RELATIONSHIP OF FOOD CONSUMPTION PATTERNS WITH INCREASING BLOOD PRESSURE IN ADULTS

Susilo Harianto
DIII Nursing Study Program, Departement of Health, Faculty of Vocational Studies, Universitas Airlangga

ABSTRACT

Introduction: A healthy diet is a way or effort in regulating the number and type of food with certain intentions such as maintaining health, nutritional status, preventing or helping to cure disease. Blood pressure is the power caused by the heart that contracts like a pump, so that blood continues to flow in the blood vessels. A person's blood pressure can be more or less than the normal value limit. The trigger factor for changes in blood pressure is one of them about food consumption patterns, such as consuming excess salt.

Methods: The purpose of this study was to determine the relationship of food consumption patterns with increased blood pressure. The design of this study uses analytics using the Case Control and sampling approach that is used is a non probability sampling with a number of 60 people and the number of samples taken by 36 respondents. Data collection used questionnaires coded, scored, tabulated and analyzed using the Chi-Square test.

Results: The results of the study were 20 respondents (56%) with dietary patterns that did not fit the diet, 20 respondents (56%) with high blood pressure, from the Chi-Square analysis of 0.000 showed a significant value, meaning H0 was rejected or there was a relationship between consumption patterns food with increased blood pressure.

Conclusion: Based on the results of the study, it can be concluded that there is a relationship between food consumption patterns and an increase in blood pressure.

INTRODUCTION

Hypertension is a complex blood pressure. This can happen because the heart works harder to meet the body’s oxygen and nutritional needs. If left unchecked, this disease can release the function of other organs, especially vital organs such as the heart and kidneys (National Riskesdas, 2013).

WHO data (World Health Organization) around the world around 972 million people or 26.4% of the inhabitants of the earth suffer from hypertension, from 972 million people with hypertension, 333 million in developed countries and 639 on the left in developing countries, including Indonesia. Hypertension was also ranked 2nd out of the 10 most diseases in outpatients in Indonesia in 2006 with a prevalence of 4.67% and in 2013 the prevalence of hypertension increased to 9.5%.

The number of hypertensive sufferers throughout the world continues to increase. In Asia, 38.4 million people with hypertension were announced in 2000 and predicted to be 67.4 million by 2025. In Indonesia, it reaches 17-21% of the population and is not taken into account (Muhammadun, 2010).

At present Indonesia is in the phase of an epidemiological transition which results in a shift in the pattern of diseases from infectious to non-communicable diseases (Stefhany, 2012).

Whereas for most cases of inpatient disease, for government type A general hospitals, hypertension was in the second position as many as 12,590 cases and in general government hospitals type C hypertension was in second place with 7,355 cases (East Java Health Office, 2013).
Susilo Harianto | Journal of Vocational Nursing 01 (2020): 51-56

Some risk factors are included in factors that cannot be controlled such as genetics, age, sex, and race. While risk factors that can be controlled in the form of behavior or lifestyle such as obesity, lack of activity, stress and food consumption (Rawasiah, 2014).

Hypertension or better known as high blood pressure disease is a condition where a person is declared to have increased blood pressure above the normal limit. A person is diagnosed with hypertension if the systolic pressure reaches above 140 mmHg and diastolic pressure is above 90 mmHg (Junaidi, 2010).

Some studies that have factors related to hypertension indicate a significant relationship between fruit and vegetable consumption and the incidence of hypertension (Susanto, 2010).

The wrong diet is one of the risk factors that increase hypertension. Modern food factors as a major contributor to the occurrence of hypertension (US, 2010).

There is a correlation between increasing consumption of vegetables and fruit, with a decrease in food fat consumption, accompanied by a decrease in consumption of total fat and saturated fat, which can reduce blood pressure (Aisyiyah, 2009).

Diet will affect health, especially blood vessels and the heart, people's habits of consuming higher cholesterol food, culture of eating society with delicious dishes, often consuming beef in the form of rendang, high saturated fat and dietary patterns that have the potential for hypertension in the form of eating habits contrary to nutrition programs, for example vegetables are rarely found in the menu (Herwati, 2013).

MATERIALS AND METHODS
The design in this study was Case Control analytic, which was a study that compared between case groups and control groups to find out the proportion of events based on history of exposure or absence. The design of this study is known as a retrospective nature, that is, the design by looking back from an event that is related to the incidence of pain studied. The population in this study were all adults in the Mud Village of Gresik District, Gresik Regency. Using purposive sampling method in this study there were 36 respondents with hypertension totaling 20 people and not hypertension 16 people. Data collection in this study uses questionnaires.

RESULTS

| Table 1 Distribution of Respondents by Age |
|---|---|---|---|
| No | Age | Frequency | Percentage |
| 1 | 35-39 | 14 | 38 |
| 2 | 40-49 | 11 | 31 |
| 3 | >50 | 11 | 31 |
| Total | 36 | 100 |

Shows that almost half of the respondents have 35-39 years (38%) and the rest have 40 years to more than 50 years.

| Table 2 Distribution of Respondents Based on Latest Education |
|---|---|---|---|
| No | Education | Frequency | Percentage |
| 1 | No School | 0 | 0 |
| 2 | Grammar school | 9 | 25 |
| 3 | Elementary school | 12 | 33 |
| 4 | Junior High School | 14 | 39 |
| 5 | Academic/ College | 1 | 3 |
| Total | 36 | 100 |

Shows that almost half of the respondents had high school / equivalent education (39%) and none of them did not attend school.
Table 3 Distribution of Respondents by work

<table>
<thead>
<tr>
<th>No</th>
<th>Job</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Housewife</td>
<td>21</td>
<td>58</td>
</tr>
<tr>
<td>2</td>
<td>Farmer</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Entrepreneur</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>PNS</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Private</td>
<td>9</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36</td>
<td>100</td>
</tr>
</tbody>
</table>

Shows that most work as housewives (58%) and none of them work as farmers or civil servants.

Table 4 Distribution of Respondents Based on Food Consumption Patterns

<table>
<thead>
<tr>
<th>No</th>
<th>Food Consumption Patterns</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fit</td>
<td>16</td>
<td>44</td>
</tr>
<tr>
<td>2</td>
<td>Not Fit</td>
<td>20</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36</td>
<td>100</td>
</tr>
</tbody>
</table>

Shows that most respondents had an inappropriate diet (56%).

Table 5 Distribution of Respondents Based on Blood Pressure

<table>
<thead>
<tr>
<th>No</th>
<th>Blood Pressure</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Low</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Normal</td>
<td>16</td>
<td>44</td>
</tr>
<tr>
<td>3</td>
<td>High</td>
<td>20</td>
<td>56</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36</td>
<td>100</td>
</tr>
</tbody>
</table>

Shows that the majority of respondents had high blood pressure (56%) and none had low blood pressure.

Table 8 Cross Tabulation of Food Consumption Patterns with Blood Increase

<table>
<thead>
<tr>
<th>No</th>
<th>Food Consumption Patterns</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36</td>
<td>100</td>
</tr>
</tbody>
</table>

Shows that of the 36 respondents, 20 respondents who had inappropriate food consumption patterns suffered from high blood pressure as many as 20 respondents (56%) and respondents who patterned their food consumption accordingly had normal blood pressure of 16 respondents (44%). Based on the results of data analysis to answer the research hypothesis with the Chi-Square test in SPSS with α = 0.05 the results ρ = 0.00 are ρ < α which means that H0 is rejected and H1 is accepted which means there is a relationship between food consumption patterns and blood pressure increases in Mud Village of Gresik District, Gresik Regency.

**DISCUSSION**

Food Consumption Pattern, The results showed that most of the feed consumption patterns were not in accordance with the diet of 20 respondents (56%) and almost half of the food consumption patterns were in accordance with the diet as many as 16 respondents (44%). According to Ramadan (2008), a healthy diet is a way or effort in regulating the total and type of food with certain intentions such as maintaining health, nutritional status, preventing or helping cure illness. Daily diet is a person’s diet that is related to eating habits every day. According to Arumi (2011), healthy foods for hypertensive patients are nuts, bananas, soybeans, avocados, dark chocolate. Whereas According to Ramadan (2008), foods that must be avoided by hypertensive patients are instant noodles, margarine, milk, pickles, french fries, smoked meat, sugar, and alcohol. Diet is a way for someone who is associated with eating habits every day. The trigger factor for changes in blood pressure is the other factor about food consumption patterns. Foods with high salt content are generally found in processed foods, such as...
cheese, canned foods, salted fish, and
sausages. Hypertension sufferers are more
advised to consume natural foods, have not
undergone a processing process, such as fresh
vegetables, fresh fruit, cereals, nonfat milk, and
lean meat. Most people in the village of Mud
consume more of the sea fish than vegetables
because most of the respondents' jobs are
housewives whose families live as fishermen,
this is not in accordance with the diet of people
with hypertension so that it can trigger an
increase in blood pressure.

Mellisa (2013) states that there is a
relationship between exercise behavior, stress
and diet with hypertension at Age.

The lack of consuming food sources
containing potassium causes total sodium to
accumulate and will increase the risk of
hypertension (Junaedi et al. 2013).

Blood Pressure, The results showed
that most of the food consumption patterns that
did not fit the diet were 20 respondents (56%) and
almost half of their food consumption
patterns were in accordance with the diet as
many as 16 respondents (44%).

According to Ramadan (2008), a
healthy diet is a way or effort in regulating the
total and type of food with certain purposes
such as maintaining health, nutritional status,
preventing or helping disease recurrence. Daily
diet is a person's diet that is related to eating
habits every day. According to Arumi (2011),
healthy foods for people with hypertension are
nuts, bananas, soybeans, avocado, thick
chocolate. Meanwhile, according to Ramadan
(2008), foods that should be avoided by
hypertensive patients are instant noodles, margarine, milk, pickles, french fries, smoked
meat, sugar, and alcohol.

Diet is a way of monitoring that relates
to eating habits every day. The trigger factor for
changes in blood pressure is one of them about
food consumption patterns. Foods with high salt
content are generally found in processed foods,
such as cheese, canned foods, salted fish, and
sausages. Hypertension sufferers are more
advised to consume natural foods, have not
undergone a processing process, such as fresh
vegetables, fresh fruit, cereals, nonfat milk, and
lean meat. Most people in the Mud Village of
Gresik Subdistrict, Gresik District consume
more sea fish than vegetables because most of
the respondents' jobs are housewives whose
family heads earn a living as fishermen. So that
people consume marine fish more often than
vegetables, this affects blood pressure.

Relationship of Food Consumption
Patterns with Blood Pressure, The results
showed that from 36 respondents, 20
respondents who had an inappropriate dietary
pattern had 20 high blood pressure (56%), and
respondents who had a suitable food
consumption had normal blood pressure as
many as 16 respondents (44%). The results of
Chi-Square analysis show a value of p≤0.05,
which is equal to 0,000, between the variables
of food consumption patterns with hypertension
have a significant value, meaning that H0 is
rejected or there is a relationship between food
consumption patterns with increased blood
pressure.

Diet is a description of the type, total,
and composition of food items that are eaten
every day by one person who is a characteristic
of a particular community group. Eating habits
are the way individuals or groups choose,
consume and use available food and are based
on social and cultural factors where the
individual or group lives. The main factor
causing hypertension is closely related to the
habit of consuming excess salt and is not
balanced by increasing eating vegetables
(Muhaimin, 2008).

Fritian (2010) has a relationship
between fruit and vegetable consumption in
one day with hypertension, that respondents
who consumed less fruit and vegetables,
(69.1%) were diagnosed with hypertension.
Adriaanz (2016) revealed that
consumption of foods high in sodium can affect
blood pressure rise.

The results of this study corroborate
Nuarima's (2012) findings that consumption of
fatty foods is not a risk factor for hypertension.
American Diabetes Association (2016) says
consumption of excess sweet foods not only
adds weight but also increases the risk factors
for type 2 diabetes.

Research conducted by Taslim, et al.
(2016) on the relationship of diet and stress with
the incidence of grade 1 and 2 hypertension in
pregnant women in the working area of the
Kamonjhi Health Center in West Palu Subdistrict
"found results that there was a relationship
between diet and stress with grade 1
hypertension events and 2.

In the community in the Mud Village of
Gresik Subdistrict, Gresik District, the majority of
the Mud community have eating habits that
influence blood pressure, the majority of the
Mudflow community live close to the sea so that
they consume more marine fish more often.
This is the main reason why the community
blood pressure in the Mud Village of Gresik
District, Gresik Regency tends to be high,
because fish have a high fat content. Fat
consumption is related to cholesterol levels in
the blood. High cholesterol levels in the blood
can cause thickening of the arteries. If there is
more sediment, the walls of the blood vessels
become stiffer or less flexible. This condition will aggravate the heart because the heart works harder when pumping blood so it aggravates hypertensive patients.

Ramayulis (2010) says that a wrong diet can cause an increase in blood pressure such as eating fatty foods, especially in the intake of saturated fat and cholesterol.

The research conducted by Mamoto et al. (2012) showed that there was a significant relationship between sodium intake and the incidence of hypertension.

Research conducted by Annisa (2009) shows that there is a relationship between potassium intake and hypertension. There was a significant relationship between physical activity, fat intake, and sodium intake with the incidence of hypertension (Mahmudah, 2015).

CONCLUSION

From the results of the research and discussion above, it can be concluded that the majority of respondents have good knowledge about the Elderly Posyandu. Based on the results of the study of the Relationship of Food Consumption Patterns with Increased Blood Pressure in Adults in the Mud Village of Gresik District, Gresik Regency. Can be concluded that:

1. Most adults in the Mud Village of Gresik Subdistrict, Gresik Regency have a food consumption pattern that is not in accordance with the diet.
3. There is a strong correlation between food consumption patterns and increasing damh pressure in adults in the Mud Village of Gresik District, Gresik Regency.

REFERENCES


Kota Surabaya. Skripsi Tidak Dipublikasikan.