

Risk Factors Affecting The Event Of Hypertension In The Community Of Kampung Kanda, Waibu District, Jayapura Regency

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Abstract: Hypertension is a disease of high blood pressure above normal (systolic: < 130 mmHg, diastolic: > 85 mmHg) is a disease that kills slowly. Factors that cannot be changed include age, gender and history of offspring and factors that can be changed include diet, physical activity, smoking and drinking alcohol are risk factors for the incidence of hypertension. The purpose of the study was to determine the risk factors that influence the incidence of hypertension in the people of Kanda Village, Waibu District, Jayapura Regency

This type of research is a mix method. The population is the community in Kanda Village with a sample of 60 with a case control design. data obtained through questionnaires and interviews. Data were analyzed using chi square and logistic binaries as well as qualitative.

The results showed that the factors that had a significant and risky effect on the incidence of hypertension were age (p-value 0.004; OR CI 95% = 5.675 (1.841-17.494)), salt consumption pattern (p-value 0.036; OR CI95% = 3.596 (1,216-10,638).), drinking alcohol habits (p-value 0.007; OR CI95% = 5.714 (1.724-18.944). Factors that have no significant effect on the incidence of hypertension are gender (p-value 1,000; OR CI95% = 1,000 (0.363-2.758), hereditary history of hypertension (p-value 0.121; OR CI95% = 2.591 (0.914-7.342), physical activity (p-value 0.193; OR CI95% = 2.286 (0.804-6.495), smoking habits (p-value 0.279; OR CI95% = 2.103 (0.711-6.221) The dominant factors that influence and risk the incidence of hypertension in Kanda Village, Waibu District, Jayapura Regency are age, salt consumption diet and alcohol drinking habits as the dominant factors for the incidence of hypertension.

Keyword: Risk, Hipertention Accident, Jayapura Regency

I. INTRODUCTION

Hypertension is a condition where systolic blood pressure is 140 mmHg and diastolic blood pressure is 90 mmHg in someone who is not taking antihypertensive drugs. Hypertension is called the silent killer, because most people with hypertension are not aware of this problem because there

are no warning signs or symptoms (World Health Organization / WHO, 2019).

The World Health Organization (WHO) reports 1.13 billion people suffer from hypertension. Most occur at the age of > 45 years, most (two thirds) live in low and middle income countries, where 1 in 4 men and 1 in 5 women suffer from hypertension and as many as 9.4 million people die each year

due to hypertension and its complications. Globally, the incidence of hypertension is 22% of the world's population. Highest in Africa (27%), Southeast Asia (26%), East Asia (25%), Europe (23%), Pacific (19%) and America (18%) (WHO, 2019). The prevalence of hypertension in Southeast Asia, where Thailand (23.6%), Myanmar (21.5%), Indonesia (21.3%), Vietnam (21.0%), Malaysia (19.6%), Philippines (18.6%), Brunei Darussalam (17.9%) and Singapore (16.0%) (WHO, 2019).

Data from the Basic Health Research (Riskedas, 2018) shows that there are around 34.1% of hypertension sufferers, an increase compared to the 2013 Riskedas (25.8%) and the prevalence of hypertension sufferers in Papua is the lowest in the 2018 Riskedas at 4.4% but shows a significant increase. previously at Riskedas 2013 it was 3.3%. The Jayapura District Health Office (2021) reported an increase in hypertension sufferers, namely in 2020 as many as 1,732 cases and in 2021 as many as 2,091 cases. The number of hypertension cases from 21 health centers was the highest in Genyem Health Center as many as 556 cases (545%) and the lowest in Pagay Health Center as many as 1 person (8.3%). Kanda Health Center is in the 14th place with 56 cases (33.1%).

Someone who suffers from hypertension is caused by a decrease in the elasticity of the aortic wall, thickening of the heart valves which makes the valves stiff, decreased ability to pump the heart, loss of elasticity of peripheral blood vessels, and increased peripheral vascular resistance (Nurarif & Kusuma, 2016). In addition, several factors are risk factors for hypertension, namely factors that can be changed (smoking habits, alcohol drinking habits, rest and exercise) and factors that cannot be changed (age and gender) (Irianto, 2017).

According to Yusuf (2019) the prevalence of hypertension increases with the age of a person. At the age of 45-54 years the incidence of hypertension in men is 113.1% and 35.2% in women, at the age of 55-64 the prevalence increases to 54.0% in men and 53.3% in women and so on until the age of 75 years. to the top. In addition, eating patterns of consuming salt are at risk of suffering from hypertension. Salt is one of the main things that can increase blood pressure. American Heart Association and U.S. The Dietary Guidelines recommend limiting sodium intake to 2300 mg per day and limited to only 1500 mg sodium per day (Manik, 2019).

Lack of physical activity increases the risk of suffering from hypertension because it increases the risk of being overweight and has a higher heart rate so that the heart muscle has to work harder to pump and the greater the pressure on the arteries. Lack of physical activity/sports has a 2.67 times risk of hypertension (Lestari, 2020). In addition, Imelda's research (2020) revealed that smoking habits increase the risk of hypertension by 2 to 3 times. This risk decreases if a person has stopped smoking for 2-3 years (Salman, 2020).

The association of alcohol with hypertension is stronger than the amount of salt consumed, it is seen in the results of this study which states that male alcohol drinkers with a dose of 300-499 ml / week (6 small glasses) can increase the average systolic / diastolic pressure. 2.7/1.6 mmHg higher than non-drinkers and for drinkers 500 ml/week had blood pressure 4.6/3.0 mmHg higher than non-drinkers. As for

women, heavy drinkers (≥ 300 ml/week) caused blood pressure to be 3.9/3.1 mmHg higher than non-drinkers (Salman, 2020).

The results of the preliminary study at the Kanda Health Center, Jayapura Regency, showed that from interviews with health workers at the Puskesmas in preventing hypertension and providing services for hypertension sufferers according to minimum service standards, with counseling efforts about diet, counseling media, examination and management of hypertension cases and establishing a posyandu for the elderly. which currently has 1 posyandu for the elderly which includes a health check-up program for the elderly, health education, exercise for the elderly and home visits. After various efforts were made by the Waibu Health Center to reduce hypertension cases, it turned out that hypertension cases did not decrease.

The factors that hinder the decrease in hypertension cases are caused by the presence of the elderly who do not come regularly to the elderly posyandu to take part in elderly activities according to the schedule. In addition, from interviews with 8 people with hypertension, 5 of them aged < 45 years said and 3 of them suffered from hypertension said that they had the habit of smoking and drinking alcohol and had no history of hypertension in their parents and they liked to consume salty food while 3 of them besides having a habit smokes but does not consume alcohol and is less in salt consumption and has work activities as farmers and laborers. In addition, from 3 people aged > 45 years who suffer from hypertension, 2 of them still have a habit of consuming alcohol and smoking habits and 1 person likes salty food and has a history of hypertension in their parents.

The purpose of the study was to determine "Risk Factors Affecting Hypertension Incidence in the Kanda Village Community, Waibu District, Jayapura Regency"

II. SUBJECT AND RESEARCH METHODS

This type of research is a mix method. The population is the community in Kanda Village with a sample of 60 with a case control design. data obtained through questionnaires and interviews. Data were analyzed using chi square and logistic binaries as well as qualitative.

III. RESULTS AND DISCUSSION

A. EFFECT OF AGE ON THE INCIDENCE OF HYPERTENSION

The results showed that there was an effect of age on the incidence of hypertension in Kanda Village, Waibu District, namely respondents aged > 45 years had a 5,675 times higher risk of suffering from hypertension than respondents aged < 45 years. This is in line with Tirtasari's research (2019) which revealed that age is one of the dominant factors in the incidence of hypertension.

With increasing age, the problems faced are also increasing, in the form of physical changes such as decreased cell function, hearing system, vision system, cardiovascular system, temperature regulation system (body temperature),

respiratory system, gastrointestinal system, endocrine system, skin system and musculoskeletal system. (Widayastuti, 2015).

According to Yusuf (2019) there is a positive relationship between age and hypertension. The prevalence of hypertension increases with increasing age of a person. At the age of 45-54 years the incidence of hypertension in men is 113.1% and in women 35.2%, at the age of 55-64 the prevalence increases to 54% in men and 53.3% in women and so on until the age of 75 years and over. .

This study also found that the incidence of hypertension occurred at the age of <45 years as much as 63.3%. At this age the incidence of hypertension from the data found is the high habit of drinking alcohol and smoking habits and the high habit of consuming salt. This study found as many as 76.7% of hypertensive patients aged > 45 years.

This is in accordance with Palupi (2021) that hypertension is the most dominant in the age group > 45 years. This is because with age, blood pressure tends to increase. Hypertension generally develops when a person reaches middle age, which tends to increase, especially those aged more than 45 years and even those aged over 60 years. In general, hypertension affects men over the age of 35 years, while in women it occurs after the age of 45 years (menopause).

Researchers argue that the incidence of hypertension at the age of > 45 years is a result of past lifestyle factors, causing an effect with physiological changes with increasing age so that the function of the body's organs decreases while in someone aged < 45 years it is caused by an unhealthy lifestyle such as drinking alcohol. and smoking habits and the high habit of consuming salt which has a direct impact on the incidence of hypertension, especially when there is no physical activity.

B. THE EFFECT OF GENDER ON THE INCIDENCE OF HYPERTENSION

The results showed that there was no effect of gender and was not a risk factor for the incidence of hypertension in Kanda Village, Waibu District, Jayapura Regency. This study is in line with Maulidiana's research (2018) in the Work Area of the Jati Luhur Health Center Bekasi which revealed that there was no relationship between gender and the incidence of hypertension.

In general, men are more susceptible to hypertension than women. This is because men have many factors that encourage hypertension such as fatigue, feeling uncomfortable about work, unemployment and uncontrolled eating. Usually women will experience an increased risk of hypertension after menopause (Suiraoaka, 2012).

This is in accordance with Suharto's opinion (2020), that men and women have relatively equal opportunities to suffer from hypertension, which is probably due to the fact that the majority of men and women are currently working, so that it can affect psychological conditions, such as stress. This will increase the risk of developing hypertension. In line with increasing age, a person's blood pressure increases.

One of the factors that trigger hypertension is due to uneven nutritional status. Overnutrition begins at the age of 45 years and is usually associated with lifestyle and prosperity.

With the condition that food intake and nutritional vitamins exceed the body's needs. This situation of excess nutrition will lead to an obesity situation, changes in nutritional status marked by an increase in body weight that directly affects high blood pressure (Kasumayanti, 2021).

The results showed that the incidence of hypertension in the community in Kanda Village, Waibu District, Jayapura Regency was 46.7% male and 53.3% female. According to Suharto (2020), one in five men aged between 35-44 years have high blood pressure. The prevalence of hypertension in men will double at the age of 45-55 years. This is due to hormonal changes, stress, fatigue, and uncontrolled eating patterns. Whereas in women, over the age of 55 they have a greater chance of developing hypertension. This is because in women it increases with age which premenopausal women tend to have higher blood pressure than men.

In the opinion of researchers, gender has a relationship with the incidence of hypertension. Men and women have a level of difference that is not too far to develop hypertension. This is due to several possible factors, if men prefer a lifestyle such as smoking habits, stress, uncontrolled coffee and food consumption. Whereas in women due to the influence of menopause which results in changes in the hormone estrogen which functions to protect blood vessels from damage and increases obesity compared to men.

C. THE EFFECT OF HEREDITARY HISTORY ON THE INCIDENCE OF HYPERTENSION

The results showed that there was no influence and was not a risk factor for hereditary history of hypertension on the incidence of hypertension in Kanda Village, Waibu District, Jayapura Regency. This study is in line with research conducted by Aprilyadi & Zuraidah (2020) which revealed the same thing that there was no relationship between a history of hypertension and the incidence of hypertension.

Heredity or genetics is the inheritance of genetic traits from parents. If a person has parents, one of whom suffers from hypertension, then that person has a greater risk of developing hypertension than people whose parents are both normal (not suffering from hypertension). However, this does not mean that all those who have hypertension will suffer from hypertension (Yusuf, 2019).

This is because according to Rihiantoro (2017), lifestyle is an important factor that affects people's lives. An unhealthy lifestyle can be a cause of hypertension, for example physical activity, stress, and the wrong diet is one of the risk factors that increase hypertension. Modern dietary factors are the main contributor to hypertension. Excess fat intake causes fat levels in the body to increase, especially cholesterol which causes weight gain so that blood volume experiences a greater increase in pressure.

According to researchers, patients who have a hereditary history of primary (essential) hypertension if left naturally without prevention or treatment and supported by other environmental factors will cause hypertension to develop and will cause signs and symptoms of hypertension with its complications. If a history of hypertension is found in both parents, the suspicion of essential hypertension will be very large. But all this is supported by a healthy lifestyle by

someone. If a person can control a healthy lifestyle, then the incidence of hypertension can be prevented.

D. THE INFLUENCE OF SALT CONSUMPTION PATTERNS ON THE INCIDENCE OF HYPERTENSION

The results showed that there was an influence of salt consumption patterns on the incidence of hypertension in Kanda Village, Waibu District, Jayapura Regency and the salt consumption pattern had a 3.596 times higher risk of suffering from hypertension compared to respondents who did not frequently consume salt.

Aryatiningsih's research (2018) found that consuming salt had a 5.598 times greater risk of developing hypertension than those who did not consume salt. Even in Yulistina's research (2017), the risk of experiencing hypertension was 15,404 times.

Research conducted by Suharto (2020) stated that salt or sodium is one of the main things that can increase blood pressure. American Heart Association and U.S. The Dietary Guidelines recommend limiting sodium intake to 2300 mg per day and limited to only 1500 mg sodium per day (Manik, 2019). Salt containing sodium is absorbed into the blood vessels from high salt consumption resulting in water retention, so that blood volume increases. This causes an increase in blood pressure. High sodium intake will cause excessive expenditure of natriouretic hormone which will indirectly increase blood pressure (Purwono, 2020).

The amount of salt consumption increases the amount of sodium, the amount of sodium in the body, there will be an increase in plasma volume, cardiac output and blood pressure. Renal tubular sodium reabsorption is increased in patients with primary hypertension due to stimulation of several sodium transporters located in the luminal membrane and providing energy for this transport. In addition, endogenous substances which are stereoisomers of ouabain are released by the adrenal glands in response to high sodium intake (Arum, 2019).

Researchers argue that often the people in Kanda Village, Waibu District, consume foods that contain salt or sodium not only from table salt used, such as a mixture of vegetable, fish and meat foods, but foods that contain salt such as salted fish and salted eggs, bread, biscuits, instant noodles, powdered milk, soy sauce, sauce and seasonings.

If consumption is done more often, there will be an increase in plasma volume, cardiac output, and blood pressure. In addition, consumption of high amounts of salt can shrink the diameter of the arteries, so the heart has to pump harder to push the increased blood volume through narrower spaces, which can lead to hypertension. There needs to be family attention about limiting salt and limiting foods that contain lots of sodium.

E. EFFECT OF PHYSICAL ACTIVITY ON HYPERTENSION INCIDENCE

The results showed that there was no effect of physical activity on the incidence of hypertension in Kanda Village, Waibu District, Jayapura Regency. There is no effect of

physical activity because most of the respondents studied are <45 years old with high work activity and most are not obese. Physical activity and obesity have a relationship with the incidence of hypertension.

Obesity can cause hypertension because fat deposits will narrow the blood vessels so that blood flow is not sufficient and the heart has to work harder to meet the required blood flow.

Impact on hypertension. Obesity is not a cause of hypertension, but the prevalence of hypertension in obesity is much greater

Lack of physical activity increases the risk of suffering from hypertension because it increases the risk of being overweight and has a higher heart rate so that the heart muscle has to work harder to pump and the greater the pressure on the arteries. Lack of physical activity/sports has a 2.67 times risk of hypertension (Lestari, 2020). This causes the heart muscle to work harder with each contraction. The harder the heart muscle works in pumping blood, the greater the pressure imposed on the arterial walls, thereby increasing peripheral resistance which causes an increase in blood pressure (Rihiantoro, 2017).

According to Kurniasih (2017), one of the factors that influence physical activity is work. Physical activity if done regularly will strengthen the smooth muscle of the heart so that the capacity is large, the pulse is strong and regular, and the blood vessels become more elastic so that fat deposits will be reduced and the muscle contraction of the vessel walls will be good. Nababan's opinion (2017) states that work affects a person's physical activity. Jobs in the non-existent category because they only carry out activities such as sweeping, mopping and household activities, while the elderly who do light activities add them to activities such as morning walks and evening walks.

F. THE INFLUENCE OF SMOKING HABITS ON THE INCIDENCE OF HYPERTENSION

The results showed that there was no effect of smoking on the incidence of hypertension in Kanda Village, Waibu District, Jayapura Regency. This research is in line with Maulidina's research (2018) in the Work Area of the Jati Luhur Health Center Bekasi that there is no relationship between smoking habits and the incidence of hypertension.

According to Untario, there is no significant relationship between smoking and hypertension because the risk of people who are currently smoking (active smokers) is relatively the same as people who have never smoked or are not smokers (Untario, 2017). Smoking habits can affect indirectly because of the nicotine in cigarettes which is one of the toxic substances that is addictive. Stress is often associated with hypertension (Caroline, 2018).

Purwono's research (2020) found that there was no relationship between smoking and the incidence of hypertension because smoking habits were < 20 cigarettes a day and more were carried out on respondents aged < 45 years compared to respondents aged > 45 years. In addition, with good physical activity and maintaining a good diet can prevent the occurrence of hypertension.

There is no relationship between smoking behavior and the incidence of hypertension. influenced by other factors such as nutritional status. Unbalanced nutritional status will cause health problems for the body, for example obesity, high levels of fat in the blood will result in narrowing and blockage of blood vessels and if this continues to occur, the heart will pump more blood to supply the needs of blood to the tissues, as a result. blood pressure also increases. Stress levels, stress is associated with increased sympathetic nerve activity so that it can trigger blood pressure. With age, as a person ages, the walls of blood vessels become stiffer so that it contributes to increasing blood pressure in the older age group (Kusumawardani, 2021).

In addition, from the results of research conducted by Tawbariah (2014) which said that the higher the degree of smoking a person, the higher the risk of someone developing hypertension. Inflammatory agents caused by smoking can cause damage to the vascular endothelium which is a risk for hypertension and cardiovascular disease. In addition, nicotine will increase blood pressure by stimulating the release of the chemical humoral system, namely norepinephrine through adrenergic nerves and increasing catecholamines released by the adrenal medulla. As a result, there is a change in the diameter of the blood vessels (narrowing of the blood vessels), there will be changes in the osmotic value and hydrostatic pressure inside the vasculature and in the interstitial spaces outside the blood vessels. Hydrostatic pressure in the vasculature will increase, so blood pressure will also increase.

The lowest accumulated value from the practice of the elderly is smoking behavior

and check blood pressure. Smoking behavior is still a habit that is difficult to stop even though respondents know that smoking is harmful to health, one of which is at risk of increasing blood pressure. There is no influence of smoking habits on the community in Kamung Kanda because of differences in the sample size, namely smoking habits are carried out by men and the intensity is higher at the age of <45 years. At this age, the work activity carried out is higher than respondents aged > 45 years. In addition, with good control through a lack of salt intake, regular activities and consuming healthy and diverse foods indirectly so that smoking is not a significant factor in the incidence of hypertension.

G. THE INFLUENCE OF DRINKING ALCOHOL ON THE INCIDENCE OF HYPERTENSION

The results showed that there was an effect of drinking alcohol on the incidence of hypertension in Kanda Village, Waibu District, Jayapura Regency. A person who has a habit of drinking alcohol has a 5.714 times higher risk of suffering from hypertension compared to respondents who do not have a habit of drinking alcohol.

This study is in line with Grace (2018) and Sukma (2019) that the habit of consuming alcohol has an effect on the incidence of hypertension. The results of Robin's research (2017) conducted on respondents aged 18-40 years in Jatikusuma Village showed that there was a significant relationship between the consumption of alcoholic beverages and the incidence of prehypertension. A person who consumes

alcoholic beverages in the past month 2 glasses / day can increase hypertension, compared to not consuming at all.

The behavior of consuming alcohol can increase the synthesis of catecholamines, which can trigger an increase in blood pressure (Suiraoaka, 2012). The association of alcohol with hypertension is stronger than the amount of salt consumed, it is seen in the results of this study which states that male alcohol drinkers with a dose of 300-499 ml / week (6 small glasses) can increase the average systolic / diastolic pressure. 2.7/1.6 mmHg higher than non-drinkers and drinkers 500 ml/week have blood pressure 4.6/3.0 mmHg higher than non-drinkers (Salman, 2020).

Researchers argue that a person who consumes alcohol, although rarely, has a very temporary risk and affects the incidence of hypertension in the long term so that someone who rarely or regularly consumes alcoholic beverages has the same risk of suffering from hypertension.

H. DOMINANT FACTOR THE INCIDENCE OF HYPERTENSION

The results of the multivariate analysis showed that age, dietary salt consumption and alcohol drinking habits were the dominant factors in the incidence of hypertension. The increase in the incidence of hypertension which is influenced by increasing age occurs naturally as an aging process and is supported by several external factors. This is related to changes in cardiovascular structure and function. With age, the walls of the left ventricle and the heart pole thicken and the elasticity of blood vessels decreases. Atherosclerosis increases, especially with individuals who have a pattern of excessive salt consumption and a habit of drinking alcohol. This condition causes an increase in systolic and diastolic blood pressure which results in an increase in blood pressure (Purwono, 2020).

IV. CONCLUSION

The results showed that the factors that had a significant and risky effect on the incidence of hypertension were age (p-value 0.004; OR CI 95% = 5.675 (1.841-17.494)), salt consumption pattern (p-value 0.036; OR CI95% = 3.596 (1.216-10.638).), drinking alcohol habits (p-value 0.007; OR CI95% = 5.714 (1.724-18.944). Factors that have no significant effect on the incidence of hypertension are gender (p-value 1,000; OR CI95% = 1,000 (0.363-2.758), hereditary history of hypertension (p-value 0.121; OR CI95% = 2.591 (0.914-7.342), physical activity (p-value 0.193; OR CI95% = 2.286 (0.804-6.495), smoking habits (p-value 0.279; OR CI95% = 2.103 (0.711-6.221) The dominant factors that influence and risk the incidence of hypertension in Kanda Village, Waibu District, Jayapura Regency are age, salt consumption diet and alcohol drinking habits as the dominant factors for the incidence of hypertension.

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