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## **The Analysis of Factor Affecting to the Hypertension Symptom in Pre-Elderly of Selomerto 2 Health Center Wonosobo Regency**

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### **Abstract**

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Based on observational data and the introduction of Wonosobo District Health Office of showed that most non-communicable diseases are hypertension with the total number is 20,987 (Wonosobo District Health Office, 2017). Hypertension cases in District Health Office of Selomerto 2 Wonosobo is because of people's lifestyles are less healthy, because of low attitudes, knowledge, stress and behavior pre elderly living on the prevention of hypertension. The purpose of this study was to analyze the factors that affect the incidence of hypertension in the elderly Pre Health Center Selomerto 2 Wonosobo 2018. This study is an analytic correlation with cross sectional approach. The samples were 150 respondents drawn at PHC Selomerto 2. The instrument used was a questionnaire and checklist. The data analysis was done by linear regression. The results showed (1) There is an effect against the hypertension attitude with p-value  $0.017 < \alpha (0.05)$ . (2) There is the influence of knowledge about hypertension with p-value  $0.039 < \alpha (0.05)$ . (3) There is an effect of stress on hypertension with a p-value of  $0.021 < \alpha (0.05)$ , (4) There is affecting the behavior of the incidence of hypertension with a p-value  $0.028 < \alpha (0.05)$ . Community must adopt a healthy lifestyle, while the Department of Health and local government should conduct a comprehensive health counseling.

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## INTRODUCTION

Cardiovascular disease is one of the biggest death causes in the world, approximately 17 million deaths per year. The prevalence of people suffering from hypertension in the world is around 1.13 billion. Hypertension is responsible for 45% of complications of heart disease (WHO, 2015).

Data from the World Health Organization (WHO) in 2015 indicated that about 1.13 billion people worldwide with hypertension, meaning that 1 in 3 people in the world diagnosed with hypertension. The number of people with hypertension continues to increase each year, it is estimated by 2025 there will be 1.5 billion people are affected by hypertension, and it is estimated each year 9.4 million people died of hypertension and its complications (WHO, 2015).

Hypertension is one of the main causes of global disease burden and is widely recognized as cardiovascular disorders are the most common and can cause most strokes, coronary heart disease, kidney failure and premature death, affecting one in four adults in the United States and around the world. The prevalence of hypertension increases globally, and is expected increase to 30% in 2025 (Li et al., 2017),

Based on data from Riskesdas, hypertension is not an infectious disease ranks six in Indonesia. The prevalence of hypertension based on measurements in the population aged 18 years and over in 2007 to 2018 amounted to 37.57 per cent while the prevalence of hypertension throughout Indonesia at 34.1 percent (Riskesdas, 2018). Meanwhile, according to the Health Profile of Central Java province in 2017 hypertensive diseases still occupy the largest proportion of all non-communicable diseases (PTM) were reported, amounting to 57.87% per cent while the prevalence of hypertension in Wonosobo regency is 42.63%.

By age group, ages 45-65 fall into the category of pre elderly (45-59 years) and elderly (between 60-70 years) than that according to the research Nugroho (2016) states that there are significant physical activity, the consumption patterns of fat and sodium with hypertension pre

elderly in District Health Office of Tegalrejo Yogyakarta. Hypertension affects more on pre elderly and elderly compared with younger age group by 55.2% (Riskesdas, 2018).

The prevalence of hypertension cases in Wonosobo regency in 2017 was 3.8% with the number of cases increased from 20 987 cases in 2016 the number of cases as many as 5,665 cases. This increase is supported by the activities of Risk Factors for Early Detection of Communicable Diseases through PTM Posbindu and Integrated Services in Health Facilities and based on the reports of integrated non-communicable diseases by health centers of the Health Service Wonosobo in Wonosobo regency cases of hypertension increased by 42.63%. From the integrated report non-communicable diseases by health centers, an increase of cases is highest in the clinic Selomerto 2 Wonosobo with an increase in cases of 4,039 cases. From 2015 for 432 cases and 2016 amounted to 526 cases (Wonosobo District Health Profile, 2017).

In District Health Office of Selomerto 2 Wonosobo alone, hypertension is still a major problem in the pre elderly. Pre-hypertension in the elderly can lead to a poor quality of life, difficulties in social and physical function as well as increasing morbidity and mortality due to complications caused (District Health Office of Wonosobo, 2016).

Based on this background, it is necessary to do a study to determine the factors associated with pre-hypertension in the elderly who are in the working area of District Health Office of Selomerto 2 Wonosobo. By analyzing these factors are expected to be able to modify your lifestyle to support pre elderly blood pressure control in order to prevent progression of the disease in attacking the organ - other organs so that quality of life will be better.

## METHOD

This research is a quantitative research. The study design was a correlation analytic with cross sectional design. The population in this study were all pre elderly in District Health Office of Selomerto 2 Wonosobo, amounting to 242 people. The sampling technique in this study is a

random sampling. The number of samples in this study was 150 respondents. The variables in this study consisted of the independent variable is the attitude, knowledge, stress, behavior and the dependent variable is the incidence of hypertension. This study using multiple linear regression analysis.

**RESULT AND DISCUSSION**

**Table 1.** Distribution of Frequency of respondents at Selomerto 2 Health Center Wonosobo Central Java

characteristics	Category	total	Percentage
Gender	Man	50	33.3
	female	100	66.7
Age	<= 50 years	21	14.0
	> 50 years	129	86.0
Work	Labor	6	4.0
	farmer	82	54.7
	PNS	6	4.0
	Private employees	14	9.3
	IRT	36	24.0
	more	6	4.0
Education	elementary school	82	54.7
	junior high school graduation	43	28.7
	finished school	25	16.7
Income	<500K / mo	6	4.0
	500-1,5jt / mo	123	82.0
	> 1.5m / mo	21	14.0
hospital sheet	There is no	36	24.0
	Yes (father, mother, grandmother, grandfather and other incest	114	76.0
Status	Single	6	4.0
	Married	144	96.0
Total		150	100

Based on Table 1 Characteristics of respondents in District Health Office of Selomerto 2 Wonosobo by sex most of the respondents were female totaled 100 (66.7%) men and 50 (33.3%), based on the age of

respondents, most of the respondents included in the lifespan of > 50 Year yaitu as many as 129 respondents (86%), based work, most respondents work as farmers or as many as 82 respondents (54.7%), based on education, most respondents have completed primary school education last as private employees or as many as 82 respondents (54.7%) while the least is Last school graduated from high school or as many as 25 respondents (16.7%), based on revenues, most respondents had an income of 500 -1.5 million / month or as much as 123 respondents (82.0%), based on history, the majority of respondents had a history of disease hypertension of descendants as many as 114 respondents, or (76.0%), while the status of the respondents, the majority of respondents are married or as much as 144 respondents (96.0%).

**Table 2.** Distribution of Attitudes of Respondents at Selomerto 2 Health Center Wonosobo Central Java

Attitude	total	Percentage
Less	122	81.3
Enough	7	4.7
Well	21	14.0
total	150	100

Based on Table 2 that of the 150 respondents or 122 respondents (81.3%) had a poor attitude, while respondents with a good attitude as much as 7 respondents, or (4.7%). Thus it can be stated that the attitude of pre elderly with hypertension in District Health Office of Selomerto 2 Wonosobo Central Java in the category is still not good.

**Table 3.** Respondents Knowledge Distribution at Selomerto 2 Health Center Wonosobo Central Java

Knowledge	total	Percentage
Less	115	76.7
Enough	23	15.3
Well	12	8.0
total	150	100

Based on table 2 note that of the 150 respondents or 115 respondents (76.7%) had poor knowledge about the incidence of hypertension,

while respondents with good knowledge of as many as 12 respondents, or (8.0%). Thus it can be stated that the pre elderly knowledge about the incidence of hypertension in District Health Office of Selomerto 2 Wonosobo Central Java in the category is still not good.

**Table 4.** Distribution of Stress Respondents at Selomerto 2 Health Center Wonosobo Central Java

stress	total	Percentage
Normal	69	46.0
mild depression	43	28.7
depression is being	18	12.0
depression	20	13.3
total	150	100

Based on Table 4 note that of the 150 respondents were 69 respondents, or (46.0%) had normal levels of stress / well of hypertension, while respondents with mild stress or as many as 43 respondents (28.7%). Thus it can be stated that the pre elderly stress on the incidence of hypertension in District Health Office of Selomerto 2 Wonosobo in Central Java in the category quite well.

**Table 5.** Distribution of Respondents Behavior at Selomerto 2 Health Center Wonosobo Central Java

behavior	total	Percentage
Less	22	14.7
Enough	21	14.0
Well	107	71.3
Total	150	100

According to the table 5 of the 150 respondents note that most have good behavior as much as 107 respondents (71.3%), the behavior of the people involved in pretty good category were 21 or (14.0)% while at least quite as much respondent behavior 21 respondents (14.0%).

**Table 6.** Distribution of Hypertension incidence of Respondents at Selomerto 2 Health Center Wonosobo Central Java

Genesis Hypertension	total	Percentage
Not occur	88	58.7
Happen	62	41.3
total	150	100

Based on Table 6 of respondents who experienced hypertension dominate in this study as many as 88 respondents, or (58.7%). While the respondents who do not have hypertension amounted to 62 respondents or (41.3%). Thus it can be stated that the incidence of hypertension in District Health Office of Selomerto 2 Wonosobo in Central Java in the category of pretty much.

**Table 7.** Regression Analysis

Model	Coefficients		standardize d	T	Sig
	unstandardized				
	B	Std.Erro r	beta		
1	3.05	0.941		3,24	0,00
Constan t	2			5	1
X1	0,40	0.179	0.169	2.27	0,02
	7			5	4
X2	0.35	0.078	0.343	4.56	0,00
	8			3	0
X3	-	0.074	-0.163	-	0,03
	0.16			2.16	2
	0			9	

**Dependent Variable: Behavior**

Testing Hypotheses 1 the regression results obtained with p value of 2.275 t (sig) is 0.024 <005, meaning that attitudes have a significant influence on the Demo incident hypertension. By looking at the value of t means that the attitude (X1) has a negative effect on the incidence of hypertension (Y), meaning that if the attitude is increased (good), and the incidence of hypertension is reduced.

Hypothesis Testing 2 Regression results obtained t value 4.563 with p value (sig) is 0.000 <005, meaning knowledge significant effect on hypertension. By looking at the value of t, means knowledge (X2) have a negative effect on the incidence of hypertension (Y), meaning that if

knowledge is increased (good), the incidence of hypertension will decrease.

Testing Hypothesis 3 The regression results obtained by value  $t$  -2.169 with  $p$  (sig) is  $0.032 < 0.05$ , meaning that stress a significant effect on hypertension. By looking at the value of  $t$ , mean stress (X3) had a negative effect on the incidence of hypertension (Y), meaning that if the stress is increased (good), the incidence of hypertension will decrease.

**Table 7. Regression Analysis**

Model	Coefficients unstandardized		standardize	t	Sig
	B	Std. Error	beta		
1	0.72	0.123		5,87	0,00
Constant	3			1	0
X1	-0.05	0,023	-0.184	-2.41	0,017
X2	-0.22	0,011	-0.168	-2.08	0,039
X3	0,02	0.009	.178	2,33	0,021
X4	-0.23	0,010	-0.185	-2.21	0,028

**Dependent Variable: Hypertension Attitudes influence on the incidence of hypertension in the pre elderly Health Center Selomerto 2 Wonosobo**

Multiple Linear Regression analysis, attitude (X1) has a  $p$ -value of  $0.017 < \alpha 0.05$  which means there is influence attitudes pre elderly with hypertension. This research is in line with research conducted by Siringoringo (2014) in the village of Sigaol Simbolon Samosir, concluded that there are differences in attitude ( $p = 0.044$ ) and action ( $p = 0.043$ ) on the prevention of hypertension in the elderly. According to the same study conducted by Tarin, AR (2018) results showed that there is significant influence between attitudes to the implementation of hypertension diet, which means that the positive attitude of the respondent, the better implementation hypertension diet. One's attitude in avoiding or

preventing a disease is the most important thing to be engaged in the day-to-day life.

The results of this study presented in line with recent research conducted Runtukaha (2015), that there are significant dietary compliance attitude toward hypertension with blood pressure in patients with hypertension.

In the opinion of the researchers gave negative attitude toward the behavior most likely good control blood pressure compared with a positive attitude, for example hypertensive blood pressure under control lazy and not taking hypertensive medication as directed by your doctor.

Based on the above theory and the research results can be seen that good or less good as the person's behavior is influenced by a person's positive or negative attitude which counterbalanced also with the knowledge that good anyway.

**Knowledge influence on the incidence of hypertension in the pre-elderly Health Center Selomerto 2 Wonosobo**

Multiple Linear Regression analysis, Knowledge (X2) has a  $p$ -value of  $0.039 < \alpha 0.05$  which means that there is the influence of knowledge with hypertension pre elderly.

This study is also consistent with research Masjudi (2018), that there is a relation between knowledge with elderly behavior in controlling hypertension in District Health Office of Darul Darul Emirate Emirate District of Aceh Besar District 2018 with the statistical test Chi-Square Test, the value  $P$ .value =  $0,002 < \alpha = 0.05$ .

According to research Cahyono, AD (2015) the relationship between knowledge about hypertension to hypertension care attitude, suggesting that knowledge affect the majority of a person's attitude. The higher knowledge of the person is the more positive attitude also. Therefore, knowledge is influenced by education, age, experience, and information. This is supported by the results of research respondents with higher education are not lazy to read books or magazines which contain about hypertension, and interact with people who are well educated so that knowledge of hypertension also increases when they confide in each other about health

issues. Increasingly underage, the maturity and experience of a person's soul is formed as evidenced most respondents aged over 50 years. So also with the experience and information that are interconnected.

Rusdianah (2017) in penilitian conducted in Roxburgh explained that it is necessary a good knowledge in the prevention of hypertension. In his research Rusdianah explained that hypertension can be prevented with a strong motivation and supported by the good behavior of patients with hypertension to prevent complications, such as modifying lifestyles example go on diet in accordance with diet hypertension, stop drinking alcohol, smoking, avoid severe stress, and hypertensive sufferers should get enough information about the prevention of hypertension in order to prevent complications and relapse further.

In the opinion of researchers' blood pressure control behavior is strongly influenced by the knowledge possessed by people with hypertension. Respondents were knowledgeable lower mean he was incapable of knowing, stressed-out and understand the benefits, and the purpose of controlling blood pressure. With the knowledge that is high then it will be innovated hypertensive patients to blood pressure control. Knowledge is the domain that is especially important for the formation of terminaon. From experience and recent research in behavior based knowledge turned out to be better than the behavior that is not based on knowledge.

### **Effects of Stress on the incidence of Hypertension in the pre elderly Health Center Selomerto Pre 2 Wonosobo**

Multiple Linear Regression analysis, Stress (X3) has a p-value  $0,021 < \alpha < 0.05$  which means there is the effect of stress with hypertension pre elderly.

The results are consistent with research conducted by Afiah (2018) which states that stress is a risk factor for hypertension. In this study suggest that the level of stress in blood pressure that occurs presumably through the sympathetic nerve activity, which can increase the pressure gradually. Stress or stress that is feeling depressed,

moody, confused, anxious, irritable, fear and guilt that can stimulate the heart beat faster and stronger, so that the increase in blood pressure.

Backed by research Esaningsih, P (2018) that stress levels shown to affect blood pressure status is obtained p value of 0.021 ( $p < 0.05$ ), which means that respondents with serious stress levels have an increased risk of hypertension 1.5 times higher than the level of stress Minor.

Jordan (2016) states that the body's stress response mechanism begins with the stimulation that comes from outside and from inside the body of the individual to be forwarded to the limbic system as a central regulator of adaptation. The lymphatic system includes the thalamus hypothalamus the amygdala hippocampus and septum. The hypothalamus has a very strong effect on almost all of our body visceral system because almost all the parts of the brain have a relationship with him. Because of this relationship. hypothalamus can respond to stimuli psychologically and emotionally. The role of the hypothalamus to stress includes four specific functions,

The diversity level of stress is caused by factors that influence the effect of different stressors for individuals Azizah (2016).

### **Behavioral influence on the incidence of hypertension in the pre elderly Health Center Selomerto 2 Wonosobo**

Hacyl Multiple Linear regression analysis, behavior (X4) has a p-value  $0.028 < \alpha < 0.05$  which means there is influence the behavior of pre elderly with hypertension.

Supported with the results Oktaviarini, E (2019), in which healthy behaviors are shown a little more because of habits of someone who is a lot of movement.

Behavior that is a composite of knowledge, attitudes and skills of pre elderly hypertensive elderly showed that pre hypertension have good and bad behavior is almost the same size. According to Green (1989 in Notoatmodjo, 2010), describes that person's behavior is influenced by several factors. The first factor is the knowledge, attitudes, beliefs, values, traditions second factor is that allows covering infrastructure. The third factor is reinforcing

factors that encourage or reinforce the behavior. And the fourth factor which reinforces the behavior that is associated with adherence.

**Table 8.** Summary of Results of Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.442	0.195	0.173	0.44923

Predictors: (Constant), Behavior, Attitudes, Stress, Knowledge

Dependent Variable: Hypertension

R Square is 0.195, meaning that attitude, stress, knowledge and behavioral variables may explain the incidence of hypertension of 19.5%, the rest is influenced by other variables outside the model.

## CONCLUSION

From the research found that the factors that influence the incidence of hypertension in District Health Office of Selomerto 2 Wonosobo in 2018 is the attitude, knowledge, stress and behavior. All variables have a significant effect on the incidence of hypertension in the Health Center Selomerto 2 Wonosobo. We advise PHC Selomerto 2 Wonosobo to improve counseling and intensive prevention of the risk factors associated with hypertension.

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