

THE CORRELATION BETWEEN SMOKING HABIT AND HYPERTENTION INCIDENT IN MEN IN THE COMMUNITY HEALTH CENTER OF NGEMBAL KULON, KUDUS CITY

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ABSTRACT

Smoking can interfere with the health, this fact cannot be denied, many diseases that have been proven become the result of smoking, directly or indirectly. The number of occurrences of smoking in Indonesia was high, for man at 60%-70% in urban and 80%-90% in the rural. Based on WHO data in 2002, Indonesia got the fifth highest rank in consuming 215 billion cigarettes. The title of this research is "The Correlation between the Smoking Habit and Hypertension Incident in Men in the Community Health Center of Ngambal Kulon, Kudus City". The purpose of this research was to describe the correlation between the smoking habit and hypertension incident in men in the community health center of Ngambal Kulon, Kudus City. The population was 159 people as the community who had hypertension and lived around the community health center of Ngambal Kulon, Kudus city. The sample of this study was 32 people. This study belonged to the correlation descriptive and the cross-sectional approach. The result of this study was there is a correlation between the smoking habit and the hypertension incident in the community health center Ngambal Kulon, Kudus city where most of the respondents had smoking habit and got hypertension. The total of respondents had smoking habit and hypertension is 26 respondents (81,3%)

Keywords: smoking habit, hypertension, Ngambal

INTRODUCTION

A. Background of the Study

Smoking can interfere with the health, this fact cannot be denied, many diseases that have been proven become the result of smoking, either directly or indirectly. Tobacco or cigarettes are most harmful to human health. Cigarette widely has become one of the biggest causes of death in the world. Based on the analysis result, the prevalence result of smokers nationally was about 27,7%. The smokers prevalence was particularly men that increased to 54,5%. While, the women decreased 2% in 1995 to 1.2% in 2001. The health prevalence of former ex-smokers was relatively small either as a whole men and women (2.8%) or 5.3% in men and 0.3% in women (www.Promosikesehatan.com). The number of occurrences of smoking in Indonesia was also high at 60% -70% in men who lived in urban and 80% -90% in men who lived in rural . Based on the data from the WHO in 2002, Indonesia ranked fifth highest in the

consumption of 215 billion cigarettes (Juanita, 2004: 1).

The impact of cigarette will be felt after 10-20 years of post-use. The impact of cigarette smoke is not only for the active smoker but also for the passive smoker. People who do not smoke or passive smoke, but are exposed to cigarette smoke will inhale 2-fold toxins exhaled by active smokers (Ruli A. Mustafa, 2005: 3). If a cigarette is spent in ten times of suction, a smoker who smoke 20 cigarettes (one pack) per day will have 70.000 times puff of the cigarette smoke. Some of the chemicals in cigarettes are cumulative (dumped), one time the dose will reach the point of toxic poison that caused the symptoms begin to appear (Sitepoe, 1997: 19).

Based on the data from the Health Department of Central Java Province, Kudus city got the increasing number of hypertension incident from 2006 to 2009. In 2006 there are 399 cases (13.6%), in 2007 there are 16.5% in 1999 cases(16,5%), in

2008 there are 2371 cases (16.0%) and in 2009 there are 5697 cases (17.0%). From the data of the hypertension patients in the working area of the community health center of Ngembal Kulon, Kudus city in 2009, there are 159 (39.75%) patients from January to November, 2009. Based on the reason above, the researcher triggers to analyze “The Correlation between the Smoking Habit and the Hypertension Incident in Men in the Community Health Center of Ngembal Kulon, Kudus City”.

B. Statements of the Problem

Is there any correlation between smoking habit and the hypertension incident in men in the community health center of Ngembal Kulon, Kudus City?

C. Purpose of the Study

1. General Purpose
Describing the correlation between the smoking habit and the hypertension incident in men in the community health center of Ngembal Kulon, Kudus City
2. Specific purpose
 - a. Describing the correlation between the smoking habit in men in the community health center of Ngembal Kulon, Kudus city
 - b. Describing the correlation between the hypertension incident in men in the community health center of Ngembal Kulon, Kudus city

D. Significances of the Study

1. For the Researcher
Hopefully, the researcher can get the data about the correlation between smoking and the hypertension incident in the working area of the community health center of Ngembal Kulon, Kudus city.
2. For the Readers
Hopefully, the result of the study can be used as the information and add the insight about the

correlation between smoking and the hypertension incident in men.

3. For the Community

Hopefully, it can give the suggestion to the community through the health workers of the community health center of Ngembal Kulon Kudus in order to minimize the consumption of smoking to avoid the hypertension in men.

E. Authenticity of the Study

This research was ever done by (Widi Sulistriani) but the setting of the research was the community health center of Kroya 1, Cilacap city in 2005 and by Yheni Tri ND done in the community health center of Tayu, Pati city entitled (The Analysis of Risk Factors related to the Hypertension Incident in Elderly in the Community Health Center of Kroya 1 Cilacap in 2005). While the title of this current study is “the Correlation between the Smoking Habit and the Hypertension Incident in Men in the Community Health Center of Ngembal Kulon, Kudus City”.

F. Scope of the Study

Scope of this study is in the working area of the community health center of Ngembal Kulon, Kudus City.

METHOD and FINDING OF THE RESEARCH

A. Types of the Research

This study belongs to descriptive research with the study of correlation descriptive that is one of designs to describe the correlation among variables. The reason using this type is because the researcher tried to analyze the correlation between the smoking habit (independent variable) with hypertension (dependent variable) by testing the hypothesis that had been formulated.

The approach used was the cross sectional observation that emphasized on the time measurement and the

observation of the independent and dependent variable data only once at the time of measurement (Nursalam, 2003: 85). This study illustrated the correlation between the smoking habit and the hypertension incident in Men in the community health center of Ngembal Kulon, Kudus City.

B. Population and Obtaining the Sample

1. Population

Population is the whole subject who will be analyzed. The population of this study was the community who had hypertension and lived around the community health center of Ngembal Kulon, Kudus City, 159 people.

2. Method of the Obtaining the Sample

According Arikunto (2006), if the object of study is less than 100, it is better to take all, so that his research is the study of population. Furthermore, if a large number of subjects can be taken 10-16 or 20-25% or more depending on

- a. Research capability, from the time, effort, money
- b. The Narrow and vast area of observations of each object

Therefore, the researchers took samples from 20% of the total population of hypertension patients around the community health center of Ngembal Kulon. There were 32 people with the criteria sample: male, had smoking habit, age 40 or older, had hypertension.

C. Definition of Term

1. Operational Definitions

Operational definitions are based on the characteristics of the observed definition of something that defined the characteristics that can be observed (measured) that is the key operational definitions (Nursalam, 2003).

Variable	Definition	Tool and how to measure	Measuring Scale
(Independent variable) Smoking habit	a lifestyle of the people to consume cigarette, smoke or clove every day. judging based on the total of cigarettes, the frequency of cigarettes smoked, the type of smoker	Using questionnaires consisting of 20 questions about the smoking habit with the possible answers: a. Score 1: False b. Score 2: True Classification of smoking: Scores for habit Values > 23: Habitual Values < 22: Not Habitual	Nominal
((Dependent Variable) hypertension	a condition in which a person got an increase in blood	Using sphygmomanometer (thermometer) and	Nominal

pressure above normal, and according to WHO the limitation of the blood pressure is same or above 140/90 mmHg belongs to hypertension	aneroid stethoscope with criteria: a. Hypertension: 140/90 mmHg b. Normal: 120 / 80mmHg Nominal
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D. Technique of Collecting the Data

1. Questionnaire

The questionnaire is a list of questions which is in good order, ripe, in which the respondent and the interviewer just give answers or to give certain signs (Soekidjo Notoatmodjo, 2002: 116). This questionnaire contained the questions related to the smoking habit that affected hypertension in the working area of the community health center of Ngembal Kulon, Kudus city.

The questions in the questionnaire included questions about the e question of the smoking habit and the table of blood pressure. Moreover, the questions related to the smoking habit were 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20.

Collecting the data was done by the researcher; respondents answered the questions in the questionnaire for 20-30 minutes. If the questions were not clear, it can be asked directly to the researcher. Measurement of the variables in this study was with the nominal way, it was by classifying the subjects in the word lines based on the criteria of answer classification. This was used the criteria of true and false. Then, the true answer got 2 and the false got 1. The results of the result of the correlation between the smoking habit and the hypertension was classified based on the ordinal level as the formula below (Sugiono, 2000)

a. Percentage

$$\% = \frac{n}{N} \times 100\%$$

Note :

n : the score gotten

N : the ideal score

b. Mean (average)

$$Me = \frac{\sum xi}{n}$$

Note:

Me : Mean

\sum : Total

Xi : Score X from 1 to n

N : Total of respondents

c. Median

$$Md = b + p \left[\frac{1/2n - F}{f} \right]$$

Note :

Md : Median

b: lower limit where the media will be located

p: The length of the interval class with the highest frequency

F: Total frequency before the median class

f: frequency of the median class

n: Number of respondents

d. Modus

$$Mo = b + p \left[\frac{b1}{b1 + b2} \right]$$

Note:

Mo: Mode

b .: The length of the interval class with the highest frequency

- p: The length of the interval class with the highest frequency
- b1: The frequency of the mode class (frequency on the nearest previous interval class)
- b2: The frequency of mode class minus the next interval class

E. Method of Processing the Data and Technique of Annalyzing the Data

There were the steps of processing the data and analyzing the data, such as:

1. Editing
Editing aims to correct the data that consists of the completeness of the answer or the unclear answer. Editing used in order to avoid the shortages or errors so that the data can be easily and quickly repaired.
2. Tabulating and grouping the data
Penabulasian dan pengelompokan data
In this stage the numbers obtained in the questionnaire was transferred into a special form.
3. Analyzing the data
Analyzing the data used in this study was followed:
 - a. Univariate analysis
Analyzing data using SPSS version 14.0 for Windows to determine how the data has been collected` with the frequency distribution is the habitual correlation. Univariate analysis
 - b. Bivariate analysis
The analysis used SPSS version 14.0 to determine the relationship between the dependent variable and the independent variable is the Correlation between the Smoking Habit and Hypertension Incident in Men above 40 years old in the Community Health Center of Ngembal Kulon,

Kudus city. To determine the relation of the simple correlations with the nominal data, the formula used was Chi Square which can be seen below:

$$x^2 = \sum \frac{(fo - fh)^2}{fh}$$

Note :

X^2 : Chi square

Fo : Frequency data

Fh : Frequency expected

The result that is expected by the formula shows there is a correlation when $X^2 >$ bigger than X^2 table at significance level of 5% (Sugiyono,2005)

FINDING AND DISCUSSION

A. FINDING

1. Deskripsi Lokasi Penelitian

This study was in the community health center of Ngembal Kulon Kudus. The scope area of the community health care Ngembal Kulon is:

- a. North: District Bae Sebelah utara : Kecamatan Bae
- b. East: District Jekulo
- c. South: District Mejobo
- d. West: Sub City

The working area of the community health center of Ngembal Kulon is Ngembal Kulon village with 145,273 km², Tumpang Krasak village with 126,389 km², Megawon village with 142,971 km², Jepang Pakis village with 194,474 km², Loram Wetan village with 237,748 km², and Getas Pejaten village with 141,182 km²

- a. Characteristics of Respondents based on the Education

Most of them are graduated from elementary education 12 people (37.5%), which from junior high school 11 people (34.4%), senior high school 8 people (25%), and from university one person (3.1%).

- b. Characteristics of respondents based on the occupation

Most of them are laborer 13 people (40.6%), farmers 9 people (28.1%), employee 5 people (15.6%), trader 4 people (12.5%), and civil servants one person (3.1%).

2. Univariate Analysis

- a. Characteristics of respondents based on the smoking habit

Most them have the smoking habit 28 people (87.5%), while the one who do not have the smoking habit 4 people (12.5%).

- b. Characteristics of respondents based on the hypertension incidents

There are 27 people (84.4%) who got hypertension, whereas who have normal blood pressure was 5 people (15.6%).

3. Bivariate Analysis

The hypothesis of this study is there is a correlation between smoking and the hypertension incident in the community health center of Ngembal Kulon Kudus. To answer the hypothesis, the hypothesis test is given through the help of SPSS program. After testing the hypothesis, we got the data.

a. Cross tabulation of the Correlation between the Smoking Habit with hypertension incident in the community health center of Ngembal Kulon Kudus

Explaining the spread of the data between the two variables, smoking habit and the hypertension incident in which most of the respondents have smoking habit and hypertension. There were 26 respondents (81.3%).

From the cross-tabulation between smoking and hypertension showed a tendency that the one who have smoking habits got hypertension (81.3%) was bigger than normal (6.3%). While the one who did not have that habit was bigger normal (9.4%) was bigger than the one who got hypertension (3.1%).

Chi-square test table for the attachment and the way to read as follows: because the value of the respondents was more than 30, so we can read the continuity correction column that got $CC > 7619$ table (3.84). While, the p value was $0.006 < \alpha = 0.05$. Based on the test, H_0 is rejected means that there is a correlation between the smoking habit and the hypertension incident in the community health center of Ngembal Kulon Kudus.

B. Discussion

1. Smoking habit in the community health center of Ngembal Kulon Kudus

Berdasarkan hasil penelitian diperoleh hasil bahwa sebagian besar memiliki kebiasaan merokok yaitu sebanyak 28 orang (87,5%), sedangkan yang tidak kebiasaan sebanyak 4 orang (12,5%).

Seseorang dikatakan perokok jika telah menghisap minimal 100

batang per bulan. Seorang Perokok Ringan apabila merokok kurang dari 10 batang per hari dan sedang 10 – 20 batang per hari dan berat lebih dari 20 batang perhari (Bustan, 1997: 124).

Someone is called smokers if he smoked at least 100 cigarettes per month. Smoker in the light level is when he smoked less than 10 cigarettes per day and smoker in the medium level is when he smoked 10-20 cigarettes per day and the weigh is more than 20 cigarettes per day (Bustan, 1997: 124).

2. The hypertension incident in the community health center of Ngembal Kulon Kudus

Based on the result of the research, there are 27 people (84.4%) got hypertension, whereas the normal is (15.6%).

3. The correlation between the smoking habit and the hypertension incident in the community health center of Ngembal Kulon Kudus

Based on the result of the research, there were 26 respondents (81.3%) who had the smoking habit and the hypertension incident. Moreover, Chi-square formula was used to test with with table 2 x 2. For that formula, the value was $X^2 = 12.224$ with the level of significances 5% and df (1), then the table $X^2 = 3.84$. Based on probability, the Asymp Sig column was 0,000 or probability below 0.05, so H_0 is rejected and H_a is accepted. Based on that Chi-square test, H_0 is rejected means that there is a correlation between smoking habit and the hypertension incident.

Based on the result of the research, there is a correlation between the smoking habit and the hypertension incident in the community heath center of Ngembal

Kulon Kudus. It can be concluded that if it is not influenced by other factors of hypertension , someone who has thesmoking habit will have hypertension. In the other hand, someone who does not have the smoking habit, he do not have hypertension.

CONCLUSION

A. SUMMARY

Based on the research entitled the correlation between the smoking habit and the hypertension incident in the community health center of Ngembal Kulon Kudus, it can be concluded that:

1. Most of the respondents had the smoking habit , there were 28 people (87.5%), while the respondents who did not have the smoking habit were 4 people (12.5%).
2. Most of the respondents had hypertension , they were 27 people (84.4%), whereas the normal were 5 people (15.6%).
3. There is a correlation between smoking habit and hypertension incident in the Community Health Center of Ngembal Kulon Kudus, where most of the respondents had the smoking habit and hypertension as many as 26 respondents (81.3%).
4. The instrument used to calculate the results was Chi-square formula

B. SUGGESTION

1. For the Researcher

Hopefully, the researcher can get the data of the correlation between the smoking habit and the hypertension incident in the working area of the community health center

of Ngembal Kulon Kudus to do the next research.

2. For the reader

Hopefully, it can be used as the information and add the knowledge about the correlation between the smoking habit and the hypertension incident in men.

3. For the community

Hopefully, to provide input to the community through community health center workers Ngembal Kulon Kudus in order to minimize the consumption of smoking to avoid hypertension in men

BIBLIOGRAPHY

- Adnil Basha. 2004. *Hipertensi: Faktor Resiko Dan Penatalaksanaan*. <http://anglnet.info/index>
- Arif Mansjoer, dkk. 2000. *Kapita Selekta Kedokteran jilid I*. Jakarta: Media Aesculapius
- Arjatmo T, Hendra U.2001. *Ilmu Penyakit Dalam*. Balai Penerbit FKUI
- Aulia Sani. 2004. *Pelayanan Tiga Tahun Pelayanan Klinik Berhenti Merokok,Yayasan Indonesia*. <http://anglnet.info/index>
- Beevers D.G. 2002. *Tekanan Darah*. Jakarta: Dian Rakyat
- Corwin, Elizabets J. 2000. *Buku Saku Patofisiologi*. Terjemahan Brahman U. Jakarta: EGC
- Departmen Kesehatan. *Gizi Dan Promosi*. [http:// www.promosikesehatan.com](http://www.promosikesehatan.com)
- Departemen Kesehatan RI.2003. *warta Kesehatan Masyarakat*. Jakarta: Direktorat Jendral Bina Kesehatan Masyarakat.
- Iman Soeharto. 2001. *Kolesterol Dan Lemak Jahat, Kolesterol Dan Lemak Baik,Dan Proses Terjadinya Serangan Jantung Dan Stoke*. Jakarta: PT.Gramedia Pustaka Utama
- Lanny Sustrani, dkk. 2004. *Hipertensi*. Jakarta. PT. Gramedia Pustaka Utama 86
- Lusiana Indiasari. 2004. *Rokok Bisa Tingkatkan Kolesterol*.<http://www.kompas.co.id>
- Mangu, Sitepoe. 1997. *Usaha Mencegah Bahaya Merokok*. Jakarta:Gramedia
- Pdparisi. 2003. *Ada Apa Dengan Rokok*. [http:// www.red-bondowoso.or.id](http://www.red-bondowoso.or.id)
- Robbin dan Kumar. 1995. *Buku Ajar Patologi II*. Jakarta: EGC.
- Smith Tom. 1986. *Tekanan Darah Tinggi*. Jakarta: Arcan
- Soekitjo Notoatmodjo. 2002. *Metodologi Penelitian kesehatan*. Jakarta: PT. Rineka Cipta
- Sugiyono. 2005. *Statistiaka Untuk Penelitian*. Bandung: Alfabeta
- Suma'mur P.K. 1998. *Higene Perusahaan Dan Kesehatan Kerja*. Jakarta: Gunung Agung.
- Suparto, 2000. *Sehat Menjelang Usia Senja*. Bandung: Remaja Rosdakarya Effset.
- Supariasa, dkk. 2002. *Penilaian Status Gizi*. Jakarta: FKUI. 87
- Wardoyo. 1996. *Pencegahan Penyakit Jantung Koroner*. Solo:Toko Buku Agency
- Vivi, Juanita, S.2004. *Merokok? Kenapa Takut?*.<http://www.sinarharapan.co.id/ipitek/kesehatan/2004>

Nursalam. 2003. *konsep dan Penerapan
Metedologi Penelitian
IlmuKeperawatan*. Jakarta. salemba
medika.

Arikunto, Suharsimi. 2006.
*ProsedurPenelitian
SuatuPendekatan Pendek*.
Jakarta : PT. Rineka Cipta.