



HEALTH BEHAVIOR AND MEDICATION ADHERENCE IN HYPERTENSIVE CLIENT

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ABSTRACT

Hypertension as Non-Communicable Diseases (NCD) is the largest contributor to the causes of death in the world. Complications of hypertension account for the majority of deaths globally. Uncontrolled health behavior in patients with hypertension is closely related to an increase in morbidity rates due to complications from hypertension each year. Medication adherence is one of an effort to form positive health behaviors to prevent hypertension complications. This study aims to identify the relationship between health behavior with medication adherence in hypertensive clients in Cipayang District, East Jakarta. This study using cross sectional design, approach with 109 participants, who were selected by purposive sampling, are chosen primary hypertensive clients of middle adulthood. The results of the chi square test showed that there was a relationship between health behavior and medication adherence (p value: 0.024) 90% CI. The results of the study it can be concluded that the more positive the health behavior, the higher the adherence to taking medication in hypertensive clients. Community nurses have an important role in modifying the behavior of hypertensive patients with a variety of approaches both as individuals, families, and the public can maintain their health well-being.

Keywords: hypertension; health behavior; medication adherence

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INTRODUCTION

Hypertension as a type of non-communicable disease (NCD) is one of biggest contributors of causes of death in the world. According to World Health Organization (WHO), NCD has caused 41 million deaths annually and accounts for 71% of global deaths (WHO, 2018). Hypertension prevalence in adults over 18 years count 22% of total population in the World (WHO, 2013). The prevalence tends to remain form the global prevalence of hypertension in 2014. The prevalence of hypertension in Indonesia over the age 18 years experiences an increase, from 25,8% in 2013 to 34,1% in 2018 (Risesdas, 2018). According to basic health research the increase in the incidence of hypertension occurs most frequently in the age group 31-64 years. It closely related to ineffective control of hypertension risk factors. Risk factors for hypertension are smoking behavior, lack of physical activity and exercise, excessive salt intake, excess fat intake, and lack of ability to manage stress. NCD control of hypertension globally and nationally focuses on medication adherence and reduces smoking

behavior of hypertensive clients and family members (Abramson, Svivaratharajah, Davis, Parapid, 2017).

Indonesia has a prevalence of smoking every day in the red zone of 24.3% (Drope, 2018). Nearly 80% of Indonesia's population is exposed to cigarette smoke in the home environment (Pusdatin, 2013). Indonesian people over 10 years who carry out physical activities only 27% of the total population (Diaz & Shimbo, 2013). Indonesian people consume more than 5 grams of salt per day (53.7% of the population) and another 18.9% consume more than 10 to 30 grams of salt per day (Atmarita, Jahari, & Soekatri, 2016). Most adults in Indonesia have these three risk factors. The high ownership of these risk factors contributes greatly to the incidence of new hypertension each year. Currently condition of hypertension sufferers more than half has been diagnosed and not treated (WHO, 2017), so it tends to experience more severe health problems than hypertension sufferers who take medication regularly.

Preventive and curative efforts have been made by the government to reduce the incidence of hypertension. The programs strive to prevent and control hypertension with approaches as individuals, families, and communities. It seems that hypertension prevention and control programs have not shown effective results in the prevalence of hypertension in Indonesia. Hypertension is closely related to the concept of vulnerable populations belonging to Flakerud and Winslo (Allender, Rector, & Warner, 2014). According to the theory the lower the availability of socioeconomic and environmental resources, can increase one's vulnerability exposed to risk factors, when exposed to risk factors and no effort to prevent and modify behavior will have an impact on declining health status that can increase mortality and morbidity. Control of risk factors of hypertension has an important role to reduce the number of new hypertension cases each year. Based on the above considerations, global and national health focuses on medication adherence for hypertensive clients as indicators of opposing and controlling hypertension.

METHOD

This research applies a qualitative analytic research design with correlation analysis with cross sectional approach. The population in this study was adult hypertension clients in the Cipayung sub-district primary health care in East Jakarta. Sample selection using a purposive sampling method by determining the population in accordance with the target determined by researchers, namely districts in East Jakarta which have the highest prevalence of hypertension. The inclusion criteria in this study were middle adult hypertension clients in the age range of 30-59 years and the exclusion criteria for this study were clients with secondary hypertension. This study uses two instruments in data collection, the instruments used are CERDIK (health relations), and MMAS-4 (*Morisky Medication Adherence ver.4*). Researchers categorize the results of each instrument and analyze it with chi-square. This study has passed the ethics review from the faculty of Nursing in Universitas Indonesia (SK-198 / UN2.F12.D1.2.1 / ETIK.FIK.2019).

RESULTS

The results of this study were analyzed univariate and bivariate. Univariate analysis includes the characteristics of participants age, sex, and income. Bivariate analysis includes the relationship of health behavior with medication adherence in hypertensive clients.

Table 1.
 Description age of participants (n=109)

Variable	Mean	SD	CI 90%
Age	50,78	6,150	49,78-51,86

Table 1. Explaining the mean value obtained for 50.78, and standard deviation (SD) 6.150, and 90% CI 49.78 - 51.86 years. A mean value of 50.78 means that the average of middle-aged hypertensive clients who experience hypertension in the Cipayung sub district primary health care is 51 years old. The standard deviation in this study is 6,150, which means that the age distribution in this study is diverse or heterogeneous. The CI value of 90% has the interpretation that the age range of participants is in the range of 49.78 - 51.86 years. If repeated samples were taken as many as 109 participants in the Cipayung sub-district primary health care at a confidence interval (CI) 90% of the age distribution was around 49.78 - 51.86 years.

Table 2.
 Description of the gender and income of participants (n=109)

Variable	f	%
Gender		
Male	34	31,2
Female	75	68,8
Income		
≥ Rp. 3.940.973	36	33
< Rp. 3.940.973	73	67

Table 2 explains that there were 31.2% of male participants and 68.8% of participants were female. This shows that the majority of hypertensive clients in this study were women. Income is categorized as greater than or less than the regional minimum wage (UMR) of Rp. 3,940,973. Based on the analysis carried out obtained distribution as follows. The average income earned by the participants was 33% more than the equivalent of the UMR and the other 67% was less than Rp. 3,940,973 or below the UMR. Based on this, it can be said that more hypertensive clients have incomes below the minimum wage.

Table 3.
 The relationship between health behavior and medication compliance (n=109)

Variable	Medication Adherence		Total	OR	p value
	Obedient	Disobedient			
Positive health behavior	28	35	63	2,88	0,024
Negative health behavior	10	36	46		

Table 3 explains the results of data processing from 109 participants, 63 participants who behaved positively in health were more adherent to drugs, while out of 46 participants who were negative health behaviors more were not adherent to drugs. The OR value obtained on the variables of positive or negative health behavior and adherence or non-compliance with medication is 2,880. Through this it can be interpreted that positive health behaviors are 2,880 times more at risk for drug adherence. The analysis results obtained p value of 0.024 which is smaller than the level of significance of 0.1, so there is a relationship between health behavior with adherence to taking medication on hypertensive clients.

DISCUSSION

Age

The average age of participants in this study was 50.78 years. This is in line with research in China which states that the tendency for hypertension is easier to occur in a person aged less than 65 years (Song, Shen, Li, Liu, Zheng, Liang, & Wang, 2016). This trend was also raised by a study conducted at Harvard Medical School (2018) on 9000 adults, found a tendency for hypertension to begin in the 50s. These things are also in line with basic health research in Indonesia that hypertension is more common in the age group 31-44 years (31.6%), 45-54 years (45.3%), and the 55-64 age group (55, 2%) (Riskseddas, 2018).

Gender

Characteristics of participants in this study were dominated by female sex (68.8%). The health service report published by the East Jakarta City Health Service Office, that throughout 2018 hypertension sufferers at the Cipayung subdistrict primary health care who received health services were dominated by male sex by 2.6% and another 0.2% by women (Thompson, Anisimowicz, Miedema, Hogg, Wodchis, & Aubrey-Bassler, 2016). According to other research health awareness of adult hypertension clients is more common in women than men (Balduino, Mantovani, Lacerda, Marin, & Wal, 2016). This is in line with research in one puskesmas in Tangerang district conducted for 8 months found that 61.6% of puskesmas visitors were women (Rahmayanti, Sarah, & Ariguntar, 2016).

Another study in one of the districts of South Kalimantan showed that the utilization of health services was more utilized by male sex (Su'udi & Hendrawan, 2018). This study also supports Thompson 17 research that one of the influences of patients in the utilization of health services is gender, in their research women have higher health seeking behavior than men. Based on several studies of health awareness and utilization of health services, most of it is on the female sex. The difference in the results of these studies can be caused by many things such as the characteristics of the region, the area of this study is the Cipayung subdistrict, East Jakarta, the characteristics of the region are more similar or close to the district district of Tangerang. The similarity of these characteristics in terms of language, ethnicity, and population density. Therefore it can be concluded that gender in the Cipayung subdistrict in East Jakarta has a high level of health awareness or high utilization of health services.

Income

The next characteristic is income, in this study most of the participants had an average income of <Rp. 3,940,973 or below the UMR. According to previous studies the economic status of hypertensive clients has an effect on maintaining their health (Su'udi & Hendarwan, 2018). who has a low economic status tends to consume high fat, high carbohydrate, low protein, and lack of fiber, vitamins, and minerals from fruits and vegetables (CuschieriVassallo, Calleja, Pace, & Mamo, 2017). This is different from research in Indonesia, that consumption of salt, sugar and excess fat in Indonesia tends to occur in groups with economic status and above especially urban communities (Atmarita, Jahari, & Soekatri, 2016). Based on these explanations it cannot yet be proven that low economic status affects health care for hypertensive client.

Correlation between Health Behavior with Medication Adherence

The results of this study indicate that there is a significant relationship between health behaviors with medication adherence in hypertensive clients. Positive health behaviors have an impact on the high compliance of drugs in hypertensive clients. This health behavior is related to self-care that is the ability of a person to determine actions independently throughout life to improve and maintain his life welfare (Cuschieri, Vassallo, Calleja, Pace, & Mamo, 2017). One part of self-care is health behavior, positive health behaviors indicate someone has good self-care. When a person has good self-care then he can determine ways to improve or maintain his health, one way is to obediently take medication.

There are many things that can improve one's self-care abilities, such as knowledge, perception, and skills to maintain health. Hypertension client health behavior in this study was also influenced by this. Provision of health education in primary health care about cardiovascular disease prevention, healthy lifestyle, and medication adherence to hypertensive clients shows significant results (Drevenhorn, Bengtson, Nyberg, & Kjellgren, 2015). The results of these studies can be seen with changes in health behavior better than before getting health education. Through this it can be said if a person has positive health behavior then he is able to maintain his health one of which is to be obedient taking antihypertensive medication. Regular drug consumption is very helpful in preventing complications that can result from hypertension such as stroke, heart failure, and kidney disease (Williams, et. Al, 2014).

The results of this study also found that 76 out of 109 participants (69.1%) were classified as not compliant with medication. This can be caused by many things, both from the internal individual, family support, and health workers. There is a significant relationship between low satisfaction with health education provided by health workers related to compliance with taking hypertension client medications (Mahmoudian, Zamani, Tavakoli, Farajzadegan, & Fathollahi-Dehkordi, 2017). In addition, family support also contributes to the compliance with taking medications for hypertensive clients. Families who live with family members who have chronic illnesses have low levels of confidence and trust to find solutions and solutions for the continuation of family functions (Årestedt, Benzein, & Persson, 2015). If the family has low health trust in family members who have chronic

illnesses, then the support received by members sick families also tend to be low so that the success of hypertensive clients to maintain and improve their health is also lower than families who have good health beliefs.

In addition to the role of individuals and families, health workers have an important role in encouraging individuals, families, and people with hypertension to behave healthily. Maximizing preventive and curative programs is one way to prevent the addition of new hypertension clients each year. According to research that builds independence (self-care) in hypertensive clients can improve health behaviors in a better direction and become controlled hypertension. Instilling health values and beliefs is very important, families who have chronic diseases, that if they have positive health values in the family can improve the health care of sick family members and be better prepared for changes in health situations that might occur (Årestedt, Benzein, & Persson, 2015). Not only focus on the client hypertension which has health behaviors and good medication adherence, nurses also have an important role in maintaining the health of the client. The thing that can be done is to create a healthy environment, especially in the family and community by increasing the values of health so that created can maintain sustainable health.

CONCLUSION

Hypertension clients in Cipayung sub district had positive health behaviors of 63 participants (57.8%), this could be influenced by the duration of exposure to health education. The majority of hypertension clients in Cipayung sub district were not drug compliant with 71 participants (65.1%), low medication adherence due to low effort to access treatment and not taking medication according to recommended treatment.

The results of this study can be considered for the management of the Non-Communicable Disease program. Through this research it is hoped that community nurses can provide counseling or behavioral modification training to hypertensive clients. This research also provides input for nursing education in developing health behavior modification strategies in hypertensive clients. Through these efforts, it is expected that an increase in the ability of hypertensive clients to improve their ability to choose the right health actions that can improve their welfare and quality of life is expected to occur.

REFERENCES

- Abramson, B.L, Svivaratharajah, K. Davis, L.L., Parapid, B. (2017). *Women and Hypertension: Beyond the 2017 Guideline for Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults*. American College of Cardiology. Retrieved from <https://www.acc.org/latest-in-cardiology/articles/2018/07/27/09/02/women-and-hypertension> (20 Juni 2019).
- Allender, J. A., Rector, C., & Warner, K. D. (2014). *Community and public health nursing: promoting the public's health*. Philadelphia: Wolters Kluwer Health | Lippincott Williams & Wilkins.

- Årestedt, L., Benzein, E., & Persson, C. (2015). Families Living With Chronic Illness. *Journal of Family Nursing*, 21(2), 206-231. doi:10.1177/1074840715576794
- Atmarita, A. B., Jahari, S., & Soekatri, M. (2016). ASUPAN GULA, GARAM, DAN LEMAK DI INDONESIA: Analisis Survei Konsumsi Makanan Individu (SKMI) 2014 Intake. *Journal of The Indonesian Nutrition Association*, 39(1), 1–14. <https://doi.org/10.1002/jgm.2941>
- Balduino, A. de F. A., Mantovani, M. de F., Lacerda, M. R., Marin, M. J. S., & Wal, M. L. (2016). Experience of hypertensive patients with self-management of health care. *Journal of Advanced Nursing*, 72(11), 2684–2694. <https://doi.org/10.1111/jan.13022>
- Cuschieri, S., Vassallo, J., Calleja, N., Pace, N., & Mamo, J. (2017). The Effects of Socioeconomic Determinants on Hypertension in a Cardiometabolic At-Risk European Country. *International journal of hypertension*, 2017, 7107385.
- Diaz, K. M., & Shimbo, D. (2013). Physical activity and the prevention of hypertension. *Current hypertension reports*, 15(6), 659-68. doi : [10.1007/s11906-013-0386-8](https://doi.org/10.1007/s11906-013-0386-8).
- Drevenhorn, E., Bengtson, A., Nyberg, P., & Kjellgren, K. I. (2015). Assessment of hypertensive patients' self-care agency after counseling training of nurses. *Journal of the American Association of Nurse Practitioners*, 27(11), 624–630. <https://doi.org/10.1002/2327-6924.12222>.
- Drope, J. (2018). *The Tobacco Atlas 6th Ed.* Atlanta : American Cancer Society.
- Harvard Medical School. (2018). Reading the New Blood Pressure Guidelines : the definition for what is considered high blood pressure has been tightened. Retrieved from <https://www.health.harvard.edu/heart-health/reading-the-new-blood-pressure-guidelines> (20 Juni 2019).
- Mahmoudian, A., Zamani, A., Tavakoli, N., Farajzadegan, Z., & Fathollahi-Dehkordi, F. (2017). Medication adherence in patients with hypertension: Does satisfaction with doctor-patient relationship work?. *Journal of research in medical sciences : the official journal of Isfahan University of Medical Sciences*, 22, 48. doi:10.4103/jrms.JRMS_205_16.
- Pusdatin. (2013). *Perilaku Merokok Masyarakat Indonesia Berdasarkan Riskesdas 2007 dan 2013*. Jakarta : Kementrian Kesehatan RI.
- Rahmayanti, Sarah Nadia, and Tri Ariguntar. “Karakteristik Responden Dalam Penggunaan Jaminan Kesehatan Pada Era BPJS Di Puskesmas Cisoka Kabupaten Tangerang Januari-Agustus 2015.” *Jurnal Medicoeticolegal Dan Manajemen Rumah Sakit* 10.18196/Jmmr.2016, vol. 6, no. 1, 2017, pp. 61–65., doi:10.18196/jmmr.6128..
- Riskesdas. (2018). *HASIL UTAMA RISKESDAS 2018*. Jakarta: Kemeterian Kesehatan : Badan Penelitian dan Pengembangan Kesehatan.

- Song, L., Shen, L., Li, H., Liu, B., Zheng, X., Liang, Y., ... Wang, Y. (2016). Height and prevalence of hypertension in a middle-aged and older Chinese population. *Scientific reports*, 6, 39480. doi:10.1038/srep39480.
- Su'udi, A. and Hendarwan, H. (2018). Pemanfaatan Pelayanan Kesehatan Sasaran Program Jaminan Tabalung Sehat di Kabupaten Tabalung Kalimantan Selatan. *Jurnal Penelitian dan Pengembangan Pelayanan Kesehatan*. 1, 2 (Oct. 2018), 102-112. DOI:https://doi.org/10.22435/jpppk.v1i2.552.
- Thompson, A. E., Anisimowicz, Y., Miedema, B., Hogg, W., Wodchis, W. P., & Aubrey-Bassler, K. (2016). The influence of gender and other patient characteristics on health care-seeking behaviour: A QUALICOPC study. *BMC Family Practice*, 17(1). doi:10.1186/s12875-016-0440-0
- Thompson, A. E., Anisimowicz, Y., Miedema, B., Hogg, W., Wodchis, W. P., & Aubrey-Bassler, K. (2016). The influence of gender and other patient characteristics on health care-seeking behaviour: A QUALICOPC study. *BMC Family Practice*, 17(1). doi:10.1186/s12875-016-0440-0.
- WHO. (2013). *A global brief on Hypertension World; Silent killer, global health crisis*. Geneva : WHO.
- WHO. (2017). *Complication Prevention for Patients with Hypertention*. Manila : WHO Western Pacific Region.
- WHO. (2018). *NONCOMMUNICABLE DIASEASES : COUTRY PROFILES 2018*. Geneva : World Health Organization.
- Williams, et. al. (2014). 2013 Esh/esc Guidelines For The Management Of Arterial Hypertension : *Manual of Hypertension of the European Society of Hypertension, Second Edition*, 563–610. doi: 10.1201/b17072-61