




Overview f Risk Factors for Hypertension Patients in The Working Area of the Kamonji Palu Health Center in 2023

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ARTICLE INFO	ABSTRACT
<p>Article History: Received Accepted Published online</p>	<p>Hypertension is a very dangerous health problem worldwide because hypertension is a major risk factor for cardiovascular diseases such as heart attack, heart failure, stroke, and kidney disease. This study aims to determine what factors cause hypertension in the Kamonji Palu Health Center Working Area in 2023. This type of research is quantitative descriptive research with direct research to patients using questionnaires as a measuring tool. The sampling technique is carried out using the Non-Probability Sampling method, namely the convenience sampling technique, each data is described by univariate analysis using the SPSS program. Based on this study, it shows that based on family history, it is more dominant in family history with hypertension by 39 (62.9%). Based on age, it is more dominant in adulthood with 41 (66.1%). Based on gender, it is more dominant in the female sex with 33 (53.2%). Based on more dominance in excess body weight (pre-obesity) by 40 (64.5%). Based on exercise, it was more dominant in hypertensive patients who exercised by 32 (51.6%). Based on the consumption of salty foods, it is more dominant in hypertensive patients who often consume salty foods by 35 (56.5%). It can be concluded that risk factors based on family history, age, gender, obesity, exercise, and consumption of salty foods can cause hypertension in the Kamonji Palu Health Center Working Area in 2023.</p>
<p>Keywords: Risk Factor; Hypertension; Kamonji Health Center</p> <p>This is an open access article under  the CC-BY-SA license.</p>	

INTRODUCTION

Hypertension is a very dangerous health problem worldwide because hypertension is a major risk factor for cardiovascular diseases such as heart attack, heart failure, stroke, and kidney disease². Hypertension is diagnosed if when measured on two different days. The systolic blood pressure readings on both days were ≥ 140 mmHg and the diastolic blood pressure readings on the two days were ≥ 90 mmHg¹.

Many factors play a role in the occurrence of hypertension, including uncontrollable risk factors and controllable risk factors. Risk factors that cannot be controlled include genetics, gender, race and age. Meanwhile, risk factors that can be controlled are obesity, lack of exercise or physical activity, smoking, drinking coffee, sodium sensitivity, low potassium levels, alcohol, stress, work, education, and diet.⁹

According to the WHO (*World Health Organization*), about 30% of the world's population is not diagnosed with hypertension. This is due to the absence of definite symptoms for hypertensive patients. The latest research data found that about 50 million (21.7%) adults in America suffer from hypertension. Thailand is 17% of the total population, Vietnam is 34.6%, Singapore is 24.9%, Malaysia is 29.9% and Indonesia has a fairly high figure, which is 15%. 15% of Indonesia's 230 million population¹². Based on Riskesdas 2018, the prevalence of hypertension based on the results of measurements in the population aged 18 years is 34.1%, the highest in South Kalimantan (44.1%), while the lowest in Papua is (22.2%)⁴.

In 2020, the estimated number of hypertensive patients aged ≥ 15 years in Central Sulawesi province was 384,072 (2.33%). The percentage of hypertension achievement with the highest estimate in 2020 is Donggala district with an achievement of 7.11% While the district with the lowest percentage of hypertension is North Morowali district with an estimated number of hypertension sufferers of 20.9177. In the Kamonji Palu Health Center Working Area, the population of hypertension patients in 2021 reached 4,779 people, in 2022 there were 3,048 people, and in 2023 it was 5,629 people.

METHODOLOGY

This research is a quantitative descriptive research by taking primary data, namely questionnaires as a measuring tool. Sampling in this

study was done by the *Non-Probability Sampling* method, namely the *convenience sampling* technique, each data was described by univariate analysis using the SPSS program. The place of this research was carried out in the Working Area of the Kamonji Health Center on Jl. Imam Bonjol No.20 kel, Siranindi, West Palu District, Palu City, Central Sulawesi, Indonesia. The population of this study is all adult patients with hypertension in the Kamonji Health Center Working Area in 2023, which is 148 people. The sample in this study is 62 people.

RESULTS

Table 1 Distribution of Frequency Based on Family History in Hypertensive Patients in the Working Area of the Kamonji Health Center in 2023

Family history of hypertension	Frequency (n)	Percentage (%)
Yes	39	62,9
Not	23	37,1
Total	62	100,0

Based on table 1, the results of the analysis of family history data are more dominant family history with hypertension as many as 39 (62.9%) while family history with no hypertension as many as 23 (37.1%).

Table 2 Distribution of Frequency Based on Age in Hypertensive Patients in the Working Area of the Kamonji Health Center in 2023

Age	Frequency (n)	Percentage (%)
19-44 years old	41	66,1
45-59 years old	17	27,4
>60 years	4	6,5
Total	62	100,0

Based on table 2, the age variable consists of 1 question, found in the respondent's data. The age variables are classified into 3, namely adults with an age range of 19-44 years, pre-elderly with an age range of 45-59 years and elderly with an age range of >60 years. Based on the results of the data analysis, the more dominant age is the adult age with a total of 41 (66.1%), while the pre-elderly are 17 (27.4%) and the elderly are 4 (6.5%).

Table 3 Distribution of Frequency by Gender in Hypertensive Patients in the Working Area of the Kamonji Health Center in 2023

Gender	Frequency (n)	Percentage (%)
Man	29	46,8
Woman	33	53,2
Total	62	100,0

Based on the table of 3 gender variables consisting of 1 question, found in the respondent data. The gender variables are classified into 2,

namely male and female. Based on the results of the data analysis, the more dominant gender is the female gender with a total of 33 (53.2%) while the male gender with a total of 29 (46.8%).

Table 4 Distribution of Frequency Based on Obesity in Hypertensive Patients in the Working Area of the Kamonji Health Center in 2023

Obesity	Frequency (n)	Percentage (%)
No Obesity	18	29,0
Excess	40	64,5
Obesity	4	6,5
Total	62	100,0

Based on table 4, the results of the analysis of obesity data found that hypertensive patients with obesity 4 (6.5%) and non-obesity were 18 (29.0%), but most hypertensive patients were overweight (pre-obese) by 40 (64.5%).

Table 5 Frequency Distribution Based on Exercise in Hypertensive Patients in the Kamonji Health Center Work Area in 2023

Sport	Frequency (n)	Percentage (%)
Already	32	51,6
No	30	48,4
Total	62	100,0

Based on table 5, the results of sports data analysis found that hypertension patients who used to exercise amounted to 32 (51.6%) while hypertension patients who never exercised amounted to 30 (48.4%).

Table 6 Frequency Distribution Based on Salty Food Consumption in Hypertensive Patients in the Working Area of the Kamonji Health Center in 2023

Consume Salty Foods	Frequency (n)	Percentage (%)
Yes	35	56,5
Not	27	43,5
Total	62	100,0

Based on the results of the analysis of salty food consumption data, it was found that hypertensive patients who often consume salty food are 35 (56.5%) while hypertensive patients who do not consume salty food are 27 (43.5%).

Based on table 1 of the results of the analysis of respondents' data, the family history with hypertension was 39 (62.9%) while the family history with no hypertension was 23 (37.1%). These results are in line with research conducted by 5 respondents in the age range of 28–87 years, showing that there is a significant association between family history and the incidence of hypertension, which is 4,986 times more risky compared to respondents who do not have a family history of hypertension.

Based on the research, it shows that most of the research subjects are adults with a total of 41 (66.1%) while pre-elderly 17 (27.4%) and elderly 4

(6.5%). The results of the analysis showed that the percentage of hypertension incidence was more in adults than in pre-elderly and elderly people.

DISCUSSION

The results of this study are in line with the World Health Organization (WHO) statement in 2023 stating that an estimated 1.28 billion adults aged 30-79 years worldwide suffer from hypertension, most (two-thirds) live in low- and middle-income countries. An estimated 46% of adults with hypertension are unaware that they have the disease. Less than half of adults (42%) with hypertension are diagnosed and treated. About 1 in 5 adults (21%) with hypertension can control it.

Based on the results of the study, it shows that most of the research subjects are female (53.2%) while the male gender is the number (46.8%). The results of the analysis found that the percentage of hypertension incidence occurred more in women than men.

The results of this study are in line with research conducted by 11 which stated that hypertensive patients with the female sex at the Limo Health Center were 60%. Gender is a factor that cannot be changed. Based on the results of the research conducted, women have a greater risk of hypertension than men. Generally, women who enter old age will experience menopause.

Based on the results of obesity data analysis, it was found that hypertensive patients with obesity 4 (6.5%) and non-obesity were 18 (29.0%), but most hypertensive patients had excess body weight (pre-obesity) of 40 (64.5%).

This study is in line with a study conducted by 6 stating that 51 obese respondents (51%), this study shows that there is a relationship between obesity and hypertension, because there are more respondents with obesity than non-obese. This research is in line with research conducted by 10 there is a relationship between obesity and hypertension, this is because obesity or overweight will affect the performance of blood pressure in pumping blood flowing to each blood vessel. A normal body with the appropriate weight will make blood flow normally to the blood vessels. Being overweight or obese causes blood to not flow smoothly because fat has already pressed on the blood vessels so that blood pressure is getting stronger to pump to all blood vessels.

This study is not in line with research conducted by 8 stating that 48 people (35%) have hypertension who have a weight less than normal

(thin). Obesity is not one of the causes of hypertension, but the prevalence of hypertension in obesity is much greater so that obese people have a 5 times higher risk of suffering from hypertension than normal people.

Based on the results of the analysis of salty food consumption data, it was found that hypertension patients who usually exercise amounted to 32 (51.6%) while hypertensive patients who never exercised amounted to 30 (48.4%).

Based on research conducted by⁴ that the distribution of respondents based on sports activities, the most is regular, as many as 46 respondents (58.2%). This is supported by the existence of sports activities carried out by the respondents, namely all respondents with the category of regular sports activities 100% do regular sports activities with a frequency of 3 times a week and a duration of 30 minutes.

The study was also not in line with that conducted by¹ A study conducted in Ghana on high school students also showed no positive trend between lack of physical activity and hypertension status. This can happen because the heart muscle and blood vessels are still in a healthy condition so that physical activity has not shown a relationship with the incidence of prehypertension.

Based on the results of the analysis of salty food consumption data, it was found that hypertension patients who often consume salty food are 35 (56.5%) while hypertensive patients who do not consume salty food are 27 (43.5%).

The results of this study are in line with research conducted by¹³ showing that there are 215 (93%) respondents who often consume salty foods and the remaining 16 (7%) respondents rarely consume salty foods. Eating salty foods is one of the risk factors for hypertension. Table salt is one of the main sources of sodium. One potential possibility for primary hypertension is excessive salt intake which could theoretically lead to hypertension. This is due to the osmotic properties of salt that retains water and therefore can increase blood volume and in the long run can act as a control against blood pressure, wrong eating habits and ready-to-eat foods.

CONCLUSIONS AND SUGGESTIONS

Based on the results of the research and discussion of the description of risk factors in hypertension patients in the Kamonji Health Center Working Area, conclusions can be drawn, namely:

The description of risk factors based on family history in hypertension patients in the Kamonji Health Center Working Area in 2023 is more dominant in family history with hypertension of 39 (62.9%). The overview of risk factors based on age in hypertension patients in the Kamonji Health Center Working Area in 2023 is more dominant in adults with a total of 41 (66.1%). The picture of risk factors based on gender in hypertensive patients in the Kamonji Health Center Working Area in 2023 is more dominant in the female gender with a total of 33 (53.2%). The overview of risk factors based on obesity in hypertensive patients in the Kamonji Health Center Working Area in 2023 is more dominant in excess body weight (pre-obesity) of 40 (64.5%). The overview of risk factors based on sports for hypertensive patients in the Kamonji Health Center Working Area in 2023 is more dominant in hypertensive patients who do sports totaling 32 (51.6%). The overview of risk factors based on the consumption of salty foods in hypertensive patients in the Kamonji Health Center Working Area in 2023 is more dominant in hypertensive patients who often consume salty foods by 35 (56.5%).

Health workers can use this thesis as one of the references to improve the quality of health services, especially for hypertension patients in the Kamonji Health Center Working Area. Improving health service efforts is more important is preventive efforts to control risk factors that can cause hypertension. Increase awareness and self-awareness of hypertension and its risk factors by checking blood pressure regularly and changing a healthy lifestyle such as exercising regularly, reducing the consumption of salty foods, and controlling diet.

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AUTHOR CONTRIBUTIONS

Conceptualization, N. L. M., N., S.; methodology, N. L. M.; validation, N. and A.; formal analysis, N. L. M.; investigation, N. L. M.; resources, N. L. M.; data curation, N. L. M.; writing-original draft preparation, N. L. M., and N., A.; writing-review and editing, N., A.; visualization, N. L. M. All

authors have read and agreed to the published version of the manuscript.

CONFLICTS OF INTEREST

Declare conflicts of interest or state “The a The author declares that there is no conflict of interest.

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