

<http://heanoti.com/index.php/hn>

RESEARCH ARTICLE

URL of this article: <http://heanoti.com/index.php/hn/article/view/hn20909>

Psychological Factors Affecting the Incidence of Essential Hypertension in General Hospital of Makassar

Yonathan Ramba^{1(CA)}, Suharto², M. Bagus Qomaruddin³, Dewi Retno Suminar⁴, Hendik⁵^{1(CA)}Doctoral Program of Health Science, Faculty of Public Health, Airlangga University / Department of Physiotherapy, Health Polytechnic of Makassar, Indonesia; yonararamba@gmail.com (Corresponding Author)²Faculty of Medicine, Airlangga University, Indonesia³Department of Health Promotion and Behavioral Sciences, Faculty of Public Health, Airlangga University, Indonesia⁴Faculty of Psychology, Airlangga University, Indonesia⁵Department of Physiotherapy, Health Polytechnic of Makassar, Indonesia; padanghendrik@yahoo.co.id

ABSTRACT

The problem with patients with essential hypertension is that they do not know the cause of their illness, so they do not know how to overcome them. In addition, many hypertensive patients who have not received the proper treatment, if they have received treatment, but their blood pressure has not dropped as expected. The purpose of the study is to analyze the psychological factors that influence the occurrence of essential hypertension. This study was an observational study with a cross-sectional design by looking at the influence of psychological factors on the occurrence of essential hypertension. The study population was essential hypertensive patients who seek treatment at Daya General Hospital. Samples were essential hypertensive patients, aged 20-70 years, minimal education of primary schools and domiciled in Makassar which were obtained by non-probability sampling so that the sample size was 53. Data collection techniques through blood pressure measurement and questionnaire. ANOVA multiple comparison results showed that anger, depression, and mood had a significant effect on the incidence of essential blood pressure (p-value < 0.05).

Keywords: Essential hypertension, Anxiety, Anger, Hostility, Depression, Mood

INTRODUCTION

Background

In 1911, Frank in Alexandra et al. (2003)⁽¹⁾ introduced the term "essential hypertonia", which became important for cases of hypertension and the term is now used to indicate hypertension with no known etiology. At present, structural studies and possible mechanical changes in the pathogenesis of essential hypertension still remain a matter of clinical importance and scientific. The role of small arteries in the pathophysiology of high blood pressure is highlighted in the important definition of hypertension, this disease is usually associated with the normal cardiac output, but is related to peripheral resistance.

Basic Health Research 2013⁽²⁾ results that the prevalence of hypertension at age ≥ 18 years in Indonesia obtained through the answers never diagnosed health personnel of 9.4%, whereas the ever diagnosed health personnel or are taking medication own hypertension of 9.5%. Thus, there are 0.1% of people who take their own medication, even though they have never been diagnosed with hypertension by health personnel. While the measurement results at age ≥ 18 years of 25.8%. So the coverage of health workers was only 36.8%, most (63.2%) cases of hypertension in the community were undiagnosed.

The result of observation conducted by researcher of General Hospital of Makassar from January to March 2015 showed that the number of patients with essential hypertension was 48 people, where women 34 people (71%) and men 14 people (29%), age 25-44 years 3 people (6%), age 45-64 years 30 people (63%) and age above 65 years 15 people (31%).

Psychological factors, such as trait anxiety, trait anger, hostility and depression and mood greatly affect the occurrence of essential hypertension and may be associated with self-care and patient treatment adherence. This is so that the Health Belief Model (HBM) is needed to improve the patient's psychological factors so as to

overcome the problem of essential hypertension and progressive relaxation exercises to make the patient able to solve all psychological problems in a relaxed manner.

The Health Belief Model (HBM) has been extensively applied in predicting health-related behaviors, preventive health behaviors, sick role behaviors and clinical use. According to HBM, six major constructs affect people's decisions about whether to take action in a health perspective including perceived vulnerability, perceived severity, perceived benefits, perceived barriers, signaling to action and self-efficacy⁽³⁾.

Relaxation is one of the self-management techniques based on the workings of this sympathetic and parasympathetic nervous system. In addition, when the muscles have been relaxed it will normalize the body's organs. Once a person performs a relaxation, it can dissolve his or her stirring, thus improving various aspects of physical health. Helping the individual to be self-control and focusing attention so as to take the appropriate response while in a stressful situation⁽⁴⁾.

Purpose

This study aims to analyze the psychological factors (the nature of anxiety, the nature of anger, hostility, depression, mood) that affects the occurrence of essential hypertension in General Hospital of Makassar.

METHODS

This study used an observational study with a cross-sectional design by analyzing the influence of psychological factors such as anxiety, anger, hostility, depression, and mood that can affect the occurrence of essential hypertension. The population of the study was patients of essential hypertension diagnosed by doctors, both inpatient and outpatient in General Hospital of Makassar. The sample of the study was the patient of essential hypertension obtained by non-probability sampling (consecutive sampling) that has met the criteria: age 20-70 years, minimum education: graduated from elementary school, no cognitive disturbance, no sensory and motor sensory aphasia, sample size was 53. Data was obtained from the results of filling out questionnaires for psychological factors and blood pressure measurements. Data on demographic characteristics are categorical data so that they are presented in the form of frequency and percentage⁽⁵⁾, while data on psychological factors are numerical data so that they are presented in the form of mean and standard deviation⁽⁶⁾. The data obtained were analyzed using the ANOVA test to describe the correlation of psychological factor (negative influence) causing the occurrence of essential hypertension.

RESULTS

This study was conducted in patients with essential hypertension diagnosed by doctors who came to treatment at the Daya General Hospital of Makassar, both inpatients, and outpatients. All respondents were given a questionnaire of the nature of anxiety, anger, hostility, depression, and anxiety to fill. Respondent data taken was primary data that was data of filling questionnaire and blood pressure measurement. Secondary data was obtained by looking at data from the status or medical records of patients who came to treatment at the General Hospital of Makassar. The data was obtained by looking at the medical record status of the patient who came for treatment and the direct measurement of the patient's blood pressure.

Table 1. General characteristics of research subjects

Variable		Frequency	Percentage
Gender	Man	36	67.9
	Women	17	32.1
Age	20 – 40	1	1.9
	41 – 60	33	62.3
	60 and above	19	35.8
Education	Junior high school	1	1.9
	Senior high school	51	96.2
	College	1	1.9

The number of patients with essential hypertension treated or treated at General Hospital of Makassar during the study showed that male gender was 36 people or 67.9% more than female, ie 17 people or 32.1%. Age of most research subjects was in the age category 41-60 years, ie 33 people or 62.3%. Most subject education is in the category of High School, ie 51 people or 96.2%. Thus the most essential hypertensive patients are male sex at the age of 41-60 years with the highest education in high school.

Table 2. Relationship of psychological factors with increased essential hypertension patients with high blood pressure

Psychological Factors	Essential Hypertension		F	p-value
	Mean	SD		
Anxious	83.45	2.906	0.002	0.966
Angry	37.13	1.075	4.431	0.040
Hostility	15.00	0.000	0.000	0.984
Depression	21.09	0.295	14.010	0.000
Mood	35.47	1.539	4.122	0.048

The result of ANOVA analysis on psychological factors to increase the essential hypertension of high blood pressure patient, it was found that the anxiety factor with $p\text{-value} = 0.966 > 0.05$, which means that the anxiety factor has no effect to the increase of essential hypertension of high blood pressure sufferers. For the angry factor with the value of $p\text{-value} = 0.040 < 0.05$ which means that the angry factor has an effect on the increase of essential hypertension of high blood pressure sufferer, for hostility factor with $p\text{-value} = 0.984 > 0.05$ which means that hostile factor has no effect to increase of essential hypertension of pressure sufferer high blood pressure. for depression factor with $p\text{-value} = 0.000 < 0.05$ which means that depression factor has an effect to increase of essential hypertension of patient with high blood pressure and for mood factor with value $p\text{-value} = 0.48 < 0.05$ which mean that mood factor have the influence to increase of patient essential hypertension high blood pressure.

DISCUSSION

Hypertension or high blood pressure is a silent killer because in most cases it does not show any symptoms. Hypertension is one of the major risk factors that cause heart attacks and strokes, which affect most of the world's population. Hypertension is a condition in which blood pressure is present 140/90 mmHg or more for 13-50 years of age and blood pressure reaches 160/95 mmHg for age above 50 years.

Age and sex are hypertension risk factors that can not be modified. Hypertension can occur in all adult age, where the greater the risk and the number of diseases in line with age⁽⁷⁾ and most dominant at the age of 31-55 years. the older a person, the limiting regulation of calcium (calcium) is disturbed, and so much lime is circulating with the blood. The amount of calcium in the blood (hypercalcemia) causes the blood to become denser, so the blood pressure increases. Calcium deposits in the blood vessel wall (arteriosclerosis) cause blood vessel contents. As a result, blood flow becomes disrupted⁽⁸⁾. In sex, men younger than 55 years of age, have a higher risk of developing hypertension than women, while above that age, women who are more likely to have hypertension especially after having menopause. Similarly, educational factors do not have a direct influence on the incidence of hypertension. Educational factors affect the social status of a person. The good education will be associated with a good socioeconomic unit so hypertension is less likely to occur. The education factor also influences a person's behavior to live healthy⁽⁹⁾. Low education is closely related to the low awareness and knowledge of the community for healthy living behavior, and low access to health care facilities, and difficulties to receive information (extension) provided by health workers⁽¹⁰⁾.

Anger has a significant effect on increasing hypertension of the esophagus. Anger is a negative emotion that can be bad for health. One of them is triggering high blood pressure or hypertension, it can occur because when angry there is an increase in the hormone adrenaline, where the hormone adrenaline causes constriction of blood vessels so that blood pressure increases⁽¹¹⁾.

Depression is a disturbing feeling of the heart that is marked by a moody feeling, loss of interest and excitement, and decreased energy for daily activities can affect one's thoughts, behavior, and physical state. Depression can lead to increased blood pressure due to increased levels of adrenaline and adrenocortical response^{(11),(12)}. Depression will increase peripheral vascular resistance and cardiac output, which will stimulate sympathetic nerve activity. Because of depression, the body will react, among others, in the form of increased muscle tension, increased heart rate, and increased blood pressure. This reaction is prepared by the body to react quickly, which, when not used, will cause disease, including hypertension⁽¹³⁾.

Mood disorders cause psychological disorders such as anger, causing disruption of blood flow that can decrease the synthesis of monoamines resulting in decreased serotonin as neurotransmitters to maintain a stable emotional state. Decreased serotonin causes mood disorders, sleep, and appetite. Mood disorders are manifested in the form of anger, frustration, despair and often cause depression⁽¹⁴⁾.

CONCLUSION

Psychological factors of anger, depression, and mood have an effect on the occurrence of essential hypertension, but anxiety and hostility factors have no significant effect.

REFERENCES

1. Zervoudaki AI, Outouzas PK. Remodeling of Resistance Vessels in Essential Hypertension. *Hellenic J Cardiol.* 2003;44:116-124.
2. MoH-RI. Basic Health Research 2013 (Riset Kesehatan dasar 2013). Jakarta: Ministry of Health of Republic of Indonesia; 2013.
3. Cruz MDL. Different Applications of the Health Belief Model. HealthEd Academy, LLC; 2013.
4. Subandi MA. Meditation Exercises for Psychotherapy (Latihan Meditasi untuk Psikoterapi). Subandi (Ed.). Psychotherapy, Conventional and Contemporary Approaches (Psikoterapi Pendekatan Konvensional dan Kontemporer). Yogyakarta: Pustaka Pelajar; 2002.
5. Nugroho HSW. Descriptive Data Analysis fo Categorical Data (Analisis Data secara Deskriptif untuk Data Kategorik). Ponorogo: FORIKES; 2014.
6. Nugroho HSW. Descriptive Data Analysis fo Numerical Data (Analisis Data secara Deskriptif untuk Data Numerik). Ponorogo: FORIKES; 2014.
7. Noor NN. Epidemiology (Epidemiologi). Jakarta: Rineka Cipta; 2008.
8. Kuswardhani T. Management of Hypertension in the Elderly (Penatalaksanaan Hipertensi pada Lanjut Usia). *Jurnal Penyakit Dalam.* 2006;7:135-140.
9. Sulistyowati. Factors Relating to Hypertension Events in Botton, Magelang Village, Central Magelang District, Magelang City (Faktor-Faktor yang Berhubungan dengan Kejadian Hipertensi di Kampung Botton, Kelurahan Magelang, Kecamatan Magelang Tengah, Kota Magelang). Undergraduate Thesis. Semarang: Department of Public Health Science, faculty of Sports Science, Universitas Negeri Semarang; 2010.
10. Prayitno N. Factors Associated with Blood Pressure in Telaga Murni Health Center, West Cikarang, 2012 (Faktor-Faktor yang Berhubungan dengan Tekanan Darah di Puskesmas Telaga Murni, Cikarang Barat, tahun 2012). *Jurnal Ilmiah Kesehatan.* 2013;5(1):20-25.
11. Sutanto. Block (Prevent and Desist) Modern Disease: Hypertension, Stroke, Heart, Cholesterol and Diabetes (Symptoms, Prevention and Control) (Cekal (Cegah dan Tangkal) Penyakit Modern: Hipertensi, Stroke, Jantung, Kolesterol dan Diabetes (Gejala-Gejala, Pencegahan dan Pengendalian)). Yogyakarta: Penerbit Andi; 2010.
12. Sherwood. Human Physiology: from Cell to Cell (Fisiologi Manusia: dari Sel ke Sel). Jakarta: EGC; 2007.
13. Handayani. Stroke Attacks in Women are Lower than Men (Angka Kejadian Serangan Stroke pada Wanita Lebih Rendah daripada Laki-Laki). *Jurnal Keperawatan Medikal Bedah.* 2013;1(1):2013.
14. Setyowati. Effect of Spiritual Cognitive Interventions on Self Acceptance in Ischemic Stroke Clients (Pengaruh Intervensi Kognitif Spiritual terhadap Penerimaan Diri pada Klien Stroke Iskemik). *Jurnal Ilmu Kesehatan.* 2016;5(1):19-27.