RELATIONSHIPS BETWEEN THE ELDERLY KNOWLEDGE AND THE USE OF TRADITIONAL ANTIHYPERTENSIVE DRUGS

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Abstract

The aging process will be experienced by the elderly which is a decrease in the ability of the heart that can trigger the occurrence of hypertension. Treatment using herbs is an alternative treatment to overcome hypertension. Some plants that have antihypertensive activity are celery, cat's whiskers, bay leaves, and noni. This study aimed to identify whether there was a relationship between knowledge of the elderly and the use of anti-hypertensive traditional drugs. This study was a descriptive correlation research with cross sectional approach. The sample of this study were 37 elderly people in one neighborhood of Hegarmanah Village. The sampling technique used total sampling technique. Data were collected using questionnaire through interview. The questionnaire consisted of 11 questions, namely 1 question about whether or not using traditional antihypertensive medication, 10 questions for knowledge variables, The results showed that nearly 65% of respondents used traditional antihypertensive drugs and 22% of the elderly had good knowledge. The results of chi-square test showed no significant relationship between the knowledge of the elderly and the use of traditional antihypertensive drugs with p value 0.13. The social culture had influence to make personal decision to use of traditional antihipertensive drugs.

Keywords: Elderly; Knowledge; Antihipertensive Drugs

Introduction

Various physiological changes due to the aging process experienced by the elderly, such as a decrease in the ability of the heart that can trigger the occurrence of hypertension. Increasing age makes health decline little by little. The most common health disorder experienced by elderly is on the cardiovascular system (Teguh, 2009). Hypertension is one of the consequences of cardiovascular system disorders. Results from hypertension prevalence surveys in Asia show that India is 40%, and Indonesia is ranked 7th in Asia (Paskah, 2015). Riskesdas survey results in 2013, West Java itself is one of the five provinces in Indonesia which has the highest number of hypertensive patients is about 29.4% of the population.

Hypertension or high blood pressure is an increase in systolic blood pressure of more than 140 mmHg and diastolic blood pressure of more than 90 mmHg. Hypertension in the elderly is characterized by enlargement of arterial and peripheral blood vessels, a tendency of decreased cardiac output, increased blood pressure fluctuations that can lead to organ dysfunction, such as brain, heart and kidneys (Stanley & Beare, 2007).

Many risks factors may cause the emergence of hypertension, one of which is the lifestyle and age. Elderly people have a greater risk of developing hypertension than at a young age. To overcome the problem of hypertension, one way is through prevention of the occurrence of hypertension in the community and prevention of recurrence in people with hypertension. Prevention is certainly must be realized and done by the individual itself, but most people are not aware of the importance of prevention. Knowledge level factors become one of the factors that support that individual can be aware of itself.

Various ways are done to overcome these hypertension problems, one of which is by preventing the occurrence of hypertension in the elderly and prevention of recurrence in hypertensive patients. The level of knowledge becomes one of the factors that support individuals to be able to increase their awareness of hypertension problems. Based on research Tri (2013) states that there is a relationship between the level of knowledge about hypertension with the prevention of hypertension recurrence in the elderly in Blulukan Village, Colomadu District, Karanganyar Regency. Knowledge gained from one's efforts to find out in advance of stimuli in the form of objects from outside through a sensory process of interaction between himself and the environment so as to obtain new knowledge about an object (Notoatmodjo, 2007).

Management of elderly hypertension can be done with both pharmacological and nonpharmacologic therapy (WHO, 2014). Management of elderly hypertension pharmacologically can be done using modern medicine (chemical) and herbal medicine, while non pharmacological management can be done with acupuncture and cupping therapy. Treatment using medicinal plants (herbs) are selected alternative medicine community in addition to medical treatment. Paramita research results (2017) states that 70.9% of hypertensive patients using herbal medicine as a complementary therapy.

Herbal plants that are often used by people to reduce hypertension include: Celery (Apium graveolens) has been known to have antihypertensive activity (Gharouni & Sarkati, 2000). Apigenin in celery leaves serves as a beta blocker that can slow the heart rate and decrease the strength of heart contraction so that the blood flow is pumped less and the blood pressure becomes reduced (Saputra & Fitria, 2016), Cat whiskers (Orthosiphon stamineus) have been widely used as diuretics in several Southeast Asian countries, especially Indonesia. Diuretic activity is caused by the content of sinensetin in cat whiskers that can lower blood pressure (Almatar et al, 2014), Noni (Morinda citifolia) contains scopoletin, this compound regulates blood pressure. Scopoletin is a vasodilator that lowers blood by relaxing vascular smooth muscle so that arterial blood pressure decreases blood pressure also decreases. In addition, noni also contains xeronine which functions as a diuretic substance that is by reducing the volume of blood by removing sodium deposits from the body (Afa, et al, 2008), Salam leaves (Eugenia polyantha) contain tannin, saponin, and vitamin C compounds. Tanin reacts with mucosal

proteins and intestinal epithelial cells, which inhibits fat absorption, while saponins bind cholesterol to bile acids, thereby reducing cholesterol levels. The content of vitamin C in it helps the hydroxylation reaction in the formation of bile acids, due to the reaction increases cholesterol excretion (Setiawan, 2009).

Based on interviews conducted on the elderly in the Village Hegarmanah, most elderly people in the village suffer from hypertension. Most elderly people use traditional medicine, but some elderly have not used the appropriate traditional medicine as antihypertensive. This research aimed to know the relationship between knowledge of the elderly and the use of traditional antihypertensive drugs in Hegarmanah Village.

Methods

This research was an analytic research with the cross sectional approach. The sample of this study were 37 elderly people in one neighborhood of Hegarmanah Village. The criteria of respondents were hegarmanah villagers aged ≥ 60. The sampling technique used total sampling technique. Data were collected by using questionnaire through interview. Data were processed using a computer with statistical tests.

The instrument used to support this research was a questionnaire consisting of 11 questions, namely 1 question about whether to use traditional medicine or not, 10 questions for the variable knowledge about hypertension and antihypertensive traditional medicine, using Guttman scale is a scale that

is assertive and consistent with giving a firm answer. Guttman scale is generally in the form of checklist with the interpretation of the assessment, if the score is true value 1 and if wrong value 0 (Riduwan, 2009).

The researcher approached the cadres, and the elderly people in the village hegarmanah and conveyed the intent and purpose of the study to the elderly for their willingness to volunteer to be the respondent in the study, then give informed consent to be approved. The collection of data by means of primary data collection is obtained from the sample as the subject of the research by filling the questionnaire containing a series of questions in assessing the level of knowledge of the elderly and the use of traditional anti-hypertensive drugs.

Data that has been collected, then univariate and bivariate analysis. The univariate analysis in this study was to describe the frequency distribution of each variable. Bivariate analysis was carried out to see the relationship between the independent variable and the dependent variable. Statistical analysis used Chi-square test at a significance level of 95% ($\alpha = 0.05$). Through the calculation of Chi-square, then a conclusion is drawn, if the value of p is smaller than the value of α (0.05), then Ho is rejected and Ha is accepted, which indicates that there is a relationship between the dependent variable and the independent variable.

Results of Research

Demographic characteristics of respondents in the study are gender, education, knowledge and use of traditional antihypertensive drugs.

Table 1. Frequency Distribution of Respondents by Gender

Gender	f	%
Female	29	78.4
Male	8	21.6

According to the table 1 shows that the majority of respondents were female as much as 29 respondents (78.4%).

Table 2. Frequency Distribution of Respondents by Education

Education	f	%
Elementary School	19	51.4

Junior High School	**10**	**27**
Senior High School	**8**	**21.6**

Based on table 2 shows that the majority of respondents had an elementary school education of 19 respondents (51.4%).

Table 3. Frequency Distribution of Respondents Knowledge

Knowledge	f	%
Low	**29**	**78.4**
High	**8**	**21.6**

In Table 3 shows that the majority of respondents have a low knowledge as much as 29 respondents (78.4%) and who have a high knowledge as much as 8 respondents (21.6%).

Table 4. Frequency Distribution of The Use of Antihypertensive Traditional Drugs

Use of Traditional Drugs	f	%
Yes	**24**	**64.9**
No	**13**	**35.1**

Based on table 4 it can be seen that the majority of respondents use traditional antihypertensive drugs as many as 29 respondents (64.9%) and the minority of respondents do not use traditional antihypertensive drugs as many as 13 respondents (35.1%).

Table 5. Relationship of Knowledge with the Use of Traditional Antihypertensive Drugs

	Use of Traditional Drugs					p value
Knowledge	No	%	Yes	%	Total	0.13
Low	**12**	**41.4**	**17**	**58.6**	**29**	
High	**1**	**12.5**	**7**	**87.5**	**8**	

Based on table 5 shows that of the 29 respondents who have low knowledge, 17 of them use traditional antihypertensive drugs. Of the 8 respondents who had high knowledge, only 1 respondent did not use antihypertensive traditional drugs. The statistical test results obtained p = 0.13, it can be concluded that there is no significant relationship between knowledge and use of traditional antihypertensive drugs.

Discussion

Based on data obtained that respondents with high knowledge, the use of traditional antihypertensive drugs by these respondents was also high. Of the 37 respondents, 29 respondents had low knowledge about antihypertensive traditional medicine. Respondents with low knowledge, the use of traditional antihypertensive drugs by these respondents was low. Based on the results of Chi square test obtained P value 0.13 so H0 accepted, which means no relationship between knowledge of the elderly with the use of traditional antihypertensive drugs. This is not in line with the results of Nursyafitri research (2019) which states there is a significant influence between the level of knowledge of hypertension sufferers in using non-pharmacological drugs.

Elderly (elderly) is not a disease but an advanced stage of a life process characterized

by a decline in the body's ability to adapt to environmental stress (Pudjiastuti & Utomo 2003). The aging process affects physical and mental changes that lead to decreased endurance resulting in the emergence of various diseases, and most often found in the elderly are hypertensive diseases (Tamher & Noorkasiani 2009). In Indonesia, at the age of 25-44 years the prevalence of hypertension by 29%, at the age of 45-64 years by 51% and at age> 65 years by 65%. Compared to the age of 55-59 years, at the age of 60-64 years there is an increased risk of hypertension by 2.18 times, age 65-69 years 2.45 times and age> 70 years 2.97 times (Rahajeng and Tuminah, 2009).

Hypertension therapy may be performed with non-pharmacologists (such as weight-loss and salt intake restriction), pharmacological measures (treatment with antihypertensive drugs such as diuretics, beta-blockers, ace-inhibitors, ca-blockers), and hypertension therapy with herbs (natural ingredients such as traditional medicinal plants or plants that have been clinically tested and preclinical) (Saputra & Fitria, 2016). WHO estimates that 80% of the world's population still rely on traditional medicine including the use of medicines from plants (Gusmira, 2012). The Indonesian people have long known plants to cure diseases and maintain good health. Abilities and skills have been done down and down from one generation to the next (Wirawan, 2015). According Halberstein (2005) treatment of hypertension by using medicinal plants can lower normal blood pressure levels and treat hypertension by fixing the cause or build damaged organs that result in the occurrence of hypertension. Medicinal plants also have advantages in the treatment of hypertension because generally medicinal plants have a function other than treat hypertension also treat complications as a result of high blood pressure and have very little side effects (Xingjiang et al, 2013). The social environment can affect behavior so that one's attitude can easily change with the pressures obtained in the social environment, so that one can do something not out of personal desires but is influenced by the influence of the social environment. Attitude has characteristics and direction. Attitude can lead to individual approval or disapproval of something.

Based on the data obtained, the lack of correlation between knowledge of the elderly on the use of traditional antihypertensive drugs in Hegarmanah Village is influenced by the culture and personality of the villagers themselves, knowledge of the elderly that is knowledge of empirical and non-empirical knowledge that comes from outside and is new knowledge for them. The absence of an elderly knowledge relation to the use of traditional antihypertensive drugs is also influenced by the person of the elderly who may reject new non-empirical knowledge or no longer apply empirical or hereditary knowledge due to diminished beliefs as the times progress.Trust is a mental state based on one's situation and its social context. When someone takes a decision, the person will choose the decision based on the choice of people who are more reliable than the less trusted. In essence, trust has a major influence on one's behavior and personality compared to the development of knowledge.

Conclusions

The conclusion in this study that most of the elderly have low knowledge about traditional antihypertensive drugs. Statistical test results state that there is no relationship between elderly knowledge and the use of traditional anti-hypertensive drugs. It is likely that the social culture had influence to make personal decision to use of traditional antihipertensive drugs. Socialization programs about traditional antihypertensive drugs would stimulate elderlies' trust to this alternative therapy.

BIBLIOGRAPHY

Afa, K.P., Raevonne, A.S., Brett J.W., Norman, K., & Jarakae, J. (2008). The Effects of Morinda Citrifolia L. Noni on High Blood Pressure: A Mechanistic Investigation and Case Study. American Chemical Society. Vol. 993, 446–453. doi: 10.1021/bk-2008-0993.ch039

Almatar, M., Ekal, H., & Rahmat, Z. (2014). A Glance Applications of Orthosiphon stamineus and Some of its Oxidative Compound. International

Journal of Pharmaceutical Sciences Review and Research. Vol. 24., No. 2., p. 84.

Budiarto, E. (2002). Biostatika untuk kedokteran dan Kesehatan Masyarakat. Jakarta : EGC.

Depkes RI. Riset Kesehatan Dasar. (2013). Jakarta: Badan Penelitian dan Pengembangan Kesehatan Kementrian Kesehatan RI.

Gharouni, M., & Sarkati, A. (2000). Application of Apium graveolens in Treatment of Hypertension. Journal of Tehran University of Medical Sciences, Vol. 3., p. 67–69.

Gusmira, S. (2012). Evaluasi Penggunaan Antihipertensi Konvensional dan Kombinasi Konvensional-Bahan Alam Pada Pasien Hipertensi di Puskesmas Wilayah Depok. Makara Kesehatan, Volume 16(2), p.77-83.

Halberstein, R. A. (2005). Medicinal Plants: Historical and Cross-cultural Usage Patterns. Annal of Epidemiology. Vol. 15., No. 9. p. 99- 686. doi. org/10.1016/j.annepidem.2005.02.004

Hidayat, A. (2009). Metode Penelitian Kebidanan Dan Tekhnik Analisa Data. Jakarta: Salemba Medika.

Kementerian Kesehatan Republik Indonesia. (2014). Pusat Data dan Informasi Kementerian Kesehatan RI tentang Hipertensi. Jakarta: Kementrian Kesehatan Republik Indonesia.

Notoatmodjo. (2007). Kesehatan Masyarakat Ilmu dan Seni. Jakarta: PT. Renika Cipta.

Paramita, S., Isnuwardana, R.,Nuryanto, M.K., Djalung, R., Rachmawatiningtyas, D.G., & Jayastri, P. (2017). Pola Penggunaan Obat Bahan Alam Sebagai Terapi Komplementer Pada Pasien Hipdertensi di Puskesmas. Jurnal Sains dan Kesehatan. 2017. Vol 1. No 7. doi.org/10.25026/jsk.v1i7.56

Pudjiastuti., Sri Surini., & Utomo, Budi. (2003). Fisioterapi pada Lansia. Jakarta: EGC.

Rahajeng, E., & Tuminah, S. (2009). Prevalensi Hipertensi dan Determinannya di Indonesia. Majalah Kedokteran Indonesia. 59(12): hlm. 550-587.

Riduwan. (2009). Skala Pengukuran Variabel-Variabel Penelitian. Bandung: Alkabeta.

Saputra, O., & Fitria, T. (2016). Khasiat Daun Seledri Apium graveolens) Terhadap Tekanan Darah Tinggi Pada Pasien Hiperkolestrolemia. Majority. Vol (5). Nomor (2).

Setiawan, D. (2009). Atlas Tumbuhan Obat Indonesia Jilid 6. Jakarta: Pustaka Bunda. Situmorang, Paskah Rina. (2015). Faktor-faktor yang Berhubungan dengan Kejadian Hipertensi pada Penderita Rawat Inap di Rumah Sakit Umum Sari Mutiara Medan Tahun 2014. Jurnal Ilmiah Keperawatan: Vol. 1, No, 1

Stanley, M., & Beare, P. G. 2007. Buku Ajar Keperawatan Gerontik. Edisi 2. Jakarta: EGC

Tamher., & Noorkasiani. (2009). Kesehatan Usia Lanjut dengan Pendekatan Asuhan Keperawatan. Jakarta : Salemba Medika.

Tri, P.(2013). Hubungan Tingkat Pengetahuan tentang Hipertensi dengan Upaya Pencegahan Kekambuhan Hipertensi pada Lansia di Desa Bulukan Kecamatan Colomadu Kab. Karanganyar. Skripsi. Fakultas Ilmu Kesehatan Universitas Muhammadiyah Surakarta

WHO. (2014). Global target 6: A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances. Jenewa: World Health Organization.

Xingjiang Xiong., Xiaochen Yang., Wei Liu., Fuyong Chu., Pengqian Wang., and Jie Wang. (2013). Trends in the Treatment of Hypertension from the Perspective of Traditional Chinese Medicine. Evidence-Based Complementary and Alternative Medicine. Volume 2013.