

## COMPLIANCE OF HYPERTENSION PATIENTS IN DOING SELF-CARE: A *GROUND*ED THEORY STUDY

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### ABSTRACT

Hypertensi as a one of non-communicable diseases is need of serious attention and dealt with " *nation-wide* " given the high prevalence and usually people do not realize that he was suffering from hypertension. Generally only known when they come for treatment to the health service because of illness or other complaints, so hypertension is often known as " *the silent killer* ". Patient compliance in undergoing hypertension treatment is also a determinant that affects the control of patient's blood pressure . The most important main determinant The effect on adherence to take antihypertensive medication is long suffered from hypertension. This study aims to develop theoretical concepts about strategies to improve patient compliance in self-care for hypertensive patients both pharmacologically and non-pharmacologically. The study design using qualitatively with five participants and purposive sampling. From the results of the study, six themes were obtained : experience of adherence to control, experience of handling symptoms and complications, experience of taking medication adherence, experience of adherence to managing diets, lack of adherence to exercise, and obstacles to adherence . It is recommended that hypertensive patients can improve compliance for routine antihypertensive drug consumption by making simple schedules and enhancing their self-concept.

Keywords: Compliance, Self Care, Hypertension

### 1. PRELIMINARY

Non-communicable diseases become a priority issue of health is now well in areas of urban and rural. Hypertension which is one of a non-communicable diseases needs serious attention and handled in " *nation-wide* " given the prevalence of which is quite high and usually people do not realize that she/he was suffering from hypertension. Generally only known when they come for treatment to the health service because of illness or other complaints, so hypertension is often known as " *the silent killer* " .

Based on the results of Riskesdas (2018) the results of blood pressure measurements, hypertension has increased where it was found that in 2013 the incidence of hypertension was 25.8% increased to 34.1% in 2018. In addition, several factors predisposing to obesity were also found, a tendency to increase the proportion of obesity in the adult as many as 10.5% in 2017 to 14.8% in 2013 and increased again to 21.8% in 2018. (Riskesdas, 2018)

More than 80% of hypertensive patients are at *borderline* to moderate levels so that most of these cases can be controlled through various lifestyle changes. Many non-pharmacological

therapies in the form of diet, exercise, relaxation therapy, etc. have been proven to be better than drugs. This is important to note that the amount of drugs consumed raises more dangers than benefits. Long-term carefully designed clinical studies have found that people who use blood pressure-lowering drugs (most often beta-blockers and / or diuretics) actually cause unnecessary side effects including an increased risk of heart disease . Thus the nonpharmacological approach is the best choice in dealing with this hypertension. Some of the management of hypertension such as yoga, meditation, progressive relaxation, music therapy, and others can be used to overcome the problem of hypertension, but these approaches are less desirable because requires a lot of time , and a conducive environment must be created to be able to do the exercise in order to get maximum results. However, the incidence of hypertension instead of decreasing, even more numerous. Many patients exhibit disobedience to both pharmacological and non-pharmacological treatments and lifestyle and dietary settings. From various literature explains that one important factor suppressing this incident is patient compliance. (Mangendai, Rompas, & Hamel, 2017)

The level of compliance of hypertensive patients with a lifestyle becomes a very priority to run . The ultimate goal of every medical therapy is to achieve patient recovery. This is inseparable from the goals in the management of chronic diseases including hypertension. But apart from all that, and the best efforts of professional nursing services, these results probably will not happen, especially for non-compliant patients taking medication that has been given. This disobedience is sometimes caused by problems of knowledge and ignorance of hypertension itself (Baso, Berek, & Riwoerohi, 2019). That will definitely have serious and detrimental effects on the perspective of disease management. Therefore the therapeutic adherence has been a topic of clinical concern since 1970 until now due to the

widespread nature of non-compliance with this therapy. Therapeutic compliance includes not only patient adherence to medication but also diet, exercise and lifestyle changes. It is generally found that the level of adherence to long-term treatment is between 40% to 50%, while adherence to short-term therapy is much higher at between 60% to 80%. But on the contrary, adherence to lifestyle is very low, which is only in the range of 20% to 30% (Lin, Sklar, Oh, & Li, 2008).

Patient compliance in undergoing hypertension treatment is also a determinant that affects the control of patient's blood pressure . The main determinant that has the most influence on adherence to taking antihypertensive medication is long suffering from hypertension (Liberty, Pariyana, Roflin, & Waris, 2018). As a result of having to consume hypertension sufferers in the long term, causing hypertension sufferers tend to be disobedient. Other research results found that the issue of adherence was also influenced by factors of knowledge of the disease and motivation of hypertensive sufferers to take antihypertensive drugs (Mangendai et al., 2017) . A Research conducted at health facilities in Bandung of First Instance found that there are 53.5% of patients with hypertension who are not adherent to treatment and 32.3% had moderate adherence (Sinuraya, Destiani, Puspitasari, & Diantini, 2018).

Health care has shifted from treating acute illness to treating chronic disease, the focus of care has shifted from treating illness to controlling symptoms and improving quality of life. Sometimes, therapeutic regimens can be very complex and difficult for patients to follow. In addition, improving health often requires behavior modification to encourage changes such as weight loss, stopping smoking, and increasing exercise. Following a complex treatment regimen and modifying activities requires complex and difficult behavioral changes by the patient. Thus, patients must have a long-term commitment to complex regimens that emphasize patient self-management .

(Bosworth, Oddone, & Weinberger, 2008; Bosworth, 2010).

Therefore, efforts are needed to improve patient compliance with independent care, which will provide benefits in the long run. It needs to be explored in more depth what is needed by patients to improve compliance, and what things can help patients in increasing compliance with self-care programs provided. Need to dig deeper about patient compliance with hypertension independent care, what can be obstacles to improving adherence and what can help in increasing patient compliance with self-care.

## 2. RESEARCH METHODS

This study uses a qualitative approach with Grounded Theory study to understanding of a phenomenon and developing a knowledge, focusing on the self-care process of hypertensive patients. One of the objectives of this *grounded theory* approach is to produce a theory about the self-care of hypertensive patients. Participants in this study were five participants who suffered from hypertension. Taking participants using *purposive sampling techniques* that meet the inclusion criteria, namely undergoing outpatient care for at least 6 months in the clinic ; aged 18 to 60 years ; can be communicate in Indonesian well and not impaired speech and hearing; and available become participants during the research process progresses. The study was conducted at the Depok City Health Center. The time of the study was carried out for two months starting from November to December 2019.

## RESEARCH RESULTS

### Participant Characteristics

A total of five informants participated in empirically. Age of participants between 43 and 70 years. Educational level of high school and Bachelor. One participant works as a civil servant, the other is private, and 3 others are retired. All participants suffered

from hypertension, one of them complications of Diabetes Mellitus.

### Concept Drafting

The results of the overall theme are formed based on the informants' answers to questions that refer to the specific objectives of the study . Three specific objectives are answered in 6 themes and several sub-themes related to the behavior of patients with hypertension . Here are the results of qualitative data analysis compliance self-care patients with hypertension who disclosed the participants.

### Thematic Analysis

Based on the results of interviews and thematic analysis, six main themes can be identified that describe a variety of participants' experiences of adherence to hypertensive self-care, namely 1) compliance experience exercising control, 2) experience handling symptoms and complications, 3) experience of taking medication compliance, 4) experience adherence to managing diets, 5) lack of adherence to exercise, and 6) obstacles to obedience.

### Experience of compliance controls

In this theme, there are several phenomena that are grouped into sub themes including 1) initial hypertension, patients not directly exercising routine control , 2) things that support participants doing routine control , and 3) frequency of controlling.

As many as four participants stated that after they found out that they had hypertension, the participants did not immediately get routine control, only checking if there were complaints. Here are some statements from the participants:

" *Actually, since 7 months ago, I was just a stubborn person ... (while looking down his neck), I don't control ...*" (P1)

*"Once every six months it is delivered to Sentra Medika there, but every month the control is here, but if there are no complaints, just stay at home "(P2)*

*"If there are no complaints, don't come here. If there are new complaints, come here. Well, not even a month ago I came and did a blood check and now come here again to check blood. " (P3)*

*"So, after I took the drug for one month, then I did a re- examination the following month". (P5)*

The second subtheme is the thing that makes participants want to exercise control routinely. Based on the thematic analysis it was revealed that participants exercised control routinely for several reasons, which can be seen in the following statement:

*"... I use BPJS, so it's easy ..." (P1)*

*"Every Saturday, if you control at the Public health center , you will meet many peers and you can share discussions ..." (P1)*

*"Grandchildren say Opung, we have to hurry to the health center, we have this list, if it's too late, we get yelled at by sisters ..." (P2)*

*"Yes, usually my wife reminds me to control. But if there are complaints, I immediately go alone to the Military Army house first "(P5)*

The third subthema is the frequency in controlling. The following participant statements related to control frequency:

*"... doctors usually give the medicine once a month, so every month I have to come again to take the medicine" (P1)*

*"... I control once every six months to the Medika Center there, but every month they send me control here, public health center ..." (P2)*

*"... sometimes once a month, but if you don't have something, you don't need to come. ..." (P3)*

*"... previously once a month, but this is my three-month new control coming again ..." (P4)*

### **Handling Symptoms and Complications**

The participants' experience in handling hypertension symptoms and complications found several subthemes, including 1) feeling scared in suffering from hypertension, 2) knowing well about hypertension, 3) checking themselves when experiencing symptoms, and 4) having experience of being hospitalized.

The participant's statement regarding the theme and sub-theme is as follows:

*"... Because I was so scared, then I had to see a cardiologist ..." (P1)*

*"... psychologically that I was shocked and shocked, why do I suffer from hypertension like this, because this disease is a dangerous disease, when we are shocked we can get a stroke and die ..." P5)*

There were also those who resigned themselves to their illnesses where the second participant said that everything happened according to God's will, which was revealed as the following statement:

*"... You don't need to be afraid. If one day we are called by God, don't reject them ..." (P2)*

The symptoms and complications identified by the participants were dizziness, neck felt tense, breathing felt heavy, dizzy eyes. The participant expressions are as follows:

*"... This nape feels tense (while holding the nape) while driving a car, heavy head, and heavy eyes ..." (P1)*

*"... yes, this head is getting dizzy, and dizzy ..." (P2)*

*"... My eyes are blurry too, I can't see a distance of 1 meter ..." (P4)*

*"... I feel that there is a slight dizziness and this neck feels stiff, and we spin the sound of the crunching ... Then I feel the stomach is also uncomfortable ..." (P5)*

*"... My chest has also been melted, what is the name of the operation ... in 2005 ..." (P2)*

*"... usually when I stand up I like it to feel a sense of shock like that (while pointing towards the left chest and moving my hand towards the side of the left arm), and hanging it like that". (P1)*

*"It's like cold, like air comes in, it's finally stiff ..." (P1)*

The reason for the increased pressure is due to stress and anger, as shown in the following statement:

*"... yes, we are in life, there must be family problems too and finally we think too ... (P1)*

*"... like this, my blood is high because I got angry at the grandchildren's behavior ..." (P2)*

*"Yes ... sometimes the work factor. In the work environment, if work isn't smooth,*

*that's where we get emotional. So that emotion will make me stressed and my blood pressure rises, is that so ..." (P5)*

Participants can recognize the danger of hypertension, which is a stroke and can cause death. It can be seen in the participant's statement as follows:

*"... If we are shocked, we can stroke, and then we will die ..." (P5)*

*"... yes, if hypertension cannot be overcome, it can cause blind eyes like that ..." (P4)*

*"If you don't take medicine regularly, then you can make your breath so stiff ... that means you have heart failure, which they say is CHF, right ..." (P1)*

When participants experience complaints, participants mean that they immediately seek treatment from the existing health facilities, which can be seen in the following statement:

*"... I went straight to the cardiologist ..." (P1)*

*"... When I go home from work, and my neck starts to feel heavy, I immediately go to the doctor at the Army Hospital first with my son..." (P5)*

There are also participants who already know that their blood pressure is high, then immediately take traditional medicine, as revealed in the following statement:

*"... if I feel tension in my neck, there are my blood pressure is high, and the time is high, so I immediately drink celery ..." (P4)*



## Medication Compliance

The next main theme is adherence in taking antihypertensive medication, with the subthemes found are 1) the obedient situation of taking medication, 2) changing drugs due to complaints, 3) efforts to be obedient to take medication, and 4) families motivating taking antihypertensive drugs.

The results of the interview found that participants were more obedient to take medication when while at home rather than outside the home, and get great support from the family. Statements related to this matter are as follows:

*"... At home, usually after dinner, my child is immediately reminded to take the medicine ..."* (P1)

*"... Even though the medicine was brought to the office, E e e forgot to take the medicine too. When I got home, I remembered that the medicine had not been taken ... P (1)*

*"... After eating at home, immediately take the medicine ..."* (P5)

*"... the medicine is taken immediately at the dinner table after eating..."* (P2)

In taking medicine, participants also experienced other complaints in the form of chest palpitations, and the medicine was replaced. The statement is as follows:

*... It seems like the heart is moving fast ... after that I control it to the cardiologist, so that it is checked again, it turns out that I have the laboratory, my Hb is high ... so I add more medication ... "* (P1)

*"... If my captopril is not suitable, so the doctor will replace it with amlodipin 10 mg..."* (P4)

Family members are involved in motivating to take medicine. This is seen in the participant's statement as follows:

*"... my daughter reminded me from her telephone to take medicine, while the message said that you wanted to get well, okay, don't forget to take the medicine ..."* (P1)

*"... Emanuel's grandson likes to remind me to take medicine, he said that Opung shouldn't take medication, Do you want to die? (while laughing) ..."* (P2)

*"... my wife usually likes to take medicine on the table at every meal, and remind me to always take the medicine ..."* (P5)

*"... my wife likes to write my medication schedule on the board and placed near the dining table ..."* (P5)

## Compliance Managing Diets

The fourth most common subtema found was as follows: 1) identifying recommended foods, 2) ways to regulate the diet, 3) complaints felt during diet changes, 4) improvement in eating patterns after being treated.

Based on the interview results known that participants can recognize some of the recommended foods and that is must be challenged, even though they do not specify in detail what foods are recommended. All participants said that salty food is not recommended. All participants said that it was better to eat only boiled foods, although it did not clearly reveal the complete types

of vegetables and fruits. The statements are as follows:

"... If eating fatty is not good, because it can make fat build up in our body, and make blood pressure is rise ..." (P1)

"... it is not allowed to eat salted fish because the salt is high, it will make our directions even higher, right ..." (P2)

"... I am strictly forbidden to eat goat meat ..." (P3)

"... Yes, coconut milk is not allowed, at most I only eat boiled ones ..." (P4)

"... I have been strictly forbidden with salt ..." (P5)

"... yes, meat is also not allowed, like beef, lamb ..." (P5)

"... As for the most banana fruits ... (P1)

"... I can manage my own desires. Which foods are allowed and you may ... I don't "congo" (not all of them are eaten), at least I eat kates (papaya) that are made with juice only (P2)

Families play a role in regulating the menu both at home and outside the home because of the location of work. This can be seen in the participant's statement as follows:

"... most cook themselves at home, and just add enough salt to measure ..." (P1)

"... Yeah ... the one who cooks is the daughter-in-law, so we are just ready to eat. But I like to get angry when the dishes are too salty ..." (P2)

"... I stay with my wife at home so I usually cook alone, so I always adjust the salt. Sometimes just boil doesn't use salt ..." (P4)

"... my wife used to cook without seasoning, especially without salt first. Later when it's served, just split into two parts. They have some salt too, while I have no salt ....." (P5)

"... usually if you want to go to work, the wife has boiled bananas and provided them so I can bring it for my lunch ..." (P5)

"... At work, my friends eat fried food, I brake myself and only eat boiled bananas that my wife provides ..." (P5)

### **Compliance in Doing Sports**

The fifth main theme is compliance in managing activities or sports. Almost all participants said there was no specific sport except the first participant who routinely did sports through the prolanist program. While participants fourth and fifth said the activities they carried out in their daily work represented their sport. Furthermore second and third participants said they could not do sports anymore because of the age factor which did not require much free movement anymore. The statement can be seen below:

"... at the public health center , usually every Saturday there is an elderly exercise program, so I joined there ..." (P1)

"... sometimes we join the healthy walk program which is followed by groups suffering from hypertension just like me. We walk from the public health center , head towards Cibubur, then there we eat, and go back ..." (P1)

"... I said that if the workday morning in the field to sweat ..." (P4)

*"... I don't have a special sport, but in that work I control the men until I sweat, so I think that's my sport ..." (P5)*

The first participant realized that regular exercise, can lose weight. His statement as follows:

*"... my weigh is 73 kilograms, but I exercise regularly with my peers who are sick same with me, but my weight has now dropped to 65 only ..." (P1)*

### **Obstacles to Obedience**

The results of the interview revealed that the participant has constraints / obstacles to be obedient in undergoing his treatment. These constraints include 1) disobeying instructions, 2) irregular medication taking behavior, 3) various reasons for not taking medication, 4) difficult preferences to be eliminated, 5) some disturbances / temptations in daily life, 6) various reasons for not complying with exercise, 7) the role of nurses who have not been optimal in providing care to hypertensive patients.

Participants exhibit disobedient behavior towards instructions on the grounds that they are busy at work. The participant's statement as follows:

*"... I'm a little ... I don't want to take medication regularly ..." (P1)*

*"... I just live alone, then I have no complaints so the medicine is finished, yes, later if there is a new complaint, come here again ..." (P3)*

Irregular medication taking behavior is also revealed in this theme. Participants confessed that they often postponed taking medicines that were not on schedule and changed their schedules. Sometimes drugs

are taken, sometimes they are not taken. Some supporting statements are as follows:

*"... if you forget to drink in the morning, just drink it at night ..." (P1)*

*"... yes the medicine has run out, didn't have time to take it so yes you 've taken the medicine, right there is no complaint ..." (P3)*

*"... the medicine is gone ... but wait for grandchildren to take opung to the hospital or public health center ..." (P2)*

*"... We must queue at the doctor, right? This BPJS uses quota, the medicine is only for seven days, but we have to arrange it ourselves to take the medicine again at the pharmacy. Yes, if you queue for a long time, the medicine is finished first ..." (P1)*

Participants were not compliant in taking medicine, citing several reasons, among others because of morning activities that were too busy to not take medication. Then other participants reasoned that because they were out of town the participants did not take medication for fear of frequent urination on the road. The following statement:

*"... Yes, if your grandchildren deliver for control to take medicine in the patient, you take the medicine ..." (P2)*

*"... but if I have been busy working at the office, when I want to take medicine, apparently the medicine is not taken ..." (P1)*

Another reason given by the participant was that the participant claimed to be lazy consumption medicine. The lazy phrase is conveyed as follows:



*"... yeah because disobedient likes to delay taking the medicine (laughing) ..." (P1)*

Nurses at the public health center have not been involved in providing care for hypertensive patients. The following statement from the participants:

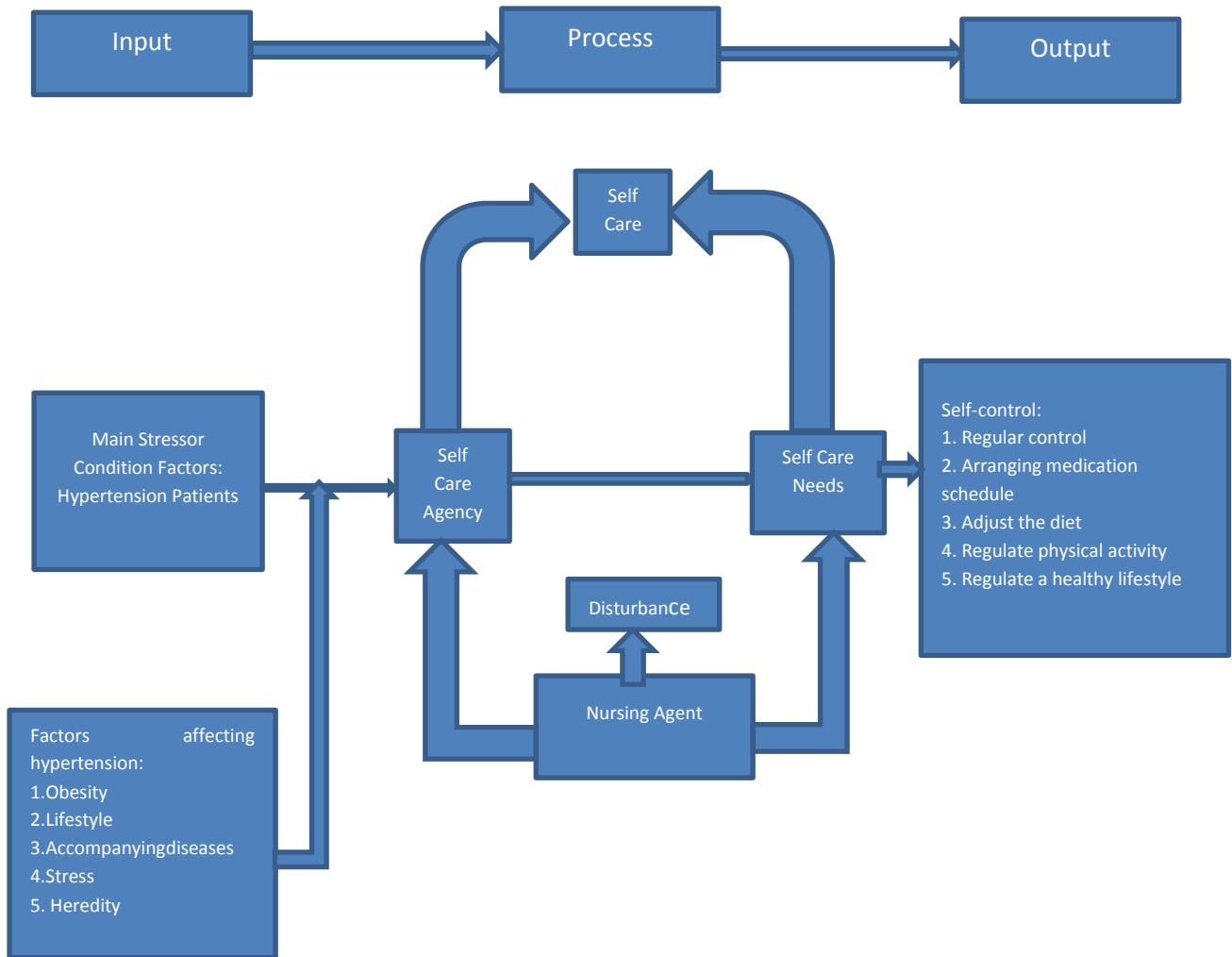
*"... I was wonder, why is the blood pressure here always high, but if be measured there my blood pressure is fine ..." (P4)*

*"... I have never heard an explanation about the treatment so well ..." (P5)*

### **Compliance of Model Theory of Self Care to Hypertension Patient**

Six theme generated further in doing the process for formation of a model theory of compliance with self care of patients with hypertension . The formation of this theory refers to the purpose of the study, which is to find out the theory of adherence to hypertension patient self-care. The process of theory formation includes analysis of the results of concept formation, analysis of theories relating to self-care adherence associated with experts in the field of self care. The self-care abilities identified are self-control and family support which play a very important role. The following models of hypertension patient self-care compliance can be seen in the following figure.

**Model of Compliance of Self Care to Hypertension Patient**



#### 4. Result and Discussion Compliance For Control

The results of the study found that participants tended not to have routine controls at the start of hypertension. It is able to occur because the participants do not feel symptoms that interfere with their activities. In interviews with participants, first participant only realized that he had hypertension when checking blood pressure after symptoms of shortness of breath. When further tests are carried out on the treadmill, it turns out the patient has fallen into a state of heart failure. Actually this state of hypertension has long been experienced, but because it does not cause symptoms (*the silent killer*). When there are symptoms, just do the examination and just found to suffer from hypertension, and heart failure. This is consistent with the theory that explains that one of the complications of hypertension is heart failure (Setiati, 2014; Lloyd-jones et al., 2015). Likewise with second participants who already suffered from hypertension and even had to undergo a heart by pass in 2005 ago. While the third participants did not realize that while suffering from hypertension. Because according to participants, he came to this public health center only to do blood tests and control his broken thighs. Furthermore, the fourth participant did not realize that he had hypertension even though his current blood pressure was 180/110 mmHg the participant actually did not experience any complaints. Participants came to the health center to control their blood sugar, not for high blood pressure. This is what increasingly supports the opinion that hypertension is a condition that does not cause any complaints or symptoms so it is known as the silent killer. Fifth participants also said that they had experienced high blood pressure since 2013, but because they did not cause symptoms that affected the activity so they were still left alone first, then later these symptoms often arose, and then they began

to realize them and began to improve routine control.

Family involvement in raising awareness to increase awareness to take antihypertensive drugs is very important revealed in this study. The patient's wife always encourages participants to have regular control. Also other family members like son-in-law and grandchildren are also involved in efforts to increase efforts for routine control. This is in accordance with the researchers who say that family involvement is a major support in improving patient health status (Prihandani, 2012; Zhang, Tang, Zhang, Liu, & Zhang, 2017).

In relation to the recommendation to carry out routine control of the participants on average once a month, however, there are several control locations with certain time variations both at the public health center as well as hospitals and privat doctors. The frequency of routine control can be seen from the degree of hypertension of the patient and the perceived complaints or damage to the target organ they are experiencing. If the patient rises to second degree hypertension or there is damage to the target organ, for example there is DM, the doctor can ask the patient to exercise more control. In the guidelines by JNC 7 it is mentioned that in first degree hypertension can control every two months. Second degree hypertension can control every one month, or more often once a week if there is a risk of cardiovascular disease and target organ damage (Minotti, 2010; Muhadi, 2016).

It was also found that the participants also had an effort to improve the control of taking medication by writing medication schedules on the board and placed in the dining table so that easier to take antihypertensive medication. This can be used as a strategy for other patients to improve control.

### **Handling Symptoms and Complications**

The results of the study found that participants knew about hypertension well, evidenced by participants being able to mention and recognize the symptoms of hypertension as well as knowing what actions to take, participants could also identify what factors could increase their blood pressure and understand about the dangers of heart disease. Patients mention hypertension can result in stroke and sudden death. Actually hypertension can also cause heart disease such as myocardial infarction, or even heart failure. Knowledge about hypertension significantly in improving compliance. Patients having awareness about hypertension risk factors will have better adherence than patients who lack knowledge (Shin, Kim, & Choi, 2016; Burnier & Egan, 2019).

### **Medication Compliance**

The study also found that participants experienced complaints when taking medication, namely heart beat fast. These complaints occur when taking medication. Heart palpitations are due to the toxication effects possessed by diuretic drugs, namely furosemide and ethacrine acid. This type of drug is a diuretic that has a stronger effect than other types of diuretics (Minotti, 2010; Hameed & Dasgupta, 2019). Some research results reveal that increasing compliance with taking medication can be done by reinforcing several factors. The factor is to provide an understanding of the need and effectiveness of treatment (Bosworth, 2010; Liberty et al., 2018). It is important for doctors and nurses to explain the side effects of treatment, so that patients can identify these side effects, report them to the doctor so that an evaluation can be given on the administration of the drug. Thus the patient will not stop taking medication and patient compliance will increase.

### **Compliance Managing Diets**

The results of this study indicate that related to dietary regulation, participants pay more attention to what types of food are allowed and may not be consumed. In the food management guidelines explained that a healthy diet is the achievement of a balance of several types of food, including 1) food types of bread, potatoes, rice, and flour amounting to 33% of the total diet, 2) fruits and vegetables amounting to 33% of the total diet, 3) milk and the like amount of 15% of the total diet, 4) meat, fish, eggs, nuts are 12% of the total diet, and 5) food and drink sweet or fatty amount of 8% of the total diet. By setting a balanced diet, the patient will not complain of lack of energy due to changes in the diet.

To facilitate nurses in providing explanations to patients about a healthy diet, the NHS Choice 2011 provides guidance in the form of "eatwell plates" and eight healthy balanced menu tips. They are 1) the basic ingredients of food are flour (rice, or wheat), 2) eat lots of vegetables and fruit, 3) eat lots of fish (fresh, not salted fish), 4) reduce saturated fat and sugar, 5) eat less salt less than six grams per day (1 teaspoon), 6) always active and ideal body weight, 7) drink lots of water, and 8) don't forget about breakfast. In both ways, it will be easier for patients to remember and adjust their diet (Prihandani, 2012). Associated with the consumption of sodium in daily food, most participants said that it had reduced salty foods, even second participants said that if only salty foods, it would be angry at the daughter-in-law who prepared it. In this case, salt should be regulated in such a way that only 2.4 grams per day can be consumed. As research conducted by (Berek, 2018) who found that the regulation of sodium in daily food can reduce blood pressure both systolic and diastolic.

### **Exercise Compliance**

This study found that participants tended not to exercise except first participants. Participants fourth and fifth tend to do

strenuous activities that produce a lot of sweat so that according to participants it is enough to replace the sport. Actually doing this exercise also involves breathing exercises which can increase the baroreceptor reflex which ultimately lowers the patient's blood pressure (Berek, Nurachmah, & Gayatri, 2015). The frequency and quality of exercise is far from recommended. The recommended frequency to be able to reduce blood pressure effectively is 3-5 times a week, but it would be better if done every day or approaching almost every day with the recommended duration is 30-40 minutes. The recommended intensity of exercise is moderate intensity exercise, which will increase the benefits of exercise and reduce the side effects of the exercise. If exercise is too strong, it increases the risk of cardiovascular complications and the risk of orthopedic injury, and patient compliance with exercise will be very low. When strenuous exercise patients are reminded not to hold their breath, because it can increase blood pressure. Patients are also reminded that antihypertensive drugs and diuretics can cause dehydration and can cause blood pressure to drop dramatically when suddenly stopping exercise, therefore, it must be cooled (Prihandani, 2012).

## 5. Conclusion

Based on the themes that have been revealed, it is illustrated that assistance to hypertensive patients needs to be improved because this self-care adherence issue requires high commitment both from the patient him/herself and from the family as a support system. The main problems found are constraints such as the factor of forgetting because of the rush of work is a serious matter that must be overcome in effective ways. This research is able to reveal the concept of self-care adherence to hypertensive patients, especially adherence in terms of taking antihypertensive medication, self-

management related to diet and activity or sports. This research illustrates that patients are not fully capable of self-care but still need support from families and nurses so as to be able to improve self-care compliance.

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