



APPLICATION OF CONTRAST BATH THERAPY AND 30-DEGREE FOOT ELEVATION TO REDUCE FOOT EDEMA IN PATIENTS WITH CONGESTIVE HEART FAILURE

Melsa Putri , Idramsya Idramsya* , Husni Husni 

Case Study

Ministry of Health Polytechnic of Health Bengkulu, Indonesia

ABSTRACT

Introduction: One of the most common cardiovascular diseases with a high morbidity and mortality rate is congestive heart failure (CHF). Patients with CHF often experience leg edema, which can cause discomfort and increase the risk of skin health issues. Therefore, nursing interventions are necessary to address the problem of leg edema in CHF patients. **Methods:** This study aims to provide a framework for the application of contrast bath therapy and 30-degree foot elevation procedures. This qualitative study employs a descriptive case study design with a therapeutic communication process approach, involving one participant with leg edema caused by CHF. **Results:** The implementation of the procedure begins with the pre-interaction phase, which involves assessing the patient's safety and protection needs and formulating a diagnosis regarding the risk of skin integrity damage. During the orientation phase, nurses provide therapeutic greetings, introductions, and obtain informed consent. In the interaction phase, the patient's feet are soaked in warm water at 39°C for 3 minutes, followed by a soak in cold water at 16°C for 1 minute, then another soak in warm water at 39°C for 3 minutes. Afterward, the feet are dried with a towel, and the patient's feet are positioned at a 30-degree elevation. The termination phase involves evaluating the patient's complaints and measuring the degree of edema. **Conclusions:** The contrast bath procedure and the 30-degree foot elevation, when combined with the therapeutic communication stages, can be effectively applied to treat edema in patients with congestive heart failure.

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*Correspondence:
Idramsya idramsya

E-mail:
idramsya@poltekkesbengkulu.ac.id

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INTRODUCTION

Heart failure, also known as congestive heart failure, is a highly prevalent cardiovascular condition with significant morbidity and mortality rates (Murda et al., 2023). Congestive heart failure is characterized by a complex array of symptoms due to issues with the heart's pumping mechanism (Prahasti & Fauzi, 2021). The damage is both structural and functional, and the heart muscle is unable to pump blood adequately to meet the body's metabolic needs (Anggraini & Rizki Amelia, 2021). This failure represents the final stage of the condition (Nurhayati et al., 2020). The Global Health Data Exchange (GHDx) reported that global cases of congestive heart failure (CHF) reached 64.34 million, with a death rate of 9.91 million (Ilppi & Sanchis-Gomar, 2020).

Patients with heart failure are becoming increasingly common each year (Roger, 2021), resulting in a significant financial burden (Savarese & Lund, 2017). According to predictions by the World Health Organization (WHO), cases of congestive

heart failure (CHF) will increase by 46% by 2030 (World Health Organization, 2013). Reports indicate that there are approximately 1,017,290 cases of congestive heart failure in Brazil, accounting for 1.5% of all cases. In Indonesia, patients with congestive heart failure rank second only to stroke (Kemenkes RI, 2019). In Bengkulu Province, 17,419 individuals were reported to have heart disease in 2018, according to the province's Basic Health Research on the Prevalence of Heart Disease (Kemenkes RI, 2019).

The causes of congestive heart failure can be categorized into two groups: internal factors, which include age and a history of hypertension (high blood pressure), and circulatory system changes, which involve thicker heart walls, plaque-induced arterial constriction, and shrinkage of the heart chambers. Additionally, exogenous factors related to lifestyle, including nutrition, contribute to the condition (Murda et al., 2023). Patients with heart failure often face issues such as a high risk of decreased cardiac output, reduced gas exchange, inefficient breathing patterns, lowered



levels of consciousness, excessive fluid accumulation, and increased exercise intolerance. Cardiac dysfunction occurs when the heart muscle is unable to optimally pump blood throughout the body, as needed (Rahmawati Ibrahim D Fadli Syamsuddin, 2023). Heart failure symptoms, such as dyspnea (shortness of breath), can interfere with basic human functions and cause discomfort to patients (Kristinawati et al., 2023).

Hypervolemia may occur in individuals with congestive heart failure, leading to ascites, edema, and organ enlargement (Abassi et al 2022; Traves et al., 2013). This happens when the right side of the heart fails to pump the fluid volume correctly and regulate blood flow, resulting in increased venous pressure in the systemic circulation and fluid leakage (Abassi et al., 2022). The severity of edema can lead to chronic swelling, worsened cellular nutrition, loss of collagen in small perivascular skin blood vessels, increased sensitivity to injury, and tissue damage, ultimately compromising the integrity of the skin (Abassi et al 2022; Melo et al., 2004; Traves et al., 2013). If left untreated, edema can cause pain, decreased quality of life, altered posture, reduced mobility, leg impairment, falls, and skin lesions (Greene & Meskell, 2017; Rahnavard et al., 2014). Leg edema can physiologically cause a feeling of heaviness, discomfort, and nighttime cramps (Lent-Schochet & Jialal, 2023).

Non-pharmacological approaches must complement pharmaceutical treatments to minimize edema. Limiting sodium and alcohol intake, engaging in exercise, making lifestyle changes, performing foot massage (Traves et al., 2013), utilizing contrast bath therapy (Anggraini & Rizki Amelia, 2021), and elevating the feet are non-pharmacological strategies that can be applied (Jafar & Budi, 2023). By leveraging gravity, the 30-degree elevated position enhances lymphatic and venous flow from the legs (Prastika et al., 2019). It is believed that elevating the legs decreases venous pressure and increases venous backflow, thereby reducing edema (Purnawan, 2017).

Studies have shown that foot exercises and 30-degree leg elevation can help reduce foot edema in individuals with cardiovascular disease (CKD) (Budiono & Ristanti, 2019; Jafar & Budi, 2023; Prastika et al., 2019). The findings of these studies also highlight mechanisms that reduce edema and improve nervous system regulation. One mechanism involves muscle contraction, which aids in blood vessel regulation, while another mechanism utilizes leg elevation to enhance the regulation of the gravitational system (Budiono & Ristanti, 2019).

Contrast bath therapy is another effective method for reducing edema by alternating between immersing the calves in warm and cold water. The cold water temperature ranges from 10 to 20 °C, and the warm water temperature ranges from 36.6 to 43.3 °C (Anggraini & Rizki Amelia, 2021; Budiono & Ristanti, 2019). By improving peripheral circulation and facilitating the removal of metabolic waste, contrast baths accelerate healing by allowing more oxygen to reach edematous or swollen tissues (Budiono & Ristanti, 2019; Shadgan et al., 2018).

MATERIALS AND METHODS

This qualitative study utilized a descriptive case study design with a therapeutic communication approach. The study was approved for ethical assessment on April 30, 2024, by the Ethics Commission of the Bengkulu Ministry of Health Polytechnic, with reference number KEPK. BKL/207/04/2024. One patient met the inclusion criteria for this case study, which included patients with congestive heart failure (CHF) and degree II leg edema. The patient had to be willing and agreeable to participate in the study, with no contraindications, such as leg wounds.

Exclusion criteria included patients in unstable conditions, such as those experiencing severe dyspnea that would prevent them from receiving therapy, or those whose treatment was discontinued due to death or leaving the hospital. This case study focuses on the common issue of congestive heart failure (CHF), emphasizing the potential for skin integrity issues and addressing safety and protection concerns. The primary nursing interventions were 30-degree foot elevation and contrast bath therapy, with a focus on assessing the extent of foot edema.

The research instrument used to observe and evaluate pitting edema was a standardized format. Other materials and tools included disposable gloves, masks, aprons, basins, small towels, water hydrometers, rulers, timers, measuring tapes, and pillows. A draft operational procedure for contrast bath therapy and 30-degree foot elevation was also included. In addition to secondary data obtained from family records and medical charts, primary data were collected through observations, interviews, and physical examinations. This case study was conducted in an ICCU room in 2024, with three days in June 2024 dedicated to the study, conducted once a day. Information regarding the pre-interaction, orientation, interaction, and termination stages will be presented in narrative and textual forms.

RESULTS

Pre-Interaction Phase of Applying Contrast Bath Therapy and 30-Degree Foot Elevation

The phase began after the nurse obtained the respondent's consent to participate in the pre-interaction phase. The nurse used the prepared instruments to conduct a nursing assessment, formulate a nursing diagnosis, and develop a nursing intervention focused on establishing operational standards for contrast bath therapy procedures and 30-degree leg elevation, which would be implemented during the pre-interaction phase of the procedure. The outcomes of the actions taken during the pre-interaction stage are as follows:

Nursing Assessment

Mrs. T, a 68-year-old Muslim woman residing in Sukaraja, Seluma Regency, was a housewife with a junior high school education. She was of Javanese ethnicity. On June 2, 2024, Mrs. T was transferred from the emergency room to the intensive care unit (ICCU) due to symptoms of dyspnea, heartburn, and a medical history of heart disease.

The following information was gathered during an assessment focused on safety and protection needs, conducted in the ICCU room: The patient reported having dry, scaly skin and swollen feet prior to admission. She indicated a history of diabetes mellitus and heart disease, diagnosed three years earlier. The patient also reported no previous surgeries, no history of smoking, no known allergies, and no alcohol consumption.

Physical examination revealed that the patient's overall condition was weak, with a conscious mental state. Her vital signs included blood pressure of 130/80 mmHg, pulse rate of 76 beats per minute, respiratory rate of 24 breaths per minute, body temperature of 36.7°C, and SPO₂ of 97%. Upon palpation of the feet, the effects of leg edema were noted, with a depression that persisted for 15 seconds after pressing with the index finger. The extremities appeared swollen, consistent with grade II edema.

Electrocardiogram (ECG) findings included HR of 74 bpm, P interval of 119 ms, PR interval of 180 ms, QRS duration of 145 ms, QT/QTc interval of 409/455 ms, and P/QRS/T waves at 8/-39/49. Other notable findings included large P_{tfV1}, complete right bundle branch block, abnormal q wave (V1), suspected left ventricular hypertrophy, and a low T wave in leads I, aVL, V4, and V5.

Nursing Diagnoses

The diagnosis derived from the disturbance of safety and protection needs in the participant is the risk of skin/tissue integrity disorders, associated with risk factors for excess fluid volume. Both subjective and objective data characterize these risk factors. Subjective data include the patient's complaints of swollen legs and dry, scaly foot skin. Objective data, collected during the assessment, revealed leg edema that persisted for 15 seconds, with a slightly deep indentation when pressed with the index finger. The extremities were swollen, consistent with grade II edema.

Nursing Plan

The nurse developed a nursing plan after formulating the nursing diagnosis. The first step was to establish the goals and outcome criteria. The goals and standards for findings were based on peripheral perfusion and the Standard Indonesian Nursing Outcome Standards. The investigator then developed nursing interventions for positioning adjustment, edema education, and the Indonesian Nursing Intervention Standards.

Nursing interventions were developed through collaborative, therapeutic, instructional, and observational activities. Examples of observational activities included monitoring oxygenation levels before and after position changes, assessing patients' and families' abilities to receive and understand information, tracking their comprehension of instructions, creating educational materials and media, and providing opportunities for patients and families to ask questions.

Therapeutic activities included appropriately elevating the affected body part, raising the limb 20° or more above heart level, supporting the edematous area (e.g., using pillows under the arms and legs), selecting the appropriate therapeutic mat or bed, adopting a therapeutic position, adjusting the position to reduce discomfort (e.g., semi-Fowler's position), and avoiding positions that may exacerbate pain.

Educational activities included defining and explaining the causes of heart failure and edema symptoms (such as pitting edema), describing contrast bath therapy as a treatment and prevention method for edema, and providing instructions to patients and their families to ensure they can repeat and apply these points. Nursing interventions for positioning and edema education were based on the Indonesian Nursing Intervention Standard Book (SIKI) to implement contrast bath therapy and 30-degree leg elevation. The following section outlines the procedures for the orientation, interaction,

and termination phases. The nurse also prepared the necessary tools, including disposable gloves, masks, towels, water thermometers, meters, timers, pillows, and rulers.

Orientation Phase of the Application of Contrast Bath Therapy and 30-Degree Foot Elevation

The application of contrast bath therapy and 30-degree leg elevation for Mrs. T was carried out by nurses once a day for two days. Both contrast bath therapy and 30-degree foot elevation were performed as part of the therapeutic communication procedures. These procedures included the orientation, interaction, and termination stages, which were systematically carried out each time a therapeutic action or procedure was performed. An overview of the application of contrast bath therapy and 30-degree foot elevation during the orientation phase is presented in the following results.

Therapeutic greetings at this stage involved the nurse greeting the patient and introducing themselves, including their name, education, institution, and the purpose of the nursing intervention.

"Good morning, Ma'am. Let me introduce myself: I am Melsa Putri, a student at the Bengkulu Ministry of Health Polytechnic."

Evaluation and validation at this stage involved the nurse identifying the participant by asking questions and confirming their current condition.

"You can repeat the patient's name and date of birth" while validating the patient's identity bracelet."

Ma'am, I noticed from the data in the medical record that you have edema or swelling in your legs. Is that correct? Can you tell me more about the complaint?"

Informed consent occurred when the nurse explained the procedure for contrast bath therapy and 30-degree foot elevation, including the purpose, benefits, and duration, while providing an opportunity for questions and asking for the participant's consent.

"In relation to your complaint, I will perform contrast bath therapy and 30-degree leg elevation. This involves soaking your feet in warm water for 3 minutes, followed by soaking in cold water for 1 minute, and then soaking again in warm water for 3 minutes. Afterward, I will elevate your feet on a pillow to form a 30-degree

angle. This series of actions aims to reduce the edema or swelling in your feet and prevent skin damage. The entire procedure will take about 15 minutes. Please let me know if you experience any discomfort during the procedure. Now, shall we begin, Ma'am?"

Interaction Phase of the Application of Contrast Bath Therapy and 30-Degree Foot Elevation

The interaction stage, which involved the implementation of contrast bath therapy and 30-degree foot elevation, took place after the orientation stage. In the first step of this interaction phase, the nurse ensured several preparations, including patient preparation, equipment preparation, environmental setup, and staff readiness.

After all preparations were made, the nurse performed the contrast bath therapy procedure and 30-degree leg elevation according to the prescribed steps. The implementation of the interaction phase procedure for contrast bath therapy and 30-degree foot elevation is described as follows:

The nurse prepared all necessary equipment, such as small towels, basins, disposable gloves, water thermometers, timers, measuring tapes, rulers, and pillows, which would be used during the procedure.

"Excuse me, ma'am, I will bring these instruments closer to make it easier to carry out the therapeutic actions."

In preparing the patient, the nurse ensured the patient was comfortable, safe, and that the area of the foot to be treated was exposed.

"What is a comfortable sitting position for you, Ma'am? May I raise part of your pants to access your foot area?"

Environmental preparation involved the nurse adjusting the lighting to be bright and comfortable, validating the patient's comfort with the room temperature, and ensuring the safety of the bed and the patient's privacy during the therapy.

"May I turn on the additional lights in this room, Ma'am?"

"Are you comfortable with the room temperature?"

"I will close the door now, Ma'am, to maintain your privacy."

The nurse prepared by washing her hands first, wearing disposable gloves and a mask if necessary, and performing a prayer according to his belief.

"Please wait a moment, Ma'am, while I wash my hands and put on a disposable glove." "Okay, Ma'am, I will begin now, Bismillah hirohmanirahim"

The procedure consisted of two stages: first, soaking the feet in warm and cold water, followed by raising the feet on a pillow to form a 30-degree angle, using a measuring device.

"First, before starting the therapy, I will press the bony area on your foot with my index finger, then I will measure the circumference of your foot and the sole using a measuring tape, Ma'am."

"Excuse me, Ma'am, I will help you place your feet in a basin filled with warm water. The water temperature has been measured at 39°C. Now, we will soak your feet for 3 minutes."

"After 3 minutes, may I lift your feet to dry them with a towel? I will then place your feet in cold water, which has been measured at 16°C, for 1 minute. After 1 minute, I will lift your feet again, dry them with a towel, and then soak them for the final time in warm water at 39°C for another 3 minutes, Ma'am. After 3 minutes, we will dry them with a towel."

"Excuse me, Ma'am, I will now help you lie back on the mattress. I will raise your feet using a pillow to form a 30-degree angle, using the measuring device, and leave your feet in that position for 5 minutes, Ma'am."

"Once we finish, I will press the bony area on your foot with my index finger again to assess any change in the depth of edema or swelling. Then, I will measure the circumference and sole of your feet once more using the measuring tape, and finally, I will record the results on the observation sheet, Ma'am."

Termination Phase of the Application of Contrast Bath Therapy and 30-Degree Foot Elevation

The last phase was the termination phase of therapeutic communication. Activities in this phase included evaluating the patient's subjective and objective responses. The nurse agreed on the time for the next meeting and conveyed the only thing that the patient had done after the contrast bath and foot elevation of 30° was performed.

Subjective evaluation occurred when the nurse asked the participant how they felt after undergoing

the contrast bath therapy procedure and 30-degree foot elevation.

"The contrast bath therapy procedure and 30-degree foot elevation have been completed. How do you feel after I performed these actions?"

Objectively, the nurse provided positive feedback and reinforcement regarding the patient's behavior and the results observed after the therapeutic action.

"Ma'am, you seemed comfortable during the therapy, and the edema appears to have reduced. The measurement of the degree of edema has decreased to grade I. Currently, the swelling seems to be diminishing quickly, and there is a slight reduction in the ankle and instep measurements. For the right ankle, the measurement is 20 cm and the instep is 18.9 cm; for the left ankle, the ankle measures 19 cm and the instep measures 20.7 cm."

The upcoming contract allowed the nurse and patient to agree to the following activities:

"Ma'am, tomorrow we will perform this therapy again at 10.00 a.m."

In the follow-up plan, the nurse advised the patient on what to do once they return home:

"If you experience edema or swelling again, you can repeat the contrast bath therapy and 30-degree foot elevation."

DISCUSSION

Treatment effectiveness depends on the ability of patients and healthcare providers to communicate (Suganda et al., 2019). When the use of contrast bath therapy and 30-degree elevation is based on the phases of therapeutic communication, it leads to appropriate results and a clearer understanding of therapeutic communication for the patient.

Overview of Pre-Interaction Application of Contrast Bath Therapy and 30-Degree Foot Elevation

Before taking action, the nurse collected historical data from the patients. Nurses must have accurate data to ensure the actions are appropriate for the patient's condition and indications. This information was gathered by nurses during the pre-intervention phase. Nurses must also develop an understanding

of the applicable operational procedure standards to ensure that they do not deviate from proper procedures (Candra et al., 2023).

The pre-interaction phase began with nurses conducting a nursing assessment focused on safety and protection needs. The patient had congestive heart failure (CHF), which manifests as ventricular dysfunction and decreased cardiac output (Abassi et al., 2022). CHF can activate the neurohormonal system, causing fluid retention, pulmonary edema, dyspnea, and peripheral edema. Edema in CHF also occurs due to an imbalance between hydrostatic and osmotic pressure in the blood vessels (Lent-Schochet & Jialal, 2023).

During this phase, pitting edema scale measurements were taken to assess the degree of edema before and after applying contrast bath therapy and 30-degree foot elevation. Edema is a sign of excess fluid or abnormal fluid accumulation in the interstitial tissue (Abassiet al., 2022; Lent-Schochet & Jialal, 2023). Mrs. T presented with grade II leg edema, with a right leg ankle measurement of 20.2 cm and an instep of 19.4 cm, a left leg ankle measurement of 20.1 cm, and an instep of 22.3 cm. Mrs. T's physical examination revealed that the skin of her feet was dry and scaly, and her toenails appeared thickened.

Edema can be either local or systemic (Trayes et al., 2023). In this case, only local edema was observed in the legs. Local edema is typically caused by venous or lymphatic disorders and sometimes does not respond well to diuretic treatment (Lent-Schochet & Jialal, 2023). Edema is generally painless (Abassi et al., 2022). In Mrs. T's case, no pain was reported, but the skin in the edematous area was dry and scaly.

After obtaining accurate data through the review process, nurses must formulate nursing diagnoses. A nursing diagnosis is the result of an assessment of the patient's response to the health problems they are experiencing (Tonie-Butler & Thayer, 2024). Formulating a nursing diagnosis helps nurses determine the priority of actions.

Based on the assessment results, focusing on protection and safety needs, the nursing problem of the risk of skin/tissue integrity disorders was identified, related to the risk factors for excess fluid volume. Edema is characterized by inflammation and the accumulation of extracellular fluid in the dermis, leading to tissue swelling (Zanoni et al., 2012). Edema increases blood vessel permeability, allowing fluid and plasma proteins to escape into the interstitial tissue, which can cause swelling and further damage to the skin (Melo et al., 2004).

In the critical thinking process, nurses must identify the risks associated with the patient's condition. Skin damage is highly likely due to edema in the patient's feet. Other studies have shown that edema can result in cell and tissue damage, including epidermal hyperplasia and basal membrane disorders, which interfere with the skin's healing process (Chang et al., 2014).

Therefore, the risk of skin integrity disorders associated with excess fluid volume must be prevented. One way to address this is by providing nursing therapy, including contrast baths and 30-degree leg elevation (Budiono & Rastanti, 2019). The goal of nursing therapy is to reduce edema in the patient's legs. Contrast bath therapy uses alternating warm and cold water to bathe or soak specific parts of the body. This nursing therapy can improve blood circulation (Shadgan et al., 2018) and reduce edema in the legs (Anggraini & Rizki Amelia, 2021). Understanding the procedural actions (Candra et al., 2023) and preparing the necessary materials and tools for contrast bath and foot elevation therapy proceed to the orientation phase.

Overview of the Orientation Phase of the Application of Contrast Bath Therapy and 30-Degree Foot Elevation

The on boarding phase is the introduction phase that begins with the first meeting with the client. During the orientation stage, the nurse greets the patient and introduces herself (Christman et al., 2022; Idramsya et al., 2023). Additionally, the nurse conducts evaluation and validation by identifying the patient based on their name and date of birth, and by assessing the patient's complaints. This step aims to validate the accuracy of the data and plans based on the patient's current condition and evaluate the results of the actions taken.

In the orientation phase, nurses can use the AIDET work pattern (acknowledgment, introduction, duration, explanation, and thank you). They greet, identify, and validate the data using documentation and identity bracelets, all while smiling and maintaining eye contact. The nurse addresses the patient by name or mentions something the patient likes. The nurse then introduces herself by name and role, provides an estimate of how long the interaction will take, explains the stages of the procedure, and concludes by thanking the patient (Christman et al., 2022).

During the orientation phase, nurses greeted the patient and their family using their preferred greetings. When introducing herself, the

nurse mentioned both the patient's and family's names. The nurse then identified and validated the patient's identity by matching it with the information on the patient's wristband. The nurse and family agreed on a 15-minute session to identify the participant by asking for their name, age, and complaint. After validation, it was determined that the patient had grade II foot edema. The measurements of the right foot ankle and instep were 20.2 cm and 19.4 cm, respectively, and the left foot ankle and instep measured 20.1 cm and 22.3 cm.

The orientation phase concludes with the explanation of the time contract (Idramsyah et al., 2024). During this phase, the nurse explains the procedure for contrast bath therapy and 30° foot elevation to reduce leg edema. The treatment was scheduled once a day for 2 days. The contrast bath therapy and 30° foot elevation involved two actions: soaking the feet in warm and cold water, followed by elevating the feet using a pillow to form a 30-degree angle. After explaining the therapy, the nurse asked if the participant was willing to participate. Upon obtaining approval and consent, the nurse confirmed the schedule for treatment once a day over two days. Nurses must understand and be able to perform the procedure correctly before administering it to their patients (Candra et al., 2023).

Overview of the Interaction Phase of the Application of Contrast Bath Therapy and 30-Degree Foot Elevation

During the work phase, in addition to carrying out the action procedures, the nurse must actively listen to the patient and ensure that the actions meet the patient's needs (Christman et al., 2022). Nurses use this time to implement targeted interventions, apply therapeutic communication techniques, and respond to feedback (Idramsyah et al., 2024).

In implementing the action procedures, the interaction phase is a crucial stage (Christman et al., 2022). This phase requires more time than the others because the core procedures are carried out in stages (Idramsyah et al., 2024). There are four aspects that nurses must pay attention to at the start of this interaction phase: ensuring the readiness of the equipment, the environment, the patient, and the nurse.

The tools prepared during the pre-interaction phase must be checked again by the nurse at the beginning of the interaction phase. It is important to ensure that the materials and tools required for the procedure are easily accessible and practical to use (Candra et al., 2023). In preparing the environment, nurses ensure that there is sufficient lighting, a

suitable temperature, and a comfortable, safe setting for the patient during the procedure. In preparing the patient, nurses help ensure that the patient feels relaxed and comfortable, in line with the therapeutic actions to be taken (Idramsyah et al., 2024). Nurses must also be prepared and confident in their ability to carry out the procedure. Washing hands, using disposable gloves, and wearing masks may be necessary during these actions. Prayer is a simple but important step for nurses before performing contrast bath therapy and 30-degree leg elevation.

In the interaction phase, the nurse administers contrast bath therapy and 30-degree foot elevation. This process starts with soaking the feet in warm water at a temperature of 39°C, followed by a soak in cold water at a temperature of 16°C, and then soaking again in warm water at 39°C. The patient is positioned in a supine position, and their legs are elevated using a pillow to form a 30-degree angle. This research is supported by several studies that explain how nursing interventions applying contrast bath therapy and 30-degree foot elevation can reduce foot edema (Budiono & Ristanti, 2019). The procedure was carried out systematically and skillfully, with effective therapeutic communication implemented.

Nurses must ensure correct and appropriate implementation of Standard Operating Procedures (SOPs). SOPs provide guidelines that allow nurses to perform actions quickly, systematically, and professionally (Candra et al., 2023). SOPs are designed to make it easier for nurses to work comfortably and safely, not to create unnecessary difficulties for them.

Overview of the Termination Phase of the Application of Contrast Bath Therapy and 30-Degree Foot Elevation

The final stage of therapeutic communication is the termination phase (Christman et al., 2022). The final stage of the nursing process is evaluation. Each intervention is evaluated, and nurses are required to reassess the patient's subjective and objective responses to the nursing therapy that has been provided. They must determine whether the goal has been achieved and whether it is necessary to develop further nursing interventions or collaborative therapies (Tonie-Butler & Thayer, 2024).

Nurses should evaluate the patient's feelings after the contrast bath therapy procedure and 30-degree leg elevation. Next, the nurse and patient arrange the appointment times for the next session. Nurses must also inform the patient and their family of the follow-up activities they need to perform. The

nurse recommended that the patient perform contrast bath therapy and 30-degree foot elevation if swelling or edema recurs at home.

Contrast baths can accelerate the recovery process by increasing peripheral circulation, expelling the remaining metabolism from the body, and dilating blood vessels to allow more oxygen to enter the swollen or edematous tissue (Budiono & Ristanti, 2019; Faqih Fatchur et al., 2020; Jafar & Budi, 2023). The warm and cold water used for soaking facilitates blood circulation in the treated area by causing blood vessels to expand and contract due to the effects of heat and cold (Faqih Fatchur et al., 2020).

The process also involves managing the 30-degree elevation position using gravity to enhance venous and lymphatic flow in the legs (Jafar & Budi, 2023). The elevated leg position, aided by gravity, is believed to reduce edema by increasing venous backflow and lowering venous pressure (Purnawan et al., 2017). The next nursing intervention was the 30-degree leg elevation, which aimed to improve venous and lymphatic flow from the legs. Elevating the legs at a 30° angle can reduce swelling and fluid accumulation in patients with Congestive Heart Failure and edema (Budiono & Ristanti, 2019; Lelapi et al., 2022).

At the end of the meeting, Mrs. T expressed satisfaction with the nurse's care, as the contrast bath therapy and 30-degree foot elevation had helped reduce swelling and edema in her legs. The nurse also educated the patient and her family on how to repeat these actions if swelling or edema recurred.

CONCLUSIONS

The contrast bath procedure and 30-degree leg elevation effectively utilized therapeutic communication stages. Patients feel more relaxed and comfortable with the nurse's communication, which contributes to a reduction in the degree of edema in their legs. The contrast bath procedure and 30-degree foot elevation can be comprehensively applied by nurses to address edema in patients with congestive heart failure.

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AUTHORS' CONTRIBUTIONS

All authors contributed substantially to the design, data collection, analysis, and writing of this manuscript. The MP conceptualised the research, develops the proposal, and conducts initial interviews and coding. ID contributes to developing research proposals, field protocols, data analysis, interpretation of findings, and the preparation of publication manuscripts. HS contributes to data analysis, interpretation of findings, and preparation of publication manuscripts. All authors review and approve the final version of the manuscript.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest related to this article's research, authorship, or publication

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