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Factors That Can Create Hypertension Disease in The Advantage of Village Raya Berastagi Distric Karo Regency in 2019

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ABSTRACT

Hypertension is considered a serious health problem because it is often not recognized by us with few, if any, noticeable symptoms. As for the independent variables, namely age, excessive food, occupation, genetics and the dependent variable, namely hypertension. The purpose of this study was to determine the factors that can cause hypertension in the elderly in Raya Village, Berastagi District, Karo Regency in 2019. This type of research is quasi-experimental where a sample of 30 respondents through the simple random sampling technique. The type of data used is primary data taken directly from the Raya Village Office, Berastagi District, Karo Regency. The statistical test used was the Chi-Square statistical test p = 0.426. The results of the shi-square statistical test based on age obtained p = 0.426, that is, there is no relationship between age and hypertension. Based on excessive food, it was obtained p = 0.361, that is, there was no relationship between excessive food and hypertension. Based on the work, it was obtained p = 0.819, that is, there was no relationship between work and hypertension. This means that the p value is greater than the value ofα(0.05) and thus Ho is rejected and Ha is accepted, which means there is no relationship between age, excessive food and work with hypertension. Based on genetics, it was obtained p = 0.044, which is a relationship between genetics and hypertension. This means that the p value is smaller than the valueα(0.05) and thus Ho is accepted and Ha is rejected, which means that there is a relationship between genetics and hypertension. It is hoped that the elderly in Raya Village, Berastagi Subdistrict, Karo Regency, to maintain their health in order to avoid hypertension and carry out regular checks.

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1. Introduction

Hypertension is a condition without symptoms, where the abnormally high pressure in the arteries causes an increased risk of stroke, aneurysm, heart failure, heart attack, and kidney damage (Sunaryati, 2014).

Hypertension is considered a serious health problem because it is often overlooked by us with few, if any, noticeable symptoms. This disease continues to get worse without realizing it until it reaches a level that is life threatening to patients (Wade, 2018).

Overweight (obesity), an inactive lifestyle (lazy to exercise), stress, alcohol or salt in food; can lead to hypertension in people who have an inherited sensitivity (Muhammadun, 2015).

Hypertension kills 60,000 Americans each year. Until the age of 55 years, hypertension generally affects women more often than men. The highest incidence rate occurs in black people. According to estimates in 1971, hypertension was found in 12.7% of white men and 17.3% of white women. Among black people, 55 years of age, blood pressure tends to keep increasing with age. However, blood pressure continues to rise if you live a life full of stress and irregularities.

2. Literature review

2.1 Hypertension

High blood pressure or hypertension (hypertension) is a condition in which a person has an increase in blood pressure above normal which is indicated by a lower number (diastolic) on a blood pressure check using a blood pressure measuring device either in the form of a mercury cuff (sphygmomanometer) or other digital devices. (Pudiastuti, 2016).

2.2 Elderly

Elderly humans, can be abbreviated as seniors, or just called the elderly group (aging / elderly) is a group of the elderly population. The population group that receives this separate attention or grouping is the population aged 60 years or over (Bustan, 2018).

According to RI Law no. 4 years 1965 elderly are those aged 55 years and over.

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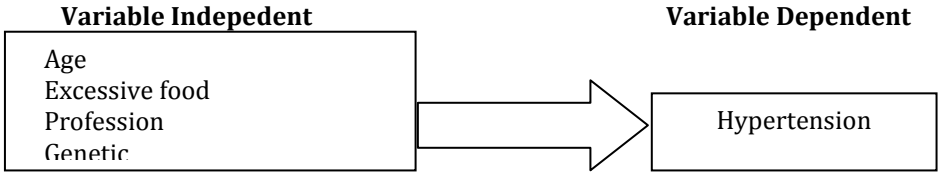
2.3 Blood pressure

Blood pressure is the force used by blood circulating in the walls of blood vessels, and is one of the main vital signs of life, which also includes heart rate, respiratory rate, and temperature (Muhammudin, 2015).

2.4 Conceptual framework

The conceptual framework of this research is:



Independent variables (free) are age, excessive food, occupation and genetics. Meanwhile, the dependent variable (dependent) is hypertension.

3. Research methods

3.1 Types of research

This type of research is quasi-experimental with the design "Non Randomized Control Group Pretest Postest Design" to obtain information about the factors that can cause hypertension in the elderly in Raya Village, Berastagi District, Karo Regency in 2019, the design can be described as follows:

Posttest	pretest	treatment
01	X	02
01		02

Information :
Experimental group
Control group

3.2 Location and Time

This research conducted in Raya Village, Berastagi District, Karo Regency.The research time required to complete this study was from February to
July 2019

3.3 Population and Sample

Population is the entire research object or object under study (Notoatmodjo, 2016). The population in this study were all elderly peopleRaya Village, Berastagi District, Karo Regency in 2019totaled 105 people. The sample in this study is a number of 30 elderly peopleRaya Village, Berastagi District, Karo Regency in 2019.

3.4 Data analysis

a) Univariate Analysis

Univariate analysis, namely to determine the frequency distribution and average. The results of this analysis are in the form of frequency distribution and percentage of variables. Furthermore, this analysis will display the frequency distribution in table form, to determine the percentage in this study the formula according to Icham (2008) is used:

$$p = \frac{f}{n} \times 100\%$$

Information :
p = percentage
f = the number of frequencies
n = number of respondents

Then the research will calculate the frequency distribution and reach a percentage on each variable using the SPSS 22 computer program.

b) Bivariate Analysis

*Bivariate analysis*conducted on two variables that are suspected of being related or collaborating. Bivariate analysis was conducted to test whether there are factors that can

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cause hypertension in the elderly inRaya Village, Berastagi District, Karo Regency in 2019by using the chi square test. With the limit of the significance of Seeing (α = 0.05) or confident level (CL) = 95% processed by computer.

The data for each subvariable was entered into the contingency table, then the contingency tables were analyzed to compare the p = value and alpha value (0.05) with the following conditions:

1) Ha is accepted and Ho is rejected: if p value> 0.05, it means that there is a relationship between the independent variable and the dependent variable.
2) Ha is rejected and Ho is accepted: if the p value is <0.05, it means that there is no relationship between the independent variable and the dependent variable. (Notoatmodjo, 2016).

4. Results and Discussion

4.1 Research result

After doing research on the elderly with hypertension in Raya Village, Berastagi District regarding "Factors that can cause hypertension in the elderly at Raya Village, Berastagi District, Karo Regency in 2019", Then the following results are obtained:

a) Univariate Data Analysis

Univariate data analysis was used to see the frequency distribution and percentage of research variables. "Factors that can cause hypertension in the elderly in Raya Village, Berastagi District, Karo Regency in 2019 that is :

1) Distribution of respondents based on characteristics

After conducting research on 30 respondents about hypertension in the elderly at Raya Village, Berastagi District, Karo Regency in 2019, the authors get results that describe the characteristics of the respondents, namely education, gender, sources of information, and hypertension. To see the characteristics of other respondents, it can be seen from the following table:

Table 1

Distribution of characteristics of elderly people with hypertension in Raya Village, Berastagi District, Karo Regency in 2019

Characteristics	Category	amount	Percentage
Education	Basic	26	86.7
	Intermediate	4	13.3
amount		**30**	**100**
Gender	Male	11	36.7
	Women	19	63.3
amount		**30**	**100**
Resources	Friends or family	6	20
	Health workers	17	56.7
	Mass media	7	23.3
amount		**30**	**100**

From Table 1 above shows the characteristics of the majority of respondents have primary school education (86.7%), are female (63.3%), and get sources of information from health workers (56.7%).

2) Distribution of Respondents Based on Hypertension

Hypertension in the elderly at Raya Village, Berastagi District, Karo Regency in 2019, can be seen in the table as follows:

Table 2

Distribution of Hypertension in the Elderly Raya Village, Berastagi District, Karo Regency2019 year

Hypertension	Frequency	Percentage (%)
Physiological	24	80
Pathological	6	20
amount	**30**	**100**

Based on Table 2 it can be seen that of the 30 respondents the majority experienced physiological hypertension (80%) at Raya Village, Berastagi District, Karo Regency in 2019.

3) Distribution of Respondents by Age

age with hypertension in the elderly at Raya Village, Berastagi District, Karo Regency in 2019, can be seen in the table as follows:

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Table 3
Distribution of ages with hypertension in Raya Village, Berastagi District, Karo Regency in 2019

Hypertension	Frequency	Percentage (%)
Elderly	21	70
Elderly old	9	30
Total	**30**	**100**

Based on Table 3, it can be seen that of the 30 respondents the majority of them are elderly who experience hypertension (70%).

4) Distribution of Respondents Based on overeating

overeating with hypertension in the elderly at Raya Village, Berastagi District, Karo Regency in 2019, can be seen in the table as follows:

Table 4
Distribution Excessive eating with hypertension in Raya Village, Berastagi District, Karo Regency in 2019

Overeating	Frequency	Percentage (%)
Normal	3	10
Exceeds	27	90
Total	**30**	**100**

Based on Table 4, it can be seen that of the 30 respondents the majority experienced hypertension (90%).

5) Distribution of Respondents by occupation

Occupation with hypertension in the elderly in Raya Village, Berastagi District, Karo Regency in 2019, can be seen in the table as follows:

Table 5
Distribution of occupations with hypertension in the elderly in Raya Village, Berastagi District, Karo Regency in 2019

Profession	Frequency	Percentage (%)
Work	24	80
Does not work	6	20
Total	**30**	**100**

Based on Table 5, it can be seen that of the 30 respondents the majority work who have hypertension (80%).

6) Distribution of Respondents based on genetics

Genetic disease with hypertension in Raya Village, Berastagi District, Karo Regency in 2019, can be seen in the table as follows:

Table 6
Genetic Distribution with Hypertension in the Elderly inRaya Village, Berastagi District, Karo Regency in 2019

Genetic	Frequency	Percentage (%)
Heredity	16	53.3
Not heredity	14	46.7
Total	**30**	**100**

Based on Table 6, it can be seen that of the 30 respondents the majority of offspring have hypertension (53.3%).

b) Bivariate Data Analysis

Bivariate data analysis was used to see the significance of the relationship between the independent variable and the dependent variable, which was carried out by using the chi-square statistical test (X2).

1) Cross tabulation of age with hypertension

From the research conducted, it can be obtained data about the age of the elderly with hypertension in Raya Village, Berastagi District, Karo Regency, can be seen from the table:

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Table 7
Cross Tabulation of Age with Hypertension in the Elderly At Raya Village, Berastagi District, Karo Regency in 2019

Age	Hypertension				*Chi-Square Test*
	Physiological		Pathological		
	N	%	N	%	
Elderly	16	53.3	5	16.7	
Elderly old	8	26.7	1	3,3	*P* =0.426
Total	**24**	**80**	**6**	**20**	

Based on table 7. above, it is observed that of the 30 respondents who have physiological hypertension, the majority of 16 respondents are elderly 53.3%.
The results of the Chi-Square statistical test obtained p value = 0.426. This means that the p value is greater than α (0.05) and thus H0 is accepted and Ha is rejected, which means there is no relationship between age and hypertension.

2) Cross tabulation of overeating with hypertensive disease

From the research conducted, it can be obtained data about overeating in the elderly with hypertension in Raya Village, Berastagi District, Karo Regency, can be seen from the table:

Table 8
Tabulation: Cross overeating with Hypertension in the Elderly Raya Village, Berastagi District, Karo Regency in 2019

Overeating	Hypertension				*Chi-Square Test*
	Physiological		Pathological		
	N	%	N	%	
Normal	3	10	-	-	
Exceeds	21	70	6	20	*p* =0.361
Total	**24**	**80**	**6**	**20**	

Based on table 8 above, it is observed that of the 30 respondents who had physiological hypertension, 21 respondents, the majority exceeded 70%.
The results of the Chi-Square statistical test obtained p value = 0.361. This means that the p value is greater than α (0.05) and thus H0 is accepted and Ha is rejected, which means that there is no relationship between overeating and hypertension.

3) Cross-tabulation of occupations with hypertension

From the research conducted, it can be obtained data about the occupation of the elderly with hypertension in Raya Village, Berastagi District, Karo Regency, can be seen from the table:

Table 9
Cross tabulation of employment with hypertension in the elderly at Raya Village, Berastagi District, Karo Regency in 2019

Profession	Hypertension				*Chi-Square Test*
	physiological		pathological		
	N	%	N	%	
Work	19	63.3	5	16.7	
Does not work	5	16.7	1	3,3	*p* =0.819
Total	**24**	**80**	**6**	**20**	

Based on table 9. above, it can be seen that of the 30 respondents who had physiological hypertension, 19 of the majority of respondents worked 63.3%.
The results of the Chi-Square statistical test obtained p value = 0.819. This means that the p value is greater than α (0.05) and thus H0 is accepted and Ha is rejected, which means that there is no relationship between work and hypertension.

4) Genetic cross tabulation with hypertension

From the research conducted, it can be obtained data about genetics in the elderly with hypertension in Raya Village, Berastagi District, Karo Regency, can be seen from the table:

Table 10
Genetic Cross Tabulation with Hypertension in the Elderly with Di Raya Village, Berastagi District, Karo Regency in 2019

Genetic	Hypertension				*Chi-Square Test*
	Physiological		Pathological		
	N	%	N	%	
Heredity	9	30	5	16.7	*p* =0.044
Not heredity	15	50	1	3,3	
Total	**24**	**80**	**6**	**20**	

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Based on table 10. above, it can be seen that of the 30 respondents who have physiological hypertension, the majority of 15 respondents are not descendants of 50%.

The results of the Chi-Square statistical test obtained p value = 0.044. This means that the p value is smaller than α (0.05) and thus H0 is rejected and Ha is accepted, which means that there is a relationship between genetics and hypertension.

4.2 Discussion

a) Distribution characteristics based on hypertension

The results of the analysis showed that of the 30 respondents the majority of physiological hypertension disease was 24 respondents 80%, who had pathological hypertension, 6 respondents 20%, basic education 26 respondents 86.7%, middle education 4 respondents 13.3%, with female gender there are 19 respondents were 63.3%, while male gender was 11 respondents 36.7%, and those who got information sources were 17 respondents from health workers 56.7%. Getting information sources 7 respondents from the mass media 23.3%, and sources of information 6 respondents obtained from friends or family 20%.

The results of this study are in line with Heriziana's study (2017) entitled "Risk factors for the incidence of hypertension at the Basuki Rahmat Health Center, Palembang." The results of this study are that there is a relationship between family history factors and the incidence of hypertension with a p value = 0.023 and PR = 1.620, there is a relationship between age and the incidence of hypertension with p value = 0.012 and PR = 1.556.

b) Analysis of Age with Hypertension in the Elderly

Judging from the results of research conducted on 30 elderly who are in Raya Village, Berastagi District, Karo RegencyOf the 16 respondents who experienced physiological hypertension, the majority of the elderly who had hypertension were as much as (53.3%). Of the 8 elderly who experienced physiological hypertension, namely the elderly (26.7%). Meanwhile, the majority of elderly people who had pathological hypertension were 5 respondents (16.7%). And the elderly who have pathological hypertension disease 1 person, namely the elderly as much (3.3%).

The results of this study are in line with Heriziana's research, year (2017) entitled "Risk factors for the incidence of hypertension at the Basuki Rahmat Puskesmas Palembang".The results of this study are that there is a relationship between family history factors and the incidence of hypertension with p value = 0.023 and PR = 1.620, there is a relationship between age and the incidence of hypertension with a p value = 0.012 and PR = 1.556, there is a relationship between gender and the incidence of hypertension with p value = 0.044 and PR = 1.408, there is a relationship between smoking habits and the incidence of hypertension with a p-value = 0.021 and PR = 1.472. There is a relationship between physical activity and the incidence of hypertension with a p value = 0.044 and PR = 1.400. there is a relationship between knowledge and the incidence of hypertension at the Puskesmas Basuki Rahmat Palembang in 2014 with a p value = 0.030 and PR = 1.618

Thus it can be concluded in this study that there is no relationship between ages. The more the elderly consume too salty, the more likely the elderly will experience hypertension. So from the results of this study found a gap between the results of the study and the theory that has been stated above.

c) Analysis of Overeating with Hypertension in the Elderly

Judging from the results of research conducted on 30 elderly who are in Raya Village, Berastagi District, Karo RegencyOf the 21 respondents, the majority of whom experienced overeating with physiological hypertension, namely in excess (70%) ,, Of the 3 elderly who experienced physiological hypertension, namely the normal ones (10%). While overeating with pathological hypertension, 6 people were more than 20%.

Excessive eating factors greatly affect hypertension because the more elderly people consume excessive food, the higher the incidence of hypertension. The results of the Chi-Square statistical test obtained p value = 0.361. This means that the p value is greater than α (0.05) and thus H0 is accepted and Ha is rejected, which means there is no relationship between overeating and hypertension.

The results of this study are in line with heriziana's research, year (2017) entitled "Risk factors for the incidence of hypertension at Basuki Rahmat Puskesmas Palembang".The result of this study is that there is a relationship between smoking habits and the incidence of

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hypertension with a p-value = 0.021 and PR = 1.472. There is a relationship between physical activity and the incidence of hypertension with p value = 0.044 and PR = 1.400. there is a relationship between knowledge and the incidence of hypertension at the Puskesmas Basuki Rahmat Palembang in 2014 with a p value = 0.030 and PR = 1.618.

Obesity is closely related to an unbalanced diet. Where someone consumes more fat and protein without paying attention to fiber (Muhammudin, 2015).

Thus it can be concluded in this study that there is no relationship between overeating. The more elderly people consume excessive food, the more likely they are elderly people with hypertension. So from the results of this study found a gap between the results of the study and the theory that has been stated above.

d) Job analysis with Hypertension in the Elderly

Judging from the results of research conducted on 30 elderly in Paluh Kurau village, stretch of silver, Deli Serdang district, the majority of 19 respondents who work have physiological hypertension, namely those who work (63.3%). Of the 5 elderly who work have physiological hypertension, namely those who do not work (16.7%). While the majority of 5 respondents at work who have pathological hypertension, namely those who work (16.7%). And in 1 the majority of workers who have pathological hypertension, namely those who do not work (3.3%).

Work tends to cause severe hypertension (Muhammudin, 2015).

Work will also cause too much stress which can lead to various diseases such as headaches, difficulty sleeping, stomach ulcers, hypertension, heart and coronary disease. The results of the Chi-Square statistical test obtained p value = 0.819. This means that the p value is greater than α (0.05) and thus H0 is accepted and Ha is rejected, which means that there is no relationship between work and hypertension.

The results of this study are in line with Heriziana's research, year (2017) entitled "Risk factors for the incidence of hypertension at the Basuki Rahmat Puskesmas Palembang". The results of this study are that there is a relationship between family history factors and the incidence of hypertension with p value = 0.023 and PR = 1.620, there is a relationship between age and the incidence of hypertension with p value = 0.012 and PR = 1.556, there is a relationship between gender and the incidence of hypertension. with p value = 0.044 and PR = 1.408, there is a relationship between smoking habits and the incidence of hypertension with a p-value = 0.021 and PR = 1.472.

Thus it can be concluded in this study that there is no relationship between work and hypertension. The more elderly people who work, the more likely the elderly will experience hypertension. So from the results of this study found a gap between the results of the study and the theory that has been stated above.

e) Genetic Analysis with Hypertension in the Elderly

Judging from the results of research conducted on 30 elderly who are in Raya Village, Berastagi District, Karo RegencyOf the 16 respondents who have genetics, the majority of elderly people have hypertension in their offspring (53.3%). Of the 14 elderly who have a genetic disease of hypertension, there are as many as 46.7% of those who are not hereditary.

Experts also found a link between family history of people with hypertension (genetic) and the risk for people suffering from this disease (Muhammudin, 2015).

The results of this study are in line with Heriziana's research, year (2017) entitled "Risk factors for the incidence of hypertension at the Basuki Rahmat Puskesmas Palembang". The results of this study are that there is a relationship between family history factors and the incidence of hypertension with p value = 0.023 and PR = 1.620, there is a relationship between age and the incidence of hypertension with p value = 0.012 and PR = 1.556, there is a relationship between gender and the incidence of hypertension. with p value = 0.044 and PR = 1.408, there is a relationship between smoking habits and the incidence of hypertension with a p-value = 0.021 and PR = 1.472 ..

Thus it can be concluded in this study that there is a relationship with genetics. So, from the results of this study, there was no gap between the results of the research and the theory stated above.

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5. Conclusions and suggestions

5.1 Conclusions

a) Of the 16 respondents who experienced physiological hypertension, the majority of the elderly who had hypertension were as much as (53.3%). Of the 8 elderly who experienced physiological hypertension, namely the elderly (26.7%).

b) Of the 21 respondents, the majority of whom experienced overeating with physiological hypertension, namely in excess (70%) „ Of the 3 elderly who experienced physiological hypertension, namely the normal ones (10%).

c) Of the 19 respondents, the majority who work who have physiological hypertension are those who work (63.3%). Of the 5 elderly who work have physiological hypertension, namely those who do not work (16.7%).

d) Of the 16 respondents who have genetics, the majority of elderly people have hypertension in their offspring (53.3%). Of the 14 elderly who have a genetic disease.

e) The results of the analysis based on age with hypertension showed that the Chi-Square statistical test results obtained p value = 0.426. This means that the p value is greater than α (0.05) and thus H0 is accepted and Ha is rejected, which means there is no relationship between age and hypertension. Based on excessive food with hypertension, the Chi-Square statistical test results obtained p value = 0.361. This means that the p value is greater than α (0.05) and thus H0 is accepted and Ha is rejected, which means there is no relationship between overeating and hypertension. Based on work with hypertension, it was found that the Chi-Square statistical test results obtained p value = 0.819. This means that the p value is greater than α (0, 05) and thus H0 is accepted and Ha is rejected, which means that there is no relationship between work and hypertension. Based on genetics with hypertension, it was found that the Chi-Square statistical test results obtained p value = 0.044. This means that the p value is smaller than α (0.05) and thus H0 is rejected and Ha is accepted, which means that there is a relationship between genetics and hypertension.

5.2 Suggestion

a) Recommended to seniors of different ages Raya Village, Berastagi District, Karo Regency to further improve the degree of health in order to avoid high blood pressure / hypertension and carry out regular checks, in order to reduce the death rate caused by hypertension.

b) It is expected that the results of this research can be used as input and information Raya Village, Berastagi District, Karo Regencyabout hypertension. So that the elderly can carry out routine checks even better to avoid the occurrence of hypertension and gain insight, especially about hypertension.

c) It is suggested to the next authors who will examine the factors that can cause hypertension with different variables such as customs, drinking too much alcohol, and race or ethnicity etc. and with a larger number of samples.

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