

## **SELF MANAGEMENT PREVENTS COMPLICATIONS IN HYPERTENSION PATIENTS AT TAMALANREA MAKASSAR HEALTH CENTER**

Sriwahyuni<sup>1</sup>, Sri Darmawan<sup>2</sup>, Alfiah A<sup>3</sup>, Eva Arna Abrar<sup>4</sup>  
<sup>1,2,3,4</sup>Department of Nursing, Nani Hasanuddin Health Science College

Correspondence Author: [Sriwahyunicallista@gmail.com](mailto:Sriwahyunicallista@gmail.com)

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### **ABSTRACT**

**Background:** Hypertension is blood pressure of more than 140 mmHg and/or diastolic blood pressure reaching around 90 mmHg. in Indonesia in 2018 there was an increase in women of 36.9% and in patients aged 60 years and over. This occurred due to changes in lifestyle patterns or lifestyle. **Objective:** it is hoped that you will have a high desire to be able to regulate yourself in your daily implementation and care. day **Method:** This research uses descriptive analytic, cross-sectional approach. The instrument used regarding hypertension self-care management was tested for validity and reliability. Data analysis used the Spearman Rank test. Which was carried out on July 25-August 25 2022 at the Tamalanrea Makassar Health Center Work Area with a sample size of 31 people. **Results:** in the dimensions and sub-dimensions of self-management for hypertensive patients, of the 3 existing categories, respondents tend to have good self-management (48.4). However, there were also respondents with sufficient and insufficient self-management, 25.8% each. **Conclusion:** respondents tend to have good self-management in preventing complications in hypertensive patients so that the impact of complications will decrease. Suggestions require the development of further analysis regarding more specific factors that allow complications to occur in hypertensive patients

**Keywords:** Hypertension, Self Management

## **BACKGROUND**

Hypertension is an abnormal increase in blood pressure which can be the main cause of risk factors for cardiovascular disease, kidney disease, aneurysms, peripheral arterial disease and stroke. Adults with hypertension are only diagnosed and treated in 42% of cases, only 21% of hypertension sufferers are able to control it. (Alshammari et al., 2023) with a blood pressure of more than 140 mmHg and/or an average diastolic blood pressure of around 90 mmHg (Fuchs & Whelton, 2020). Hypertension has a high prevalence in kidney failure patients undergoing hemodialysis so it is important to treat it (Iwashima et al., 2023). In several countries such as Nigeria and Ethiopia, it is reported that diabetes mellitus patients suffer from hypertension, reaching an average of more than 54.2% of diabetes sufferers. (Anjajo et al., 2023). Hyperglycemia is often accompanied by metabolic syndrome, namely hypertension, which can trigger and aggravate cardiovascular complications. Cardiac remodeling caused by pressure overload is one of the most important pathological factors in heart failure and contributes to morbidity and mortality worldwide. (Jieyunyou et al., 2023) the immune system can be affected by hypertension, where patients with hypertension can have a higher proportion of neutrophils and a lower proportion of lymphocytes (Kow et al., 2023) shifts in lymphocyte subsets occur before the onset of hypertension, followed by subsequent changes in additional neutrophils and lymphocytes (Kresovich et al., 2023). Poor blood pressure control and use of multiple antihypertensive drugs suggest that important pathophysiological mechanisms are well understood (Deussen & Kopalani, 2023), efforts to control hypertension by means of pharmacological therapy, lifelong medical therapy to achieve optimal blood pressure control (Al Ghorani et al., 2021).

Besides that, prolonged malnutrition in the elderly will result in muscle weakness and fatigue due to decreased energy (Elivia, 2022). Decision making in the treatment of hypertensive elderly is increasingly complicated due to the fact that a person's self-perception of aging (SPA) is one of the triggers of psychosocial stress (Jacobsen et al., 2023). The behavior change approach aims to change the attitudes and behavior of individuals and society so that they adopt a healthy lifestyle, basically managing themselves physically which is a development of training self-management skills. (Kurnia & Nataria, 2021). Data from the Makassar City Health Service states that hypertension is the 2<sup>nd</sup> of the 10 most common diseases, reaching 27.61%, while the mortality rate reaches 18.6%. 4 During the last 3 (three) years, hypertension cases have always increased and the latest data obtained has reached 35.7% of total morbidity due to non-communicable diseases. (Sakinah et al., 2020). The results of a preliminary study conducted in April 2022 at the Tamalanrea Makassar Community Health Center were patients with a history of blood pressure above 140/90 mmHg or indicated to have hypertension.

## **METHODS**

This research uses descriptive analytic, cross-sectional approach. The instrument used regarding hypertension self-care management was tested for validity and reliability. Self-management of hypertensive patients is measured using the Hypertension Self Management Behavior Questionnaire (HSMBQ) instrument which consists of 5 dimensions including (1) self-integration (13 items numbered 1-13), (2) self-regulation (9 items numbered 14-22), (3) interaction with health workers (9 items number 23-31), (4) monitoring blood pressure (4 items number 32-35) and (5) compliance with recommended rules (5 items number 36-40). All items are favorable (positive) statements. The scoring system in this questionnaire uses a Likert scale with a range of 1-4, namely a rating scale of 1 = never, 2 = rarely, 3 = sometimes, and 4 = always. Data analysis uses the Spearman Rank test. Which was carried out on July 25-August 25 2022 at the Tamalanrea Makassar Health Center Work Area with a sample size of 31 people.

## RESULTS AND DISCUSSION

### Univariate Analysis

At this stage the data is presented in the form of a frequency distribution table based on the demographic characteristics of respondents

**Table 1.** Characteristics of Hypertension Patient Respondents at Tamalanrea Community Health Center

<b>Demographic characteristics</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Age		
30-40 years	1	3.2
41-50 years old	2	6.5
51-60 years old	8	25.8
>60 years	20	64.5
last education		
No school		
elementary school	4	12.9
JUNIOR HIGH SCHOOL	5	16.1
SENIOR HIGH SCHOOL	3	9.7
College	8	25.8
	11	35.5
Gender		
Man	8	6.5
Woman	23	93.5
Marital status		
Single	2	6.5
Marry	29	93.5
Sociocultural		
Buginese	7	22.6
Makassar	19	61.3
Toraja	5	16.1
Work		
Civil servants	12	38.7
Private sector employee	1	3.2
Self-employed	7	54.8
Businessman	1	3.2
History of illness		
There is	16	51.6
Diabetes mellitus	8	25.8
Kidney illness	1	3.2
Other diseases	7	22.6
There isn't any	15	48.4

**Table.2** Self Management of Hypertension Patients Based on Dimensions

Dimensions of self-management	Frequency (%)			
	Never	Seldom	Sometimes	Always
Self integrity	0 (0.0)	7 (22.6)	24 (77.4)	0 (0.0)
Self-regulation	0 (0.0)	3 (9.7)	11 (35.5)	17 (54.8)
Interaction with health workers	0 (0.0)	4 (12.9)	10 (32.3)	17 (54.8)
Blood pressure monitoring	1 (3.2)	1 (3.2)	5 (16.1)	24 (77.4)
Compliance with recommended Rules	3 (9.7)	2 (6.5)	2 (6.5)	24 (77.4)

Table 2: The self-management dimension shows that for self-integrity, the majority of respondents answered sometimes. For the self-regulation dimension, the majority of respondents always. From the dimension of interaction with health workers, they always interact. The blood pressure monitoring dimension shows that the majority of respondents always. For the dimension of compliance with existing rules. recommended, the majority of respondents also always adhere to taking medication.

**Table .3** Self Management of Hypertension Patients Based on Sub Dimensions

No.	Sub dimensions of self management (Statement)	Frequency (%)			
		Never	Seldom	Someti mes	Always
<b>Self integrity</b>					
1.	Consider portions and food choices	3 (9.7)	3 (9.7)	8 (25.8)	17 (54.8)
2.	Eat more fruit, vegetables, whole grains and nuts usually	2 (6.5)	2 (6.5)	7 (22.6)	20 (64.5)
3.	Reduce foods that contain saturated fat	4 (12.9)	8 (25.8)	10 (32.3)	9 (29.0)
4.	Consider foods to maintain blood pressure	4 (12.9)	3 (9.7)	8 (25.8)	16 (51.6)
5.	Try to stop drinking alcoholic beverages	29 (93.5)	0 (0.0)	0 (0.0)	2 (6.5)
6.	Reducing the amount of food to lose weight	9 (29.0)	6 (19.4)	11 (35.5)	5 (16.1)
7.	Choose low salt foods	5 (16.1)	4 (12.9)	6 (19.4)	16 (51.6)
8.	Exercise to lose weight for around 30-60 minutes every day	2 (6.5)	4 (12.9)	8 (25.8)	17 (54.8)
9.	Thinking that hypertension is part of life	4 (12.9)	1 (3.2)	7 (22.6)	19 (61.3)
10.	Perform the recommended routine to control hypertension	1 (3.2)	4 (12.9)	5 (16.1)	21 (67.7)
11.	Stop smoke/try to quit smoking	27 (87.1)	0 (0.0)	1 (3.2)	3 (9.7)
12.	Try to control your emotions by listening to music, resting and talking to family or friends	3 (9.7)	5 (16.1)	16 (51.6)	7 (22.6)

No.	Sub dimensions of self management (Statement)	Frequency (%)			
		Never	Seldom	Someti mes	Always
13.	Never used more salt to season food since suffering from hypertension	2 (6.5)	5 (16.1)	12 (38.7)	12 (38.7)
<b>Self-regulation</b>					
14.	Find out why blood pressure can change	0 (0.0)	3 (9.7)	11 (35.5)	17 (54.8)
15.	Recognize the signs and symptoms of high blood pressure	1 (3.2)	1 (3.2)	7 (22.6)	22 (71.0)
16.	Control the signs and symptoms of hypertension appropriately	1 (3.2)	1 (3.2)	10 (32.3)	19 (61.3)
17.	Recognize the signs and symptoms of low blood pressure	1 (3.2)	8 (25.8)	7 (22.6)	15 (48.4)
18.	Control the signs and symptoms of hypotension (low blood pressure) appropriately	3 (9.7)	6 (19.4)	10 (32.3)	12 (38.7)
19.	Determine goals to control blood pressure	1 (3.2)	3 (9.7)	12 (38.7)	15 (48.4)
20.	Create an action plan to achieve the above goals	2 (6.5)	1 (3.2)	10 (32.3)	18 (58.1)
21.	Compares current blood pressure with target (desired) blood pressure	3 (9.7)	3 (9.7)	1 (3.2)	24 (77.4)
22.	Control conditions that may increase blood pressure	1 (3.2)	3 (9.7)	7 (22.6)	20 (64.5)
<b>Interaction with other Health Workers</b>					
23.	Discuss a treatment plan with a doctor or nurse	2 (6.5)	1 (3.2)	5 (16.1)	23 (74.2)
24.	Provide input to the doctor to change the treatment plan if they cannot adapt to the plan	4 (12.9)	3 (9.7)	7 (22.6)	17 (54.8)
25.	Ask a doctor or nurse when there is something you don't understand	1 (3.2)	4 (12.9)	5 (16.1)	21 (67.7)
26.	Help the doctor or nurse find out why blood pressure is not controlled properly	1 (3.2)	2 (6.5)	12 (38.7)	16 (51.6)
27.	Discuss with your doctor or nurse when your blood pressure is too high or low	1 (3.2)	0 (0.0)	8 (25.8)	22 (71.0)
28.	Ask a doctor or nurse for learning resources about hypertension	2 (6.5)	4 (12.9)	4 (12.9)	21 (67.7)
29.	Ask for help from other people (eg friends, neighbors or other patients) regarding your hypertension	5 (16.1)	4 (12.9)	10 (32.3)	12 (38.7)
30.	Ask other people to help control blood pressure	7 (22.6)	2 (6.5)	5 (16.1)	17 (54.8)
31.	Ask other people about the methods they use to control high blood pressure	0 (0.0)	2 (6.5)	13 (41.9)	16 (51.6)
<b>Blood Pressure Monitoring</b>					
32.	Go to the doctor to check your blood pressure when you feel signs and	1 (3.2)	0 (0.0)	6 (19.4)	24 (77.4)

No.	Sub dimensions of self management (Statement)	Frequency (%)			
		Never	Seldom	Sometimes	Always
	symptoms of high blood pressure				
33.	Go to the doctor to check your blood pressure when you feel sick	1 (3.2)	1 (3.2)	6 (19.4)	23 (74.2)
34.	Go to the doctor to check your blood pressure when you feel signs and symptoms of low blood pressure	2 (6.5)	2 (6.5)	5 (16.1)	22 (71.0)
35.	Checking your blood pressure regularly can help	2 (6.5)	2 (6.5)	3 (9.7)	24 (77.4)
	make decision self management				
<b>Compliance with recommended Rules</b>					
36.	Be very strict about taking anti-hypertension medication	4 (12.9)	1 (3.2)	2 (6.5)	24 (77.4)
37.	Take anti-hypertension medication according to the dosage given by your doctor	3 (9.7)	3 (9.7)	1 (3.2)	24 (77.4)
38.	Take anti-hypertension medication at the correct time	2 (6.5)	4 (12.9)	1 (3.2)	24 (77.4)
39.	Check with the doctor at the scheduled time	2 (6.5)	3 (9.7)	3 (9.7)	23 (74.2)
40.	Follow the doctor's or nurse's advice in controlling blood pressure	1 (3.2)	3 (9.7)	3 (9.7)	24 (77.4)
	<b>Overall average of answers</b>	1 (3.2)	3 (9.7)	9 (29.0)	18 (58.1)

Table 3 above shows that of the 40 statements, there were 30 statements where the majority of respondents answered always with a percentage of >50%. If all answers are averaged, overall, the majority of respondents answered that they always carry out self-management to prevent complications (58.1%). With categories into 3 levels based on data quartile values. Self management is said to be poor if the respondent's total answers are ≤122, self management is said to be sufficient if the respondent's total answers range from 122-137, self management is said to be good if the respondent's total answers are >137.

**Table 4.** Categories of self-management of Hypertension patients at the Tamalanrea Community Health Center

Self-management hypertensive patients	Frequency	Percentage (%)
Not enough	8	25.8
Enough	8	25.8
Good	15	48.4

Table 4 displays the self-management categories of hypertensive patients. Of the 3 existing categories, respondents tend to have good self-management (48.4). However, there were also respondents with sufficient and insufficient self-management, 25.8% each.

The results of this study provide a general picture in terms of dimensions that patients tend to have good self-management, namely (48.4%). However, there were also respondents

with sufficient and insufficient self-management, respectively (25.8%). Prevention of complications in hypertension can be assessed on a person's ability to carry out management or self-management based on a high desire to improve so that they can return to optimal performance by training themselves in managing a good lifestyle (self-management). The physiological functions of the elderly which have an impact on various aspects of health, one of which is the gradual loss of the tissue's ability to repair itself or replace and maintain its normal function so that it is unable to withstand infection and repair the damage suffered. (Ilmi et al., 2018). A good lifestyle by reducing consumption of foods high in fat is a positive way to reduce the morbidity rate of elderly diseases such as diabetes mellitus, hypertension, heart disease and stroke. These diseases are caused by several factors such as gender, age and genetic factors. Risk factors that can be changed include smoking habits, work, physical activity, smoking habits, alcohol consumption, body mass index, waist circumference. (Amila et al., 2021) Blood pressure increases with age and is higher in those who are obese. Greater risk of coronary heart disease in men and women with hypertension (defined as SBP  $\geq$ 160 mmHg or DBP  $\geq$ 95 mmHg) than in individuals with SBP <140 mmHg and DBP <90 mmHg (Zhou et al., 2021). Referring to previous research results, hypertension is diagnosed if a person has clinical blood pressure of 140/90 mmHg or higher or average daytime ambulatory blood pressure monitoring or average home blood pressure monitoring of 135/85 mmHg or higher, pressure systolic blood pressure (SBP) of 130 mmHg or lower if tolerated, and diastolic blood pressure (DBP) of 80 mmHg or lower (Ioannidou et al., 2023).

The need to regulate and maintain blood pressure so that blood pressure is always in a normal condition is very necessary so that there are no changes in health conditions due to a decline in body condition due to recurring and sudden pain, so it is necessary to carry out regular physical activity as a non-pharmacological therapy accompanied by adjusting the pattern. eating independent monitoring and emotional coping with the illness suffered (Fernalia, Buyung Keraman, 2021) In addition to the relationship between hypertension and gut dysbiosis, there is a direct relationship between diet and gut microbiota composition that has the potential to influence hypertension tendencies. (Harrison et al., 2021) Therefore, it is critical to implement population-based initiatives to reduce the global burden of elevated blood pressure, such as salt reduction activities and increasing the availability of fresh fruit and vegetables. (Unger et al., 2020) identification and quantification of the mediating role of cardiometabolic factors in the relationship between education and hypertension (Wang et al., 2023) In maintaining a profitable lifestyle by setting good patterns as a way to improve behavior (S. Sriwahyuni et al., 2021) which leads to being more positive in the management of chronic diseases (Tursina et al., 2022), by implementing a healthy lifestyle and maintaining normal blood pressure will reduce the risk of disease (NS Sriwahyuni, 2023) It should be emphasized that optimal blood pressure control is very important to prevent complications (Sriwahyuni et al., 2022)

## **CONCLUSION**

From the research results, it can be concluded that respondents tend to have good self-management in preventing complications in hypertensive patients so that the impact of complications will decrease.

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