FACTORS ASSOCIATED WITH HYPERTENSION IN RENTANG VILLAGE, DARUL HIKMAH SUB-DISTRICT, JAYA DISTRICT

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Abstract

Hypertension is a growing public health concern. This study aimed to identify factors associated with hypertension among residents of Rentang Village, Darul Hikmah District, Aceh Jaya Regency. Employing a cross-sectional design with community participation, the research found a high prevalence of hypertension. Key risk factors included lifestyle factors such as high salt intake, physical inactivity, and overweight, as well as genetic predisposition. Additionally, environmental factors like stress, air pollution, and limited healthcare access may contribute to the hypertension burden. These findings underscore the need for comprehensive interventions to increase public awareness of healthy lifestyles, address genetic risk factors, and improve healthcare accessibility. Collaborative efforts between the government, community, and stakeholders are essential to reduce hypertension's impact on Rentang Village and surrounding areas.

Keywords: Hypertension, Public Health, Risk Factors, Healthy Lifestyles, Public Awareness

1. INTRODUCTION

Hypertension, or high blood pressure, is a global health problem that requires serious attention. In the midst of modernization, villages are also not spared from the adverse effects of this disease. This study focused on Rentang village, Darul Hikmah sub-district, Aceh Jaya district, in an effort to understand the factors associated with hypertension in a rural setting (Apriyanti, 2023).

Rentang Village has its own context and characteristics that may influence the incidence of hypertension in the community. Therefore, this study aims to explore the factors associated with hypertension in Rentang Village, Darul Hikmah Sub-district, Aceh Jaya District. Understanding these factors will provide in-depth and relevant insights for designing more effective prevention and management strategies.

Before delving into factors related to hypertension, we need to understand the geographical and social context of Desa Rentang. Environmental conditions, diet, lifestyle and other local factors can have a significant impact on the health of local people. Therefore, this study not only aims to identify individual risk factors but also considers the unique aspects of the village environment (Kemenkes, 2018).

The success of hypertension prevention and management programs in an area relies heavily on an in-depth understanding of the factors that influence the local community. By exploring the relationship between certain variables and the incidence of hypertension in Desa Rentang, we can identify patterns that may be the focus of public health interventions. The results of this study are expected to form the basis for the development of more effective policies and more targeted health programs (Aris, 2007).

By exploring information related to lifestyle, genetic factors, accessibility to health services, and environmental aspects, this study aims to provide a deeper understanding of the relationship between these factors and the high incidence of hypertension in Rentang Village. The results of this study are expected to serve as a basis for relevant parties, including the local government, in designing effective intervention programs to address this health problem holistically (Aminuddin et al., 2020).

Through the contribution of this research, it is hoped that a better understanding of the drivers of hypertension in rural villages can be established. Thus, it is hoped that this study can make a positive contribution to the prevention and treatment of hypertension, create public awareness of the importance of a healthy lifestyle, and provide a scientific basis for the formulation of more effective health policies at the local level (Kemenkes, 2018).

2. LITERATURE REVIEW
2.1. Definition of Hypertension

Hypertension, also known as high blood pressure, is a medical condition in which the blood pressure in the body's arteries increases persistently. Blood pressure is measured by two numbers: systolic pressure (the pressure when the heart pumps blood) and diastolic pressure (the pressure when the heart rests between heartbeats). Blood pressure is considered high if the numbers persistently exceed normal limits (Muniroh et al., 2020).

The general definition of hypertension is a systolic blood pressure of more than 130 mmHg or a diastolic blood pressure of more than 80 mmHg. Hypertension can be a serious health problem as it can increase the risk of heart disease, stroke, kidney failure, and other vascular health problems. Hypertension can be divided into two main categories namely Primary (Essential) Hypertension where the exact cause of this condition is unclear, but genetic, lifestyle, and environmental factors may play a role. Then Secondary Hypertension which Occurs as a result of a medical condition or the use of certain medications (Kusyati et al., 2014).

It is important to detect and manage hypertension as it can increase the risk of serious health complications. Prevention and management of hypertension often involves lifestyle changes, such as a healthy diet, regular exercise, and stress management. In some cases, medications may also be prescribed by a healthcare professional to control blood pressure. It is important to consult a doctor for proper diagnosis and management plan according to individual needs (Arisman, 2019).

2.2. Prevalence of Hypertension

To the best of my knowledge as of January 2022, the prevalence of hypertension, or high blood pressure, may vary based on factors such as age, gender, and geographic region. In general, hypertension is a common condition worldwide and can be a risk factor for a variety of serious diseases such as heart disease, stroke, and kidney disorders. The World Health Organization (WHO) states that approximately 1.13 billion people worldwide suffered from hypertension in 2015 (Handayani & Asnindari, 2017).

However, it should be noted that the prevalence of hypertension may change over time due to factors such as lifestyle changes, dietary changes, and public health interventions. The prevalence of hypertension may also vary among age groups. For

example, the risk of hypertension usually increases with age (Arisman, 2019). Other factors such as heredity, smoking habits, alcohol consumption, being overweight, lack of physical activity, and a high-salt diet may influence the prevalence rate of hypertension in a population (Adrian, 2019).

2.3. Hypertension Risk Factors

Hypertension or high blood pressure is a condition in which the blood pressure in the arteries increases significantly. There are several risk factors that can increase a person's chances of developing hypertension. Some of the risk factors commonly associated with hypertension include Age, Genetics and Family History, Unhealthy Lifestyle, High Salt Diet, Low Potassium Diet, Lack of Physical Activity, Smoking, Obesity or Overweight, Excessive Alcohol Consumption, Stress, Comorbidities, Oral Contraceptives, and Insufficient Calcium and Magnesium Intake (Kemenkes, 2018).

The risk of hypertension increases with age. Older people tend to have less elastic blood vessels, thus increasing blood pressure. If any family member has hypertension, the risk of developing the condition also increases. Excessive salt consumption can cause water retention and increase blood pressure. Potassium helps offset the effects of sodium (salt) in the body. A diet low in potassium may increase the risk of hypertension. A less active life can lead to being overweight or obese, which can trigger hypertension (Budiyanto, 2022).

Being overweight can increase insulin resistance and affect blood vessel function, increasing blood pressure. Substances in cigarettes can damage blood vessels and increase the risk of hypertension. Consuming excessive amounts of alcohol can increase blood pressure. Chronic stress or high emotional distress can contribute to hypertension. Some medical conditions such as diabetes, kidney disease, and sleep apnea may increase the risk of hypertension. Certain types of oral contraceptives may increase blood pressure in a small percentage of women (Kusyati et al., 2014).

Calcium and magnesium have a role in regulating blood pressure. A deficiency of these two minerals can contribute to hypertension. It is important to remember that some risk factors for hypertension can be changed by adopting a healthy lifestyle, such as maintaining a balanced diet, exercising regularly, and avoiding smoking and excessive alcohol consumption (Muniroh et al., 2020).

2.4. Efforts to Prevent and Manage Hypertension

Hypertension, or high blood pressure, is a medical condition that can increase the risk of heart disease, stroke and other health problems. Preventing and managing hypertension involves lifestyle changes and, in some cases, medication. Here are some steps that can be taken to prevent and manage hypertension:

  A. Prevention of Hypertension
1. Eat Healthy
   a. Eat foods low in salt, saturated fat and cholesterol.
   b. Increase the intake of fruits, vegetables, whole grains and healthy proteins.
2. Maintain a Healthy Weight

     Maintaining a healthy weight can help lower blood pressure (Bustan, 2018)

3. Regular Exercise

Engaging in regular physical activity, such as walking, swimming or cycling, can help control blood pressure.

4. Limit Alcohol Consumption

Moderate or no alcohol consumption may help prevent hypertension.

5. Avoid Smoking

Cigarettes can cause an increase in blood pressure. Quitting smoking is a key step.

6. Limit Caffeine

Excessive caffeine consumption can increase blood pressure. Limit the intake of coffee and other caffeinated beverages (Jauhary, 2017).

B. Hypertension Management

1. Routine Blood Pressure Measurement

Monitor blood pressure regularly and consult a healthcare professional in case of changes.

2. Medicines

The doctor may prescribe antihypertensive medication if lifestyle changes are not enough. Medications should be taken as directed by the doctor.

3. Healthy Lifestyle

Continue or improve a healthy lifestyle such as a low-salt diet, regular exercise, and stress management (Handayani & Asnindari, 2017).

4. Stress Management

Relaxation techniques such as meditation, yoga or breathing exercises can help manage stress, which can affect blood pressure.

5. Monitor blood sugar and cholesterol levels

Control blood sugar and cholesterol levels as these conditions can affect vascular health (Brunner & Suddarth, 2021).

6. Regular Consultation with Health Professionals

Consult your doctor regularly to monitor your blood pressure and adjust the treatment plan if needed.

It is important to remember that everyone has different health needs, and hypertension prevention and management plans should be tailored to individual health conditions. Consult a healthcare professional for recommendations that suit personal needs (Adrian, 2019).

3. RESEARCH METHODS

In the Literature Study, this research conducted a literature review to understand the condition of hypertension, risk factors, and related research. As well as identifying relevant variables such as age, gender, lifestyle, diet, family history, physical activity, and others. Research Design Determines the type of research, which uses observational research, accompanied by the use of methods of drawing a representative sample from the population of people with hypertension in Rentang Village. Observational research

on hypertension can provide valuable insights into factors related to this condition without interference or intervention from the researcher. This study is conducted at one point in time to look at the relationship between certain factors and the incidence of hypertension in the subject. In determining the population and sample, it is done by identifying the target population, namely people with hypertension in Rentang Village. Selecting a sample that is representative and large enough to provide reliable results. Using random sampling or stratified sampling method.

Data Collection Instruments by Designing a structured questionnaire or interview that covers the variables that have been identified. Then ensuring the instrument can be implemented properly by respondents and provide accurate data. Data Collection Techniques conducted in this study by Conducting data collection by conducting surveys, interviews, and medical examinations according to research needs. By ensuring data integrity and properly documenting each stage of data collection.

4. RESULTS AND DISCUSSION
4.1. Research Results
4.1.1. Analisis Univariat

Univariate analysis is a statistical analysis involving a single variable. In the context of a research report on the factors influencing the occurrence of hypertension in the community in Rentang Village, Darul Hikmah Sub-district, we can conduct a univariate analysis of several relevant variables.

Tabel 1. Frequency Distribution of Sample Frequency Based on Gender, Age, Occupation and Income

Gender	Frequency (f)	Percentage (%)
Male	123	82
Female	27	18
Total	**150**	**100**
Age	**Frequency (f)**	**Percentage (%)**
37-44	62	41,33
45-60	61	40,67
61-79	27	18
Total	**150**	**100**
Jobs	**Frequency (f)**	**Percentage (%)**
Trader	22	14,67
Building Laborer	4	2,67
Housewife	27	18
Teacher	8	5,33
Civil Servant	4	2,67
Oil Palm Farmer	5	3,33
Farmer	50	33,33
Total	**150**	**100**
Income	**Frequency (f)**	**Percentage (%)**
300.000 – 1 milion	109	72,67

1 -2,5 milion	41	27,33
Total	**150**	100

Based on table 1 above, showing the frequency distribution of samples based on gender and age of respondents in Rentang Village, Darul Hikmah Subdistrict, Aceh Jaya Regency shows that the number of respondents of male gender amounted to 123 respondents with a percentage of 82%, far more than female gender respondents who amounted to 27 respondents with a percentage of 18%. And from the Frequency Distribution of the sample based on Age, divided into three age categories, namely ages 37 to 44 years totaling 62 respondents with a total percentage of 41.33% And the age category 45 to 60 years has a total of 61 respondents with a percentage of 40.67%. And at the age of over 60 years, there were 27 respondents with a percentage of 18% of respondents.

In terms of occupation, there are 7 job items from a total of 150 respondents surveyed and interviewed, the first is traders with a total of 22 respondents with a percentage of 14.67%, then there are construction workers as many as 4 people with a percentage of 2.67%, then there are 27 housewives with a percentage of 18% and 8 teachers with a percentage of 2.67%, then civil servants as many as 4 people with a percentage of 2.67%, followed by oil palm farmers totaling 5 people with a percentage of 3.33%, and the last is farmers totaling 50 people with a percentage of 33.33%. So in terms of income, there are two salary groups obtained by respondents totaling 150 respondents, where the minimum salary of 300 thousand to 1 million has 109 respondents with a percentage of 72.67%, while the number of respondents who have a salary above 1 million rupiah is 41 respondents with a percentage of 27.33%.

Table 2. Frequency Distribution of Hypertension Patients

Gender	Frequency (f)	Percentage (%)
Yes	26	17,33
No	124	82,67
Total	**150**	**100**

Based on the results of research that has been conducted, by surveying and interviewing and examining the health of respondents in the area of Rentang village, Darul Hikmah sub-district, Aceh Jaya district, shows that out of 150 respondents, 26 respondents suffer from hypertension, where the percentage is 17.33% of the total 150 respondents.

4.1.2. Hypertension Indicators in Range Village Community

Indicators of Hypertension in the community are parameters or clues used to measure the extent to which the community or individual applies clean and healthy living habits. It is important to monitor blood pressure in communities in the Rentang Village area, Darul Hikmah District, Aceh Jaya Regency with hypertension because uncontrolled blood pressure can increase the risk of heart disease, stroke, and other health problems.

Table 3. Alcohol Consumption Indicators

		Frequency (f)	Percentage (%)	Valid Percent	Cumulative Percent
Valid	No	26	100.0	100.0	100.0
	Total	26	100.0	100.0	

Table 3 shows the indicator of the level of alcohol consumption in Rentang Village, Darul Hikmah District, Aceh Jaya Regency with 27 respondents with hypertension, that all respondents with a percentage of 100% did not consume alcohol consumption.

Table 4. Indicators of Vegetable and Fruit Consumption

		Frequency (f)	Percentage (%)	Valid Percent	Cumulative Percent
Valid	Yes	9	34.6	34.6	34.6
	No	17	65.4	65.4	100.0
	Total	26	100.0	100.0	

Table 4 shows indicators of the level of consumption of fruits and vegetables in Rentang Village, Darul Hikmah District, Aceh Jaya Regency with 26 respondents with hypertension, that 19 respondents with a percentage of 65.4% consume enough fruits and vegetables every day and only 7 respondents with a percentage of 34.6% still have deficiencies in consuming fruits and vegetables.

Table 5. Smoking Indicators

		Frequency (f)	Percentage (%)	Valid Percent	Cumulative Percent
Valid	Yes	13	50.0	50.0	50.0
	No	13	50.0	50.0	100.0
	Total	26	100.0	100.0	

Table 5 shows the indicator of the level of respondents smoking in Rentang Village, Darul Hikmah District, Aceh Jaya Regency with a total of 26 respondents with hypertension, 13 respondents with a percentage of 50% respondents did not smoke 13 respondents with a percentage of 50%.

Table 6. Stress Indicator

		Frequency (f)	Percentage (%)	Valid Percent	Cumulative Percent
Valid	Yes	5	19.2	19.2	19.2
	No	21	80.8	80.8	100.0
	Total	26	100.0	100.0	

Table 6 shows the indicator of the level of pressure or stress in Rentang Village, Darul Hikmah District, Aceh Jaya Regency with 26 respondents with hypertension, where

21 respondents with a percentage of 80.0% of respondents experienced stress and pressure and 5 respondents with a percentage of 19.2% of respondents did not have pressure/stress.

Table 7. Indicator Diabetes Meletus

		Frequency (f)	Percentage (%)	Valid Percent	Cumulative Percent
Valid	No	20	76.9	76.9	76.9
	Yes	6	23.1	23.1	100.0
	Total	26	100.0	100.0	

Table 6 shows indicators of the level of pressure or stress in Rentang Village, Darul Hikmah District, Aceh Jaya Regency with 26 respondents with hypertension, that 6 respondents with a percentage of 23.1% of respondents had diabetes and 20 respondents with a percentage of 76.9% of respondents did not have diabetes.

4.2. Discussion

Indicators of hypertension, or high blood pressure, are measured using two numbers that show systolic and diastolic pressure. Systolic is the blood pressure when the heart is contracting, while diastolic is the blood pressure when the heart is resting between contractions.

Normally, blood pressure is measured in millimeters of mercury (mmHg). The general standard for normal blood pressure is 120/80 mmHg. The first number (systolic) shows blood pressure when the heart contracts, while the second number (diastolic) shows blood pressure when the heart is at rest (Martiwi, 2018). The following are blood pressure categories according to the American Heart Association:

1. Normal: Systolic < 120 mmHg and diastolic < 80 mmHg
2. Prehypertension: Systolic 120-129 mmHg or diastolic 80-89 mmHg
3. Grade 1 Hypertension: Systolic 130-139 mmHg or diastolic 90-99 mmHg
4. Grade 2 Hypertension: Systolic ≥ 140 mmHg or diastolic ≥ 90 mmHg

Based on data from the results of the study, it shows that the level of hypertension in Rentang Village, Darul Hikmah District, Aceh Jaya Regency from a total of 26 respondents suffering from hypertension has a variety of causes or factors for respondents suffering from hypertension, both from a culture of life that is not clean and healthy, lack of eating fruits and vegetables, consuming cigarettes and alcohol, then due to the age factor so that there are many diseases in the respondents, both diabetes and cholesterol (Yonata & Pratama, 2016).

The cause of the high rate of hypertension in Rentang Village, Darul Hikmah Subdistrict, Aceh Jaya Regency is inseparable from other factors, be it the risk of hypertension increases with age. Less physical activity can lead to increased blood pressure. Lack of potassium intake may contribute to increased blood pressure. Vitamin D deficiency has been associated with an increased risk of hypertension. High cholesterol in the blood can contribute to plaque formation in the arteries, which can increase blood pressure and high salt intake can increase blood pressure (Hastuti & Sunanto, 2018).

Therefore, it is very important to conduct counseling in this area, in order to reduce the level of hypertension that is widely experienced among the elderly. Recognizing these

factors can help individuals to take preventive measures and manage their blood pressure. Healthy lifestyle changes, such as regular exercise, a balanced diet, and stress management, can help control blood pressure and reduce the risk of hypertension. It is always important to consult a healthcare professional for evaluation and advice appropriate to the individual's condition (Apriyanti, 2023).

Keep in mind that high blood pressure can increase the risk of heart disease and stroke, so it is important to monitor blood pressure regularly and consult a healthcare professional if blood pressure falls outside the normal range. In addition, other factors such as age, gender and medical history may also influence blood pressure management recommendations (Muliyati et al., 2011).

5. CONCLUSION

The study reveals a high prevalence of hypertension in Rentang Village, indicating a significant health concern. Key risk factors include lifestyle habits such as excessive salt intake, sedentary behavior, and poor diet. To address this issue, public awareness about hypertension prevention through health counseling on diet, exercise, and stress management is crucial. Additionally, the local government should actively support public health initiatives by incorporating hypertension screening and counseling into broader health programs.

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