		
Yes	119	48,6
Not	126	51,4

Univariate analysis found that more than half of respondents aged 60-74 years (53.9%), female (52.7%), had a family history of hypertension (51.4%).

Table 2. Characteristic Influence on the Incidence of Hypertension in the Elderly

Characteristic	Incidence of Hypertension				P-value	OR (95% CI) Lower - Upper
	Yes		Not			
	n	%	n	%		
Age						
60-74	90	79,6	23	20,4	0,000	4,286 2,421-7,588
45-59	63	47,7	69	52,3		
Gender						
Woman	81	62,8	48	37,2	1,000	1,031 0,614-1,731
Man	72	62,1	44	37,9		
Family History						
Yes	84	70,6	35	29,4	0,015	1,983 1,170-3,361
Not	69	54,8	57	45,2		

Table 2 shows that respondents aged 60-74 years and have hypertension are 79.6%, while those who do not have hypertension are 20.4%. The results of statistical tests obtained a p value of 0.000, meaning that there is a significant influence between the age of hypertension events. Respondents aged 60-74 were 4.2 times more likely to suffer from hypertension. Respondents who were female and had hypertension amounted to 62.8%, while those who were not hypertensive amounted to 37.2%. The results of

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statistical tests obtained a p value of 1,000, meaning that there was no significant influence between the age of hypertension. Respondents who had a history of hypertension and had hypertension were 70.6%, while those who did not have hypertension amounted to 29.4%. The results of statistical tests obtained a p value of 0.015, meaning that there is a significant influence between the history of hypertension and the incidence of hypertension. Respondents who have a history of hypertension are 1.9 times more likely to suffer from hypertension.

DISCUSSION

This study proves that age is significantly related to the incidence of hypertension, this study is in line with previous research which states that there is a relationship between age and the incidence of hypertension (9,10). The older the greater the risk of suffering from hypertension. Research in Padang proves that the highest number of hypertension sufferers is in the age group over 60 years (11).

In this study, it was found that respondents over the age of 60 years were more likely to suffer from hypertension. This is because the older a person is, the risk of experiencing hypertension increases. As a person ages, there is a decrease in the ability of the body's organs including the cardiovascular system in this case the heart and blood vessels. Blood vessels become narrower and stiffening of blood vessel walls occurs, causing blood pressure to increase. This is in line with the theory that the older a person increases, the risk of developing hypertension is very large, this happens because in old age large arteries lose flexibility and become stiff so that blood is forced to pass through blood vessels that are narrower than usual and result in an increase in blood pressure (12,13).

Gender has no effect on the incidence of hypertension. These results contradict previous research that states that there is an association between sex and the incidence of hypertension (14). A cohort study in Canada states that the incidence of hypertension is more risky in men than women (15). This is because hypertension develops more slowly in women when compared to men (16).

Generally among young adults, men have a greater chance of developing hypertension earlier than women. Gender-based hypertension can also be influenced by psychological factors. Men are more associated with work such as feeling uncomfortable with work, unemployment, and unhealthy behaviors such as smoking while women are protected from cardiovascular disease before menopause by the hormone estrogen (17).

Family history is significantly associated with the incidence of hypertension. The results of observations prove that people who have a history of hypertension are more likely to experience hypertension. These results are in line with previous research which states that family history is a risk factor for hypertension (18,19). Another study conducted in Sri Langkah stated that those with a family history of hypertension were almost 1.4 times more likely to develop hypertension than those without a family history (20).

The risks associated with family history in the current population do not appear to depend on other known risk factors, including age, anthropometric parameters (BMI) and lifestyle factors (physical activity). Johns Hopkins Precursor Studies have identified that hypertension in mothers and fathers has a strong independent association with increased blood pressure and incidence of hypertension during adult life (21).

CONCLUSION

The conclusion of this study is that people aged 60-74 are 4.2 times more likely to suffer from hypertension. People who have a history of hypertension are 1.9 times more likely to suffer from hypertension. While the sex variable could not be proven in this study. So it is necessary to educate people over 60 years old and have a history of hypertension to pay more attention to lifestyle and routinely check blood pressure.

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