



## Warm Ginger Compress for Hypertension Headache : A Case Study

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### ABSTRACTS

**Background :** Hypertension is an increase in blood pressure in the arteries, where systolic blood pressure is above 140 mmHg and diastolic blood pressure is above 90 mmHg. In general, when someone suffers from hypertension, signs and symptoms will appear, one of which is head or neck pain. Head or neck pain can interfere with daily activities. One non-pharmacological action to reduce or treat headaches or neck pain is to apply a warm ginger compress. **Objective:** This study aims to find out the effect of warm compress is the provision of a feeling of warmth in a certain area, where the warm compress given is able to dilate the blood vessels and the oxygen supply becomes smooth and relieves tension, as a result the pain can be reduced. **Methods:** Data obtained from the results of the study, namely Mrs. M with acute pain problems. **Results:** After nursing care for 3 days, the scale before administering the warm ginger compress was moderate pain level (scale 5). And after giving a warm ginger compress there was mild pain (scale 2). **Conclusion:** So it can be concluded that warm ginger compresses are effective in reducing pain in hypertensive patients.

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## 1. INTRODUCTION

Elderly is the final stage of human life. Humans at this stage are characterized by a decrease in the body's ability to work due to changes or decreased function of the body's organs (Kurnianto, 2015). Elderly people are often associated with those who are no longer productive, and are even assumed to be a burden on those of productive age. This happens because in the elderly physiologically there is a decline in body functions which makes the elderly vulnerable to health problems (Kurnianto, 2015). Health problems that often arise due to the aging process in the cardiovascular system include: hypertension, coronary heart disease, angina pectoris. (Budi S Pikir, 2015).

High blood pressure or hypertension is a major health problem in every country because it can cause deadly heart disease and brain stroke. Hypertension is considered a serious health problem because we often don't realize it has real symptoms. This disease can continue to get worse without realizing it until it reaches a level that threatens the patient's life (Wade, 2016). Hypertension is defined as a systolic blood pressure of more than 140 mmHg and a diastolic blood pressure of more than 90 mmHg. Hypertension can occur due to instability in the arterial walls, there are several causes of hypertension such as; smoking, heredity (genetics), obesity, excessive salt consumption, alcohol, stress, and many others (Fitriya, 2018).

According to the World Health Organization (WHO), 2015 showed that one billion people in the world suffer from hypertension, 2/3 of whom are in developing countries with low to moderate income. The incidence of hypertension is expected to continue to increase and it is predicted that by 2025 as many as 29% or billion people worldwide will suffer from hypertension, while in Indonesia the incidence of hypertension is quite high. The latest statistical data states that 24.7% of the Southeast Asian population and 23.3% of the Indonesian population aged 18 and over experienced hypertension in 2014 (WHO, 2015).

Hypertension is defined as a persistent or intermittent increase in systolic arterial blood pressure equal to or above 140 mmHg or diastolic pressure equal to or above 90 mmHg. Riskesdas in 2018 explained that the majority of hypertension sufferers in Indonesia are over 65 years old. (Riskesdas, 2018).

The national incidence of hypertension based on Basic Health Research (Riskesdas) in 2013 was 25.8%, the highest was in the Bangka Belitung Islands at 30.9%, while the lowest was in Papua at 16.8%. Based on this data, of the 25.8% of people who have hypertension, only 1/3 are diagnosed, the remaining 2/3 are not diagnosed. Data shows that only 0.7% of people diagnosed with high blood pressure take hypertension medication (Ministry of Health of the Republic of Indonesia, 2017).

According to data from the 2017 Central Java Province Health Profile, the number of people at risk whose blood pressure was measured was 1,158,371 people or 12.98%. The highest percentage of the population who had their blood pressure checked was in Magelang Regency at 58.15% or 207,892 people, whereas the lowest percentage of blood pressure measurements was in Kendal Regency at 2.72% or 2,729 people. (Central Java Health Office, 2017). The number of hypertension sufferers in the Sukoharjo Regency area is 29,658 people, while in the Grogol sub-district it is 3,896 people. (Sukoharjo Health Office, 2017).

Pharmacological efforts that can be given for hypertension are using drugs to lower blood pressure, while non-pharmacological efforts to treat hypertension are by giving warm ginger compresses to reduce the level of hypertension headaches. Based on research conducted by Syiddatul B (2017) entitled The Effect of Giving Warm Ginger Compresses on the Hypertension Headache Scale in the Elderly at Karang Werdha Rambutan Elderly Posyandu, Burneh Bangkalan Village, it is stated that there is an effect of giving warm ginger compresses on reducing the scale of hypertension headaches in the elderly with a value  $p=0.000$  ( $p<0.05$ ).

Based on an assessment on July 5 2021, data was obtained from Mrs. M, 60 years old. Subjective data: Mrs. M said that every day he takes 1 amlodipine 5 mg every night, Mrs. M said his blood pressure often rose. Mrs. M also complained that for the past 2 days she had difficulty sleeping, she often woke up at night, Mrs. M also complained of headaches and a stiff neck because her increased blood pressure felt like she was being pressed by a heavy weight on a pain scale of 5 and felt every  $\pm 30$  minutes.

## 2. METHODS

This study utilized a case report approach to provide warm ginger compresses to reduce the level of hypertension headaches.

### **Patient Information**

Mrs. M, 60 years old, female, Islamic religion, widow marital status, Sundanese ethnicity, S1 PGSD education. Mrs. M always exercises and sunbathes, Mrs. M said that before going to bed, read a prayer and when sleeping he prefers to lie on his right side. The health status experienced by Mrs. M is Mrs. M has a history of gastritis and hypertension since 2015 or six years ago. Mrs. M also said that his mother also had a history of hypertension. The current health status of Mrs. M said he had a history of hypertension and checked his blood pressure once every month. Mrs. M also said that every day he takes 1 amlodipine 5mg every night and his blood pressure often rises.

### **Clinical Findings**

Mrs. M complained that for the past 2 days he had difficulty sleeping, often woke up at night and complained of headaches because his blood pressure was rising, which felt like he was being pressed by a heavy weight, the pain scale was 5 and felt every  $\pm$  30 minutes, Mrs. M also said that he still consumes foods containing coconut milk and salty foods. Mrs. M seemed to be holding his neck, Mrs. M looked grimacing, blood pressure results were 140/90 mmHg, pulse: 90 x/minute, RR: 20 x/minute, temperature: 36.7 oC Mrs. M looked worried.

Mrs. M has a good appetite. Mrs. M said he eats 3 times a day with vegetable rice and side dishes, the rice consumed by Mrs. M is white rice and side dishes such as chicken, fish. Mrs. M also said that he still consumes snacks and salty foods. Mrs. M said that he had been waking up at night for 2 days because he felt pain in the nape of his neck and then if he woke up it was difficult to go back to sleep. Mrs. M can wake up 2-3 times, Mrs. M usually goes to bed at 21:00 WIB and wakes up at 05:00. If the total number of hours the client sleeps a night, it is known that the result is 4-5 hours per night. Mrs. M rarely takes naps because he is worried he won't be able to sleep at night. Assessment of functional status is assessed using the Kats Index.

Kats index value for Mrs. M is A because the level of independence in daily activities such as continents, moving, going to the toilet, dressing and bathing can be done independently. From the results of cognitive and affective assessments using the Shot Portable Mental Questionnaire (SPMQ) format. Mrs. M is still intact/good, Mrs. M can answer 10 out of 10 questions. From the results of the MMSE study on Mrs. M is a value of 25, meaning there is no cognitive impairment in Mrs. M

### **Diagnostic Assessment**

Based on nursing analysis there are two diagnosis : ineffective health maintenance, and the acute pain.

### **Therapeutic Intervention**

The intervention is applying a warm ginger water compress by placing a damp and warm washcloth on the neck area of the elderly. This can vasodilate the blood vessels so that blood flow becomes smooth, reducing stiffness and reducing pain. The ginger warm compress reduces pain through the transmission stage, where at this stage the warm sensation in the ginger warm compress inhibits inflammatory mediators, thereby increasing the pain threshold resulting in a decrease in pain levels in the elderly.

## **3. RESULTS AND DISCUSSION**

Acute pain is a nursing diagnosis that is carried out by innovative nursing interventions by administering warm ginger compresses because compresses are one of the non-pharmacological measures to treat and eliminate pain or reduce pain, where warm compresses can provide a warm feeling in certain areas, because the warm feeling given is able to dilate. blood vessels and oxygen supply become smooth and relieve tension, as a result pain can be reduced. Warm ginger compresses can relieve or reduce tension, so that the pain experienced by the elderly can be reduced.

This research is in line with research conducted by Syiddatul B (2017) entitled The Effect of Giving Warm Ginger Compresses on the Hypertension Headache Scale in the Elderly at Karang Werdha Rambutan Elderly Posyandu, Burneh Bangkalan Village, stating that there is an effect of giving warm ginger compresses on the hypertension headache scale in elderly with a value of  $p=0.000$  ( $P < \alpha 0.05$ ).

Another research was also conducted by Siti Fadilah (2019) with the title The Effect of Warm Compresses on Neck Pain in Patients with Essential Hypertension in the Depok I Community Health Center Area, Sleman Yogyakarta, stating that there was a significant influence on the scale of neck pain before and after being given a warm compress with the values obtained  $p=0.003$  ( $P < \alpha 0.05$ ). And this is also in line with research conducted by Putra Agina W, et al (2018) with the title Case Study: The Effectiveness of Warm Compresses in Reducing the Pain Scale of Hypertension Patients, stating that there are warm compresses

that are effective in reducing pain in hypertension. From the implementation given to Mrs. M was obtained after applying a warm ginger compress for less than 20 minutes for 3 days.

Compress is one of the non-pharmacological measures to relieve pain or reduce pain, namely using a warm compress, where a warm compress can provide a warm feeling in certain areas, because the warm feeling given is able to dilate blood vessels and the oxygen supply becomes smooth and relieves tension, resulting in pain. may decrease (Rohimah, 2015). The choice of warm and cold wet therapy varies according to the patient's condition, for example warm wet relieves morning stiffness, but cold compresses reduce acute pain and inflamed joints. The most effective compression location is near the actual location of the pain, and takes 5 to 15 minutes to apply a cold compress (Rohimah, 2015)

Warm ginger compresses can relieve or reduce tension, so that the pain experienced by the elderly can be reduced. From the research results, there was a decrease in the pain scale in the elderly after being given a warm ginger compress. This has been proven that there is an effect after being given a warm ginger compress in reducing the pain scale of the elderly, and the response of the elderly said they felt relaxed when given a warm ginger compress.

There are quite a lot of ingredients in ginger, including the ginger rhizome containing gingerol, shangaol, zingerone, oleoresin and essential oils (Hermani, et al., 2015). The ingredients in ginger such as gingerol, shongaol and zingerone provide pharmacological and physiological effects such as antioxidant, anti-inflammatory, analgesic, anti-carcinogenic, non-toxic and non-mutagenic even at high concentrations. Gingerol and the warm feeling caused by ginger makes blood vessels open (vasodilation) and improves circulation so that the supply of food and oxygen becomes better so that joint pain will be reduced and also inhibits COX (Cyclo-oxygenase), where COX (Cyclo-oxygenase) plays a role in the synthesis of pain mediators, one of which is prostaglandin.

The general mechanism is to block the formation of prostaglandins by inhibiting the COX (Cyclo-oxygenase) enzyme in the injured area thereby reducing the formation of pain mediators. In traditional medicine, ginger is used to treat coughs, diarrhea, joint pain, arthritis and high blood pressure (Hermani, et al., 2015).

Changes were found, namely on the first day pain management was carried out, namely by identifying the pain scale and teaching deep breathing relaxation techniques with BP 140/90 mmHg and pain scale 4. On the second day it was carried out. warm ginger compress on Mrs. M with BP 130/90 mmHg and pain scale 3. On the 3rd day, a warm ginger

compress was applied to Mrs. M, BP 120/90 mmHg and pain scale 2. The acute pain problem was resolved because the objectives had been met, namely the pain scale was reduced, vital signs were within normal limits and the client reported that the pain was reduced and the client said he felt more comfortable so the intervention was stopped.

#### 4. CONCLUSION

Giving warm ginger compresses which were carried out as intervention for 3x 30 minutes for 3 days had the effect of reducing the pain scale (scale 2), vital signs were within normal limits to BP: 120/90 mmHg and the client said he felt more comfortable and comfortable.

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