

## Balanced Nutrition Behavior Relationship With Hypertension Incidence In Sugiharjo Village Batang Kuis District

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### ABSTRACT

Nutritional problems that are not optimal are related to poor health. Poor nutrition is a risk factor such as cardiovascular disease (heart and blood vessel disease, hypertension and stroke), and eating behavior in food selection will affect a person's nutritional state. This study is a quantitative study that aims to determine the behavior of balanced nutrition with the incidence of hypertension in Sugiharjo Village, to determine the relationship between balanced nutrition behavior and the incidence of hypertension in Sugiharjo Village. The inclusion criteria of Sugiharjo Village residents were 35 people. This study shows that there are 22 (62.9%) female respondents compared to 13 male respondents (37.1%). The number of samples was determined using the Lameshow formula, namely 35 people. The data was taken using a questionnaire including food recall with direct interviews. Data analysis used univariate analysis and bivariate analysis which was processed using the SPSS program and presented in tabular form. The results of the study using the chi-square test showed that there was a relationship between balanced nutrition behavior and the incidence of hypertension in Sugiharjo village, Batang Kuis district. The p-value is 0.048, which means it is smaller than 0.05. Thus, it can be concluded that there is a relationship between balanced nutrition behavior and the incidence of hypertension in Sugiharjo Village.

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## 1. INTRODUCTION

The problem of nutrition that is not optimal is related to poor health. Poor nutrition is a risk factor such as cardiovascular disease (disease heart and blood vessels, hypertension and stroke), diabetes and cancer are the main cause of death in Indonesia. More than half of all deaths in Indonesia. More than half of all deaths in Indonesia are a result PTM [1]. Diet is the most important behavior that can be affect nutritional status. This is due to the quantity and quality food and drink consumed will affect the level of health individuals and society need to be increased towards balanced nutrition consumption. One of the principles is to eat a variety of food[1].

Imbalance between carbohydrate consumption and energy needs, where consumption is too excessive compared to needs or energy consumption will lead to obesity, in fact, excess obesity Energy in the body is stored in the form of fat tissue. Nutrition knowledge influences attitudes and behavior in choosing food. good nutrition is expected to influence the consumption of good food so that it can lead to good nutritional status, knowledge about nutrition and mistakes in choosing food will affect nutritional status, in addition to having a risk degenerative diseases such as hypertension or high blood pressure [2]. Hypertension is a disease that can affect anyone, both young and old nor old. Hypertension is one of the deadliest diseases in world. As many as one billion people in the world or one in four adults suffer from this disease. It is estimated that the number of people with hypertension will increase to 1.6 billion by 2025[3].

The level of one's nutritional knowledge influences attitudes and behavior in food selection and will further affect the nutritional state of the individual concerned. nutritional knowledge in life daily can cause nutritional problems. Based on research results knowledge about the benefits of staple foods is seen to be higher (40%-53%) compared to the benefits of animal, vegetable and fruit side dishes.

Above 80% of respondents stated that they agree to consume a variety of foods every day, in general it is still low, namely below 20% based on age group respondents and by province[4].

Nutritional knowledge influences attitudes and behavior in choosing food. Good nutritional knowledge is expected to influence consumption good food, so that it can lead to a good nutritional status. Enough knowledge about nutrition and mistakes in choosing food will effect on nutritional status [5].

Nutrients are food substances contained in a material food that can be utilized by the body. While nutrients are substances or chemical elements contained in food needed for metabolism in the body normally. According to Hasdianah (2014) balanced nutrition is a composition of daily food that contains nutrients in type and amount according to the needs of the body, taking into account the principles of diversity or variety of food, physical activity, hygiene, and ideal body weight (BB)[6].

## 2. METHOD

This research is a descriptive study with a cross sectional approach by means of observation or data collection. The research sample was a portion of the population, namely outpatient hypertensive patients at the Batang Health Center using quizzes using questionnaires and food recall. The population in this study are residents who suffer from hypertension who live in Sugiharjo Village, Batang Kuis District in 2022, totaling 35 people. The sample in this study were 35 residents suffering from hypertension in 2022. Data were analyzed by Bavarat analysis and Univariate analysis.

## 3. RESULTS AND DISCUSSION

### Characteristics of respondents

#### Age

Characteristics of Respondents by Age can be seen in the table below with the age category 30-50 years – age 51-60 years.

**Table 1 Characteristics of Respondents by Age**

Age	N	%
30-50 year	18	51,4
51-61 year	17	48,6
<b>Amount</b>	<b>20</b>	<b>100</b>

Based on Table 1 above, it can be seen that of the 35 respondents who become the subject of research obtained based on frequency characteristics age in the 30-50 year category as many as 18 people (51.4%), category based on the age of 51-60 years as many as 17 people (48.6%).

### Characteristics of Respondents Based on Gender

Characteristics of Respondents Based on Gender can be seen in the table below with male and female categories.

**Table 2 Characteristics of Respondents by Gender**

Gender	N	%
Man	13	37,1
Woman	22	62,9
<b>Amount</b>	<b>20</b>	<b>100</b>

Based on Table 2 above, it can be seen that of the 35 respondents who became research subjects obtained frequency characteristics based on sex as many as 13 men (37.1%), and the female sex as many as 22 people (62.9%).

### Characteristics of Respondents by Occupation

Characteristics of respondents based on work can be seen below with the Categories of IRT, farmers, traders, construction.

**Table 3 Characteristics of Respondents by Occupation**

<b>Work</b>	<i>N</i>	%
IRT	18	51,4
farmers	5	14,3
traders	6	17,1
construction	6	17,1
<b>Amount</b>	35	100

Based on Table 3 above, it can be seen that of the 35 respondents who become the subject of research obtained based on frequency characteristics 18 people (51.4%) are employed in the IRT category, 5 people are farmers (14.3%), Building 5 people (17.1%), Traders 6 people (17.10%).

### Characteristics of Respondents Based on Education

Characteristics of Respondents Based on Education can be seen below this with categories, elementary, junior high, high school.

**Table 4 Characteristics of Respondents by Education**

<b>Education</b>	<i>N</i>	%
Elementary school	17	48,6
Junior high school	10	28,6
Senior high school	8	22,9
<b>Amount</b>	35	100

Based on Table 4 above, it can be seen that of the 35 respondents who become the subject of research obtained based on frequency characteristics Elementary school education category as many as 17 people (48.6%), junior high school as many as 10 people (28.6%), SMA as many as 8 people (22.9%).

### Univariate analysis

This analysis was conducted to obtain an overview of the characteristics the frequency of each variable studied, by looking at the frequency characteristics can know the description of each variable in the study.

### Characteristics of Respondents Based on Blood Pressure

The characteristics of respondents based on blood pressure are categorized into three categories, namely Pre-Hypertension, Hypertension 1, Hypertension 2 can be seen in table 4.5 below

**Table 5 Characteristics of Respondents Based on Diet**

<b>Blood pressure</b>	<i>N</i>	%
Pre Hypertension	19	54,3
Hypertension 1	11	31,4
Hypertension 2	5	14,3
<b>Amount</b>	35	100

Based on table 5 above, it can be seen that of the 35 respondents who become the subject of research obtained based on frequency characteristics Blood Pressure Pre Hypertension category as many as 19 people (54.3%), Hypertension 1 in 11 people (31.4%) and Hypertension 2 in 5 people (14.3%).

### Characteristics of Respondents Based on Consumption Behavior Diverse Food

The characteristics of respondents based on food behavior varied categorized into two categories namely Good and Less can be seen in table 6 below.

**Table 6 Characteristics of Respondents Based on Food Behavior.**

<b>Behavior</b>	<i>N</i>	%
Good	7	20,0

Not enough	28	80,0
<b>Amount</b>	20	100

Based on Table 6 above, it can be seen that of the 35 respondents who became the subject of research obtained frequency characteristics based on diverse food behavior with a Less category of 28 people (80.0%), Good as many as 7 people (20.0%),

### Bivariate Analysis

Bivariate analysis was conducted to determine the relationship between variables independent with the dependent variable, the statistical test used is the chi-square test test, which is processed by a computerized system using SPSS, The analysis can be seen in the following table:

### Relationship between balanced nutritional behavior and the incidence of hypertension

Based on the relationship between food behavior and hypertension, it can be seen on Table 7 below shows the relationship between balanced nutrition behavior and events Hypertension

**Table 7 Relationship Between Balanced Nutrition Behavior And Hypertension**

Behavior food	Incidence Of Hypertension						Hypertension events	Nilai p
	Pre Hipertensi		Hipertensi 1		Hipertensi 2			
	N	%	N	%	N	%		
Good	4	57,1	1	14,3	2	28,6	7	100
Not enough	15	53,6	10	35,7	3	10,7	28	100
<b>Amount</b>	<b>19</b>	<b>54,1</b>	<b>11</b>	<b>31,3</b>	<b>5</b>	<b>15,5</b>	<b>35</b>	<b>100</b>

Based on table 7 above, it can be seen that of the 35 respondents, it is known respondents on food behavior, good category of 7 respondents pre hypertension as many as 19 people (57.1%), Hypertension 1 as many as 1 person (14.3%), Hypertension 2 as many as 2 people (28.6%), in the less category as many as 28 people Pre Hypertension as many as 15 people (53.6%) , Hypertension 1 as many as 10 people (35.7%), Hypertension 2 as many as 3 people (10.7%). While the incidence of hypertension which is categorized as pre-hypertension is as many as 19 people (%), Hypertension 1 as many as 11 people (%), Hypertension 2 as many as 5 person (%)

After doing a statistical test (cross sectional test) using chi-square test on the cross table between food behavior and Blood pressure obtained 95% confidence level at df 2, obtained value p-value 0.048 which means it is smaller than (0.05). Thus can It can be concluded that there is a relationship between various food consumption behaviors with the incidence of hypertension in Sugiharjo Village.

## DISCUSSION

### Characteristics of Respondents

Based on the results of the study that there were 35 respondents who were the subject the research obtained the number based on age in the 30-50 year category as many as 18 people (51.4%), categories based on the age of 51-60 years 17 people (48.6%). Based on the results of the study that there were 35 respondents who were the subject research obtained the number based on sex with frequency based on male sex as many as 13 people (37.1%), and those 22 people (62.9%) were female.

Based on the results of the study that there were 35 respondents who became the subject research obtained the number based on the frequency based on the job the IRT category was 18 people (51.4%),

Farmers were 5 people (14.3%), Building 6 people (17.1%), Traders 6 people (17.1%).

Based on the results of the study that there were 35 respondents who became the subject research obtained a number based on frequency based on education elementary school category as many as 17 people (48.6%), junior high school as many as 10 people (28.6%), SMA as many as 8 people (22.9%).

### Characteristics of Food Behavior

Eating behavior is a complex interaction of physiological factors, psychological, social, and genetics that affect meal times, quantity food intake, and food preferences or selection. When individual

choosing what to eat does not just happen, but individuals will determine it. eating behavior is a thought, action, and intention to actualize swallowing something in solid and liquid form. Naturally individual before deciding to eat first will have the intention to eat. From eating behavior can be found how something the group obtains food, the types of food consumed, the amount used when serving and how much consumption of ingredients the food.[6].

Based on the research it can be seen that of the 35 respondents who became research subjects obtained frequency characteristics based on eating behavior good category as many as 7 people (20.0%), and less well as many as 28 people (80.0%).

### **Characteristics of Hypertension**

Hypertension is a condition when the blood pressure in the blood vessels chronic increase. This can happen because the heart works more pumping blood hard to meet the body's need for oxygen and nutrients. If Left unchecked, this disease can interfere with the function of other organs, especially vital organs such as the heart and kidneys. Women will experience The increased risk of high blood pressure (hypertension) after menopause is age over 45 years. Women who have not menopause are protected by hormones Estrogen plays a role in increasing levels of High Density Lipoprotein (HDL). Low HDL cholesterol levels and high LDL cholesterol (Low Density Lipoprotein) affect the occurrence of atherosclerosis and result in high blood pressure[7].

Based on the research it can be seen that of the 35 respondents who being the subject of research obtained frequency characteristics based on pressure Blood category Pre Hypertension as many as 19 people (54.3%), Hypertension 1 as many 11 people (31.4%) and hypertension 2 as many as 5 people (14.3%).

### **The relationship between food consumption behavior varies according to nutrition Balanced with the incidence of hypertension**

Based on table 7 above it can be seen that of the 35 respondents, known to respondents about eating behavior, good category as many as 7 respondents pre hypertension as many as 19 people (57.1%), Hypertension 1 as many as 1 person (14.3%), Hypertension 2 as many as 2 people (28.6%), in less category as much Prehypertension 28 people, 15 people (53.6%), hypertension 1, 10 people (35.7%), hypertension 2, 3 people (10.7%). Meanwhile Genesis Hypertension categorized as pre hypertension as many as 19 people (%), Hypertension 1 as many as 11 people (%), Hypertension 2 as many as 5 people (%) After doing a statistical test (cross sectional test) using chi-square test on the cross table between food behavior and stress blood obtained a 95% confidence level at df 2, obtained a p-value of 0.048 which means smaller than (0.05). Thus it can be concluded that there is a relationship between various food consumption behaviors with the incidence of hypertension in sugiharjo village.

Balanced nutrition has an important role in habit formation eat someone because this will affect someone in choosing type and amount of food consumed. Someone based Knowledge of good nutrition will pay attention to the nutritional state of each food consumed. Nutritious food is not expensive food and it tastes great. However, nutritious food is food capable of meeting nutritional needs. With the aim that the food provide nutrients according to the needs of the body often referred to as balanced nutrition [7].

The factor that is closely related to the occurrence of hypertension is pattern life. There are lifestyle changes that cause it Epidemiological transitions of disease are indicated by trends changes in patterns of morbidity and patterns of main disease causes of death, where there was a decrease in the prevalence of infectious diseases, while the prevalence non-infectious or degenerative such as: hypertension, stroke, cancer and so on, actually increased[8].

## **4. CONCLUSION**

Based on the results of this study, there is a relationship between food consumption behavior according to Balanced Nutrition and the incidence of hypertension in Sugiharjo Village. using the chi square test with a pvalue of 0.048 which mean the smaller of a 0.05.

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