

**RISK FACTOR PROFILE OF HYPERTENSION IN ELDERLY PATIENTS
AT PUSKESMAS KM 11 SIEMPAT NEMPU HULU DAIRI
DISTRICT IN 2023**

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ABSTRACT

Background: Hypertension is a chronic condition often referred to as high blood pressure that increases in the arterial membrane, which forces the heart to pump and causes an increase in arteries throughout the body, blood pressure exceeds the systolic number 140 mmHg and diastolic 90 mmHg. **Purpose:** to determine To determine risk factor profile of hypertension in elderly patients. **Method:** this research method is a descriptive survey research design to describe hypertension patients with Accidental Sampling sampling technique the population of this study were elderly people with hypertension at the Puskesmas Km 11 Siempat, Nempu Hulu District with a sample size of 49 respondents and willing to be research subjects. **Results:** Results: The description of the results of this study is that the majority of elderly people experience mild hypertension 73.47%, then severe hypertension 22.45% and hypertension 08%, the majority of ages 46-59 years 53.06%, female gender 79.60%, do not consume salt 63.26, do not smoke 77.56, the majority of 65.30%, obese BMI 23-29.9 as much as 65.30%, not hereditary 79.60%, evel stres Lightweight 61.22%, with the Chi-Square test describing the risk factors for elderly people who experience hypertension include age ($p=0.001$), gender ($p=0.025$). 001), Gender ($p=0.001$), Body Mass Index / BMI (0.085), Stress level ($p=0.021$). Consumption of Salty / Salt, smoking does not describe the risk factors in the elderly who experience hypertension. Suggestion: Health workers provide more intensive education to the elderly.

Keywords: Hypertention , elderly

INTRODUCTION

High blood pressure or Hypertension (HTN), sometimes referred to as arterial hypertension, is a chronic medical condition in which the blood pressure in the arteries increases. This increase causes the heart to have to work harder than usual to circulate blood through the blood vessels. High blood pressure occurs when it is constantly at 140/90 mmHg or above. (Kaplan, N. M., & Victor, 2015),(World Health Organization, 2021).

Hypertension is often the result of high blood pressure that patients do not realise is untreated or patients who are not controlled by adhering to medication, often called the silent killer and adversely affects the incidence of stroke, loss of consciousness, memory loss, heart attack, damage to the eyes and kidneys and chest pain and others.

An estimated 1.28 billion adults aged 30–79 years worldwide have hypertension, most (two-thirds) living in low- and middle-income countries, An estimated 46% of adults with hypertension are unaware that they have the condition, Less than half of adults (42%) with hypertension are diagnosed and treated, Approximately 1 in 5 adults (21%) with hypertension have it under control, Hypertension is a major cause of premature death worldwide, One of the global targets for noncommunicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030. (World Health Organization, 2021).

Based on the prevalence of hypertension in Indonesia, according to the 2018 Basic Health Research study based on doctor's diagnosis, 34.1%. According to Riskesdas 2018, 8.4% of Indonesians aged more than 18 years suffer from hypertension based on a doctor's diagnosis. Meanwhile, according to the 2018 Basic Health Research, the prevalence of hypertension in North Sumatra Province was 32%. Based on the 2018 Riskesdas, those who suffer from hypertension are more in the age group 18-24 years as much as 10.71%, age 25-34 years as much as 15.57%, age 35-44 years as much as 26.10%, 45-54 years as much as 41.49%, age 55-64 years as much as 60.91%, age 75 years and over as much as 68.01%. The prevalence of hypertensive patients whose gender is male is 27.70%, while women are 30.63%. According to Riskesdas 2018, the prevalence of hypertensive patients in Medan Regency was recorded at 6.89%.(RISKESDAS, 2018)

The causes of hypertension can be varied and often involve a combination of genetic factors, lifestyle, and certain health conditions. Some of the factors that are known to cause hypertension consist of modifiable causes involving lifestyle and habits, such as diet, physical activity level, stress management, smoking, and alcohol consumption and immutable causes including age, race, gender and genetics.

The results of research with descriptive analysis with a literature review approach with several journals that have met the criteria of this literature review show that the incidence of hypertension occurs at an average age of > 40 years, gender is more dominated by women, hypertension is more susceptible to those who are obese / overweight and those who are experiencing pressure / stress, the majority of hypertensive patients are more common in those who have a hereditary

history in their families, and lifestyles such as smoking and drinking coffee are considered a lifestyle that is not good for health related to the incidence of blood pressure (hypertension) is a factor that can affect the occurrence of hypertension. (Siwi, A. S., Irawan, D., & Susanto, 2020). Obesity, smoking habits, and stress are factors that cause hypertension in the community with statistical test results, namely obesity ($p=0.001$), smoking habits ($p=0.037$), and stress ($p=0.029$). Other results of research by Tumanggor in 2022 have found the results of research on hypertensive patients, more respondents aged 66-74 years (82.7%), 52 of the respondents were female (60.5), 46 were civil servants (53.5%), and 56 were Batak tribe (56.1%). (Akbar, H., & Santoso, 2020).

Research conducted by Sudarmin the highest risk factor for hypertension is smoking habits, which is categorised as passive smoking with a large 100% of the sample of Hypertension patients at Puskesmas Limo. Patients at Puskesmas Limo who suffer from hypertension with an age of 45 years are 74%. Hypertensive patients with female gender at Puskesmas Limo were 60%. The level of exercise habits of hypertensive patients shows 98% of patients do not often exercise. Hypertensive patients at Puskesmas Limo by 84% have risk factors for hypertension, namely obesity. (Sudarmin, H., Fauziah, C., & Hadiwiardjo, 2022).

METHOD

This research includes descriptive research, namely research that is described in detail related to an event or event. This study will describe the results of observations regarding the profile of risk factors in patients with high blood pressure in hypertensive patients at Km 11 health centre, Siempat Nempu Hulu District, Dairi Regency. The population in this study were all patients, namely patients who had high blood pressure, based on the results of the calculation, obtained a sample size of 49 samples of hypertensive patients so that the sample was 49 respondents. The sampling technique by accidental sampling is based on certain considerations, where accidental sampling is a sampling technique based on chance, that is, any patient who meets the researcher will make the patient a research sample according to predetermined criteria.

RESULTS AND DISCUSSION

The results of this research were conducted on respondents at Puskesmas Km 11, Siempat Nempu Hulu District, Dairi Regency in 2023 by distributing questionnaires used to collect data, the data was collected and analysed, then obtained the following description of the respondents:

Tabel 1. Distribution of Respondent Characteristics

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No	Respondent Overview	Frequency	Presentase
I	Age (Year)		
2	Pre-elderly 45-59	26	53,06
3	≥ 60	23	46,93
II	Gender		
1	Male	10	20,40
2	Famale	39	79,60
III	Salty and Salt Consumption		
1	Yes	18	36,74
2	No	31	63,26
IV	Smoking		
1	Yes	10	20,40
2	No	39	79,60
V	BMI (body mass index)		
1	BMI Deficient <18,5	1	2,04 %
2	BMI normal 18,5-22,9	14	28,57 %
3	BMI obese 23-29,9	32	65,31 %
4	BMI obesitas >30	2	4,08 %
VI	Hereditary Factors		
1	Yes	10	20,40%
2	No	39	79,60%
VII	Stress Level		
1	No Stress	11	22.45 %
2	Lightweight	30	61.22%
3	Medium	8	16,33 %
4	Severity	0	0
VIII	Classification Hypertension		
1	Optimal <120/<80	0	0
2	Normal 120-129/80-84 mmHg	0	0
3	Stage 1 Hypertension 140-159/90-99 mHg	36	73.47 %
4	Stage 2 Hypertension 160-179/100-109 mmHg	11	22.45 %
5	Hypertension Crisis ≥180/≥110 mmHg	2	4,08 %

Based on the table and diagram above, it shows that the description of Hypertension patients at Puskesmas Km 11 Siempat Nempu Hulu District aged 46-59 years as many as 26 respondents (53,06%), aged ≥60 years as many as 23 respondents (46,93%). The majority of gender is female with 39 respondents (79.60%). The majority of salty consumption is salty the majority is not as many as 31 respondents (63.26), smoking the majority is not as many as 39 respondents (79.60%), the majority of BMI is fat 32 respondents (65.31%), the majority of respondents are mild stress

30 respondents (61.22%) and the majority of Stage 1 Hypertension 140-159/90-99 mHg as many as 36 respondents 73.47%.

Tabel 2
Distribusi Profile Risk of Hipertension in Elderly Patients at Comunity Healt KM 11
Siempat Nempu Hulu District Dairi in 2023

No	Variabel	Klasifikasi Hipertensi								P Value
		Ringan	%	Sedang	%	Berat	%	Jumlah	%	
I	Gender (Year)									
1	46-59	19	38,78	5	10,20	2	4,06	26	53,06	0,001
2	≥ 60	17	32,63	6	14,28	-	-	23	49,94	
II	Gender									
1	Male	5	10,20	4	8,16	1	2,04	10	20,40	0,025
2	Female	31	46,95	7	30,61	1	2,04	39	79,60	
III	Salty and Salt Consumption									
1	Yes	13	26,53	4	8,16	1	2,04	18	36,74	0,125
2	No	23	46,93	7	14,28	1	2,04	31	63,26	
IV	Smoking									
1	Yes	1	2,04	7	16,32	2	4,08	10	20,40	0,846
2	No	35	71,42	4	6,12	0	0,00	39	79,60	
V	BMI (body mass index)									
1	BMI Deficient <18,5	1	0	0	0	0	0	1	2,04	0,085
2	BMI normal 18,5-22,9	12	24,48	2	4,06	0	0,00	14	28,58	
3	BMI obese 23-29,9	23	46,93	9	18,36	0	0,00	32	65,30	
4	BMI obesitas >30	0	0,00	0	0,00	2	4,08	2	4,08	
VI	Hereditary Factors									
1	Yes	6	12,24	4	8,16	1	2	10	20,40	0,175
2	No	30	61,22	7	14,28	1	0	39	79,60	
VII	Stress Level									
1	No Stress	11	22,44	0	0,00	0	0,00	11	22,44	0,021
2	Lightweight	25	51,02	5	10,20	0	0,00	30	61,22	
3	Medium	0	0,00	6	12,24	2	4,08	8	16,32	
4	Severity	0	0,00	0	0,00	0	0,00	0	0,00	

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Based on table 2 above shows that people with hypertension at the age of 46-59 years totaled 26 people or 53.06% with mild hypertension as many as 19 people (38.78%), moderate hypertension as many as 5 people (10.20%), severe as many as 2 people (4.06%). at the age of 60 years and

over there were 23 (49.94%) people suffering from mild hypertension as many as 17 people (32.63%), moderate 6 people (14.28%) with a p value of 0.001. Patients with hypertension based on male gender were 10 people (20.40%) with mild hypertension as many as 5 people (10.20%), moderate 4 people (8.16%) severe as many as 1 person (2.04%). in women as many as 39 people (79.60%) mild hypertension as many as 31 people (46.95%) moderate as many as 7 people (30.61%) severe as many as 1 person (2.04%) with a p value of 0.001. The number of patients who consume salt is 18 people (36%), namely in mild hypertension as many as 13 people (26.53%) moderate 4 people (8.16%) severe 1 person (2.04%) who do not consume salty / salt there are 31 people (64%), namely in mild hypertension as many as 23 people (46.93%), moderate as many as 7 people (14.28%) severe 1 person (2.04%). the number of hypertensive patients who smoke is 11 people (22.44%) with mild hypertension patients as many as 1 person (2.04%), moderate as many as 8 people (16.32%), severe as many as 2 people (4.08%). the number of patients who do not smoke is 38 people (77.56%) with mild hypertension patients as many as 35 people (71.42%), moderate 3 people (4.08%).

DISCUSSION

Based on table 2 illustrates that people with hypertension at the age of 46-59 years totaled 26 people or 53.06% with mild hypertension as many as 19 people (38.78%), moderate hypertension as many as 5 people (10.20%), severe as many as 2 people (4.06%). at the age of 60 years and over there were 23 (49.94%) people suffering from mild hypertension as many as 17 people (32.63%), moderate 6 people (14.28% *with the Chi-Square test describing the risk factors for elderly people who experience hypertension include age ($p=0.001$).*

Ageing physiologically contributes to an increase in hypertension as blood vessel walls, especially arteries, become hardened (arteriosclerosis). This process is caused by a buildup of collagen and a reduction in the elastin content of the blood vessel walls. As a result, the blood vessels become stiffer and less elastic, so they cannot expand properly when blood is pumped by the heart. This increases blood pressure, as the heart has to pump blood with greater pressure to pass through the stiffer blood vessels. (Rahmawati, R., & Setiawan, 2020), (Sari, D. P., & Hidayati, 2019). In general, the risk of developing hypertension increases with age. This is due to changes that occur in the structure of blood vessels, such as narrowing the lumen and reducing the elasticity of the blood vessel wall, Sari, 2017. The results of the study using 49 samples of

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hypertensive patients at the general clinic of the Limo Health Center, Depok can be seen from the results of observations on the age factor in the Limo Depok health service, namely patients with blood pressure at the age of 55-58 years by 74%. The risk of developing high blood pressure with advanced age is still quite high. Therefore, with increasing age, the blood vessels will harden (stiffen), causing the pressure in the blood vessels to increase, then the heart pumps more strongly and eventually causes hypertension in the elderly. This condition will be more severe if the patient has other comorbid diseases and a family history of hypertension. (Sudarmin, H., Fauziah, C., & Hadiwardjo, 2022). A person will be more prone to hypertension if there are family members with a history of hypertension. In addition, a person who is over 65 years old and has diseases such as obesity and kidney disorders is also at higher risk of developing hypertension. When a person who has been diagnosed with hypertension, the person must adopt a healthy lifestyle as part of the management of blood pressure/hypertension control..(Riyada *et al.*, 2024). As we age, blood pressure tends to increase. This is due to physiological changes in the body, one of which is the thickening of the arterial walls. As we age, there is a buildup of collagen substance in the muscle layer of the blood vessels, which results in the blood vessels becoming stiffer and less elastic. This process causes the blood vessels to become more constricted and narrowed, which in turn can increase blood pressure. This process usually starts after the age of 40, as the body undergoes structural changes to the blood vessels as it ages. (Amanda DD, 2018). (Purwono, J., Sari, R., Ratnasari, A., & Budianto, 2020)

Patients with hypertension based on male gender men as many as 10 people (20.40%) with mild hypertension as many as 5 people (10.20%), moderate 4 people (8.16%) heavy as many as (10.20%), moderate 4 people (8.16%) severe as much as 1 person (2.04%). in women as many as 39 people (79.60%) hypertension mild hypertension as many as 31 people (46.95%) moderate as many as 7 people (30.61%) heavy as many as 1 person (2.04%), ($p=0.025$). In this study, the majority of people with hypertension were female. Hypertension in the elderly is an increasing health problem, and gender is one of the factors that influence the prevalence and management of this condition. Based on the results of the study, it was found that elderly women are more likely to experience hypertension compared to elderly men. Physiologically, women and men have differences in the way their bodies respond to blood pressure. One of the main factors influencing the difference in the incidence of hypertension between men and women is the difference in hormones, specifically estrogen. Estrogen, which is produced in large amounts in women of childbearing age, has a vasodilator (dilates blood vessels) effect, which helps in

regulating blood pressure. However, after menopause, estrogen levels in women drop dramatically, which causes blood vessels to become stiffer and more difficult to regulate blood pressure efficiently. This decrease in estrogen makes older women more prone to increased blood pressure compared to men of the same age. From the results of statistical tests, it is known that the gender factor in elderly women has a risk of 28.3 times to experience hypertension compared to elderly men. (Sari, Y. H., & Majid, 2019).

The results of the study of hypertensive patients who were female as many as 121 respondents 93.8% and those who were male as many as 8 respondents 6.2%, because women who have experienced menopause have a higher risk of developing hypertension because they have experienced a decrease in the hormone estrogen. (Fadia, Z. N., Respati, T., & Purbaningsih, 2023) According to the researchers, this can happen because the respondents with hypertension are mostly women with pre-elderly and elderly age during the phase of life that involves menstruation, pregnancy, the hormone estrogen can have a protective effect on blood vessels and the heart. However, after menopause, estrogen levels drop, which can cause blood vessels to become stiffer and increase so that it can increase the risk of hypertension.

The number of patients who consume salt is 18 people (36%), namely in mild hypertension as many as 13 people (26.53%) moderate 4 people (8.16%) heavy 1 person (2.04%) who do not consume salty / salt there are 31 people (64%), namely in mild hypertension as many as 23 people (46.93%), moderate as many as 7 people (14.28%) heavy 1 person (2.04%).

Salt (sodium chloride) contains sodium, which plays an important role in regulating body fluid volume. When salt consumption increases, the body will absorb more sodium into the blood, sodium attracts water, so blood volume increases because the fluid is bound with sodium. This increase in blood volume will increase blood pressure because the heart must pump more blood with greater force. The results of research by Purwono at all salt consumption patterns with the incidence of hypertension in the elderly 54.9% who consume salt 60.8%. Salt has a comparable relationship with the onset of hypertension. The greater the amount of salt in the body, the 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 the narrower space, which can cause hypertension. (Purwono, J., Sari, R., Ratnasari, A., & Budianto, 2020). The effect of sodium intake on high blood pressure occurs through increased blood plasma volume and blood pressure. Sodium is the main cation in extracellular fluid which plays an important role in maintaining plasma

and extracellular volume, acid-base balance and also neuromuscular. High sodium intake can cause the concentration of sodium in the extracellular fluid to increase so that to normalize it, extracellular fluid is pulled out and results in increased blood volume and an increase in blood pressure.(Yunus, M. H., Kadir, S., & Lalu, 2023). In the results of this study did not describe salt consumption as a risk factor for hypertension at the time of the interview the majority of hypertensive patients admitted that they had limited salty foods according to the researcher, it is necessary to conduct qualitative research with more depth and the truth of the respondents' assumptions.

In table 2 the number of hypertensive patients who smoke is 11 people (22.44%) with mild hypertension as many as 1 person (2.04%), moderate as many as 8 people (16.32%), severe as many as 2 people (4.08%). the number of patients who do not smoke is 38 people (77.56%) with mild hypertension as many as 35 people (71.42%), moderate 3 people (6.12%) This study does not illustrate that smoking is a risk factor for hypertension, possibly because the majority of female respondents while men as a whole who smoke experience mild, moderate or severe hypertension. Adam's research on the determinants of hypertension in elderly smoking shows there is a relationship between smoking behavior and the incidence of hypertension in elderly men with a p value = 0.000 that the more levels of toxic substances, the more severe hypertension occurs. The levels of cigarette chemicals in the blood are directly determined by the amount of cigarette consumption. The more the number of cigarette consumption per day, the more severe the hypertension. This study also shows that all men experience hypertension both mild, moderate and severe. From the results of research by Fauzan based on the results of research analysis obtained the value of OR = 6,500 (CI : 95% : 1,820-23,213 The study showed that elderly people with smoking behavior were 9 times more at risk than those who did not smoke. Tobacco has a very large effect in increasing blood pressure, this is because the content of chemicals in tobacco such as nicotine can increase blood pressure in a person with just one suction. (Fauzan, A., & Qariati, 2018), this study found that hypertensive patients at Limo Health Center patients who have passive smoking habits have a percentage of 100% affected by hypertension. In this case it can be concluded that patients who do not smoke can inhale exposure from cigarette smoke. Patients who do not smoke will receive exposure to smoke in patients who smoke from the results of the cigarette will dissolve mixed in the air The existence of health problems in someone who smokes can be accepted, but in passive smokers the impact is more dangerous than active smokers. (Sudarmin, H., Fauziah, C., & Hadiwiardjo, 2022). Toxic

chemicals such as nicotine and carbon monoxide that are smoked through cigarettes will enter the blood circulation and damage the endothelial layer of arterial blood vessels, these substances result in the process of arteriosclerosis and high blood pressure. in autopsy studies, it is proven that there is a close link between smoking and the process of arteriosclerosis in all blood vessels. Smoking also increases the heart rate, so that the oxygen demand of the heart muscle muscle increases. Smoking in patients with high blood pressure will further increase the risk of arterial blood vessel damage with the results of the study known p value = 0.027 or p value 1 which means smoking has a 2.273 times chance of hypertension. The number of cigarettes smoked each day determines the risk of smoking, not the length of smoking. The vulnerability of respondents who smoke more than one every day is twice as great as respondents who do not smoke. (Kartika, Subakir and Mirsiyanto, 2021).

From the results of the study in table 2 BMI deficient ≤ 18.5 in mild hypertension patients 1, normal BMI 18.5- 22.9 in mild hypertension patients as many as 12 people (24.48%), moderate 2 people, (4.06%), obese BMI 23-29.9 in mild hypertension patients as many as 23 people (46.93%), moderate as many as 9 people (18.36%), obese BMI ≥ 30 in severe hypertension as many as 2 people (4.08%) and *Body Mass Index / BMI (0.085)* In someone with obesity, the body tends to require more blood to supply oxygen and nutrients to the body's larger tissues. This increase in blood volume puts an additional burden on the heart and blood vessels, which in turn increases blood pressure. Being obese is one of the hallmarks of people suffering from hypertension and there is evidence that this is associated with an increased risk of hypertension later in life. Investigations show that the heart pump and circulating blood volume of obese people with hypertension are higher compared to those of normal-weight people. (W., Sanga, J. L., Wulandari, I., ... & Sulistyowati, 2020)

Other research results based on Body Mass Index (BMI), hypertensive patients with obesity I nutritional status are more, namely 35.82%, compared to those with normal nutritional status. This shows that obesity is one of the risk factors for hypertension. This finding is in line with the results of a study conducted by Desy Amanda (2018), which found that 76.70% of the hypertensive group were obese, while only 30% were not. The study also showed that the prevalence of hypertension in respondents with central obesity was 2.56 times higher than that of respondents without central obesity. (Amanda DD, 2018).(Pratiwi, 2021).

The results of research by (Haryuti *et al.*, 2017) Obesity is one of the main risk factors that can increase the incidence of hypertension, especially in the elderly. The accumulation of visceral

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fat in the body can release various pro-inflammatory substances and hormones such as adipokines, which can increase blood vessel stiffness and cause an increase in blood pressure. Visceral fat is also associated with increased levels of renin, an enzyme that plays a role in the renin-angiotensin system, which can cause constriction of blood vessels and ultimately increase blood pressure. In addition, obesity can cause a decrease in blood vessel elasticity, increase sympathetic nervous system activity, and trigger hormonal changes and inflammation, all of which contribute to increased blood pressure.

The results from tabel 2 of the study of hypertensive patients showed that the characteristics of hypertensive patients based on hereditary factors were 10 people (20.40%) with mild hypertension as many as 6 people (12.24%), moderate as many as 4 people (8.16%), severe as many as 1 person (2%) which did not include hereditary factors there were 39 people (79.60%) with mild hypertension 30 people (61.22%), moderate as many as 7 people (14.28%), severe as many as 1 person. Some previous research results tend to be heredity is a risk of hypertension in the elderly in contrast to the results of this study, not always hypertension is caused by heredity but can be more at risk if it does not maintain a healthy lifestyle where in this study there are still elderly people who experience hypertension there because it was previously passed down from parents, some do not remember whether their parents have a history of hypertension. In line with research by Sudarmin (2022), patients who have a hereditary history of both parents with hypertension have a percentage of 0%, while one of the hypertensive parents has a percentage of 4% affected by hypertension and patients whose families have no history of hypertension have a percentage of 96%. From one of those who experience high blood pressure, namely in parents who can cause high symptoms by being exposed to increased blood pressure. Then it was also found that some hypertensive offspring did not have symptoms of hypertension. (Sudarmin, H., Fauziah, C., & Hadiwardjo, 2022).

Hypertensive patients with stress levels, no stress as many as 11 people with mild hypertension, lightweight as many as 30 people (61.22%) with mild hypertension as many as 25 people (51.02%), moderate as many as 5 people (10.20%) medium stress levels there are 6 people in moderate hypertension (12.24%), severe as many as 2 people (4.08%). The chi-d test with a p value = 0.175.

In a state of stress, the body will produce the hormone adrenaline which causes the heart rate to increase which results in an increase in blood pressure. If the stressful situation lasts long enough and is not managed properly, the body will adjust the situation and there will be a change in the

pathological direction. This research is in line with other explained the results of his research there is a relationship Stress levels with hypertension in the elderly with moderate stress categories as many as (53.2%) respondents The results of the test The results of data analysis using the Rank - Spearman test obtained a Sig value = 0.000, Stress is an expression of the human body's reaction to every demand experienced by it and is a mobilization or movement of the human body's swallowing.(Sugiyanto, 2022)

Other studies have shown that stress levels have a relationship with the incidence of elderly hypertension. Most of the respondents who experienced hypertension, had a level of stress in the severe category due to the many burdens of thought related to economic problems, making it difficult to sleep and triggering stress in the elderly. (Salman, Y., Sari, M., & Libri, 2020). The results of research by Imelda et al (2020) also showed a significant relationship between stress levels and the incidence of hypertension in the elderly with a very strong correlation strength ($r = 0.895$) (25). Stress is a problem that triggers hypertension where the relationship between stress and hypertension is thought to be through sympathetic nerve activity, increased nerves can raise blood pressure intermittently (erratically). Prolonged stress can result in persistent high blood pressure. in the elderly, the body's ability to regulate the stress response tends to decrease with age. When the elderly experience stress, their body releases stress hormones such as adrenaline and cortisol. These hormones can cause an increase in heart rate and constriction of blood vessels, which in turn can increase blood pressure. In the elderly, the body's ability to return to normal after stress is also reduced, which can cause blood pressure to remain high over a long period of time. Some of the elderly at the time of the elderly study tended to experience stress due to the physically limited consequences of aging to meet the needs of uncertain future worries.

CONCLUSION

This study shows that the risk factor profile of hypertension in elderly patients includes:

1. The description of the results of this study is that the majority of elderly people experience mild hypertension 73.47%, then severe hypertension 22.45% and hypertension 4,08%.
2. the majority of ages 46-59 years 53.06% With age, the elasticity of blood vessels decreases, thereby increasing the risk of hypertension dengan tingkat kepercayaan ($p=0,001$)
3. Female gender 79.60%. Gender plays a role in the development of hypertension in the elderly, where women tend to be more at risk of developing hypertension after menopause.

4. Do not consume salt 63.26. Salt consumption does not describe the risk of hypertension by although high salt consumption is a significant risk factor for hypertension, because salt can increase blood pressure by increasing blood volume.
5. Do not smoke the majority of 79,60%. Smoking does not describe the risk of hypertension in the elderly due to the majority of this study were women although habitual exposure to cigarette smoke can increase blood pressure and damage blood vessels, which worsens the condition of hypertension.
6. Obese BMI 23-29.9 as much as 65,31 %. Obesity describes the risk factors for hypertension in the elderly, overweight or obesity increases the risk of hypertension through several mechanisms, including insulin resistance and increased blood volume.
7. Not hereditary 79.60% Heredity does not describe the risk of hypertension in the elderly although a family history of hypertension also acts as a genetic factor that increases a person's tendency to develop hypertension.
8. Stress is a risk factor for hypertension in the elderly, high levels of stress can affect the autonomic nervous system and temporarily increase blood pressure, level stress lightweight 61.22%

Thus, management of these risk factors through a healthy lifestyle such as a balanced diet, regular exercise, and stress management is essential in preventing or reducing the impact of hypertension in the elderly. More comprehensive prevention efforts involving nursing interventions and appropriate health education are needed to reduce the prevalence of hypertension among the elderly.

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Hopefully the results of this study can make a positive contribution to improving the quality of life of the elderly and become the basis for better decision making in public health services, especially related to hypertension management.

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