

## IMPLEMENTATION OF SELF-CARE MANAGEMENT EDUCATION BASED ON OREM MODEL THEORY WITH HYPERTENSION IN KITANO VILLAGE, EAST MARTAPURA

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### ABSTRACT

**Background:** Hypertension is a problem often occurring in society, usually called the silent killer disease. Low knowledge and awareness of hypertension sufferers will interfere with fulfilling their self-care needs (Self-care); it is following Dorothea Orem's theory. **Objective:** To determine the results of the Implementation of Selfcare Management Based on the Orem Theory Model in Hypertension Patients in Sungai Kitano Village, East Martapura. **Method:** This research uses a descriptive case study design on Mrs. D with Hypertension. Data collection uses family assessment sheets through interviews, observations, and physical examinations. The Implementation took the form of health education accompanied by the provision of boiled Moringa leaf tea for 7 days. Blood pressure was measured before and after being given boiled Moringa leaf tea once a day for 7 consecutive days. **Results** Hypertension is included in the category of diseases that can cause sudden death. So, it is vital to provide interventions in self-care management education based on the Orem model and Moringa leaf tea therapy. Giving Moringa leaf tea therapy can reduce blood pressure in hypertensive patients because it contains antioxidants and flavinoids that can regulate lipogenesis in the liver. **Conclusion:** The intervention of providing health education regarding Dorothea Orem's theory and boiling Moringa leaf tea for 7 days was effective in reducing respondents' blood pressure

**Keyword:** Hypertension, Moringa Leaf Tea, Dorothea Orem Theory

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### INTRODUCTION

"In community health issues, people certainly have health problems, one of which is hypertension. Hypertension is when systolic blood pressure is 140 mmHg or higher and diastolic blood pressure is 90 mmHg or higher. In the general public, it is known as high blood pressure, but sometimes this disease is not known by previous sufferers. The sufferer checks their blood pressure. Hypertension is a silent killer because, in most cases, it does not show any symptoms (Widya Husada., 2015). Hypertension is one of the main cardiovascular risk factors which is the leading cause of death in the world (Jabani et al., 2021).

Based on WHO data in 2022, around 1.28 billion adults globally, or 25% of the adult population, suffer from hypertension, with 10.2

million deaths due to complications of hypertension (WHO, 2023). In Indonesia, the prevalence of hypertension reached 34.11% in 2022, with an estimated 63.3 million cases and 427,218 deaths (Ministry of Health of the Republic of Indonesia, 2019; Kartika et al., 2021). In 2023, South Kalimantan had the highest figure, namely 44.1%. In addition, based on the diagnosis of doctors in the population aged  $\geq 18$  years according to provinces in Indonesia in 2018, South Kalimantan also had a higher prevalence of hypertension problems than the average prevalence in Indonesia (8.4%) (Ministry of Health, 2019). Data from the South Kalimantan Provincial Health Office in 2021 showed that hypertension was ranked first out of the 10 most NCDs in Banjar Regency. In 2021, the

number of hypertension sufferers in South Kalimantan was 1,073,723 people (South Kalimantan Provincial Health Office, 2021). This is in line with data on the 10 most common diseases from the UPT Martapura Timur Health Center in the April 2024 period, which stated that the highest number of cases inpatient visit data from all villages in the UPT Martapura Timur Health Center area was hypertension with 158 patients in April (Martapura Timur Health Center).

Based on an interview with the Sungai Kitano Village Midwife, it was explained that posbindu and posyandu activities are routinely carried out every month, sometimes with assistance from the health centre. However, there are still many residents who rarely check their health. This reflects the low public awareness of preventing and controlling hypertension. This problem is exacerbated by the lack of correct information about the disease, so more intensive health education is needed, while health education is one of the effective ways to obtain information and knowledge about health (Andriyani et al., 2021).

From several research results, other ways besides pharmacological techniques have been found to overcome hypertension in the form of an approach with Orem's theory with a nursing concept that aims to improve the ability of a person or family to care for themselves, where later health education will be carried out regarding hypertension. In addition, Karlina (2022) also applied Orem's theory in her research on hypertension patients, and the result was the Dorothea E. Orem self-care management application that improved self-management and controlled blood pressure. Orem's theory is relatively easy to apply and positively impacts the management of chronic diseases (Chloranyta 2020).

Efforts to overcome hypertension non-pharmacologically can be through health education and boiled Moringa leaf tea. Health education is one nursing intervention that aims to improve patient abilities (Luluk Mamluatul Ulumy., 2023). Low knowledge and awareness of hypertension sufferers will interfere with the fulfilment of their self-care needs (Self-care). Self-care is the patient's self-care ability, which refers to Orem's self-care theory. According to Dorothea Orem, self-care seeks to develop other people's skills or abilities to be used appropriately to maintain optimal function (Luluk Mamluatul Ulumy., 2023). Self-management (self-care management) is an effort by patients to participate

in treatment plans actively, make different lifestyle choices, such as eating habits, exercise choices, and living conditions, and monitor their symptoms (McCartney & McManus, 2016). Lifestyle changes such as physical activity, reducing salt intake, and adhering to hypertension medication effectively lower blood pressure and complications (Chamberlain, 2019).

Moringa Oleifera leaf decoction lowers blood pressure because it contains flavonoid antioxidants that can regulate lipogenesis in the liver. In addition, this plant also contains 220 mg/dl of Vitamin C, four times more than other plants. Moringa leaves are also a source of various nutrients and can potentially be a probiotic drink for health and as a fortifier to enrich the nutritional value of food (Syarifah, Tezan, and Muflihani 2015).

Based on the results of the interview from the Wetland Health Nursing (KKLB) study, the managed client who is in RT 3 Sungai Kitano Village, East Martapura, who works as a housewife, the patient said that she likes salty foods such as salted fish, fermented fish, and drinks such as coffee which she consumes twice a day. The client also said that this had become a part of Kitano Village, East Martapura's culture because it is a staple daily food. However, the client is not aware that this can trigger a recurrence of hypertension. The client said that after consuming these foods, there are usually complaints of dizziness, neck pain, and blurred vision. The client said that she did not take antihypertensive drugs, and usually, the client let these symptoms appear. The results of the patient's physical assessment showed a BP of 178/103 mmHg, which is considered severe hypertension. Even though Mrs. D is a patient who rarely takes medication, several triggering factors cause blood pressure to be still high and irregular. So, the researcher chose to provide interventions through health education and by giving Moringa leaf tea to treat hypertension.

## METHOD

This research is a case study with a family nursing approach. The study was conducted by interviewing and observing Mrs. D's blood pressure with hypertension before (pretest) and after (posttest). The intervention was given, and the examination was conducted every day

after the intervention. The intervention given was in the form of health education about self-care management according to Dhorotea Orem's theory and the provision of boiled moringa leaf tea, carried out for 7 consecutive days, the moringa leaves used were 1-2 tablespoons of moringa leaves (or 1 handful of moringa leaves), which were boiled with 500ml of water, and additional honey (optional). The respondents in this study were Mrs. D's family, who live in Sungai Kitano Village, East Martapura, South Kalimantan. The instruments used during the survey were daily observation sheets, Standard Operating Procedures (SOP) for bay leaf compresses (*Syzygium polyanthum*), and Extension Event Units (SAP).

## RESULTS AND DISCUSSION

### 1. Analysis of Nursing Problems with Concepts Related to Wetland Health Nursing

Tropical wetland diseases are closely related to the climate that occurs in tropical areas. South Kalimantan has a high humidity of around 74-91%. Some cities/areas in South Kalimantan are swampy, with rivers and lakes, and there is increasing humidity outside and inside the house (Syarifah, Tezan, and Muflihani 2015). Wetland areas have unique ecosystem characteristics, including natural and human resources. In addition, the potential and health problems are also different from other areas (Adawiyah, R. 2023). This is reflected in the research location, where the community is less exposed to health education and has a poor lifestyle. This is a source of hypertension in the area. Research shows that hypertensive patients who have inadequate living habits and lack health knowledge will have higher blood pressure, both systolic and diastolic blood pressure (Adawiyah, R. 2023). Hypertension is a non-communicable disease with a high incidence in Indonesia. Continuity of independent care is essential for hypertensive patients so that blood pressure can be controlled and complications from this silent-killer disease can be prevented. This study aims to analyze hypertensive patients' self-management and blood pressure control in wetland areas (Adawiyah, R. 2023).

Sungai Kitano Village is one of the villages in the East Martapura District, South Kalimantan Province, with an area of 1150 ha and consists of 3 RTs. The population is 1,125 people, with 375

families based on gender, composed of 557 men and 548 women. This village is a wetland area because it primarily has rivers and swamps. Based on the results of interviews with several residents, the most jobs in the town are farmers and fish pond irrigation. For the harvest, residents usually make food for everyday use, and for fish catch, it is made into side dishes and sold. Because the selling price of fish is low, people make the fish they catch into wadi fish or fish that is fermented with a lot of salt for 3 days and can last for 6 months to increase the selling price. In addition to being sold, a wadi or salted fish is food for residents when holding events involving many people, such as weddings or commemorating big days.

The results of the patient's physical assessment showed a BP of 178/103 mmHg, which is considered severe hypertension. Even though Mrs. D is a patient who rarely takes medication, several triggering factors cause blood pressure to remain high and irregular.

### 2. Identifying nursing care assessment for Mrs. D with hypertension

Based on the results of the assessment that has been conducted with Mrs. D (64 years old), it was found that Mrs. D has a health problem, namely hypertension. The results of the physical examination of Mrs. D obtained data at the age of 64 years. The results of the physical examination obtained the patient's level of consciousness *compos mentis* E4V5M6, BP: 178/103 mmHg, Pulse: 95 x / minute, Respiration 19 x / minute, Temperature 36.9 °C. BB: 55 kg, TB: 155 cm. The following will explain the case analysis based on several factors that can affect hypertension. From the assessment results of Mrs. D, it was found that Mrs. D likes to consume salted fish (fish fermented using salt). Then, most of the events in Sungai Kitano village provide food with coconut milk, karing fish, pakasam wadi fish, and fatty dishes. It can also be seen that most of the livelihoods of the Sungai Kitano community are farmers and maintain their catch in fish cages so that fish production is abundant and is consumed by the community continuously.

According to (Salman, Sari, and Libri, 2020) in consuming fish, the people of South Kalimantan also have a typical and very popular cuisine, namely iwak karing (salted fish), iwak wadi and pakasam (fresh fish fermented using salt), these

culinary are usually consumed every day by people from when they were small so that the daily sodium intake is relatively high. Based on nutritional recommendations from Health Canada, our bodies only need 115 milligrams of sodium per day to live healthily. For comparison, 1 teaspoon of salt contains 2,000 milligrams of sodium. WHO (World Health Organization) recommends limiting sodium consumption to 2,400mg or about 1 teaspoon of salt daily (Ismah, Susanti, and Wasiyem, 2021). Excessive sodium consumption causes the sodium composition in the extracellular fluid to increase. To return to normal, intracellular fluid must be drawn out to increase the volume of extracellular fluid. The increase in extracellular fluid causes an increase in blood volume, which impacts the onset of hypertension (Atun, Siswati, and Kurdanti, 2019). Sodium is a micronutrient needed in the metabolic process in tiny amounts. Sodium in the body causes the body to retain water at levels exceeding the body's normal limits to increase blood volume and cause blood pressure to increase (Fitri, M and H, 2022). Sodium is associated with hypertension because high sodium consumption can reduce the diameter of the arteries. Hence, the heart has to pump harder to push the increased blood volume through the increasingly narrow space, which causes blood pressure to increase (Susanti, 2017).

From the study results, Mrs D also likes to eat soupy foods, especially those with coconut milk, before doing activities. The typical cuisine of the people of South Kalimantan mainly uses coconut milk and fatty ingredients such as lontong, ketupat, BOM cooking, buras, habang cooking, and others. People also like these dishes and habitually eat them in the morning (Salman, Sari and Libri, 2020). Based on research by Michael et al., 2014, consuming foods with high-fat content and incredibly saturated fat can increase low-density lipoprotein (LDL) cholesterol. It will accumulate to form plaque in blood vessels called atherosclerosis. This can cover almost all surfaces of blood vessels, causing blood flow to be disrupted, which results in a lack of blood and oxygen so that the organ will send signals to the brain that indicate that it needs more blood, resulting in increased blood pressure. This is supported by research by Salman, Sari, and Libri (2020), which shows that fat consumption is related to the incidence of hypertension. Most respondents in the study who experienced hypertension often consumed foods that contained high fat, such as coconut milk, chicken, beef, and fried foods, and used oil for frying, mainly oil that had been used

more than once. Excessive fat consumption can increase the risk of hypertension because it will increase cholesterol levels in the blood. High cholesterol levels are the leading risk factor for hypertension and heart disease. Excess cholesterol will react with other substances and settle in the arteries, causing plaque or blockages called atherosclerosis. The narrowing of the blood vessels causes the heart to work harder to meet the blood needs of all tissues, which can cause hypertension (Permatasari, Suriani, and Kurniawan, 2022).

From the results of the study, Mrs D said that she routinely consumes coffee every morning before doing daily activities to take care of

### **3. Identifying self-care management knowledge before and after intervention in Mrs. D with hypertension**

From the results of the patient's assessment, it was known that he had hypertension since 5 years ago. Still, there was no significant change in lifestyle that the patient did to support his health, so the hypertension experienced by the patient worsened and was uncontrolled. This was also supported by data from the questionnaire on knowledge about hypertension that was asked of the patient; the results were that the patient could only answer correctly 9 (40.9%) of the 22 questions, which were included in the category of lack of knowledge. Arikunto (2010) stated that the level of knowledge is divided into three levels of categories with presentation figures including Good Knowledge (Subjects obtained a score of (76% - 100%)), Sufficient Knowledge (Subjects obtained a score of (56% - 75%)) and Lack of Knowledge (Subjects obtained a score of  $\leq$  56%).

Based on the results of measuring Mrs D's level of knowledge using pretest and posttest questionnaires with education using leaflets and posters, an increase in client knowledge was obtained, which initially had "low knowledge (40.9%)" increased to "Good knowledge (90.9%)" with an increase of 50%. Based on the analysis of the case above, several factors influence Mrs D's hypertension, namely consumption of foods containing excess sodium, foods containing coconut milk, drinking coffee, rarely consuming fruits and vegetables, and lack of knowledge related to hypertension so that a nursing diagnosis of knowledge deficit related to

lack of exposure to information about hypertension can be raised. Based on Mrs. D's assessment results, Mrs. D's knowledge is lacking. Prevention of hypertension begins with understanding the concept of hypertension and a healthy lifestyle. The relationship between knowledge and hypertension can be said to be an indirect relationship. This is because of the role of knowledge, which raises a person's awareness. Public awareness of hypertension risk factors will make them consciously change their lifestyle (Khasanah et al., 2019). According to Akbar & Tumiwa (2020), good knowledge can affect a person's compliance with a salt diet, implementing a healthy diet, and being able to control blood pressure. During the assessment, it was also found that the client liked salty, fatty foods and rarely consumed fruits and vegetables (Akbar & Tumiwa, 2020). According to research by Setyawati (2019), excessive salt consumption can release excess natriuretic hormones, increasing blood pressure. Experimentally, sodium can stimulate the vasopressor mechanism of the central nervous system (Setyawati, 2019). If the amount of sodium consumed in the body increases, it can increase plasma volume, cardiac output, and blood pressure (Mulyati, 2011). According to research by Suryani, Noviana, and Libri (2020), fruits and vegetables consumed in sufficient portions can be a source of antioxidants for the body. Fruits and vegetables are recommended to be consumed every day because they contain vitamins and minerals that can maintain and regulate growth and contain high fibre. Consumption of high-fibre content can lower a person's blood pressure. In addition, fruits and vegetables contain potassium, which lowers blood pressure. So, if someone rarely consumes fruits and vegetables, it will result in insufficient fibre and potassium intake in the body, which can cause the risk of hypertension (Suryani, Noviana, and Libri, 2020).

#### **4. Identifying Evidence-Based Nursing Educational Interventions for Mrs. D with Hypertension**

Based on the case above, the intervention to improve self-care management knowledge is through education with leaflet media. In education, non-pharmacological management is also included to lower blood sugar levels by giving boiled Moringa leaf tea.

Journal Analysis of *Moringa oleifera* leaf decoction

**Research Design:** This research design is a quasi-experiment with a one-group pretest and posttest design. The study was conducted in June 2024 in the Bengkulu Tengah Health Center area.

**Subjects:** The study was conducted in June 2024 at the Bengkulu Tengah Health Center. The research sample consisted of 15 respondents, and the research instrument used was the respondents' blood pressure measurement sheet.

**Variables:** The Independent Variable is Tomato Juice, and the Dependent Variable is Blood Pressure Decrease

**Intervention:** blood pressure measurement. Then, respondents were given boiled Moringa leaf tea 250 ml of water 1 once a day for 7 consecutive days, after which the respondent's blood pressure was measured again.

**Subjects:** The subjects of this study were two families with health problems of hypertension and diabetes

**Variables:** no inclusion and exclusion criteria

**Intervention:** researchers analyzed data using a nursing process approach starting from the assessment process, diagnosis, intervention planning, Implementation, evaluation, and nursing documentation using Orem.

#### **5. Analysis of the Implementation of self-care management results based on the Orem Theory Model on Mrs. D with hypertension.**

Based on the analysis of the assessment of Mrs D on Sunday, November 30, 2024, her BP was obtained: 178/103 mmHg. According to JNC (Joint National Committee 7), Mrs. D's blood pressure is in the high category, namely stage 2 hypertension. It can be seen that the patient feels dizzy and heavy in the head, and it spreads to the nape, where one of the symptoms of hypertension is dizziness and heaviness in the head and nape. Hypertension can be suffered in a person's body for years, and without realizing it, this disease can damage vital organs such as the heart and brain and can even lead to death. Therefore, hypertension requires immediate treatment and early prevention so that it does not cause complications of other diseases such as stroke. Hypertension is included in the category of diseases that can cause sudden death, where sufferers will not know or realize that they have hypertension if they do not check their blood

pressure. Hypertension becomes very dangerous when sufferers do not control it because if it occurs for a long time, it can cause complications of diseases such as coronary heart disease, stroke, kidney failure, or visual impairment (Ansari, 2020). For this reason, the form of superior intervention offered to help lower blood pressure in Mrs. D is to provide Implementation of self-care Management education based on the Orem model in hypertensive patients given approximately 10-15 minutes a day for 7 days (Akfini Husnul, Desy and Nina, 2019). The selection of Moringa leaf tea therapy as an intervention given to patients cannot be separated from various studies that have proven that providing Moringa leaf tea therapy can affect lowering blood pressure in hypertensive patients. This is in accordance with the research of Nia, Fatsiwi, and Andri (2024), which states that this plant lowers blood pressure because it contains antioxidants and types of flavonoids that can regulate lipogenesis in the liver. In addition, this plant also contains 220 mg/dl of Vitamin C, four times more than other plants. Moringa leaves are also a source of various nutrients and have the potential as a probiotic drink for health and as a fortifier to enrich the nutritional value of food.

Based on the results of Table 4.2, the researcher stated that education on self-care management carried out on clients during 7 days of visits with a 15-minute educational intervention on Mrs. D was effective in lowering blood pressure with an average result of the client's systolic blood pressure of 161 mmHg and diastolic blood pressure of 102 mmHg before the intervention was carried out, after being given therapy, the average result of the client's systolic blood pressure was 153 mmHg and diastolic blood pressure was 100 mmHg.

Based on the graph results, the decrease in systolic blood pressure before the intervention for 7 days was 178 mmHg to 146 mmHg, and the reduction of systolic blood pressure was 32 mmHg. Then, diastolic blood pressure fluctuated but decreased from 103 mmHg to 101 mmHg.

After administering moringa leaf tea therapy to patients, blood pressure observations were conducted before and after treatment for 7 days of intervention. Changes in blood pressure were seen from administration on the first day to administration on the 7th day, namely 174 mmHg to 140 mmHg, a decrease in systolic blood pressure of 34 mmHg. Then, diastolic blood pressure fluctuated but decreased from 91 mmHg to 100 mmHg. It can

be concluded that implementing self-care management education accompanied by moringa leaf tea therapy effectively reduces blood pressure in hypertensive patients.

### **Limitations**

The researcher realizes that there are limitations to the Implementation of the study. The limitation of this study is that the researcher cannot control the patient's lifestyle, which causes some patient actions that can cause their blood pressure to rise or be standard, such as taking medication, consuming foods that trigger hypertension, and the patient's activities and rest.

### **Research ethics**

The ethics of this research are based on Dharma (2011), who put forward ethical principles in the form of Respecting human dignity and honour, respecting the privacy and confidentiality of respondents, respecting justice and inclusiveness, and taking into account the benefits and losses incurred.

### **Thanks To**

The assessment results with Mrs. D with a diagnosis of Hypertension in Keliling Benteng Ulu Village, carried out on Saturday, November 30, 2024, obtained BP: 178/103 mmHg. Mrs D said her blood pressure had been high since 5 years ago. Mrs. D said that she liked to eat fish and food with coconut milk and drank coffee every morning before starting her activities. Mrs. D realized that she did not know the cause of hypertension and avoided things that triggered hypertension. The Nursing Diagnosis obtained by Mrs D is a knowledge deficit related to a lack of exposure to information about hypertension and ineffective peripheral tissue perfusion related to increased blood pressure. The Implementation of Nursing given to Mrs. D is the provision of health education accompanied by Moringa leaf tea therapy for approximately 10 minutes every day for 7 days. The evaluation results during the intervention, from the provision of health education and accompanied by Moringa leaf tea therapy for 7 days, showed that Mrs. D's blood pressure was obtained. D from the first day of intervention, namely BP: 178/103 mmHg, and on the seventh day after intervention, namely BP: 146/101 mmHg.

There was an average decrease of 10 mmHg daily after being given moringa leaf tea therapy.

Advice for Patients and Families: it is hoped that patients can routinely do moringa leaf tea therapy at a consistent time and reduce unhealthy lifestyles to prevent complications from hypertension. The family can support and motivate patients in overcoming the hypertension faced by patients. Family support is needed in the Implementation of complementary therapy that will be carried out independently by patients. It is hoped that health services will optimize health promotion, especially for hypertension, health maintenance, and programs to reduce the incidence of hypertension. It can also promote health by promoting the importance of controlling blood pressure with complementary moringa leaf tea therapy. It is hoped that educational institutions can redevelop the provision of moringa leaf tea therapy to control blood pressure and overcome hypertension. Suggestions for further research regarding Moringa leaf tea therapy include conducting research consistently for 7 days so that the results of the blood pressure examination obtained can be believed to be the result of giving Moringa leaf tea therapy.

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