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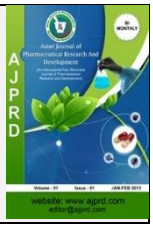

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Case Study

Application of Family Nursing Care in Patients with Hypertension: A Case Study

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A B S T R A C T

Background: Hypertension contributes to nearly 9.4 million deaths from cardiovascular disease every year. It also increases the risk of coronary heart disease by as well as increases the risk of stroke. Hypertension can also cause economic losses, the incidence of chronic diseases will directly reduce the number of the workforce due to high mortality, work absenteeism, disability and early retirement. Nurses have an important role to help families in the management of hypertension. Nurses have a role in changing behavior as an effort to reduce the risk of rising blood pressure and one of the treatments is the application of family nursing care. Objective: To determine the effectiveness of implementing family nursing care for hypertensive patients as an effort to reduce blood pressure. Research Methods: This research design uses a case study method that implements the application of family nursing care to hypertensive patients as an effort to reduce blood pressure. This study was conducted on hypertensive patients in the family of Mr.G Rt 02/03 Parigi Village, Cikande District, Serang Regency. Results: The application of family nursing care for 4 visits can increase patient knowledge about hypertension, reduce acute pain with relaxation techniques, overcome sleep patterns by doing breathing techniques before going to bed and reduce blood pressure from 140/95mmhg to 130/90mmhg. Conclusion: Family nursing care is effective in lowering blood pressure.

Keywords: Family nursing care, Hypertension

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INTRODUCTION

Non-communicable diseases are a global, national, provincial and local health problem in the community. The World Health Organization (WHO) in 2015 detailed that NCDs kill 41 million people every year and represent a percentage of 71% of deaths worldwide. Cardiovascular disease is the highest cause of death due to NCDs at 17.9 million people every year, followed by cancer at 9.3 million, respiratory diseases at 4.1 million, and diabetes at 1.5 million.[1,2]

The increase in the incidence of non-communicable diseases is related to increased risk factors due to changes in lifestyle in accordance with the development of a more modern world today, population growth and increasing life expectancy. Non-communicable diseases of major concern include hypertension, cancer, chronic obstructive pulmonary disease and diabetes mellitus.[3–5]

Hypertension is a condition when the blood pressure in the blood vessels is chronically elevated. This can happen because the heart works harder to pump blood to meet the body's needs for oxygen and nutrients. The hypertension criteria used in case determination refer to the diagnostic criteria of the Joint National Committee (JNC) VII in 2003, namely the results of measuring systolic blood pressure 140 mmHg or diastolic blood pressure 90 mmHg.[6,7]

According to data from the World Health Organization WHO, hypertension contributes to nearly 9.4 million deaths from cardiovascular disease every year. It also increases the risk of coronary heart disease by 12% and increases the risk of stroke by 24%.[8,9]

The results of the prevalence of hypertension in Indonesia which were obtained through measurements of the population aged 18 years were 34.1%. The highest was in South Kalimantan (44.1%) followed by West Java (39.6%), East Kalimantan (39.3%) and Central Java (37.6%).[10]

In Indonesia, the prevalence of hypertension diagnosed by health workers is 8.4%, the data obtained through questionnaires and 8.8% diagnosed with taking medication. So, there are 0.4% who take their own medicine. This proves that there are still cases of hypertension in the community that have not been diagnosed and reached by the health service itself.[10]

Hypertension can cause physical harm (organ damage), the level of organ damage due to complications depends on the magnitude of the increase in blood pressure and the duration without treatment. Among the organs of the body that are targeted for complications of hypertension are the heart, kidneys, brain, and eyes.[11–13]

In addition to causing organ damage, hypertension can also cause economic losses, the incidence of chronic diseases will directly reduce the number of the workforce due to high mortality, work absenteeism, disability and early retirement. At the individual or family level, hypertension will reduce the level of productivity which causes economic instability, so that the impact of hypertension can affect family function.[14]

Therefore, nurses have an important role to help families, in the management of hypertension nurses have a role in changing behavior as an effort to reduce the risk of rising blood pressure and its treatment. The nurse's first role is to act as a service provider to provide hypertension nursing care including assessing nursing problems that arise, planning nursing actions, implementing and evaluating services that have been provided to individuals, families and society in general. The second role of nurses is as educators and consultants, conducting health education about hypertension to individuals, families, groups and communities. The third role of nurses is as role models, public health nurses must be able to provide good examples in the health sector to individuals, families, groups and communities about how to live healthy procedures that can be imitated and imitated by the community.[15,16]

Families can also be a source of support in the lives of hypertensive patients, so that the conditions experienced do not get worse and avoid complications due to hypertension. Family support is very important to be given to hypertensive patients who need good care and for a very long time and continuously.[17]

METHODS

The research design used in this study is a case study with the application of family nursing care to patients hypertension as an effort to reduce blood pressure which includes the assessment process, nursing diagnoses, planning, implementation and evaluation.In this case study, researchers used 1 client with hypertension in Mr. G family on Rt 02/03 Parigi Village, Cikande District, Serang Regency.

CASE REPORT

Assessment

The results of the nursing assessment obtained the following data: in the family consists of 5 family members: Mr. G as the head of the family who is 58 years old, last high school education, is Muslim. Sundanese. Mrs. W as a wife who is 56 years old, the last education is junior high school, is Muslim. Javanese ethnic. Has 3 children, namely: Mrs. A is the first child who is 23 years old, the last education is Bachelor. The client's second child is Miss I who is 16 years old. His last education was high school and his last child was brother F, who was 13 years old and his last education was junior high school. Mrs. W's type of family is nuclear family.

Mrs. W said that he had been diagnosed with hypertension 10 years ago. From family history, Mrs. W has hypertension from her mother, and currently her mother has hypertension. Complaints during the assessment of dizziness, blurred vision, pain in the flexion of the neck, intermittent pain, stiffness, pain in the neck pain scale 3, duration of time ± 5 minutes This complaint has been experienced quite often.

Mrs. W said she has a habit of liking salty food. The unhealthy lifestyle of W's mother, which is shown to have a habit of not undergoing a hypertension diet program, likes to consume foods that are high in salt and high in fat, such as salted fish and fried foods. Mrs. W said that if the client complains of resting and applying counterpain to the painful area. The client said that sometimes he did not take amlodipine 5 mg every morning, and Candesartan 5 mg every night, which he got from doctors at the Cikande area.

Physical examination data are: general condition is good, composmentis awareness, vital signs are: blood pressure 140/95 mmHg, pulse 90x/minute, temperature 36.5^{0}C, respiration 17x/minute, client's skin temperature is warm. The results of the assessment of pain, P: Mrs. W said that the pain came when she lacked rest or she was tired. Q: the pain was stiff and heavy, R: she had pain in the neck, S: the scale of the pain that she felt now. is 3, T: the pain lasted for + 5 minutes. Client's weight: 50 kg, client height 155 cm, BMI: BB/(TB)2 = 50/(1.55)2 = 20.8 kg/m2. Visual system began to experience problems because her eyes felt like they were dizzy, Mrs.W hearing system did not experience hearing loss. Cardiovascular system there is no jugular venous distention, capillary refill 3 seconds, no edema, no abnormalities in heart sounds, no chest pain and the client does not experience muscle weakness.

Nursing diagnoses

Based on the assessment, it was obtained 3 nursing diagnoses related to hypertension health problems in Mrs. W, namely: Knowledge deficit about hypertension, acute pain, and disturbed sleep patterns.

Nursing Planning

1. Planning nursing diagnoses on knowledge deficits about hypertension: Provide health education about hypertension, help clients and families to identify the

importance of reducing the intake of foods that contain high salt and high fat, avoid or limit caffeine consumption such as coffee, tea, cola, provide health education about hypertension diet, encourage clients to make an exercise schedule.

2. Nursing planning for a second diagnosis of acute pain: Measure the client's vital signs at each visit, assess pain including location, characteristics, duration, frequency and quality, instruct the client to maintain bed rest, instruct the client to minimize activities that can increase headaches such as straining. Advise the family to provide the needed assistance, teach and involve the family in deep breathing relaxation techniques, give the client the opportunity to demonstrate deep breathing relaxation techniques, advise the family to remind Mrs. W to take medicine according to the doctor's instructions, namely: Amlodipine 5 mg, Candesartan 5 mg.'

3. Nursing planning for the third diagnosis. Risk of disturbed sleep patterns: Measure the client's vital signs at each visit, review the activity and sleep patterns of Mrs. W. Identify factors that interfere with her sleep. W, advise the family to modify the environment, teach Mother. W autogenic muscle relaxation or other non-pharmacological means.

Nursing Implementation

Implementation was carried out for 4 home visits from 17 February - 20 February 2021.

1. Implementation of the first diagnosis of knowledge deficit about hypertension: Discussing with clients and families about hypertension, providing health education about hypertension (definition of hypertension, causes of hypertension, signs and symptoms of hypertension, advanced consequences of hypertension, hypertension diet and hypertension management, providing health education about hypertension diet , encourage the client to reduce or limit the intake of caffeine such as coffee, cola and tea, encourage the client to make an exercise schedule according to the ability of the client.

2. Implementation of the second diagnosis of acute pain: Measuring the client's vital signs, assessing pain including location, characteristics, duration, frequency and quality, encouraging the client to maintain bed rest during pain, recommending the client's family to provide assistance as needed, recommending the family to always reminds Mrs. W to take medicine according to the doctor's instructions, namely: Amlodipine 5mg/24 hours in the morning after eating, Candesartan 5mg/24 hours at night after eating orally, teaching clients and families about deep breathing relaxation techniques, providing opportunities for clients to Perform deep breathing relaxation techniques, encourage clients to minimize activities that can increase headache pain such as straining and bending.

3. Implementation of the third diagnosis of sleep pattern disorders: Measuring the client's vital signs, reviewing the client's activity patterns, assessing sleep-disturbing factors, encouraging families to create a calm and serene atmosphere at night before bed rest, teaching clients and families about deep breathing relaxation techniques, Provide opportunities for clients to practice deep breathing relaxation techniques.

Nursing Evaluation

1. Evaluation on the first diagnosis of knowledge deficit about hypertension: Mrs. W said she understood hypertension and its treatment, Mrs. W said she would reduce consumption of high-salt and high-fat foods, Mrs. W said she would reduce caffeine consumption such as tea, Mrs. W said she would not forget to drink the medicine. Objective Data: Clients seem to answer all questions. The client appears to be following instructions correctly. Leaflets have been given so that clients do not forget the hypertension diet menu. Clients and families seemed very enthusiastic. Analysis: The problem of knowledge deficit about hypertension is resolved.

2. Evaluation of the diagnosis of acute pain: Mrs. W said the pain was still felt but it had decreased, the pain came and went, felt stiff, felt in the neck area and did not spread, pain scale 1, felt about ± 5 minutes, Mrs. W still remembers deep breathing relaxation techniques and still try if pain occurs. Objective data: blood pressure: 130/90 mmHg, pulse: 84x/minute, breathing: 20x/minute, temperature: 36.5^{o}C, awareness: composmentis, Mrs. W can perform deep breathing relaxation techniques independently, the client looks relaxed Analysis: Problem acute pain resolved

3. Evaluation on the diagnosis of sleep pattern disorders: Clients say they can sleep when the environment is calm and peaceful, Clients say relax after being taught deep breathing relaxation, Clients say they slept 8 hours last night and can sleep well, Clients say re-practice deep breathing relaxation techniques before going to bed. Objective data: blood pressure: 130/90 mmHg, pulse: 84x/minute, breathing: 20x/minute, temperature: 36.5^{o}C, Mrs. W can perform deep breathing relaxation techniques independently. The client looks relaxed and refreshed. Analysis: The problem of the risk of sleep pattern disorders is resolved

DISCUSSION

Assessment is the first stage of the nursing process, at this stage where all nursing decisions and interventions can be carried out based on the information that has been collected. Therefore, at this stage it is very important to go to the next stage in the nursing process. This assessment process aims to determine the health status of the family as a client, and the ability of the family to maintain itself as a functional unit system and the ability to maintain health, prevent, control, or overcome problems in order to achieve better health among family members.[13]

An assessment on Mrs. W's family was carried out on February 15, 2021, and no obstacles were found. Mrs. W is currently 56 years old. Mrs. W's family has a history of hypertension, namely Mrs. W's mother. Currently Mrs. W is busy as a housewife, waking up every morning at 04.00 WIB is a habit, Mrs. W usually prepares breakfast early, because her husband has to go to work in the morning at 06.00, Mrs. W also always prepares warm water for her

husband's bath, activities usually continue with cleaning the home environment, the work of housewives that Mrs. W does takes a lot of energy because she has to get up earlier than other family members. Therefore, to relieve stress after doing the runitas, every day the client likes to drink coffee, eat coconut milk and eat foods such as fried foods. The risk factor for hypertension that cannot be changed is family history. Hypertension is considered polygenic and multifactorial i.e., in a person with a family history, some genes interact with others as well as the environment that can cause blood pressure to rise over time. Clients with parents who have hypertension are at a higher risk of hypertension.[18] In addition, there are risk factors for hypertension that can be changed, the first is stress, the stress that Mrs. W feels when doing household chores tends to increase peripheral vascular resistance and cardiac output and stimulates sympathetic nerve activity. When a person experiences stress, the hormone epinephrine or adrenaline in the body will be released, and then adrenaline will increase blood pressure through arterial contraction (vasoconstriction) and an increase in heart rate. If the stress continues, then the blood pressure will remain high so that the person will experience hypertension. The second is the wrong diet in hypertensive patients will lead to obesity (excessive fat). Obesity occurs mainly in the upper body, with increased amounts of fat around the diaphragm, waist and abdomen. Mrs. W is not obese but Mrs. W likes to eat foods that contain high salt and fat. Excess consumption of salt can be a trigger for hypertension in individuals.

Mrs. W said that currently she often feels dizzy, pain in the neck flexion area, pain comes and goes, feels stiff, pain scale 3, duration of time ± 5 minutes this complaint is often experienced, Mrs. W seems to be holding the flexion of the neck, and gets tired quickly when doing strenuous activity. Mrs. W said that currently she is also having trouble sleeping, her sleep pattern has become irregular. This condition in clinical manifestations of hypertension can be in the form of headaches sometimes accompanied by nausea and vomiting due to increased intracranial blood pressure, blurred vision due to retinal damage, when stepping is not steady due to damage to the nervous system, nocturia due to increased blood flow. renal blood and glomerular filtration, dependent edema resulting from increased pressure in the capillaries. There are several other symptoms that we often encounter are epistaxis, heaviness in the nape of the neck, difficulty sleeping and dizzy or dark eyes. There is a difference in cases and concepts, namely that Mrs. W does not experience nausea and vomiting, nocturia, edema, epistaxis, when walking is not steady. Why it can happen, according to Zulfiani et al. explained that the drug Amlodipine works by relaxing the walls and widening blood vessels so that its effect can accelerate blood flow to the heart and can reduce blood pressure in the blood vessels. In accordance with the statement, the client has received Amlodipine drug therapy that has been given by the doctor according to the instructions that have been given.[19,20]

Mrs. W received drug therapy from the clinic, namely Amlodipine 5 mg / 24 hours via oral. The drug Amlodipine belongs to the class of calcium antagonists that can inhibit calcium ions that cause high blood pressure. Calcium ions are very important for the formation of bones and smooth muscle in the heart, the result of which is there is a stimulus to eat calcium ions that are outside the cell will enter the cell, so that there are more calcium ions in the cell and there is a contraction in the heart muscle and the arteries shrink and cause blood pressure to increase.[21]

Based on the first diagnosis, the problem of knowledge deficit about hypertension has been resolved based on the goals and criteria for the results of the goals after 4 visits, it is hoped that Mrs. W and her family will show increased knowledge about hypertension with the outcome criteria: The client's ability to explain the meaning of hypertension, mention the signs and symptoms of hypertension , the client can explain the further consequences of hypertension, and the client can explain how to prevent further consequences of hypertension. Increased verbalization of interest in learning by reading the leaflets that have been given. The client's behavior shows according to the recommendation, namely by avoiding foods that contain salt and fat. Supporting factors: Mrs. W and family are very cooperative, the curiosity of family and clients is very high by being able to carry out what has been taught and follow the author's advice. In accordance with Friedman's concept the family is now able to carry out the first family task, namely in recognizing hypertension in this case it is achieved because the first time the first family visit has not been achieved.[13]

Based on the second diagnosis, namely the problem of acute pain has been resolved based on the goals and criteria for the outcome of the goal after 4 visits, it is expected that the pain will decrease with the results of the pain scale 1 and controlled, successfully using methods of reducing pain with relaxation techniques, regularly taking medications that have been prescribed by doctors, vital signs within normal limits. blood pressure: 130/90mmhg, pulse: 90x/minute, RR: 17x/minute, S: 36,5°c. Supporting factors: Mrs. W and her family are very cooperative. For health services, such as clinics and community health centers are available.

Based on the third diagnosis, namely the problem of sleep pattern disorders, the problem has been resolved based on the goals and criteria for the results after 4 visits, it is expected that the sleep pattern disorder will decrease with the following criteria: Mrs. W can sleep well, complaints of difficulty sleeping. W is reduced, Mrs. W's sleep pattern is more regular, creates a comfortable and peaceful environment, practices deep breathing techniques before going to bed, blood pressure: 130/90mmhg, pulse: 90x/minute, RR: 17x/minute, S: 36.5°C. Supporting factors: Mrs. W and family are very cooperative. To create a comfortable and calm environment, the family always tries not to do activities that trigger noise during sleep breaks.

CONCUSION

The application of family nursing care for 4 visits can increase patient knowledge about hypertension, reduce acute pain with relaxation techniques, overcome sleep patterns by doing breathing techniques before going to bed and reduce blood pressure from 140/95mmhg to 130/90mmhg, so that it can be concluded Family nursing care is effective in lowering blood pressure.

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CONFLICTOFINTEREST

The authors declare that they have no conflict interests.

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