

# Philosophy Of Science Base Theory Orem Self Care Of Stroke Patients

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## Abstract:

(1) Background: High blood pressure is one of the symptoms of stroke, the Self Care Deficit theory by Dorothea Orem focuses on a person's ability to care for himself independently so that the ability to maintain his health and well-being is achieved. There are currently 600 million hypertensive patients worldwide, of which 3 million die every year. Uncontrolled high blood pressure can lead to a 7-fold increase in the chances of stroke. This condition can be minimized in patients through several innovative interventions, one of which is foot massage. This study aims to determine the effectiveness of stretching and foot massage with lavender oil in stabilizing high blood pressure in stroke patients.

(2) Methods: The method used in this research is descriptive. The subjects of this case study were selected according to the inclusion and exclusion criteria of the journal Evidence-Based. Topics included intervention patients and control patients. Foot massage therapy with lavender oil is done two times a day for 10-15 minutes using the effleurage technique after showering in the morning and evening. Stretching is done two times a day every 10-15 minutes.

(3) Results: The analysis showed a change in blood pressure after the application of stretching and foot massage with lavender oil. The initial examination showed that the blood pressure of 170/100 mmHg decreased to 140/90 mmHg and the pain scale decreased from 4 to 0.

**Keywords:** Stretching; Foot Massage; Lavender Oil; High blood pressure; Stoke, Orem

## 1. Introduction

High blood pressure is one of the symptoms of a stroke. A stroke is when the brain experiences insufficient or stopped blood supply, which causes nerve cells to die and eventually damages brain tissue. The stroke can be triggered by various factors, including high blood pressure (Irwan, 2022).

WHO and the International Society of Hypertension (ISH) currently have 600 million hypertensive patients worldwide, of which 3 million die every year. WHO estimates that 7 out of 10 patients do not receive adequate treatment, and NCDs will cause 73% of deaths and 60% of morbidity globally by 2020 (World Health Organization, 2020). The 2018 Rikesdas show that the prevalence of hypertension in Indonesia is 33.7% in rural communities, almost the same as in urban areas at 34.4%. In 2018, the majority in East Kalimantan was around 39.30%, especially in Balikpapan, which was about 37.16% (Rikesdas, 2020).

The effects of high blood pressure are a warning to patients, as several studies report that uncontrolled high blood pressure can lead to a 7-fold increase in the chances of stroke, a 6-fold increase in the events of congestive heart failure, and a 3-fold increase in the cases of a heart attack (Harahap et al., 2022).

This condition can be minimized in hypertensive patients through several innovative interventions, one of which is foot massage. Foot massage applies pressure to the limbs, especially the skin, muscles, and blood vessels, using specific techniques or methods. This method provides taste, increases circulation, reduces anxiety, and lowers blood pressure. The oil or lotion used usually contains several benefits depending on one's needs, and among the many oils in this innovative intervention, the focus is more on lavender oil.

This Self Care Deficit theory reveals the client's inability, in this case, the elderly, to take care of themselves. In instances of dependence or incapacity or limitation in performing effective self-care, nursing care will be provided. In this theory, Orem revealed that five methods could be used to help self-care, namely: (1) Actions to or do for others, (2) Provide guidance and direction, (3) Provide physical and psychological support, (4) Provide and maintain an environment that supports personal development, (5) Education (Yip, 2021).

From the results of a journal study conducted by (Ashar 2018), it can be concluded that the effect of lowering blood pressure is better in the rose aromatherapy intervention group (*Rosa Centifolia*) and the lavender aromatherapy intervention group (*Lavendula Angustifolia*). And lavender (*Lavendula Angustifolia*) aromatherapy has a higher blood pressure lowering and a more significant effect. Blood pressure. Lowers blood pressure more effectively. Aromatherapy mainly contains linalool and linalool acetate. The content is about 30-60% of the total weight of essential oils, of which linalool is the main active ingredient, which has a relaxing effect and lowers blood pressure.

The content of lavender oil or essential oil is bright yellow, with a lavender odor, the specific gravity of 0.876-0.892, and refractive index of 1.458-1.464. Lavender essential oil contains linalyl acetate (40.76%), linalool (24.60%), cis-beta baseline (4.85%), -caryophyllene (4.40%), lavender acetate (3.83%), trans-basilene (3.64%), terpinene-4-ol (3.57%), 1.8 cineole (0.71), lavender (0.71%) and camphor (0.30%) (Lansida, 2017).

In nursing, Orem's Theory of Self-Care is widely used to provide care as well as guide practice and build knowledge of self-care through research. Orem describes self-care as an ongoing action required and performed by adults to maintain life, health and well-being (Khatiban et al., 2018). So it is hoped that it can be applied to post-stroke patients in this nursing home.

Based on the analysis of the situation at the Bhakti Abadi Nursing Home in Balikpapan, there are 20 beds for 15 elderly people. There are 3 elderly with total care needs, 3 elderly with partial care care, and 9 elderly with minimal care. 4 out of 15 seniors have a stroke, either the first or the second, 2 of them have hypertension. This study aims to determine the effectiveness of stretching and foot massage with lavender oil in stabilizing high blood pressure in stroke patients.

## 2. Materials and Methods

The method used in this research is descriptive. A descriptive approach to explaining the nursing process, focusing on a critical issue in nursing, high blood pressure in stroke patients. The subjects of this case study were two stroke patients selected according to the inclusion and exclusion criteria from the journal Evidence-Based Nursing. The inclusion criteria for this case study were post-stroke

patients with a history of hypertension. The exclusion criteria were the presence of instability in reducing hypertension.

The case study was conducted at the Bhakti Abadi Nursing Home in Balikpapan from June 1 to June 3, 2022. The subjects included intervention patients and control patients. Intervention patients received innovative intervention treatment, lavender oil foot massage, and physical exercise fulfillment, while control patients did not receive treatment. Foot massage therapy with lavender oil is done two times a day for 10-15 minutes using the effleurage technique after showering in the morning and evening. Physical exercise is done twice daily every 10-15 minutes to get the expected results.

### 3. Results

The innovative intervention was implemented from June 1 to June 3, 2022. Researchers conducted a creative intervention in the form of "massage therapy" in interventional patients as a therapy to fulfill activity needs and control to stabilize blood pressure. Researchers conducted an innovative intervention in the form of foot massage using lavender oil on intervention patients to control and stabilize blood pressure, following the theory of self-care independently, namely self-care from Orem.

**Table 1.** Evaluation Results of Foot Massage Innovation Intervention with Lavender Oil

Date	Patient Intervention		Control Patient	
	Before	After	Before	After
June 1, 2022	<ul style="list-style-type: none"> <li>- Pain scale 4</li> <li>- Continuous Pain</li> <li>- Pain like spinning</li> <li>- On examination of vital signs, the results are obtained</li> <li>-TD: 170/100mmHg,</li> <li>- Pulse: 81x/minute,</li> <li>- RR: 21x/minute,</li> <li>- S: 36.7°C.</li> </ul>	<ul style="list-style-type: none"> <li>- Pain is still on a four scale</li> <li>- Pain is still continuous</li> <li>- Pain is still spinning</li> <li>-On examination of vital signs, results are obtained</li> <li>-TD: 170/100mmHg,</li> <li>- Pulse: 80x/minute,</li> <li>- RR: 20x/minute,</li> <li>- S: 36.3°C.</li> </ul>	<ul style="list-style-type: none"> <li>- Pain scale 4 - Continuous pain, Pain like spinning</li> <li>- On examination of vital signs, the result is BP: 160/100mmHg, pulse: 81x/minute, RR: 21x/minute, S: 36.0°C.</li> </ul>	<ul style="list-style-type: none"> <li>- Pain scale 4 - Continuous pain, Pain like spinning</li> <li>- On examination of vital signs, the result is BP: 160/100mmHg, pulse: 81x/minute, RR: 21x/minute, S: 36.0°C.</li> </ul>

June 2, 2022	<ul style="list-style-type: none"> <li>- Pain scale 4</li> <li>- Continuous Pain</li> <li>- Pain like spinning</li> <li>- On examination of vital signs, the results are obtained</li> <li>-TD: 170/100mmHg,</li> <li>- Pulse: 81x/minute,</li> <li>- RR: 21x/minute,</li> <li>- S: 36.7°C.</li> </ul>	<ul style="list-style-type: none"> <li>- Pain has scaled 2</li> <li>- Continuous Pain is quite reduced</li> <li>- Pain like spinning is quite reduced</li> <li>- on tv inspection results get</li> <li>-TD: 160/100mmHg,</li> <li>- Pulse: 79x/minute,</li> <li>- RR: 20x/minute,</li> <li>- S: 36.5°C.</li> </ul>	<ul style="list-style-type: none"> <li>- Pain scale 4 - Continuous pain, Pain like spinning</li> <li>- On examination of vital signs, the result is BP: 160/100mmHg, pulse: 81x/minute, RR: 21x/minute, S: 36.0°C.</li> </ul>	<ul style="list-style-type: none"> <li>- Pain scale 4 - Continuous pain, Pain like spinning</li> <li>- On examination of vital signs, blood pressure: 160/100mmHg, pulse: 80x/minute, RR: 19x/minute, S: 36.2°C.</li> </ul>
June 3, 2022	<ul style="list-style-type: none"> <li>- Pain has scaled 2</li> <li>- Continuous Pain is quite reduced</li> <li>- Pain like spinning is quite reduced</li> <li>- On examination of vital signs, the results are obtained</li> <li>-TD: 160/100mmHg,</li> <li>- Pulse: 79x/minute,</li> <li>- RR: 20x/minute,</li> <li>- S: 36.5°C.</li> </ul>	<ul style="list-style-type: none"> <li>- Pain has been scaled 0</li> <li>- Continuous pain decreases</li> <li>- Pain like spinning is reduced</li> <li>- On examination of vital signs, the results are obtained</li> <li>-TD: 150/90mmHg,</li> <li>- Pulse: 97x/minute,</li> <li>- RR: 21x/minute,</li> <li>- S: 36.1°C.</li> </ul>	<ul style="list-style-type: none"> <li>- Pain scale 4 - Continuous pain, Pain like spinning</li> <li>- On examination of vital signs, the result is BP: 160/100mmHg, pulse: 81x/minute, RR: 21x/minute, S: 36.0°C.</li> </ul>	<ul style="list-style-type: none"> <li>- Pain is still on a scale of 3</li> <li>- Continuous Pain, Pain like spinning</li> <li>- On examination of vital signs, blood pressure: 150/100mmHg, pulse: 80 x/minute, RR: 22x/minute, S: 36.4°C.</li> </ul>

Based on the analysis of the application of the innovation intervention for three days which was obtained after the application of the innovation intervention of stretching and foot massage using lavender oil in the intervention patients, it was found that the results of a significant decrease in blood pressure from the initial blood pressure of 170/100mmhg after the application of the intervention to 150/90mmhg, with several accompanying complaints such as dizziness, blurred eyes, difficulty focusing, irregular heartbeat, pale skin, all complaints improved after the implementation of the 3rd day with the application of the innovation intervention that had been given. The innovative intervention of stretching and foot massage using lavender oil in interventional patients resulted in a significant decrease in blood pressure from the initial blood pressure of 170/100mmhg after the application of the intervention to 150/90mmhg, with some accompanying complaints such as dizziness, blurred vision, or difficult to focus, irregular heartbeat, pale skin, all complaints improved

after the 3rd day of implementation with the application of the innovation intervention that had been given.

**Table 2.** Comparison of the results of the innovation intervention in managed patients with the fulfillment of the need for stretching and physical exercise

Date	Patient Intervention		Control Patient	
	Before	After	Before	After
June 1, 2022	-TD: 170/100mmHg, -Nadi: 81x/minute, -RR:21x/minute, - S: 36,7°C.	-TD: 170/100mmHg, -Nadi:81x/minute, -RR:21x/minute, - S: 36,7°C.	On examination of vital signs, the result was BP: 160/100mmHg, pulse: 81x/minute, RR: 21x/minute, S: 36.0°C.	On examination of vital signs, the result was BP: 160/100mmHg, pulse: 81x/minute, RR: 21x/minute, S: 36.0°C.
June 2, 2022	-TD: 170/100mmHg, - Nadi: 81x/minute, - RR: 21x/minute, - S: 36,7°C.	-TD: 160/100mmHg, -Nadi: 79x/minute, - RR: 20x/minute, - S: 36,5°C.	On examination of vital signs, the results were BP: 160/100mmHg, pulse: 81x/minute, RR: 21x/minute, S: 36.0°C.	On examination of vital signs, the result is BP: 160/100mmHg, pulse: 80x/minute, RR: 19x/minute, S: 36.2°C.
June 3, 2022	-TD: 160/100mmHg, - Nadi: 79x/minute, - RR: 20x/minute, - S: 36,5°C.	TD: 150/90mmHg, -Nadi: 97x/minute, - RR: 21x/minute, - S: 36,1°C.	On examination of vital signs, the result was BP: 160/100mmHg, pulse: 81x/minute, RR: 21x/minute, S: 36.0°C.	On examination of vital signs, the results were BP: 150/100mmHg, pulse: 97 x/minute, RR: 20x/minute, S: 36.1°C.

From the results of the application of the usual intervention in control patients, the results were very slight changes from the effects of blood pressure 160/100mmhg after the standard intervention got results that were not much different from before, namely 155/100mmhg, with some accompanying

complaints that did not change. Repeated for 30 seconds for the next six weeks, this exercise elicited physical responses, including an increase in VO<sub>2</sub>max, endothelial function, cardiorespiratory function, metabolism, and lipoproteins. According to research (Bahmanbeglou et al., 2019), High-Intensity Interval Training (HIIT) is practical. This type of exercise improves cardiorespiratory fitness and prevents and improves lifestyle-related diseases such as coronary heart disease, arterial disease, obesity, and high blood pressure.

From the results of research conducted in Hong Kong on asthmatic patients, the results obtained from applying this self-care theory where individuals can follow directions from nurses for first aid in self-care even though they cannot wholly escape from the nurses (Knekta et al., 2019). The research results in Iran show that applying self-care based on Orem's theory in hypertensive patients leads to an excellent effect (Khademian et al., 2020).

#### **4. Discussion**

Orem put forward three self-care categories: universal, developmental, and health deviations. Self-care is applied to all human beings and is associated with life processes and general well-being (Orem, 1991, p. 125). Orem focuses nursing on identifying self-care needs, designing methods and actions to meet needs, and "the totality of needs for self-care measures" (Orem, 1985, p. 88). Self-care givers, whether self or others, are called "self-care agents." It is an entity influenced by several factors and genetic, cultural, and experiential backgrounds, and in terms of adequacy. The latter can be evaluated by considering self-care abilities and needs (Orem, 1987).

Self-care needs are needed following the problem conditions often found in patients in nursing homes—for example, problems with stroke, malnutrition, self-care deficit, and Pain. Nurses need to find the source of the problem and try to solve the cause to overcome the problem (Younas & Quennell, 2019).

Stroke is a condition that occurs when the blood supply to the brain is interrupted or reduced due to a blockage (ischemic stroke) or rupture of a blood vessel (hemorrhagic stroke). Without blood, the brain cannot get oxygen and nutrients, so cells in some brain regions die. This condition causes the body parts controlled by the damaged area of the brain not to function correctly. Most stroke patients experience high blood pressure for the first time. High blood pressure can damage arteries throughout the body, creating conditions that make them more likely to burst or become blocked. Weakened arteries in the brain caused by high blood pressure can put a person at a higher risk of stroke. This is why controlling high blood pressure is so important to reduce the chances of stroke (Harahap et al., 2022).

Acute Pain is a top priority, judging from the results of the assessment of subjective and objective data obtained, personal data of intervention patients who say frequent dizziness, back pain, throbbing Pain, confusion, tiredness, pale skin, excessive sweating, strong but irregular pulse, anxiety, The client also reports blurry eyes, grade 4 pain based on the client's objective data, persistent Pain, spinning Pain, blood pressure when checking vital signs: 170/100 mmHg, pulse: 81x/minute, RR: 21x/min, S: 36.7° C.

In the evaluation of the control patients, subjective data were obtained, with the client reporting back and neck pain, dizziness, and the patient reporting weakness in the left hand and leg. The client said he did a weak activity. The client also said that the eyes were blurry, and the objective data obtained were BP: 160/90 mmHg.

This can be adapted from research (Afrianti, 2021) entitled "Foot Reflexology Aromatherapy in Lowering Blood Pressure in Hypertensive Elderly." The results showed that the application of aromatherapy foot reflexology showed a change/decrease in blood pressure in both subjects, from 158/90mmHg to 140/88mmHg in Subject I and from 140/88mmHg in Subject II. 140/100mmHg reduced to 138/100mmHg.

Backed by research (Resmiari et al., 2021) entitled "Therapeutic Foot Massage Procedure Using Lavender Essential Oil for Hypertensive Patients," the results obtained with foot massage with essential oils also support this claim. Lavender 15-20 minutes 2 x 1 day. Even though the nursing problem is the same, the result is different. After three days of intervention, Mr. D went from 150/90mmHg to 120/80mmHg, pain scale from 4 to 0. Whereas in Mr. S, from 170/100mmHg to 150/90mmHg, the pain rating is 5 to 1. Mr. D experienced a more optimal decrease in blood pressure than Mr. S due to conventional treatment.

## **5. Conclusions**

Orem views humans in two categories: those who need self-care (patients in nursing homes) and agents who provide self-care. Nursing agents are not only limited to nurses but also families or other people who can provide health care for the elderly. Healthy conditions can be achieved if the needs of self-care for the elderly are met. To fulfill this, a strategy is needed considering the unique situation of the elderly, the many requirements for self-care, and the lack of a support system for the elderly, especially those in nursing homes. Murray's research (1996, in Stone, 2002) shows that most elderly cannot protect themselves. They are also frustrated by adverse reactions from other people. This reflects the need for nurses who provide holistic care and are sensitive to their needs in a competent manner.

Clinically this study showed promising results in intervention patients; innovative interventions for acute pain treatment problems caused by hypertension can be controlled with innovative intervention therapy stretching and foot massage with lavender oil; given three days of treatment, the results are as expected, pressure test results decreased blood pressure and exercise needs were met in hypertensive patients. This shows the effectiveness of the innovative intervention of stretching and foot massage with lavender oil in stabilizing blood pressure in stroke patients.

As with other problems, the ideal intervention is primary prevention, in this case, the elderly. A long-term goal should still be directed toward providing the elderly with tools to become self-motivated and self-sufficient in maintaining their health and protection. Prevention is the most efficient way to help the elderly, and the focus should be on correcting the cause. Community nurses have a significant role in the elderly, especially nursing homes. Through partnership mobilization, community planning, and political activities, community nurses help the elderly and their families in nursing homes achieve

self-sufficiency. Collaborative efforts between multidisciplinary health teams and communities assist the elderly in developing population-specific interventions (Tok Yildiz & Kaşıkçı, 2020).

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