

IMPLEMENTATION OF CUCUMBER JUICE COMPLEMENTARY THERAPY IN NURSING CARE FOR HYPERTENSION PATIENTS TO LOWER BLOOD PRESSURE AT BAKTI TIMAH HOSPITAL PANGKALPINANG IN 2026

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Abstract

Hypertension is a non-communicable disease that is the main cause of various cardiovascular complications, so it requires comprehensive management, including through complementary therapy. This study aims to analyze the application of cucumber juice complementary therapy in nursing care for hypertensive patients to help lower blood pressure at Bakti Timah Hospital, Pangkalpinang. The study used a descriptive method with a case study approach. The study population consisted of 10 hypertensive patients undergoing treatment in the Marwah Room, using a total sampling technique, then 1–2 patients were selected who met the inclusion criteria as case study subjects. The research instruments included a nursing assessment format, observation sheets, evaluation sheets, nursing care documentation, medical records, and supporting examination results. Data were collected through interviews, observations, physical examinations, and documentation studies, then analyzed descriptively by comparing conditions before and after the intervention. The results showed a decrease in systolic and diastolic blood pressure, a reduction in headache complaints, and an increase in patient knowledge regarding hypertension management after administration of cucumber juice as a complementary therapy. It was concluded that cucumber juice complementary therapy has the potential to be a safe, easy-to-implement non-pharmacological nursing intervention that supports blood pressure control in hypertensive patients.

Keywords: Nursing Care, Evidence-Based Nursing, Hypertension, Cucumber Juice, Complementary Therapy

INTRODUCTION

Hypertension is a non-communicable disease that is a major global health problem due to its risk factor for various cardiovascular diseases, stroke, kidney failure, and premature death. It is known as a silent killer because it often does not cause symptoms until complications develop. According to the World Health Organization (2023), the number of people with hypertension continues to increase, including in developing countries like Indonesia (World Health Organization, 2023; Ministry of Health of the Republic of Indonesia, 2024).

In Indonesia, hypertension remains a leading cause of morbidity and mortality due to non-communicable diseases. Data from the Indonesian Health Survey (HIS) shows that hypertension has a high prevalence and is influenced by lifestyle factors such as excessive salt consumption, lack of physical activity, and low fruit and vegetable consumption. At Bakti Timah Hospital in Pangkalpinang, hypertension is also one of the most common diagnoses among hospitalized patients, requiring optimal management (Ministry of Health of the Republic of Indonesia, 2024; Pangkalpinang City Health Office, 2024).

Hypertension management involves pharmacological and non-pharmacological therapies. Complementary therapy is one of the emerging non-pharmacological therapies, considered safe, easy to implement, and effective in supporting blood pressure control. However, its utilization in nursing practice is still suboptimal, necessitating interventions based on evidence-based nursing (Kusuma et al., 2021).

Cucumber juice (*Cucumis sativus*) is a complementary therapy with the potential to lower blood pressure due to its high potassium, magnesium, antioxidants, and water content. Several studies have shown that consuming cucumber juice can lower both systolic and diastolic blood pressure in hypertensive patients, making it a potential adjunct therapy to antihypertensive medications.

Given the high incidence of hypertension and the limited application of complementary therapies in inpatient settings, this study aims to analyze the application of cucumber juice in nursing care for hypertensive patients at Bakti Timah Hospital, Pangkalpinang. This research is expected to strengthen the application of Evidence-Based Nursing and provide an alternative, easy, safe, and economical non-pharmacological nursing intervention to help control blood pressure.

METHOD

This study used a descriptive method with a case study approach to comprehensively describe the application of cucumber juice complementary therapy in nursing care for hypertensive patients in the Marwah Ward of Bakti Timah Hospital, Pangkalpinang. The case study approach was chosen because it can provide an in-depth description of the nursing care process, starting from assessment, establishing a diagnosis, formulating interventions, implementing, and evaluating the results of nursing actions. This approach also allows researchers to identify the effectiveness of complementary therapy as part of Evidence-Based Nursing practice in hypertensive patients.

The study population consisted of all 10 hypertensive patients undergoing treatment in the Marwah Room of Bakti Timah Hospital, Pangkalpinang, during the study period. Total sampling was used to select the entire population, thus making them the subjects of the study. One to two patients were then selected who met the inclusion criteria: patients diagnosed with hypertension, aged over 30 years, willing to be respondents by signing an informed consent, and able to communicate well or accompanied by family members. Patients with emergency conditions, experiencing severe complications, or unwilling to participate in the entire research series were excluded from the case study.

Data collection was conducted using several instruments, namely nursing assessment forms, patient development observation sheets, nursing evaluation sheets, nursing care documentation, medical records, and supporting examination results. Data were obtained through interviews with patients and their families, clinical observations, physical examinations using inspection, palpation, percussion, and auscultation techniques, and documentation studies. The focus of the study was the application of cucumber juice as a complementary therapy to lower blood pressure in hypertensive patients.

The research procedure began with an explanation of the research objectives and procedures to respondents, followed by obtaining written informed consent. A comprehensive nursing assessment, initial blood pressure measurements, and nursing diagnoses were then conducted. Respondents were then provided with standard nursing care combined with complementary therapy in the form of cucumber juice as an adjunct to pharmacological treatment. Blood pressure, clinical condition, and patient response were monitored throughout the intervention. The data obtained were analyzed descriptively by comparing changes in blood pressure before and after therapy. The results were then presented in narrative form and interpreted based on theory, hypertension management guidelines, and previous research on the effectiveness of cucumber juice as a complementary therapy for hypertensive patients.

RESULTS AND DISCUSSION

Case Study Results

1. General description

This research was conducted at Bakti Timah Hospital in Pangkalpinang, located at Jalan Bukit Baru No. 1, Taman Bunga, Gerunggang District, Pangkalpinang City, Bangka Belitung Islands. It is located in the center of the Bangka Belitung Islands province. Access to Bakti Timah Hospital in Pangkalpinang is relatively easy, as it is located in the center of Pangkalpinang city, with good road access and vehicles available.

The author conducted a six-week case study that met the inclusion criteria as a case study client. The research location for data collection was the Marwah Room at Bakti Timah Hospital, Pangkalpinang.

2. Nursing Assessment

Based on the results of the study that the author has conducted on 10 respondents diagnosed with hypertension, the main complaint is that the patient said he had a headache and did not know the cause, PQRST: P (Provocation): the patient said he had pain in the head, the pain worsened during activity. Q (Quality): the patient said the pain was like being stabbed, R (Region): the patient said the pain in the head spread to the nape of the neck, S (Scale): the scale felt was in the moderate range 4-7, T (Timing): the patient said the pain was felt to come and go. The results of the vital signs examination show blood pressure results of 150-200 mmHg for systolic, and 85-105 mmHg for diastolic pressure, Pulse: 80-118 x / minute, breathing: 20x / minute, Temperature: 36.5 -37.5 C. Hypertension is a problem that needs to be watched out for, because there are no specific signs and symptoms of this disease and some people still feel healthy to carry out activities as usual.

Various other factors were also considered in the scientific paper. Habits of high-fat foods and caffeinated beverages determined changes in average blood pressure. Respondents with these habits had higher blood pressure before receiving cucumber juice, with a smaller decrease after receiving cucumber juice. Resting habits also showed differences in blood pressure reduction. Hypertensive patients with regular rest habits showed a greater decrease than those with sleep deprivation/irregular rest. Smoking habits also determined changes in blood pressure following cucumber juice consumption.

3. Nursing diagnosis

Based on the assessment data, the nurse identified the patient's health problems and formulated a nursing diagnosis. The author concluded that acute pain was related to physiological injury agents, and knowledge deficits were related to lack of exposure to appropriate information, and data obtained through subjective and objective data.

4. Nursing Interventions

Nursing planning carried out by the author refers to the theory carried out for 3 days in the inpatient room of RSBT Pangkalpinang. Interventions for acute pain related to physiological injury agents are pain management. The goal after nursing care is that pain can be resolved with the following outcome criteria: moderate pain control, decreased pain, decreased anxiety, decreased ability to use pharmacological therapy, Observation: identify the location, characteristics, duration, frequency, quality, intensity of pain, monitor the success of complementary therapy that has been given. Therapeutic: provide non-pharmacological herbs to reduce pain (cucumber juice). Education: explain the causes and triggers of pain, explain about non-pharmacological herbs to reduce pain.

The second intervention for knowledge deficits is related to lack of exposure to information. It is expected that knowledge will increase with the following outcome criteria: readiness and ability to receive information, provide health education materials and media, provide opportunities to ask questions, explain risk factors that can affect health, teach clean and healthy living behavior, teach strategies that can be used to improve clean and healthy living behavior.

5. Implementation of nursing

Nursing implementation was carried out based on the interventions that had been made to achieve the expected results. Nursing actions were carried out for 3 days. The nursing implementation was diagnosed as acute pain related to physiological injury agents, and knowledge deficit related to lack of exposure to information. Nursing actions carried out included consuming cucumber juice once a day and providing gradual information about hypertension.

Nursing implementation is the stage in the nursing process where the nurse carries out pre-planned interventions to help the patient achieve desired health goals. This stage involves implementing nursing actions appropriate to the patient's needs based on the assessment and planning results.

6. Nursing Evaluation

Nursing is one of the important stages in the nursing process that aims to assess the achievement of the results of the interventions that have been implemented. At this stage the author evaluates the implementation of the nursing interventions that have been given. Two nursing diagnoses are acute pain and knowledge deficit. The evaluation results indicate that the problems can be resolved. The patient has begun to understand about the disease and what foods should not be eaten and regularly drinks cucumber juice once a day in the afternoon as recommended and blood pressure has decreased, so the intervention is continued.

Based on the evaluation results, it can be concluded that the nursing care provided to the 10 respondents had a largely positive impact. In terms of blood pressure control, patients have begun to change their eating behavior and regularly consume cucumber juice. Cucumber juice is more effective in lowering both systolic and diastolic blood pressure. Hypertension sufferers are encouraged to consume cucumber juice as an alternative treatment to lower high blood pressure. This indicates that educational interventions and herbal therapy are starting to be effective, even though blood pressure remains high and continues to be used alongside pharmacological therapy.

Case study discussion

1. Analysis of complementary therapy of cucumber juice in lowering blood pressure

In general, people with hypertension do not have complaints. Complaints that may arise include: headache, anxiety, palpitations, dizziness, stiff neck, blurred vision, chest pain, fatigue, weakness and impotence. Headaches are generally in severe hypertension. (Mahfuzah et al., 2023), there are similar symptoms found in the case above, namely pain in the back of the neck accompanied by dizziness and fatigue, when blood pressure measurements were found, blood pressure was above 140/90 mmHg. In a case study with a medical diagnosis of hypertension, the author took 2 nursing diagnoses: acute pain and ineffective family health management. Non-pharmacological therapeutics include administering cucumber juice, health education in the form of administering cucumber juice, accompanied by a demonstration in making juice according to appropriate recommendations. It is hoped that the client can take independent action with complementary therapy in the form of consuming cucumber juice to lower blood pressure. Instruments in making cucumber juice, water, knife, blender in the form of 100ml.

To enable the family to recognize Mr. Z's health problems, the author provides nursing actions in the form of family support to carry out care by providing education. The education provided is the provision of health education regarding hypertension (causes, signs, symptoms, complications and how to prevent it). Based on Mahruri Saputra's research (2024) entitled *The Effect of Cucumber Juice Therapy on Blood Pressure Reduction in Patients in Internal Disease Policy* There is a decrease in systolic blood pressure of 7-10 mmHg and diastolic 6-10 mmHg. In the second nursing diagnosis, namely ineffective family health management, the author provides health education and discussion. The goal is to build trust and comfort in telling stories between the author and the client and their family.

The author also gave the client time to express his feelings and needs that he needed until it ended up discussing hypertension. The author gave the family time to ask questions. The goal is for the family to remember & understand better. In the evaluation of the diagnosis of acute pain, it was stated that pain and dizziness were no longer felt on a pain scale of 0 (NRS 0-10) and blood pressure had decreased. In the diagnosis of ineffective family health management, the client's family was able to mention the needs and facilities available to support the family's health condition, was able to mention the causes of hypertension, the family was able to mention the signs and symptoms of hypertension, the family was also able to mention ways to prevent hypertension by controlling regular medication, reducing high-salt foods, the family was able to mention this information after health education was carried out. The problem of ineffective family health management was resolved and stopped.

Differences in Average Systolic and Diastolic Blood Pressure Before and After Cucumber Juice Administration in the Intervention Group and the Control Group Hypertension is a disease that can cause serious risks for sufferers, even the risk of death. Uncontrolled hypertension will cause more fatal complications such as damage to the brain, heart, kidneys, vision, permanent disability and sudden death. Hypertension is characterized by blood pressure (BP) results showing a systolic pressure of more than 140 mmHg and a diastolic pressure of more than 90 mmHg. The primary medical condition called hypertension also significantly increases the risk of heart disease, brain disease, kidney disease and other diseases (Faridah, et al., 2022).

Cucumber, or *Cucumis sativus* linn, is a natural remedy that can lower blood pressure. Cucumbers contain up to 95% water and are high in potassium, which is believed to help remove salt from the body, thus reducing hypertension.

CONCLUSION

The application of cucumber juice as a complementary therapy in nursing care for hypertensive patients at Bakti Timah Hospital in Pangkalpinang showed positive results in helping to lower blood pressure and improve the patient's clinical condition. After a three-day intervention combined with pharmacological therapy, most patients experienced a decrease in systolic and diastolic blood pressure, reduced headache complaints, and increased knowledge about hypertension management through health education. These findings indicate that cucumber juice has the potential to be a complementary therapy that is easy to implement, safe, and economical, and supports the implementation of Evidence-Based Nursing in nursing services. In addition to providing benefits for blood pressure control, this intervention also encourages changes in patient behavior in adopting a healthy lifestyle and increases family involvement in the care process.

This study has limitations due to its case study design with a limited number of subjects, no control group, and relatively short observation period. Therefore, the results cannot be generalized to a wider population. Furthermore, other factors such as diet, physical activity, medication adherence, quality of rest,

and smoking habits have the potential to influence changes in blood pressure during the study. Therefore, further research is recommended to use an experimental or quasi-experimental design with a larger sample size, a longer intervention period, and the inclusion of a control group to more robustly demonstrate the effectiveness of cucumber juice therapy. Practically, the results of this study can serve as a reference for nurses in developing evidence-based non-pharmacological nursing interventions as complementary therapies to improve blood pressure control and quality of life for hypertensive patients.

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