Original Research

Description Of Suffering Duration, Self-Care Behavior, And Grade In Hypertension Patients

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ABSTRACT

Background: Hypertension is often called "the silent killer" because it often goes unnoticed. The patient does not know that he has hypertension but then finds himself having complications from hypertension such as heart disease, stroke, kidney disease, blood vessel disease, to nervous disorders. Therefore, it is necessary to measure the level of self-care behavior using a behavior scale to anticipate the self-care behavior that is usually carried out by hypertensive patients.

Methods: This was an observational study with suffering duration, self-care behavior, and hypertension grade as independent variables. The number of samples used was 88, and the sampling technique used was random sampling. The instrument used in this study was a questionnaire using the Hypertension Self-Care Profile (HBP-SCP) Behavior Scale questionnaire, which consisted of 20 statements using descriptive analysis.

Results: The results of univariate analysis of most of the patients aged 46-55 years (60.2%), female (57%), with a history of the last education level of elementary school (30%), family income per month of 2,000,000.00-4,000,000,00 (54.5%), duration of hypertension with short duration of 1-5 years (69%), self-care behavior in the moderate category (68%), and the majority were in grade 1 (48%).

Conclusion: Most respondents with a duration of illness of 1–5 years apply self-care behaviors in the moderate category and are in the Garde 1 hypertension degree category at the Sultan Agung Hospital Semarang Polyclinic in 2022.

Cite this as: Rahma, R. G., & Indriawati , N. . (2022). Description Of Suffering Duration, Self-Care Behavior, And Grade In Hypertension Patients. *(JKG) Jurnal Keperawatan Global.* https://doi.org/10.37341/jkg.v0i0.534

INTRODUCTION

The World Health Organization (WHO) states that hypertension is the world's primary cause of death. The current situation shows that hypertension among adults increased from 594 million in 1975 to 1.13 billion in 2015, with the increase being mostly seen in low- and middle-income countries. The increase was mainly due to this population's hypertension risk factors (Manangkot & Suindrayasa, 2020).

Southeast Asia has a hypertension prevalence of 36% of the total population. Meanwhile, 22.8% of those who checked in at the hospital were reported as being from Indonesia, while 77.2% were irregular. Hypertension affected 37.50% of the population in the province of Central Java (Riskesdas, 2018). According to the Central Java Health Office, (2018) 57.10% of Central Java residents have hypertension (Dinkes, 2018). Based on data from the Semarang City Health Office, the number of patients with hypertension at the Semarang City Hospital has increased by 2141 new hypertension cases (Dinkes, 2018).

The increasing prevalence of hypertension is caused by lifestyle, diet, lack of physical activity, exercise, an inappropriate diet, weight control, stress, smoking, alcohol consumption, a lack of knowledge, routine blood pressure control, and patient understanding and management ability, or self-care behavior. Self-care behavior is defined as a person's actual activity to actively participate in efforts to maintain his health status. Hypertensive patients' management or self-care behavior to control blood pressure is still severely lacking. This may occur because the patient ignores or is less aware of the nature of the disease that arises and sinks. When blood pressure has returned to normal, patients tend to think their recovery is permanent (Harmanto et al., 2021).

The duration of illness is one of the factors that influence medication adherence. Erawatyningsih, (2009) states that the longer the patient's complaints, the more disobedient he will be to come for treatment. This is due to the patient's weak health condition, poor nutrition, and the severity of the illness. In a study by Leksono, (2014) it was explained that hypertensive patients must take medication every day, continuously. This routine will bore the patient to the point where they will no longer take their medications on a regular basis, if at all. This will result in the patient's uncontrolled blood pressure and the risk of complications such as stroke, heart failure, kidney failure, and so on.

Based on the data above, it can be concluded that there is a relationship between the duration of hypertension and self-care in patients with hypertension, as well as the relationship between self-care and blood pressure in patients with hypertension. However, there has been no research on the picture that combines the length of illness, self-care behavior, and grade in patients with hypertension. Therefore, in this study, researchers were interested in describing the length of illness, self-care behavior, and grade in patients with hypertension. Therefore, it is necessary to measure the level of self-care behavior using a behavior scale to anticipate the self-care behavior that is usually carried out by hypertensive patients.

MATERIALS AND METHODS

The type of research used is observational with a cross-sectional approach. The research was conducted at the polyclinic of Sultan Agung Hospital, Semarang. The population of hypertension patients undergoing outpatient treatment in August–October 2021 was 650. The sample that will be used in this study is made up of 88 people. The sampling technique is random sampling. The inclusion criteria are as follows: hypertension patients willing to become respondents by signing the informed consent form; hypertension patients with full awareness to fill out questionnaires or answer questions correctly and hypertension patients undergoing outpatient treatment at Sultan Agung Hospital's polyclinic.

The research instrument used in this study included a characteristic questionnaire consisting of age, gender, monthly family income, recent education history, duration of hypertension, and the patient's blood pressure. Another questionnaire used is the hypertension self-care profile (HBP-SCP) questionnaire, a measurement tool for hypertension self-care designed by (Hae-Ra Han et al., 2013). This questionnaire consists of 20 questions, and the answer choices use a Likert scale. Information for hypertension self-care assessments includes: always = 4, often = 3, sometimes = 2, and rarely/never = 1, with the highest score being 80 and the lowest being 20, with a higher score indicating better hypertension self-care by the patient.

This research instrument measured validity using the Pearson product-moment correlation and reliability using the Cronbach alpha technique (Sugiyono, 2010). The hypertension self-care profile (HBP-SCP) questionnaire showed good validity ($r = 0.632$) with a good category. The reliability results of this questionnaire also show good reliability, which shows the number 0.83, so the questionnaire is stated to be reliable.

Data collection methods include interviews, observations, and questionnaires. This research was conducted after obtaining ethical standards from RSI Sultan Agung Semarang with the ethical worthiness number 22/KEPK-RSISA/II/2022. The flow of this research is that the researcher gives a questionnaire to hypertensive patients undergoing outpatient therapy at the Sultan Agung Hospital Semarang Polyclinic. After being given a questionnaire, the patient is checked for blood pressure using a digital device brought by the researcher. The descriptive analysis presented in the form of frequency, proportion, and ratio, measures of central tendency (mean arithmetic, median, mode), and measures of variation (standard deviation, variance range, and quartiles) was used in this study.

RESULTS

Characteristics of Respondents

Tabel 1. Frequency distribution and percentage of respondents' demographic data when undergoing outpatient treatment at the Polyclinic in 2022 (n = 88)

Demographic Data	Frequency	Percentage (%)
Age		
26-35 years old	-	0,0
36-45 years old	5	5,7
46-55 years old	53	60,2
56-65 years old	29	33,0
>65 years old	1	1,1
Gender		
Man	31	35,2
Woman	57	64,8
Last Education Level		
No School	19	21,1
Elementary School	30	34,1
Junior High School	14	15,9
Senior High School	12	13,6
≥Graduates	13	14,8
Monthly Family Income		
≤$2,000,000	32	36,4
$2,000,000–$4,000,000	48	54,5

Demographic Data	Frequency	Percentage (%)
≥$4,000,000	8	9,1

Respondents in this study were patients undergoing outpatient treatment at the Sultan Agung Hospital Semarang Polyclinic. Demographic data include age, gender, last education level, and monthly family income. The research results showed that most of the rest were between 46-55 years old, as many as 53 people (60.2%) with an average age of 53.1 years and a standard deviation of 5,450. Most of the respondents were female, as many as 57 people (64.8%) were women. Based on the latest level of education, the most are in elementary school education, as many as 30 people (30.1%), and based on family income per month, the most are $2,000,000–$4,000,000, namely 48 people (54.5%).

Tabel 2. Distribution of average, standard deviation, frequency, and percentage of length of illness in 2022 (n=88)

Category of Duration of Hypertension	Frequency	Percentage (%)	Mean	SD
Duration of Hypertension	88	100	4,31	2,130
Short Duration (1-5 years)	69	78,4	0	0
Medium Duration (6-10 years	19	21,6	0	0
Long Duration (>10 years)	0	0	0	0

Based on data obtained from respondents undergoing an outpatient program at the Polyclinic of Sultan Agung Hospital, data were obtained from respondents with a short duration of hypertension (1–5 years), as many as 69 respondents (78.4%), and respondents with a moderate duration, as many as 19 respondents (21.6%). The average length of illness was 4.31 years, with a standard deviation of 2.130.

Table 3. Distribution of average, standard deviation, frequency, and percentage of self-care behavior in 2022 (n=88)

Category Levels of Self-Care Behavior	Frequency	Percentage(%)	Mean	SD
Levels of Self-Care Behavior	88	100	50,36	5,939
Lack of Self-Care Behavior	0	0	0	0
Moderate Self-Care Behavior	68	77,3	0	0
Good Self-Care Behavior	20	22,7	0	0

Based on data obtained from respondents undergoing an outpatient program at the polyclinic of Sultan Agung Hospital, only moderate and good self-care behaviors were observed, with moderate self-care behavior among as many as 68 respondents (77.3%) and respondents with moderate self-care behavior. Care behavior is good for as many as 20 respondents (22.7%). It has an average value of 50.36 and a standard deviation of 5.939. This study consisted of several indicators, including physical activity, a low-sodium diet, a low-fat diet, limiting alcohol consumption, not smoking, self-monitoring blood pressure, taking medication, weight control, stress reduction, and visits to the doctor.

Table 4. The average and standard deviation of the three Hypertension Self Care Profile items have the lowest average among respondents in 2022 (n = 88)

Item	Mean	SD	Description
Doing regular physical activity	2,31	0,876	Sometimes
Information on the sodium section	1,98	0,694	Sometimes
Information about saturated fat	2,11	0,319	Sometimes

Based on the data obtained, it is known that respondents undergoing an outpatient program at the Polyclinic of Sultan Agung Hospital obtained the lowest three points where the average respondent answered "Sometimes," including questions about regular physical activity, routinely reading label information related to sodium and potassium content also saturated fat.

Table 5. The mean, standard deviation, frequency, and percentage of respondents' blood pressure levels in 2022 (n=88)

Category Blood Pressure Level Frequency	Frequency	Percentage (%)	Mean	SD
Systolic Blood Pressure Level	88	100	145,65	13,812
Prehypertension	24	27,3	0	0
Grade 1	48	54,5	0	0
Grade 2	16	18,2	0	0
Grade 3	-	0	0	0
Diastolic Blood Pressure Level	88	100	92,41	8,939
Prehypertension	28	31,8	0	0
Grade 1	36	40,9	0	0
Grade 2	19	21,6	0	0
Grade 3	5	5,7	0	0

The systolic blood pressure of respondents undergoing an outpatient program at Sultan Agung Hospital was 24 (27.3%), and respondents with grade 2 were 16 (18.2%). The mean systolic value was 145.65 mmHg, with a standard deviation of 13.812. From the respondents' diastolic blood pressure, the average diastolic values were: 28 respondents (31.8%), respondents with a grade 1 level of 36 respondents (40.9%), respondents with a grade 2 level of 19 respondents (21.6%), and respondents with a grade 3 level as many as five respondents (5.7). The mean diastolic value was 92.41 mmHg, with a standard deviation of 8.939.

Table 6. The frequency and percentage level of self-care behavior distribution are based on the respondent's length of illness in 2022 (n = 88)

Variable	Levels of Self-Care Behavior					
	Less		Moderate		Good	
	F	%	F	%	F	%
Duration of Hypertension						
1-5 years	0	0	55	79,7	14	20,3
6-10 years	0	0	13	68,4	6	31,6
>10 years	0	0	0	0	0	0

Based on respondents' demographic data, the level of self-care behavior of patients when undergoing outpatient treatment at the Sultan Agung Hospital Semarang

Polyclinic can be seen in table 6 above. Based on the length of time they had suffered from hypertension, respondents who had suffered from hypertension for 1–5 years engaged in moderate self-care behavior as many as 55 people (79.7%), while those who engaged in good self-care behavior were only 14 people (1.3%). Respondents with hypertension for 6-10 years exhibited moderate self-care behavior in as many as 13 people (68.4%), while good self-care behavior was demonstrated in 6 people (31.6%).

Table 7. The frequency and percentage of respondents' hypertension degrees are based on the respondent's length of illness in 2022 (n=88)

Variable	Degree of Hypertension							
	Prehypertension		*Grade 1*		*Grade 2*		*Grade 3*	
	F	%	F	%	F	%	F	%
Duration of Hypertension								
1-5 years	18	26,1	37	53,6	11	15,9	3	4,4
6-10 years	3	15,7	10	52,6	4	21,1	2	10,6
>10 years	0	0	0	0	0	0	0	0

Based on the demographic data of respondents, the degree of hypertension of patients undergoing outpatient treatment at the polyclinic of Sultan Agung Hospital can be seen in table 7 above. Based on the duration of hypertension, respondents with a duration of 1–5 years have 18 respondents (26.1%) whose hypertension degree is in the prehypertension range. There were 37 respondents (53.6%) with a degree of hypertension in the Grade 1 category, 11 respondents (15.9%) with a degree of hypertension in the Grade 2 category, and 3 respondents (4.4%) with a degree of hypertension in the Grade 3 category. Of respondents with a long history of hypertension for 6–10 years, there are 3 respondents (15.7%) whose degree of hypertension is in the prehypertension range, and 10 respondents (52.6%) with a degree of hypertension in the Grade 1 category, 4 respondents (21.1%) with the degree of hypertension in the Grade 2 category, and 2 respondents (10.6%) with a degree of hypertension in the Grade 3 category.

Table 8. The frequency and percentage of respondents' self-care behavior are based on the respondent's hypertension grade level in 2022 (n=88)

Variable	Degree of Hypertension							
	Prehypertension		*Grade 1*		*Grade 2*		*Grade 3*	
	F	%	F	%	F	%	F	%
Levels of Self-Care Behavior								
Less Self-Care Behavior	0	0	0	0	0	0	0	0
Moderate Self-Care Behavior	19	27,8	32	47,1	14	20,5	3	1,2
Good Self-Care Behavior	5	25	8	40	5	25	2	10

Based on the demographic data of respondents, the degree of hypertension of patients undergoing outpatient treatment at the polyclinic of Sultan Agung Hospital can be seen in table 8 above. Based on the level of self-care behavior, respondents in the moderate

self-care behavior category included 19 respondents (27.8%) whose hypertension degree is in the prehypertension range, 32 respondents (47.1%) with a hypertension degree in the grade 1 category, 14 respondents (20.5%) with the degree of hypertension in the grade 2 category, and 3 respondents (1.2%) with the degree of hypertension in the grade 3 category. In the category of respondents with good self-care behaviors, there were 5 respondents (25%) whose hypertension degree is within the prehypertension range, 8 respondents (40%) with a degree of hypertension in the grade 1 category, 5 respondents (25%) with a degree of hypertension in the grade 2 category, and 2 respondents (10%) with a degree of hypertension in the grade 3 category.

Table 9. Distribution frequency and percentage of respondents' hypertension degree in 2022 (n=88)

Variable	Degree of Hypertension							
	Prehypertension		Grade 1		Grade 2		Grade 3	
	f	%	f	%	f	%	f	%
Gender								
Man	11	35,4	14	45,1	4	12,9	2	6,6
Woman	10	17,5	32	56,1	12	21,1	3	5,3

Based on the respondents' demographic data, the patient's degree of hypertension when undergoing outpatient treatment at the Polyclinic of Sultan Agung Hospital can be seen in table 9 above. According to gender, 11 respondents (35.4%) had normal blood pressure, 14 (45.1%) had grade 1 hypertension, 4 (12.9%) had grade 2 hypertension, and 2 (6.6%) had grade 3 hypertension. Respondents of female gender have 10 respondents (17.5%) whose hypertension degree is in the normal range. There were 32 respondents (56.1%) with a degree of hypertension in the Grade 1 category, 12 respondents (21.1%) with a degree of hypertension in the Grade 2 category, and 3 respondents (5.3%) with a degree of hypertension in the Grade 3 category.

DISCUSSION
Age of Hypertension Patients
The results of this study indicate that the average age of the respondents is 53.10 years, so the possibility of a person taking care of themselves increases with age due to the fear that arises due to health vulnerabilities experienced with age. Another study on hypertension self-care conducted by Douglas, (2015) showed that age had a significant relationship with hypertension self-care in a positive direction. The greater one's age, the greater one's self-care for hypertension.

Gender of Hypertension Patients
The results of this study indicate that as many as 64.8% are women, so women have better self-care because women play an essential role or act as managers in the family. Research conducted by Hu et al., (2013) regarding hypertensive patients found that 54% of female respondents had better self-care such as medication adherence, measuring blood pressure, a low-salt diet, physical exercise, not smoking, and alcohol restriction.

Recent Education Level of Hypertensive Patients

This study found that respondents with a history of elementary school education had the highest average score of 34.1%. In a study by Gebremichael et al., (2019) the results show a significant relationship between educational status and a person's self-care behavior. The higher a person's education, with a p-value of 0.001 and a positive relationship direction, the more self-care they practice. Higher education will give a person enough information to do good self-care (Erceg, 2013).

Monthly Family Income

In this study, it is evident that respondents whose monthly family income was $2,000,000–$4,000,000 had the highest average of 54.5%. This shows that someone who has an income has better self-care behavior. A person who has a job will have income in his life. A study conducted by Campble et al., (2014) on the effect of producers on a person's health behavior shows that those with higher incomes tend to comply in terms of health behaviors such as not smoking, blood pressure control, and glucose control. A study with similar results was conducted by Laksonen et al., (2003) which shows that both men and women with lower incomes have unfavorable behaviors such as eating fewer vegetables, lacking weight control, and smoking.

Duration of Hypertension

The results of this study indicate that the average length of suffering from hypertension among respondents is 4.31 years, with a standard deviation of 2.130. The findings of this study are consistent with the findings of Wahyuningsih, (2018) who found that the majority of the 35 respondents (74.3%) had hypertension for 1–5 years. Another study with similar results conducted by Oliveros, (2020) showed that of the 115 respondents, the majority had suffered from hypertension for <5 years, which was 40%. This shows that patients who have experienced hypertension for one to five years tend to be more obedient to taking drugs because of their great curiosity and desire to recover.

Self-Care Behavior of Hypertension Patients

Most of the respondents performed self-care behaviors in the moderate category, with as many as 68 respondents (77.3%) with an average self-care behavior score of 50.36 and a standard deviation of 5.939. The results of the study show that self-care behavior in the moderate category has been supported by respondents who always take medication regularly. However, several factors prevent most respondents from falling into the category of good self-care behavior, including a lack of adherence to a hypertension diet, a lack of regular exercise, and a lack of stress management.

This assessment obtained the same results as the research conducted by Su'ud et al., (2020) on the motivation and self-care of hypertension patients. Out of a total of 84 respondents, 57.4% had moderate self-care. Another study that had similar results was conducted by Gracia, (2020) on hypertensive patients at Our Lady of Lourdes Hospital Philippines, which showed that out of 120 respondents, 51% had moderate self-care behavior.

Hypertension Grade in Hypertensive Patients

The results showed that respondents' hypertension degrees were in the grade 1 category range, with as many as 48 respondents (54.5%) with an average respondent blood pressure of 145.65/92.41 mmHg with a standard deviation of 13.812 for systolic and 13.812 for diastolic. 8,995. This study's results align with research by Sukma, (2019) which found that the average blood pressure of 33 respondents at the Cakranegara Public Health Center showed that most respondents were in the grade 1 category, which included 22 people (66.7%). Kringeland, (2022) conducted another study that had similar results to the Hordaland Health Study, which stated that the majority of respondents from 883 total respondents, namely 58%, were in the stage 1 category.

In this case, the grade of hypertension could increase or be permanent and can be affected by the treatment received by the respondent. Clients are viewed by researchers as bio-psycho-social-cultural-spiritual beings who respond uniquely to health changes or crisis situations. In addition, other factors may affect how patients respond to the stressors they experience. Judging from age, the older a person is, the more experience they have in dealing with stressors. Education also contributes to overcoming stressors; the higher a person's education, the greater his knowledge, so that he has the ability to deal with problems, analyze situations, and ultimately choose the right action in dealing with a problem (Stuart & Suddeen, 2006).

Duration of Sickness with Self-Care Behavior and Duration of Sickness with Grade

Respondents with a hypertension duration of 1–5 years had the highest average, 78.4%. Most had a moderate level of self-care behavior (79.7%), while good self-care behavior was 20.3%. This is in line with Puspita, (2016) research, which shows that respondents who have suffered from hypertension for >5 years are found to be more disobedient (68.1%) in taking hypertension treatment, while respondents who have suffered from hypertension for 5 years are 64.9% obedient in undergoing treatment.

In contrast, research conducted by Motlagh, (2016) in Kermanshah, IR, Iran, on 236 respondents showed that 59.7% had a history of hypertension for at least 5 years, with an average of self-care behavior in the excellent category. This can happen because there is a possibility that patients who have suffered from hypertension for a long time have learned more about managing hypertension. Based on the duration of suffering from hypertension, it is evident that respondents with a hypertension duration of 1–5 years had the highest average, which was 78.4%. Most of the respondents were included in the grade 1 category of hypertension, as many as 37 (53.6%).

This is in line with research conducted by Wahyuningsih et al., (2018) which showed that respondents who suffered from hypertension between 1-5 years were about three times more than those who were more than 5 years old. Respondents in the degree of hypertension 1 group had higher blood pressure levels, though not significantly higher than those in the degree of hypertension 2 groups. In contrast to research conducted by Huanhuan, (2013) in Beijing, China, 318 respondents showed that 59.7% had a history of hypertension for at least 3 years; most of the respondents belonged to hypertension degree 2.

This shows that with age, plaque will increase in the arteries and blood vessels will become congealed and lose elasticity, causing the heart to work harder to pump

blood through the vessels. These changes in blood vessels will increase the workload required by the heart to maintain blood flow in the circulation.

Self-Care Behavior with Hypertension Grade

It is evident that respondents who performed a moderate level of self-care behavior, 79.7%, were at the Grade 1 hypertension level, which was 32 people (47.1%). The findings of this study contradict those of Herawati, (2020) who discovered that the average blood pressure of 45 respondents in Dowangan Hamlet, Gamping Sleman Yogyakarta was higher than the national average of 29 people (64.4%). However, the majority of respondents (44.4%) engaged in self-care behaviors in the less than 20 respondent category.

Motlagh, (2016) conducted research in Kermanshah, IR, Iran, with 236 respondents, which also showed that most of the respondents were in the grade 1 category, which was 59.4%. However, most of the respondents displayed self-care behaviors in the excellent category. This suggests that the patient's treatment may not sufficiently maintain blood pressure within the normal range.

Grade by Gender of Hypertension Patients

The results showed that most respondents were female, namely 64.8%, most of whom were at the grade 1 hypertension level, which was 32 people (56.1%). This is in line with Herawati, (2020) research, which shows the results of the average blood pressure of 45 respondents in the Dowangan Hamlet, Gamping Sleman Yogyakarta, that the majority of respondents are in the grade 1 category, which is 29 people (64.4%), and most of the respondents are female. As many as 28 people (62.2%) in contrast, research conducted by Bethany, (2016) from the National Longitudinal Study of Adolescent to Adult Health stated that of the 14,497 respondents, the majority were male.

As many as 63% had a history of hypertension. We hypothesized that the observed gender differences in hypertension might be partly due to differences in behavioral risk factors, such as BMI, smoking, and physical activity. However, considering these factors, there is almost no effect on the gender disparity in hypertension. This suggests that gender differences among young adults may be partly due to biological sex differences.

However, further research is needed to investigate other behavioral factors that might explain these early differences. In addition, health insurance and utilization of health services do not affect the risk of hypertension or gender disparity as measured by hypertension.

CONCLUSION

The characteristics of the research respondents are that they are hypertensive patients undergoing outpatient therapy at the polyclinic of RSI Sultan Agung Semarang, dominated by female patients compared to male patients, with an average age range of 53.10 years. Most of the respondents' recent educational history had only been up to elementary school. As for the monthly family income of the respondents, most of them have an income of $2,000,000–$4,000,000.00.

Respondents with a majority of 1–5 years of illness applied self-care behaviors in the moderate category and were in the Grade 1 hypertension degree category. Respondents with the majority of hypertension are in grade 1 and apply self-care behaviors in the moderate category. Respondents with the most hypertension patients

being female were in the category of Grade 1 hypertension with an average blood pressure of 145.65/92.41 mmHg.

The results of this study are also likely to be used as a basis and reference in providing education to hypertensive patients. Nurses can involve patients and families in educating and monitoring patient self-care at home, allowing patients and families to take an active role in self-care monitoring at home.

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