

# Characteristics, Family Support and Medication Compliance in Elderly People with Hypertension

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**Abstract:** One of the NCDs that many Indonesian people suffer from is hypertension. Hypertension is a blood circulation system disorder that results in an increase in blood pressure above normal or  $\geq 140/90$  mmHg. One of the factors controlling hypertension is the behavior of adherence to taking hypertension medication, but up to now adherence to medication in hypertension sufferers is still a problem that can have an impact on increasingly chronic disease and the occurrence of complications. The aim of this research is to determine the characteristics and family support, and compliance with taking hypertension medication in hypertensive elderly in Banyubiru Village. This type of research is descriptive quantitative with a sample size of 88 respondents taken from a population of 160 elderly people with hypertension, using a simple random sampling method. The instrument used in this research was a questionnaire. Based on the research results, it can be seen that the majority of respondents aged 60-70 years were 68 respondents (77.3%). The frequency distribution based on gender is predominantly female with 49 respondents (55.7%). Meanwhile, the frequency distribution based on education level is mostly elementary school with 36 respondents (40.9%). Frequency distribution based on family support, 46 respondents (52.3%) did not support it. Frequency distribution based on compliance behavior in taking hypertension medication, there were 48 respondents (54.5%) who were non-compliant in taking hypertension medication. Non-compliance with taking anti-hypertension medication among elderly people with hypertension is still relatively high, so further health promotion efforts are needed to increase compliance.

**Keywords:** Compliance, Taking Medication, Hypertension, Elderly

## INTRODUCTION

Non-communicable diseases remain a significant health problem worldwide. Indonesia is one of the countries that has a high prevalence of NCDs, one of which is hypertension. Hypertension is characterized by systolic blood pressure above 140 mmHg and diastolic blood pressure above 90 mmHg. Hypertension is an important problem to prevent and treat, because it can result in more serious complications, such as disability and death.

Based on World Health Organization estimates, the prevalence of hypertension worldwide is around 22%. Southeast Asia is ranked third with a hypertension prevalence rate of 25% of its total population. (WHO, 2019 in the Indonesian Ministry of Health's Data and Data Center). The results of the 2018 Basic Health Research show that the prevalence of hypertension sufferers in Indonesia reached 34.11%, a significant increase compared to 2013 which was only 25.8%. Furthermore, according to the 2018 Central Java health profile, hypertension is a non-communicable disease with the largest proportion, reaching 57.10% of all non-communicable diseases in the region. (Central Java Health Profile 2018).

Based on data from the Banyubiru Community Health Center, hypertension is the most common health problem/disease in the area. In the last 3 years, hypertension cases in the Banyubiru Community Health Center area are still high and tend to increase from 2019 to 2021. Banyubiru Village is recorded as the village with the highest number of hypertension cases, namely 262 residents, of which 160 people are over the age of 60 years. (Banyubiru Health Center, 2021)

Hypertension cannot be cured completely, but can be controlled through various efforts. Control efforts that have been carried out at the Banyubiru Community Health Center include the Posbindu and Prolanis programs. However, these efforts have not been completely successful in controlling the blood pressure of hypertension sufferers in the area.

Simple actions that can be taken to control blood pressure are by changing lifestyle, such as maintaining a healthy diet and managing stress (Suoth, M., Bidjuni, H., & Malara, R. 2014). Controlling blood pressure can be done through changes in diet and nutritional counseling. This step can help increase awareness to change eating habits, especially by reducing sodium intake (Muhlshoh, A., & Nurzihan, N. C. 2020). Lifestyle changes alone may not be enough to control blood pressure in people with hypertension. Therefore, treatment with antihypertensive drugs is also needed to treat high blood pressure problems. Antihypertensive drugs have been shown to be effective in lowering blood pressure and can be used in conjunction with lifestyle changes. Patient compliance in taking antihypertensive drugs is one of the key factors in the success of drug therapy. (Anwar, K., & Masnina, R. 2019).

Family support includes the family's attitudes, actions and acceptance of the sick member. The family acts as a support system for its members, with the belief that those who provide support are always ready to help whenever needed. Hypertension sufferers need lifelong treatment, and social support from other people is very important for successful treatment. Support from family and the surrounding environment will help individuals carry out health programs. In general, people

who receive attention, encouragement and help from a person or group tend to more easily follow medical advice (Puspita, 2016).

Reinforcing factors are behavioral factors that provide a dominant role in the persistence of a behavior, namely family, health workers and other officials who are reference groups for community behavior (Notoatmodjo, 2011). Family support is the attitude, actions and acceptance of the family towards the sick sufferer. The family functions as a support system for its members and family members perceive that supportive people are always ready to provide assistance if needed. Hypertension requires lifelong treatment and social support from other people is very necessary in undergoing treatment. Support from family and friends can help someone in carrying out health programs and also in general people who receive the comfort, attention and help they need from someone or a group usually tend to more easily follow medical advice (Puspita, 2016). Research conducted by Dyah Ayu et al shows that there is a relationship between the patient's attitude and supervision from the family with efforts to control hypertension in the elderly (Dalyoko, D.A.P., & Kusumawati, Y.2010). Family support is included in the driving factors or reinforcing factors that influence compliance behavior. (Wahyudi et al 2022).

The results of the preliminary study showed that 7 out of 10 people did not participate in prolans activities and did not comply with taking hypertension medication for several reasons, such as forgetting or having difficulty remembering the prolans activity schedule because of the large amount of activity (4 respondents), feeling healthy because there were no symptoms (6 respondent), no family took them to the Community Health Center because the distance was far and their physical condition did not allow them to walk long distances (1 respondent), no one reminded them to take hypertension medication (5 respondents). Based on this background, this study aims to describe the characteristics, family support, and medication adherence behavior of elderly people with hypertension.

## **METHOD**

This type of research is quantitative descriptive. Quantitative research is a researcher's attempt to find knowledge by providing data in the form of numbers. (Notoatmodjo, 2018). This research was carried out in Banyubiru Village, Banyubiru District, Semarang Regency. Banyubiru Village is one of 10 villages in the Banyubiru District, Semarang Regency. The population of Banyubiru Village is 8,746 people with a village area of 677,087 Ha. The research location was

determined based on the high incidence of hypertension in the Banyubiru Community Health Center area.

The population in this study were people from Banyubiru Village who suffered from hypertension who were over 60 years old with a total of 160 respondents (Banyubiru Community Health Center Data 2021). The sampling technique used in this research is simple random sampling. The sampling technique using this method can provide an equal opportunity for each member of the population to become a sample because the method of sampling is by using lottery numbers (Ul'fah Hernaeny, M. P. 2021). The data is separated and selected based on predetermined criteria, then given a sequential number ranging from 1 to 160. Then using a spin which can be accessed using a search engine, the number will appear after the spin stops. And it was carried out 88 times according to the number of research samples.

Data analysis in this study used univariate analysis. Univariate analysis is the process of analyzing data for each variable. The purpose of this univariate analysis is to explain the characteristics of each variable to be studied. In general, univariate analysis only produces frequency and percentage distributions of each variable. The frequency distribution of variables was analyzed based on age, gender, highest level of education, family support and treatment compliance. The research data is described in the form of tables, graphs and narratives to evaluate the proportion of each independent variable studied.

## **RESULTS**

### **Respondent Characteristics**

Distribution of respondent characteristics based on age, gender and education level of elderly people with hypertension in Banyubiru Village

**Table 1.** Distribution of Characteristics of Elderly People with Hypertension in Banyubiru Village, Banyubiru District, 2023

<b>Respondent Characteristics</b>	<b>Freq.</b>	<b>Percent (%)</b>
<b>Age (Years)</b>		
60 – 70	68	77,3
71 – 80	16	18,2
≥ 81	4	4,5
<b>Gender</b>		
Male	39	44,3
Female	49	55,7
<b>Education Level</b>		
No School	17	19,3
Elementary School	36	40,9
Junior High School	14	15,9
Senior High School	15	17,0
College	6	6,8
<b>Total</b>	<b>88</b>	<b>100</b>

Based on the results of the univariate analysis, it can be seen that the majority of respondents were aged 60 - 70 years, namely 68 respondents (77.3%). Regarding the characteristics of respondents in terms of gender, the findings in this study showed that women were more dominant with the number 49 (55.7%). Based on the characteristics of education level, it was found that the majority (40.9%) of respondents had elementary school (SD) education.

### Family Support

**Table 2.** Description of Family Support for Elderly People with Hypertension in the Banyubiru Village in 2023

<b>Family Support</b>	<b>Freq.</b>	<b>Percent (%)</b>
Not Supporting	46	52,3
Supporting	42	47,7
<b>Total</b>	<b>88</b>	<b>100,0</b>

Based on the research results, it was found that 46 respondents (52.3%) had family support in the unsupportive category and 42 respondents (47.7%) had family support in the supportive category of behavior in adherence to taking hypertension medication.

### Adherence Behavior in Taking Hypertension Medication

**Table 3.** Description of Compliance Behavior in Taking Hypertension Medication in Elderly With Hypertension in Banyubiru Village in 2023

<b>Taking Hypertension Medication</b>	<b>Freq.</b>	<b>Percent (%)</b>
Non-Compliant	48	54,5
Compliant	40	44,5
<b>Total</b>	<b>88</b>	<b>100,0</b>

Based on the research results, it was found that 48 respondents (54.5%) had non-compliant behavior, and there were 40 (44.5%) respondents who were compliant in taking hypertension medication.

### DISCUSSION

Based on the results of the univariate analysis, it can be seen that the majority of respondents were aged 60 - 70 years, namely 68 respondents (77.3%). This is relatively similar to other research on adherence to hypertension treatment, where the age characteristics of most respondents are in the advanced age range. This is in accordance with the opinion expressed by (Indonesian Ministry of Health, 2013), that hypertension is found mostly in the population aged over 65 years with a percentage of 60-70%. The results of research by Massa, K., & Manafe, L. A regarding adherence to taking hypertension medication in the elderly showed that the characteristics of respondents in the 60-69 year age range were 22 (68.8%) and 10 (31.3%) aged 70-90 years. The findings in this study are also in line with the results of Violita, F., Thaha, I. L. M., & Dwinata, I.'s research on factors related to adherence to taking hypertension medication in the Segeri Community Health Center working area which obtained results for the characteristics of respondents aged 60-74. year, namely 41.8%. Age is a variable that needs to be considered in blood pressure control programs for hypertension sufferers, because age can influence treatment compliance. As research results from Uchmanowicz, B. et al. which obtained the results that the age variable influenced the compliance of hypertensive patients with treatment. Likewise, research results from Wang, W., et al. (2014) found that more than half of the respondents were over 65 years old (53.1%). This is possible because in the older age category it can impact their cognitive

ability to remember the time and complexity of treatment. Age can be a factor that must be considered in increasing compliance with treatment for people with hypertension.

Regarding the characteristics of respondents in terms of gender, the findings in this study showed that women were more dominant with the number 49 (55.7%). These results are in line with several other studies which also found the same phenomenon. The research results of Violita, F., Thaha, I. L. M., & Dwinata, I. (2015) show that there are more female respondents, namely 69.4% female. Likewise, the results of research conducted by Turan, G. B, et al. (2019) which shows that 58.7% of the respondents with hypertension in their research were women. Research conducted by Wang, W., et al. (2014) found that 51.6% of respondents were women. Research carried out by Pristianty, L, et al. (2023) obtained results for the characteristics of female respondents (76.9%). From several research results, it can be seen that the incidence of hypertension is more likely to occur in women than in men, especially when entering old age. Regarding gender, research conducted by Biffi, A., et al. (2019) found that gender was not related to patient compliance in hypertension treatment. However, gender factors need to be considered in approaches to increasing medication adherence in hypertensive patients. Research conducted by Pitriani et al (2018), on elderly people at the Rumbai Pesisir Community Health Center, revealed that elderly women were 28.3 times more likely to suffer from hypertension compared to elderly men.

Based on the characteristics of education level, it was found that the majority (40.9%) of respondents had elementary school (SD) education. This finding is in line with the results of research conducted by Massa, K., & Manafe, L. A (2022) which showed that the majority of respondents had basic education (SD/SMP) with a percentage of 81.3%. The same results were also shown in research by Violita, F., Thaha, I. L. M., & Dwinata, I. (2015), that the majority of respondents had an elementary school education of 53.7%. Research conducted by Wang, W., et al. (2014) found that 45.8% of respondents had elementary school education and (33.2%) of junior high school education. Education level is one of the variables that needs to be considered in efforts to increase treatment compliance for hypertension sufferers, because education level can influence the ability to receive information related to treatment. As the results of research by Uchmanowicz, B. et al. (2018) who found that the level of education had a significant effect on compliance with treatment for hypertensive patients.

Based on the research results, it was found that 46 respondents (52.3%) had family support in the unsupportive category and 42 respondents (47.7%) had family support in the supportive

category of behavior in adherence to taking hypertension medication. These results are in line with research by Nade, M. S., & Rantung, J. (2020) which found that as many as 70.3% of hypertension sufferers received low support from their families in compliance with hypertension treatment. Another study conducted by Rasajati, Q. P., Raharjo, B. B., & Ningrum, D. N. A. (2015) also showed relatively the same thing, namely respondents with hypertension who were categorized as having no family support in hypertension treatment compliance was 70%.

Family support theory according to Friedman (2010) family support is the attitude, actions and acceptance of the family towards the sick sufferer. Family support is really needed by a sufferer because someone who is sick certainly needs attention from the sick family, thereby encouraging the sufferer to continue to think positively about their illness and comply with the treatment recommended by health workers. Support is a very important thing to pay attention to in relation to hypertension treatment compliance, as found in research by Uchmanowicz, B. et al. (2018) who found that living with family was significantly related to compliance with hypertension treatment.

Based on the data, it is known that family support is not supportive as much as 52.3%. This finding shows that there are large factors that have the potential to influence respondents' non-compliance in taking anti-hypertension drugs. The results of interviews with family respondents did not support that there were several sufferers who only lived with their husbands because the children lived far from their parents. Children do not pay attention to their parents, and children do not know that their parents suffer from hypertension and have an obligation to take hypertension medication once a day. Apart from that, the family did not accompany or take them to health facilities. This makes sufferers lazy to get checked or take hypertension medication at a health facility. Respondents sometimes forget that there is a Posyandu schedule for the elderly or prolanis, so the family should remind the sufferer to remind them.

Based on the research results, it was found that 48 respondents (54.5%) had non-compliant behavior, and there were 40 (44.5%) respondents who were compliant in taking hypertension medication. These results are in line with research conducted by Handayani, S. E., Warnida, H., & Sentat, T. (2022), which showed that as many as 52% of respondents had low compliance in treating hypertension. Likewise, the results of research by Ma, C. (2016) showed that as many as 78.7% of hypertensive patients were non-compliant with treatment. Based on the research results of Harmili and Huriah (2019), it was stated that one of the factors that influences the non-compliance of elderly people in taking hypertension medication is age which is related to cognitive function. Older patients tend to be more non-compliant with hypertension treatment. The



increasingly reduced cognitive ability of the elderly is one of the reasons for not taking hypertension medication which results in forgetting to drink, not bringing medication and not finishing the prescribed medication. This research was carried out with elderly respondents, so this is possible as a factor that can influence compliance in taking hypertension medication, where non-compliance was found at 54.5%. Compliance is very important, because it determines success in controlling blood pressure and preventing worse blood pressure conditions and complications.

## **CONCLUSION**

Based on research on characteristics, family support and compliance behavior in taking hypertension medication in Banyubiru Village, the results showed that the majority of respondents were aged 60-70 years, 68 respondents (77.3%). The frequency distribution based on gender is predominantly female with 49 respondents (55.7%). Meanwhile, the frequency distribution based on education level is mostly elementary school with 36 respondents (40.9%). Frequency distribution based on family support, 46 respondents (52.3%) did not support it. Frequency distribution based on compliance behavior in taking hypertension medication, there were 48 respondents (54.5%) who were non-compliant in taking hypertension medication.

Non-compliance with taking anti-hypertension medication among elderly people with hypertension is still relatively high, so further health promotion efforts are needed to increase compliance, namely by paying attention to the variables of age, gender, education level and family support.

## **Conflict of Interest**

The authors declare that there is no conflict of interest regarding the publication of this article. The research was conducted independently, without any influence or financial support from external parties that could affect the interpretation of the data or the conclusions drawn.

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