

Relationship Between Smoking Habits and Hypertension Incidence in Men Aged 40 Years at Rambung Health Center, Tebing Tinggi City

Riada Mareny*

Lecture of Universitas Efarina, Indonesia

Article Info

Article history:

Received January 17, 2023

Revised February 12, 2023

Accepted March 17, 2023

Corresponding Author:

Riada Mareny
Lecture of Universitas Efarina,
Indonesia.
Email:
riadamarenyefarina@gmail.com

ABSTRACT

Hypertension is also one of the health problems found in the Indonesian population. There are many risk factors that can cause hypertension, including smoking, genetics, obesity, stress, salt intake, and exercise. There is a problem of smoking habits (number of cigarettes smoked, type of cigarette smoked (smoked, duration of smoking) with the incidence of smoking in men aged ≥ 40 years at the Rambung Health Center, Tebing Tinggi City. A descriptive analytic research design with a cross sectional study design with a sample of 81 men aged ≥ 40 years. The research found that there was a relationship between smoking habits and the incidence of smoking at the Rambung Community Health Center, Tebing Tinggi City. Using the chiaware test, it was stated that there was a relationship between smoking habits and the incidence of hypertension in PNA ≥ 40 years at the Rambung Health Center, Tebing Tinggi City. For respondents, it is expected that smoking users reduce the number of cigarettes smoked or can avoid hypertension or at least be able to control hypertension that they already suffer.

Keywords:

Smoking, Habit, Hypertension

This article is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).



1. INTRODUCTION

Problems According to [14] hypertension or high blood pressure is a disorder of the blood vessels which results in the supply of oxygen and nutrients carried by the blood being blocked to the tissues of the body that need them. Based on data from (World Health Organization 2013), hypertension has resulted in 9.4 million people dying worldwide each year, hypertension plays a role in 45% of deaths caused by stroke [14]. Hypertension is often referred to as a silent killer. (silent killer) because it includes the deadly without accompanied by the symptoms beforehand as a warning to the victim.

Many factors contribute to the occurrence of hypertension including risk factors that cannot be controlled (major) and risk factors that can be controlled (minor). Risk factors that cannot be controlled (major) such as smoking habits, heredity, gender, race and age. While risk factors that can be controlled (minor) are exercise, food (salt eating habits), alcohol, stress, overweight (obesity), pregnancy and use of contraceptive pills [4].

Smoking has caused 5.4 million people to die each year [13]. In many studies that have been conducted, it is explained that the effects of smoking caused by smoking include increasing heart rate and blood pressure with increased levels of the hormone epinephrine due to activation of the sympathetic nervous system. Many studies also say that the long-term effect of smoking is an increase in blood pressure due to an increase in inflammatory substances, endothelial dysfunction, plaque formation, and vascular damage (Gumus et al, 2013). Smoking a cigarette will have a major effect on increasing blood pressure, this is caused by the substances contained in cigarette smoke. Cigarette smoke consists of 4000 chemicals and 200 of them are toxic, including Carbon Monoxide (CO) which is produced by cigarette smoke and can cause blood vessels to cramp, so blood pressure rises, blood vessel walls can tear. According to [14].

In this study the risk factors that affect hypertension in men aged ≥ 40 years to be examined are smoking habits which are generally found in men. In this study, the respondents who were taken as samples were men aged ≥ 40 years and over who were smokers so that clear differences could be obtained regarding smoking behavior according to type,

amount, duration. Respondents who did not smoke and experienced hypertension were not sampled, because it was possible that hypertension was caused by other factors, so no indicators of smoking behavior were obtained that could cause hypertension. In this study, respondents were taken for reasons of patient health.

This research will be conducted on men over 40 years old who are patients at the Rambung Community Health Center, Tebing Tinggi City. The Rambung Health Center in Tebing-Tinggi City is a class B Health Center in the Tebing-Tinggi sub-district, Tebing-Tinggi City. Based on the background above, it is necessary to do research on the relationship between smoking habits and the incidence of hypertension in men aged 40 years and over at the Rambung Health Center, Tebing-Tinggi City.

Formulation of the problem

Based on the background that has been described previously, the formulation of the problem in this study is "What is the relationship between smoking habits and the incidence of hypertension?"

2. METHOD

Research Type and Design

This research is a descriptive analytic study with a cross-sectional research design to determine the relationship between smoking habits and the incidence of community hypertension at the Rambung Community Health Center, Tebing Tinggi City.

Research time

This research was conducted in May-August 2019.

Research sites

This research was conducted at the Rambung Health Center

Analysis Techniques

Data Analysis of the data in this study was to use SPSS with the Chi-Square test analysis method.

3. RESULTS AND DISCUSSION

Characteristics of Research Respondents

Research respondents were taken from the people of the Rambung sub-district, Tebing Tinggi City, from 10 June to 10 August 2019. The number of research respondents was 81. Based on table 5.1 it is known that the research respondents were aged 40 to 79 years. The largest age group is the respondent aged 40-49 years, namely 47 people (58%) and the least age group is in the range of 70-79 years, namely 2 people (2.5%).

The Relationship between Smoking Habits and the Incidence of Hypertension in the Rambung Community Health Center, Tebing Tinggi City in 2019. There were 6 people (7.4 %) who did not smoke and had hypertension. The results of statistical tests using the chi-square test show that the value is p (p-value) = 0.000 (P<0.05). It can be concluded that there is a relationship between smoking habits and the incidence of hypertension in the Rambung Village Community, Tebing Tinggi City in 2019.

Nicotine in cigarettes can affect a person's blood pressure, either through the formation of atherosclerotic plaques, nicotine's direct effect on the release of the hormones epinephrine and norepinephrine, or through the effect of carbon monoxide in increasing red blood cells. The chemicals in cigarettes can damage the lining of the artery walls in the form of plaque which causes narrowing of the arteries which can increase blood pressure. nicotine increases the hormone epinephrine which can increase the narrowing of the arteries (Aggie & Herbert, 2012).

The relationship between the number of cigarettes and the incidence of hypertension in the Rambung Village Community, Tebing Tinggi City in 2019.

Of the 28 people (34.5 %) who were moderate smokers, had hypertension. And 9 people (11.1 %) who are classified as heavy smokers and have hypertension. The results of the statistical test using the Chi-Square test showed a p-value (p-value) = 0.000 (p <0.05). This shows that there is a relationship between smoking duration and the incidence of hypertension in men \geq 40 years at the Rambung Community Health Center, Tebing Tinggi City in 2019. Toxic chemicals in cigarettes can cause high blood pressure or hypertension. One of these toxic substances is nicotine, where nicotine can increase adrenaline which makes the heart beat faster and work harder, heart rate increases so blood pressure rises (Hall, 2010). This concept implies that the more levels of these toxic substances, the more severe hypertension occurs. The more the number of cigarettes consumed per day the more severe hypertension.

The relationship between the type of cigarette and the status of hypertension in the Rambung Village Community, Tebing-Tinggi City in 2019.

27.2 %) had smoking for ≤ 10 years and had hypertension and 49 people (60.5%) had hypertension for more than 10 years. The results of statistical tests using the chi-square test show a p-value (p-value) = 0.000 (p < 0.05). This shows that there is a correlation between smoking duration and the incidence of hypertension in men ≥ 40 years at the Rambung Community Health Center, Tebing Tinggi City, in 2019. This is in line with Susanna's research which states that the nicotine content in non-filter cigarettes causes a greater risk. [18], This type of filter cigarette can reduce the entry of nicotine into the body. The filter functions as a filter for cigarette smoke to be inhaled, so that later not too many chemicals will enter the lungs [21]

The relationship between old smoking and hypertension status in the Rambung Village Community, Tebing-Tinggi City in 2019.

duration & 10 years as many as 22 people (27.2%) who had hypertension and who smoked more than 210 years 49 people (60.5%) had hypertension. The results of statistical tests using the chi-square test show a p-value (p-value) {0.000 (p < 0.05). This shows that there is a relationship between smoking duration and the incidence of hypertension in men ≥ 40 years at the Rambung Community Health Center, Tebing Tinggi City in 2019. The results of this study support the theory put forward by Suradi that one of the factors that can increase the risk of developing increased blood pressure is the average number of cigarettes. cigarettes smoked per day, types of cigarettes smoked, how to smoke cigarettes, and duration of smoking in more than 10 years, so the greater the number of cigarettes smoked and the longer the time spent being a smoker, the greater the risk of experiencing an increase in blood pressure. [7]

4. CONCLUSION

1. There is a relationship between smoking habits and the incidence of hypertension in the research area in the Rambung Village Community, Tebing Tinggi City (P = 0.000)
2. There is a relationship between the number of cigarettes smoked per day and the incidence of hypertension in the study area in the Rambung Village Community, Tebing Tinggi City (P = 0.000)
3. There is a relationship between the type of cigarette smoked and the incidence of hypertension in N research areas in the Rambung Village Community, Tebing Tinggi City (P = 0.000)
4. There is a relationship between duration of smoking and the incidence of hypertension in the research area of the Rambung Village Community, Tebing Tinggi City (P = 0.000).

ACKNOWLEDGEMENTS

Author thanks to all of my team so that this article can be written and published.

REFERENCES

- [1] Anna Maria Sirait, et al. Smoking Behavior (2001 Susenas Data Analysis). <http://www.kompas.co.id>
- [2] Anggie & Herbert. 2012. Lowering blood pressure. Jakarta
- [3] Arjatmo T, Hendra U. 2001. 1 Internal Medicine. FKUI Publishing Center
- [4] Asep, Pajario. 2002. Lifestyle Modification. <http://angelnet.info/index>.
- [5] Hall. 2010. Stop Smoking. Your garage. Yogyakarta.
- [6] Aulia JSani. 2004. Three Years of Smoking Quit Clinic Service, Indonesian Foundation. <http://angelnet.info/index>
- [7] Beever DG 2002. Blood Pressure. Jakarta: Dian Rakyat
- [8] Bustan, MN 2000. Epidemiology of Non-Communicable Diseases. Rineka Cipta: Jakarta
- [9] Corwin, Elizabeth J. 2000. Pocket Book of Pathophysiology. Brahman U. Jakarta Translation: EGC
- [10] Department of Health. Nutrition And Promotion. <http://www.promosikesehatan.com>
- [11] Ministry of Health RI. 2003. Public Health news . Jakarta: Directorate General of Community Health Development.
- [12] dr . Ivan Hoesada 2010. Efficacy of beekeeping products in degenerative diseases, Jakarta
- [13] Gumus et al., 2013., Smoking., Jakarta
- [14] G. Sianturi, 2003. Journal of Public Health: The relationship between blood pressure and increased male employees in Nasmoco. 1/2): 241 — 250.
- [15] Hull Alison. 1996. Heart Disease, Hypertension, and Nutrition. Jakarta: Earth Script
- [16] Suharto's faith. 2001. Cholesterol and Bad Fat, Cholesterol and Good Fat, and the Process of Heart Attack and Stoke. Jakarta: PT. Gramedia Pustaka Utama Lanny Sustrani, et al. 2004. Hypertension. Jakarta. PT. Main Library Gramedia.

- [17] Siregar, Rahmah & Nasution, Lisna. (2022). Promotion the Dangers of Smoking in Adolescents at SMAN 8 Padang Sidempuan in 2022. *International Journal of Community Service (IJCS)*. 1. 233-236. 10.55299/ijcs.v1i2.282.
- [18] Siregar, Rahmah. (2022). Factors Which Influence Incident Hypertension on Pre-Elderly. *International Journal of Public Health Excellence (IJPHE)*. 1. 117-121. 10.55299/ijphe.v1i2.66.
- [19] Siregar, Rahmah & Yusuf, Susi & Fernaldy, Devrich. (2022). The Relationship between Physical Conditions of the House and the Incidence of Tuberculosis. *International Journal of Public Health Excellence (IJPHE)*. 1. 01-05. 10.55299/ijphe.v1i1.2.
- [20] Mawardy, Zahwan & Kurnianto, Andra & Suryani, Puji. (2021). RELATIONSHIP BETWEEN FAMILY HISTORY OF HYPERTENSION AND SMOKING HABITS WITH INCIDENCE OF HYPERTENSION AMONG ADOLESCENTS IN PALEMBANG. *Majalah Kedokteran Sriwijaya*. 53. 10.32539/mks.v53i2.14697.
- [21] Armuni, Armuni & Ilmi, Bahrul & Arifin, Syamsul & Husaini, Husaini & Noor, Meitria. (2022). Meta-Analysis: The Relationship Of Gender And Smoking Habits With The Event Of Hypertension. *Healthy-Mu Journal*. 5. 24-39. 10.35747/hmj.v5i1.54.
- [22] Kusuma, Galuh & Umara, Annisaa & Sudrajat, Andi & Winahyu, Karina. (2022). The Relationship between Smoking and Coffee Drinking Habits with Hypertension in Internal Medicine Polyclinic Patients at Malingping Hospital Banten. *Journal of Health Science and Nursing Studies*. 1. 10.58516/jhsns.v1i1.25.
- [23] Amalia, Rahma & Kismiantini, Kismiantini. (2022). Analysis of the effect of smoking and exercise habits on coronary heart disease in Indonesia using logistic regression. *AIP Conference Proceedings*. 2575. 070004. 10.1063/5.0111575.
- [24] Ulva, Sitti & Iriyanti, Endah. (2021). Risk Factors of Hypertension Incidence at the Age of 20-45 Years. *MIRACLE Journal Of Public Health*. 4. 214-223. 10.36566/mjph/Vol4.Iss2/258.
- [25] Kayame, Robby & Mallongi, Anwar. (2018). Relationships between smoking Habits and the Hypertension occurrence among the Adults of Communities in Paniai Regency, Papua Indonesia. *Indian Journal of Public Health Research & Development*. 9. 332. 10.5958/0976-5506.2018.00061.X.
- [26] Awal, Muhammad & Ashriady, Ashriady & Durahim, Darwis & Adam, Adriyani. (2021). Obesity, Smoking, Physical Activity, Hypertension: Models of Stroke Causes in South Sulawesi Province. *Al-Sihah: The Public Health Science Journal*. 13. 198. 10.24252/al-sihah.v13i2.22172.