



Factors Related to the Event of Hypertension in Early Adults in the Work Area of Hulu Sihapas Puskesmas 2022

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Abstract. Data from the World Health Organization (WHO) in 2015 showed that around 1.13 billion people in the world have hypertension, meaning that 1 in 3 people in the world was diagnosed with hypertension. From the data provided by the Ministry of Health, hypertension is the first rank of non-communicable diseases diagnosed in health facilities, with the number of cases reaching 185,857 (41.1%). The purpose of this study was to determine the factors associated with the incidence of hypertension in early adulthood in the working area of the upstream health center in Sihapas. This type of research uses a quantitative cross-sectional approach with a population of 1.378 and a sample of 93 respondents. The results of this study indicate that there is a relationship between gender ($p = \text{value } 0.011$), smoking habits ($p = \text{value } 0.013$) and alcohol consumption ($p = \text{value } 0.025$), with the incidence of hypertension. There is no relationship history of heredity to hypertension ($p = 0.585$). It was hoped that respondents be more diligent in checking their health at health service such as health centers and hospitals to prevent hypertension.

Keywords: hypertension · alcohol · smoking · heredity

1 Introduction

Hypertension is a non-communicable disease until now it is still a global health problem. Hypertension is a condition in which the systolic blood pressure is > 140 mmHg and the diastolic pressure is > 90 mmHg in two measurements with an interval of five minutes in a state of rest (Hafrz 2016).

Based on the results of blood pressure measurements, the prevalence of hypertension in the population aged 18 years and over in 2007 in Indonesia was 31.7%. By province, the highest prevalence of hypertension was in South Kalimantan (39.6%) and the lowest was in West Papua (20.1%). Meanwhile, when compared to 2013 there was a decrease of 5.9%, it could be due to various factors, such as different blood pressure gauges, people who have started to be aware of the dangers of hypertension. The highest prevalence was in Bangka Belitung Province (30.9%), and Papua the lowest (16.8%). The prevalence of hypertension in Indonesia, which was obtained through a questionnaire, was diagnosed

by health workers at 9.4%, while those diagnosed by health workers or taking medication were 9.5 percent. So, there are 0.1 percent who take their own medicine (Infodatin 2019)".

Lifestyle is an important risk factor for developing hypertension in young adults. The increase in hypertension in a person in young adulthood is influenced by an unhealthy lifestyle. Things that include unhealthy lifestyles include smoking habits, lack of exercise, consuming less nutritious foods and stress (Adi 2015).

The risk factor for hypertension that is in great demand by the community in the Hulu Sihapas work area is the habit of consuming alcohol. Alcohol is a product of carbohydrate fermentation by microorganisms under anaerobic conditions. In the field of media alcohol is usually used as a bactericide, fungicide and viricide. However, excessive use or consumption of alcohol in the community can have an impact on health decline which will interfere and damage the function of several organs, one of which is the liver, liver function will be disturbed so that it affects the performance and function of the heart. Impaired heart function that eventually causes hypertension, this happens because alcohol stimulates adrenaline which makes arteries shrink and causes water and sodium to accumulate (Ayu 2017).

The results of Nur's research (2016) noted that in general those who are classified as young adults are those aged 20–40 years. Hypertension in the group of young adult males found at Bulu Health Center in 2015 was 72 cases. This number has increased compared to 2014, namely as many as 67 cases in the male group of young adults.

The number of hypertension sufferers in North Sumatra in 2016 was still quite high. Based on data received by Sumut Pos from the North Sumatra Provincial Health Office, 50,162 people were recorded. Based on these data, it was recorded that the most suffering from hypertension were women with a total of 27,021 people, while the most people with hypertension were aged over 55 years with a total of 22,618 people then aged 18 to 44 years with 14,984 people (Sumatra Utara Pos 2016).

Based on the results of a preliminary survey in the working area of the Hulu Sihapas Health Center, it was found that the percentage suffering from hypertension was 60%. The occurrence of hypertension at the age of > 18 years in the work area of the Hulu Sihapas Public Health Center is influenced by several factors such as the type of kelarin, a hereditary history of smoking behavior and drinking alcohol in early adulthood. Based on the explanation above, the researcher is interested in conducting research on "Factors Associated with Hypertension Incidence in early adulthood in the Work Area of the Hulu Sihapas Health Center".

2 Method

This type of research is quantitative with an analytical survey design, with a cross sectional approach. This research was conducted at the Hulu Sihapas Public Health Center on the grounds that no research has been conducted on factors related to the incidence of hypertension in early adulthood in the working area of the Hulu Sihapas Public Health Center. Population is the whole subject or object with certain characteristics to be studied (Arikunto 2008). Sample is part of population that is considered to represent the population.

This research was conducted in September 2021–March 2022 with a sample of 93 respondents who met the inclusion and exclusion criteria using the Slovin formula.

Inclusion criteria are criteria or characteristics that need to be met by each member of the population that can be taken as a sample (Notoatmodjo 2010).

3 Results

After conducting research by dividing questionnaires to 93 respondents who were studied to determine the factors associated with the incidence of hypertension in early adulthood in the work area of the Hulu Sihapas Health Center (Table 1).

Table 1. Univariate Analysis

Profession	F	%
Farmer	30	32,3
Self-employed	38	40,9
Civil servant	25	20,9
Gender		
Man	27	29,0
Woman	66	71,0
Hereditary history		
Exist	47	50,5
There is no	46	49,5
Smoking habit		
Yes	53	57,0
No	40	43,0
Drinking alcohol		
Yes	47	50,5
No	46	49,5
Hypertension		
Yes	38	40,9
No	55	59,1
TOTAL	93	100

From the results of the research obtained, based on the characteristics of the respondents, it was found that the majority of respondents aged 18–28 years were 48 people (48.4%) and the minority aged 29–40 were 48 people (51.67%).

Based on the level of work, where the majority of entrepreneurs are 38 people (40.9%) and a minority of civil servants are 25 people (20.9%), gender where the gender is the majority female 66 people (71.0%) and the male minority is male. 27 people (29.0%) based on heredity, the majority of respondents had a hereditary history of hypertension as many as 47 people (50.5%) and the minority did not have a hereditary history of 46 people (49.5%). The majority of respondents had a smoking habit of 53 people (57.0%) and the minority did not have a smoking habit of 40 people (43.0%).

Based on the habit of drinking alcohol the majority of respondents have the habit of drinking alcohol 47 people (50.5%) and the minority do not have the habit of drinking alcohol 46 people (49.5%). The majority of respondents had no incidence of hypertension 55 people (59.1%) and the minority of respondents who had hypertension were 38 people (40.9%) (Table 2).

Table 2. Bivariate Analysis

Variabel	Hypertension		Jumlah	P Value
	Yes	no		
Gender				
Man	17	48	65	0,011
Woman	21	7	28	
Total	38	55	93	
Hereditary history				
Exist	21	26	47	0,585
There is no	17	29	46	
Total	38	55	93	
Smoking habit				
Yes	28	25	53	0,013
No	10	30	40	
Total	38	55	93	
Drinking alcohol				
Yes	25	13	38	0,025
No	22	33	55	
Total	47	46	93	

Based on the table above, the results of the analysis of the relationship between gender and the incidence of hypertension show that there are 17 people (18.3%) of respondents who have a male gender experiencing hypertension, 48 people (48.4%) who have a female gender and do not have hypertension. The results of statistical tests obtained p value: $0.011 > 0.05$, it can be concluded that there is a significant relationship between hypertension.

Gender with the results of the analysis of the relationship between heredity and the incidence of hypertension Having a hereditary history of experiencing hypertension showed that there were 21 people (22.6%) of respondents who had hypertension, while those who did not have a hereditary history and did not have hypertension were 29 people (31.2%) And the results of statistical tests obtained p value = $0.585 > 0.05$, it can be concluded that there is no significant relationship between heredity and the incidence of hypertension.

The results of the analysis of the relationship between smoking habits and the incidence of hypertension showed that there were 28 people (30.1%) of respondents who

had smoking habits experienced hyperthermia, while those who did not have smoking habits and did not have hypertension were 30 people (32.3%). And the results of statistical tests were obtained p value $0.013 > 0.05$, it can be concluded that there is a significant relationship between smoking habits and the incidence of hypertension. The results of the analysis of the relationship between drinking alcohol and the incidence of hypertension showed that there were 25 people (26.9%) of respondents who drank alcohol experienced hypertension, While respondents who do not drink alcohol have hypertension as many as 33 people (23.7%). And the results of statistical tests obtained a value ($p = 0.025$) > 0.05 so it can be concluded that there is a significant relationship between drinking alcohol and the incidence of hypertension.

4 Discussion

The results of this study indicate that there is a significant relationship between gender and the incidence of hypertension because this study shows that more than 45 people (48.4%) have female sex. Compared to the male sex as many as 17 people (18.4%). There is a significant relationship between gender and the incidence of hypertension.

The gender factor influences the occurrence of certain non-communicable diseases such as hypertension, where men suffer more from hypertension. Compared to women with a ratio of about 2.29 mmHg for an increase in systolic blood. Men have higher systolic and diastolic blood pressure than women in all ethnic groups. A survey of the hypertension community that screened one million Americans in 1973–1975 found the average diastolic pressure was higher in men than in women at all ages. Meanwhile, a survey from the national health agency and nutrition research reported that hypertension affects women more than men (Sukmawati 2016).

This study is in line with what was done (Rayhani 2013), regarding the relationship between sex and the incidence of hypertension in early adults who seek treatment at the adult polyclinic of Bangkinang Public Health Center.), also found that women suffer from hypertension more often than men, namely 58% vs. 42%.

There are two factors that make it easier for someone to get hypertension, namely factors that cannot be controlled and factors that can be controlled. Several risk factors are included in risk factors that cannot be controlled such as genetics, age, gender, and race. While risk factors can be controlled related to environmental factors in the form of behavior or lifestyle such as obesity, lack of activity, stress and eating patterns or food consumption (Apriani 2015).

Tobacco smoking does not have a cause-and-effect relationship with hypertension, but it is a major risk factor for the emergence of cardiovascular disease. Stroke and coronary heart disease are 2-3 times more common in hypertensive patients who are smokers than non-smokers with the same pressure (Yunita 2017).

Someone who has hypertension sometimes does not show symptoms for years. Symptoms usually appear with the onset of vascular damage with typical manifestations according to the organ system that is vascularized by the blood vessels concerned. Coronary artery disease with angina is the symptom that most often accompanies hypertension (Hasdianah 2014).

Meanwhile, according to Budi (2014) cigarettes contain thousands of chemicals harmful to the health of the body, including tar, nicotine and carbon monoxide. These

chemicals that enter the bloodstream can damage the endothelial lining of the arteries and result in the process of atherosclerosis and hypertension.

The results of this study indicate that there is no significant relationship between heredity and hypertension because this study shows that more respondents who do not have a hereditary history of hypertension have hypertension. Those who have a history of heredity have hypertension 21 people (22.6%) compared to those who do not have a history of heredity and do not have hypertension as many as 29 people (31.2%). Shows that although there is no family history, there is a potential for hypertension, and not solely because of having a family history. Based on the results of statistical tests using the chi-square test, the value of $p = 0.585$ ($p > 0.05$). This means that there is no relationship between heredity and hypertension.

The results of statistical tests show that there is a significant relationship between drinking alcohol and the incidence of hypertension. Because there are more respondents who consume alcohol as many as 25 people (26.9%) compared to respondents who do not consume alcohol and do not experience hypertension as many as 33 people (35.5%). Based on the results of the chi-square statistical test, the value of $P = 0.025$ ($P > 0.1$). This means that there is a relationship between smoking habits and hypertension. That there is a significant relationship between smoking habit and hypertension because the number of those who have the habit of smoking have hypertension as much as 28 people compared to those who do not have the habit of smoking but do not have hypertension as much as 30 people. Based on the results of statistical tests using chi-square, the value of $P = 0.013$ ($p = 0.05$). This means that there is a relationship between smoking habits and hypertension.

5 Conclusions

Based on the results of data analysis and discussion of “Factors Associated with Hypertension Incidence in Early Adulthood in the Work Area of the Hulu Sihapas Health Center” it can be concluded:

1. The distribution of sex frequency in early adulthood in the working area of the Hulu Sihapas Health Center is more female.
2. The frequency distribution of hereditary history in early adulthood in the working area of the Hulu Sihapas Health Center is more likely to have a hereditary history of hypertension.
3. The distribution of smoking habits is more frequent in early adulthood in the working area of the Hulu Sihapas Health Center.
4. The distribution of the frequency of drinking alcohol is more than those who drink alcohol in early adulthood in the working area of the Hulu Sihapas Public Health Center.
5. The distribution of hypertension frequency in early adults is more affected by hypertension in the working area of the Hulu Sihapas Public Health Center.
6. There is a relationship between gender, smoking and drinking alcohol with the incidence of hypertension, and there is no relationship between heredity and hypertension in early adulthood in the working area of the Hulu Sihapas Public Health Center.

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