

# THE RELATIONSHIP BETWEEN LIFE STYLE AND HYPERTENSION INCIDENCE IN YOUNG ADULTS

Yitno

[yitnostikes@gmail.com](mailto:yitnostikes@gmail.com)

STIKes Hutama Abdi Husada Tulungagung

## Abstract

Hypertension is a disease whose cases can increase both in urban and rural communities. The occurrence of hypertension in young adults is influenced by lifestyle. The habit of tile industry workers in Notorejo Village always consumes cigarettes and coffee every break, even while working there are those who consume cigarettes. This study aimed to determine the relationship between lifestyle and the incidence of hypertension in young adults in the community of Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung. This study uses the correlation method using a cross-sectional approach. The population is all young adults in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency; as many as 250 people using the quota sampling technique, a sample of 30 respondents was obtained. Data were collected by observing and distributing questionnaires, then processed by editing, coding, scoring, tabulating, and testing using the Spearman-rho test. This study showed that 19 respondents (63.3%) had a good lifestyle. Of those who have optimal blood pressure, six respondents (20%), standard 11 respondents (36.7%), hypertension stage 1 three respondents (10%), hypertension stage 2 five respondents (16.7%), hypertension stage 3 as many as three respondents (10%) and hypertension stage 4 as many as two respondents (6.6%). After the Spearman-Rho Test was carried out, a P value of 0.005 was obtained because the  $P\text{value} < \alpha$  ( $\alpha = 0.05$ ) then  $H_1$  was accepted, and  $H_0$  was rejected, which means that there is a lifestyle relationship with the incidence of hypertension in young adults in the Sumber Hamlet community RT 03 RW 05 Notorejo Village, Gondang District, Tulungagung Regency. From the results of this study, it was concluded that the better the lifestyle of the community, the lower the incidence of hypertension; conversely, the worse the lifestyle of the community, the higher the incidence of hypertension. Lifestyle plays an important role and is a significant factor in the incidence of hypertension. By improving lifestyle, it will significantly reduce the incidence of hypertension.

**Keywords:** *Lifestyle, Hypertension Incidence, Young Adults.*

## I. INTRODUCTION

The triangular burden of disease (Triple burden of diseases) is one of the challenges that must be faced in the world of health. At present, there is a transition in the pattern of disease which was initially dominated by communicable diseases, moving to non-communicable diseases. One of the non-communicable diseases that is a priority in global health is hypertension (Ansar et al., 2019). Hypertension is a disease whose cases can increase both in urban and rural communities. Hypertension in young adults is influenced by lifestyle, such as lack of exercise or physical activity, smoking, stress, and alcohol consumption (Sarumaha & Diana, 2018).

Notorejo Village is one of the tile industry areas in Tulungagung Regency. Work in the tile industry in the village is mainly done by young adults. The habit of workers every break always consume cigarettes and coffee; even when working, some consume cigarettes. In addition, at night, they also spend much time hanging out with other residents until late at night. This lifestyle is one of the factors causing hypertension in Notorejo Village (Huda, 2018).

WHO data for 2019 shows that around 1.13 billion people worldwide suffer from hypertension. This means 1 out of 3 people worldwide is diagnosed with hypertension, and only 36.8% are taking medication. The number of people with hypertension worldwide will continue to increase yearly; it is estimated that by 2025 there will be 1.5 billion people affected by hypertension. It is also estimated that every year there are 9.4 million people die from hypertension and its complications.

Based on Basic Health Research (Riskesdas, 2018) shows the prevalence of non-communicable diseases has increased when compared to Riskesdes 2013. From data for five years (2013-2015), hypertension has increased by 8%, from 25.8% to 34.1%. Hypertension is Indonesia's third leading cause of death with CFR (Case Fatality Rate).

Based on data from the East Java Health Service (2016), the overall number of hypertension sufferers in East Java reaches 275 thousand people (7%) of the total population of East Java, namely 38.8 million people. Hypertension data at the Gondang Health Center, Tulungagung Regency, in 2016 for residents who are more than 20 years old (including the young adult category) with hypertension at the Gondang Health Center as many as 56,584 people (5.5%) of the total population in Tulungagung, namely 1.02 million people.

The severe impact of hypertension is when complications have occurred, so it is only realized when it has caused organ disorders such as coronary heart, blood vessel disorders, kidney function, and impaired cognitive function/stroke. Hypertension reduces the life

expectancy of sufferers. This disease is the estuary of various degenerative diseases that can result in death. Hypertension, in addition to causing a high mortality rate, also impacts the expensive treatment and care that sufferers must bear. It should also be remembered that hypertension also impacts decreasing the quality of life. If someone has high blood pressure and does not get routine treatment and regular control, then this will lead to severe cases and even death.

The solution to hypertension and its complications can be prevented with a healthy lifestyle and controlling risk factors. Prevention of hypertension can be done by maintaining a regulated diet by consuming foods low in salt and low in fat, increasing consumption of vegetables and fruit, exercising regularly, dealing with stress and emotions, stopping smoking, avoiding alcoholic beverages, and having regular blood pressure checks. (Depkes RI, 2010). Based on the explanation above, the researcher is interested in researching with the title the relationship between lifestyle and the incidence of hypertension in young adults in the community of Sumber Hamlet RT 03 RW 05 Notorejo Village, Gondang District, Tulungagung Regency.

## **II. RESEARCH METHODS**

Based on the research that researchers will conduct, this research is included in association analytic research, namely, trying to find relationships between variables. Based on his approach, the researchers conducted this study in a cross-sectional way, which aimed to determine the relationship between lifestyle and the incidence of hypertension in young adults in the community of Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency.

The population in this study were all young adults in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency, namely 250 people.

The sample in this study were some young adults in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency, who met the inclusion and exclusion criteria. The research criteria are as follows.

Inclusion criteria are people willing to be research respondents, respondents aged 22-40, and males and females.

Exclusion criteria were bed rest respondents, respondents who could not be invited to communicate, and respondents with stroke disorders.

In this study, using the quota sampling method, this technique is used to determine samples from populations that have specific characteristics up to the desired amount (quota).

In this technique, the population size is not considered, and the sample is taken by giving a certain quorum to the group. Data collection was carried out directly on the sampling unit. After the quota is fulfilled, the data collection is stopped. The researcher will take a sample with a quota of 30 first samples who agree to participate in the research on young adults in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency (Aziz, 2008).

The instrument used in this research is the observative method guided by the questionnaire sheet and observation. For lifestyle, use a questionnaire sheet with the Gutman scale while in the incidence of hypertension by observing/measuring the respondent's blood pressure.

This research was conducted in March 2020 in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency.

The steps for collecting data in this study were to arrange research permits for research sites and other related parties; before the researchers carried out the research, the researchers made a research questionnaire via Google Forms. This is important to do considering that this research was conducted when the COVID-19 pandemic occurred where we were required to PSBB, determine the population and sample that became the research subject, namely the first 30 samples that agreed to research the community in Sumber Hamlet RT 03 RW 05 Notorejo Village, Gondang District, Regency Tulungagung, providing an explanation of the aims and procedures of the research to the people of Sumber Hamlet RT 03 RW 05 Notorejo Village, Gondang District, Tulungagung Regency, the researcher contacted the respondent via Whatsapp and provided an explanation of the research objectives and procedures, the researcher asked their willingness to participate in this study. If the respondent agrees, the researcher will send the respondent a link to the questionnaire, evaluate the variables based on the questionnaire sheet, and observe the two variables simultaneously (cross-sectional).

To determine whether there is a relationship between lifestyle and the incidence of hypertension in young adults using a computer with the SPSS (Statistical et al. Version 16 Windows) technique. To find out the significant level between the variables in the measurement, a significant relationship with the level of significance is  $p < 0.05$ , meaning that  $H_0$  is rejected,  $H_1$  is accepted, meaning that there is a relationship between the variables being measured if  $p \geq 0.05$ , it means that  $H_0$  is accepted, meaning there is no relationship between the variables.

### III. RESULTS

#### 1. Lifestyle

Table 1. Frequency Distribution of Young Adult Respondents' Lifestyles

Lifestyle	Frequency	%
Good	19	63,3
Bad	11	36,7
Amount	30	100

*Source: 2020 Research*

Table 1 above shows that most young adult respondents in Sumber Hamlet RT 03 RW 05 Notorejo Village, Gondang District, Tulungagung Regency, have a good lifestyle, namely 19 respondents (63.3%). Lifestyle measurement in this study was by looking at the results of the questionnaire; if the questionnaire results obtained a score of  $<15\%$ , then it could be said that the respondent had a destructive lifestyle, but if the questionnaire results obtained a score of  $\geq 15\%$ , then it could be said that the respondent had the good one.

#### 2. Hypertension occurrence

Table 2. Frequency Distribution of Hypertension in Young Adult Respondents

Hypertension events	Frequency	%
Optimal	6	20
Normal	11	36,7
Stage 1 hypertension	3	10
Stage 2 hypertension	5	16,7
Stage 3 hypertension	3	10
Stage 4 hypertension	2	6,6
Amount	30	100

*Source: 2020 Research*

Table 2 above shows that almost half of the young adult respondents in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency, have normal blood pressure, namely 11 respondents (36.7%).

### 3. The Relationship between Lifestyle and Hypertension

Table 3. Cross-tabulation of the Relationship between Lifestyle and the Incidence of Hypertension of Young Adult Respondents

Lifestyle	Hypertension events												TOTAL	
	Optimal		Normal		HT 1		HT 2		HT 3		HT 4			
	F	%	F	%	F	%	F	%	F	%	F	%	freq	%
Good	5	16,6	10	33,3	1	3,4	1	3,4	2	6,6	0	0	19	63,4
Bad	1	3,4	1	3,4	2	6,6	4	13,2	1	3,4	2	6,6	11	36,6
Total	6	20	11	36,7	3	10	5	16,6	3	10	2	6,6	30	100

*Source: 2020 Research*

Based on table 3 above shows that young adult respondents in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency, who have a good lifestyle, mostly have normal blood pressure, namely ten respondents (33.3%).

The results of the Spearman-Rho Test statistic test obtained a Pvalue (Sig. 2 tailed) of 0.005 because the Pvalue  $< \alpha$  ( $\alpha = 0.05$ ), then H1 was accepted, and H0 was rejected, which means there is a lifestyle relationship with the incidence of hypertension in young adults in the people of Sumber Hamlet RT 03 RW 05 Notorejo Village, Gondang District, Tulungagung Regency. The strength of the correlation obtained is 0.504 because the correlation value is positive; this indicates that the better the lifestyle, the lower the incidence of hypertension, or the worse the lifestyle, the higher the incidence of hypertension with a reasonably muscular relationship strength because the correlation value ranges from 0, 4 to  $< 0.6$ .

## DISCUSSION

### A. Lifestyle

The study results showed that the majority of young adult respondents in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency had a good lifestyle, namely 19 respondents (63.3%).

According to Dahlia (2011), lifestyle is influenced by exercise, consumption of food and drink, and smoking habits. The number of diseases that arise due to lack of control and knowledge about health and fitness has led to the emergence of self-awareness to change lifestyles for the better, one of which is to maintain a regular diet and exercise. Therefore, people now realize how important it is to exercise and live a healthy lifestyle. A healthy lifestyle includes food and exercise. In addition to food and exercise, that can affect health

is a person's lifestyle, for example, smoking, drinking, etc. A healthy lifestyle is more focused on health matters, be it food, behavior,

This study's results align with the theory above because, in this study, the results showed that most of the respondents had a good lifestyle. The above theory is that people increasingly know they must have an excellent lifestyle to reduce disease risk.

## **B. Hypertension occurrence**

Based on the study's results, almost half of the young adult respondents in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency, had normal blood pressure, namely 11 respondents (36.7%). According to Ira (2014), in line with increasing age, a person has a high risk of experiencing an increase in blood pressure. The systolic pressure continues to increase until the age of 80, and the diastolic pressure will continue to increase until the age of 55-60 years. Thus someone who is a young adult will tend to have a normal blood pressure than someone who is old. Based on data from the East Java Health Office (2016) hypertension sufferers at Gondang Health Center in Tulungagung Regency in 2016 in the population who are more than 20 years old (including the young adult category) suffer from hypertension at the Gondang Health Center as many as 56,584 people (5.5%) of the total The population in Tulungagung is 1.02 million people.

The results of this study are in line with the theory above that the majority of young adults will have normal blood pressure. Based on the data above, only 5.5% of young adults at the Gondang Health Center are affected by hypertension. This can be caused because when in young adulthood, the body's compensation is still going well in maintaining blood pressure. The kidneys in young adults are also still quite good at compensating to excrete excess fluid and excrete sodium in the blood vessels so that blood pressure stabilizes.

## **C. The Relationship between Lifestyle and Hypertension in Young Adults**

Based on the results of the study, it was shown that young adult respondents in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency, who had a good lifestyle, mostly had normal blood pressure, namely ten respondents (33.3%).

The results of the Spearman-Rho Test statistic test obtained a Pvalue (Sig. 2 tailed) of 0.005 because the Pvalue  $< \alpha$  ( $\alpha = 0.05$ ), then H1 was accepted, and H0 was rejected, which means there is a lifestyle relationship with the incidence of hypertension in young adults in the people of Sumber Hamlet RT 03 RW 05 Notorejo Village, Gondang District,

Tulungagung Regency. The strength of the correlation obtained is 0.504 because the correlation value is positive; this indicates that the better the lifestyle, the lower the incidence of hypertension, or the worse the lifestyle, the higher the incidence of hypertension with a reasonably muscular relationship strength because the correlation value ranges from 0, 4 to  $< 0.6$ .

Kasali & Rhenald (2007) said that lifestyle segmentation measures several factors of human activities, such as how they spend their time, their interests and views in the community, their sources of income, and how they live. According to research conducted by Jannah and Ernawati (2018), the results showed that variables related to hypertension in lifestyle included exercise habits ( $p = 0.01$ ), smoking ( $p = 0.01$ ), salted fish consumption habits ( $p = 0.01$ ), habit of consuming spinach ( $p = 0.01$ ), and habit of consuming banana ( $p = 0.02$ ). The variable not related to hypertension was the consumption of fried foods ( $p = 0.23$ ). According to Natalia et al. (2015), two factors can cause hypertension: factors that can be modified and those that cannot be modified. These modifiable factors include several factors that exist in a person's lifestyle. Some of these lifestyle factors include fat consumption habits. According to Anna & Bryan (2007), smoking is a lifestyle factor that can be modified to prevent hypertension. According to Varvogli & Darviri (2011) and Arovah (2007), several more lifestyle factors can affect hypertension, including exercise habits. According to Ira (2014), in line with increasing age, a person has a high risk of experiencing an increase in blood pressure.

The results in this study are in line with the results of the research and some of the theories above; the results in this study said that young adults in Sumber Hamlet RT 03 RW 05 Notorejo Village, Gondang District, Tulungagung Regency who have an excellent lifestyle mostly have normal blood pressure. This can be caused because when these young adults have a good lifestyle, the body's mechanisms will become normal; besides that, at a young age, this will increase the body's normal state so that the incidence of hypertension can be minimized. In addition, the results of the study also revealed that there were four respondents with a lousy lifestyle who had stage 2 hypertension; this can happen if the respondent has had a lousy lifestyle since he was a teenager so that over time until the respondent arrives at a young adult age, his body is no longer able to compensate for this condition so that the incidence of hypertension cannot be stopped anymore. Apart from that, most of the two people who experience stage 2 hypertension are male; usually, the male sex has a worse lifestyle, for example, smoking, drinking coffee, and staying up late. The solution to the above incident is to improve lifestyle, especially in men, as it will significantly



reduce the incidence of hypertension. Apart from that, most of the two people who experience stage 2 hypertension are male; usually, the male sex has a worse lifestyle, for example, smoking, drinking coffee, and staying up late. The solution to the above incident is to improve lifestyle, especially in men, as it will significantly reduce the incidence of hypertension. Apart from that, most of the two people who experience stage 2 hypertension are male; usually, the male sex has a worse lifestyle, for example, smoking, drinking coffee, and staying up late. The solution to the above incident is to improve lifestyle, especially in men, as it will significantly reduce the incidence of hypertension.

#### **IV. CONCLUSIONS**

##### **A. Conclusion**

Based on the results of research on the Relationship between Lifestyle and Hypertension in Young Adults in the Sumber Hamlet Community, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency, it can be concluded that:

1. Almost half of the young adult respondents in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency, have a good lifestyle, namely 19 respondents (63.3%).
2. Nearly half of the young adult respondents in Sumber Hamlet, RT 03 RW 05, Notorejo Village, Gondang District, Tulungagung Regency, had normal blood pressure, namely 11 respondents (36.7%).
3. The results of the analysis using the Spearman-Rho Test statistical test obtained a Pvalue (Sig. 2 tailed) of 0.005 because the Pvalue  $< \alpha$  ( $\alpha = 0.05$ ), then H1 is accepted, and H0 is rejected, which means there is a relationship between lifestyle and the incidence of hypertension in adulthood youth in the community of Sumber Hamlet RT 03 RW 05 Notorejo Village, Gondang District, Tulungagung Regency.

##### **B. Suggestion**

###### **1. Development**

###### **a. Further Researcher**

Future researchers are expected to examine more about why those who already have high blood pressure, especially young adults, are more prone to have a poor lifestyle. So it is hoped that the results of this study can be used as a basis for improving the lifestyle of people with hypertension.

b. Educational Institution

From the results of this study, it is hoped that it can become input and additional new references as further nursing science learning material that improves lifestyle, especially in young adults, is very important to improve so that the incidence of hypertension can decrease.

## 2. Program

a) Public health center

From the results of this study, it is hoped that it can be input to the puskesmas that when they have patients with high blood pressure, they can be advised to improve their lifestyle by not smoking, not staying up late, not drinking coffee, not stressing, and so on.

b) Village

From the results of this study, it is hoped that it can be input to the community in the village, especially in people with hypertension, to improve a good lifestyle, especially in men who tend to have a destructive lifestyle.

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