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Back Massage Relaxation Therapy Intervention and Measurement of Client Fatigue Score in Congested Heart Failure Clients with Activity Intolerance Disorder

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ABSTRACT

Objective: Congestive heart failure is a condition where the heart is unable to pump adequate blood to meet the needs of the network. If the supply in the blood cannot flow to parts of the body, it can cause the body to experience weakness, lethargy, and usually tire easily, so that it will experience problems, namely activity intolerance. One of the non-pharmacological interventions that can be done is relaxation therapy, one of which is back massage therapy, and measuring fatigue scores. This study was conducted to present nursing care to congestive heart failure clients with activity intolerance problems with back massage interventions and to measure client fatigue scores in the Kenanga Room at Banjar City Hospital.

Method: The method in this study is a descriptive case study and a subjective questionnaire that aims to describe the nursing care of congestive heart failure clients with activity intolerance disorders with back massage interventions and measure fatigue scores using FACIT (Functional Assessment of Chronic Illness Therapy) questionnaires for clients in the memory room of RSUD Kota Banjar. The approach used in this case study is the process of nursing care, which includes assessment, intervention, diagnosis, implementation, and evaluation of nursing. Data collection techniques include interviews, observation, physical examination, and documentation studies. Subjects in this study were patients who experienced congestive heart failure with activity intolerance problems.

Result: At the assessment stage, it is known that the client complains that the body is tired easily. The intervention given is energy management according to the SIKI book, and adding back massage therapy and measuring the client's fatigue score are carried out for 3 days. After the intervention was carried out, the client said that he was tired, and the client's fatigue score had increased.

Conclusion: Nursing care for clients who experience congestive heart failure with activity intolerance problems using back massage therapy is effective in overcoming client fatigue.

Keywords: Activity Intolerance, Back Massage, *Congestive Heart Failure*

Introduction

The heart is one of the organs that plays a very important role in the human body , if the heart can no longer function normally to pump blood throughout the body and supply the body 's metabolic needs , it is very dangerous for the body. (Herdiansyah & Wasid, 2022) Heart disease can be caused by changes in a person's lifestyle , increased consumption of calories, fat , salt, and smoking and decreased activity often lead to an increased incidence of heart disease (Hanifah et al., 2021) . One of them is the disease " *Congestive Heart Failure ".*

The mortality rate associated with *Congestive Heart Failure* varies depending on the severity of the condition . The World Health Organization 2021 said that the estimated death of patients with cardiovascular disease in 2019 was 17.9 million, representing 32% of total deaths globally and 38% caused by *Congestive Heart Failure* . Based on the results of the Basic Health Research (Riskesdas) of the Indonesian Ministry of Health in 2018 , the prevalence of *Congestive Heart Failure* in Indonesia reached 1.5% and those diagnosed by doctors were 1.3% male and 1.6% female or an estimated 29,550 people diagnosed with Congestive Heart Failure (Ningrum et al., 2021) .

Congestive Heart Failure is a condition in which abnormal heart function causes failure of the heart to pump blood to meet tissue needs (Pramesti, 2021) . If the supply in the blood and oxygen cannot flow, it can cause a symptom, including the body will experience weakness, lethargy, and usually get tired easily, so you will experience a problem, namely activity intolerance . Activity intolerance is a condition in which a person does not have enough physiological and psychological energy to endure or complete the desired daily activities . Activity intolerance is one of the main problems in patients with *Congestive Heart Failure* , for that severe activity restrictions are very helpful to reduce the burden on the heart and reduce fatigue (Princess, 2019)

Fatigue is the most common symptom in patients *with Congestive Heart Failure* and is a symptom that often appears, but often times less attention and neglect resulted in a decrease in the patient's ability to perform daily activities and improve quality of life (Setianingsih & Hastuti, 2021) . To find out the fatigue score can be measured using a questionnaire, one of which is the FACIT Functional Assessment Of Chronic Illness Therapy questionnaire (Rachmawati et al., 2021) Consists of 13 statements . Fatigue levels were measured on 4 scales, namely 4 = very much, 3 = quite a lot, 2 = moderate, 1 = a little and 0 = not at all. The value range of the FACIT Fatigue Scale questionnaire is between 0-40 where the higher the value, the better the quality of life. Value < 17 = severe, 18-30 moderate and 30-40 mild (Wahyuni & Damanik, 2020) .

Management for patients *with Congestive Heart Failure* can be done by pharmacological and non-pharmacological methods. For non-pharmacological methods, relaxation techniques can be used, one of which is the back massage relaxation technique. Back massage therapy is relatively simple, easy and inexpensive . In its application , it can directly stimulate the parasympathetic receptors in the back area so that it has a relaxing effect. In addition, with relaxation, blood vessels are expected to dilate which has implications for decreasing peripheral resistance which will directly reduce the workload of the heart

(Kurniawan et al., 2021) Reducing the workload of the heart will have a positive impact on patients *with congestive heart failure* by providing an opportunity for the myocardium to relax . In this phase, circulation to the systemic tissues will improve even though the heart has decreased in terms of contractility and cardiac output, improving circulation will overcome the fatigue experienced with a record of activities according to tolerance (Nugraha et al., 2017) .

Objective

Case study It is known that the description of comprehensive nursing care for Congestive heart failure clients with activity intolerance with back massage interventions and measuring client fatigue scores using the FACIT Functional Assessment Of Chronic Illness Therapy questionnaire *in* the Kenanga room at the Banjar City Hospital.

Method

Writing method uses descriptive case studies and subjective questionnaires that aim to describe the nursing care of clients with *Congestive Heart Failure* with activity intolerance disorders with back massage interventions and measuring fatigue scores using a client's FACIT (Functional Assessment Of Chronic Illness Therapy) questionnaire in the memory room of Banjar City Hospital. The approach used in this case study is the process of nursing care which includes assessment, diagnosis, intervention, implementation and evaluation of nursing.

Congestive heart failure client in the Kenanga Room BLUD Banjar City General Hospital from 30 May 2021 – 1 June 2021. Before the study was carried out, the researcher explained in advance about the process to be carried out and after being given an explanation, the client was willing to be a respondent by giving a verbal informed consent.

Results Assessment

The client came to the Banjar City Emergency Room and was transferred to the Kenanga room on 28 May 2021. When the assessment was carried out on 30 May 2021 at 07.00 WIB in the Kenanga Room of the Banjar City Hospital, the client complained of getting tired easily, fatigue felt heavy when the client did excessive activity and improved when rested. Fatigue always appears after doing activities. The client appears to just lie in bed and the client's activities are assisted by the family. Apart from being tired, the client also says that it is shortness of breath after doing activities such as going from bed to the bathroom respiration : 26x/minute.

Table 1. Activity Patterns

Activity Patterns	
Nutrition Pattern	Eat 3x a day rice, vegetables and side dishes. Drinking 8 00cc/day assisted by family.
Elimination Pattern	Chapter 1x/day, BAK is often a little a little about 200cc helped by the family.

Sleep Rest Pattern	Clients sleep at night for 7 hours, naps are erratic .
Personal Hyangiene	Take a bath once a day with a washcloth, only change clothes once a day with the help of the family.

Table 2 . Physical Examination

Physical Examination	
Blood pressure	110/80 mmHg
Pulse	102x/minute
Respiration	26x/minute
Temperature	36.6℃
GCS	Composmentis E=4 M=6 V=5 = 15
Respiratory system	Inspection: Movement of the chest right and left symmetrical Palpation: No lumps Percussion: All resonant lung fields Auscultation: No additional breath sounds
Cardiovascular System	Inspection: No injury , CRT < 2 seconds, normal conjunctiva Palpation : No lumps and tenderness Auscultation : S1 S2 Lup-dup
Integumentary System	Brown skin color is even, there are no lesions, no tenderness and no lumps
Nervous System	GCS E:4V:5M:6=15 , Consciousness: Composmentis. Nervus -I _ (Olfactory) : Can identify odors Nervus -II _ (Opticus) : Left eye see well Nervus -III _ (Oculomotor) : Symmetrical pupil movement Nervus -IV _ (Throchealis): Movement of the pupils right-left Nervus -V _ (Trigeminus): Can open mouth and chew Nervus -VI _ (Abducens): Can move the eye laterally Nervus -VII _ (Facial): Can frown, symmetrical smile, symmetrical lip shape, good taste function, can distinguish between sweet and bitter tastes Nervus -VIII _ (Vestibularis): Able to hear well Nervus -IX _ (Glossopharyngeus) : Can be swallowed Nervus -X _ (Vagus): There is a gag reflex Nervus -XI (Accessories): Able to turn the neck without moving the shoulders Nervus -XII (Hypoglossus): Speech normally, no tenderness, light reflex right: - / left: +
Urinary System	Inspection: Catheter not attached Palpation: No tenderness

Reproduction system	Female gender. There are no abnormalities in the reproductive organs.
Gastroentertestial System	Inspection: Dry mucosa and no ascites Palpation: No tenderness and no liver enlargement Percussion: Timpani Auscultation: Bowel sounds 17 x/minute
Musculoskeletal System	Inspection: There are no abnormalities in the movement of joints and bones , the client looks weak in moving his arms and legs Palpation: warm acral Muscle strength 4 | 4 4 | 4 IV ringer's lactate infusion was installed in the left hand

Table 3. Diagnostic Examination Results

	Inspection	Results	Normal Value
Lab: Complete blood count on May 28, 2021 at 08.44 WIB	Hemoglobin	11,4	12-15 gr/dl
	Leukocytes	8,6	4.4-11.3 thousand/mm ^{3}
	Platelets	182	150-456 thousand/mm ^{3}
	Hematocrit	36	35-46%
	Erythrocyte	3.8	4.1-51 million/ul
	Basophils	0	0-1%
	Eosinophils	1	0-5%
	Lymphocytes	19	22-40%
	Monocytes	5	2-8%
	MCH	30	26-33 p.m
	MCHC	32	32-36%
	Creatinine	0.7	0.5-0.9 mg/dl
	Urea	36	15-50 mg/dl
	Glucose Levels In The Blood	122	<140 mg/dl
Thorax X-ray	Based on the results of a chest X-ray carried out on 28 May 2021 clients experienced cardiomegaly.		

Table 4. Data Analysis

Data Analysis	Etiology	Problem
Subjective data: 1. The client says he gets tired easily 2. Clients say tired always appears after doing activities. 3. The client says the client needs activities assisted by the family. Objective Data : 1. The client looks tired 2. The client seems to just lie in bed.	Congestive heart failure ⇩ Failed right ventricular pump ⇩ Imbalance between oxygen supply and body needs ⇩ Renal flow increases ⇩ RAA increases ⇩ Aldosterone increases	Activity Intolerance

3. Client activity appears to be assisted by the family 4. After doing activities such as going from bed to bathroom respiration : 26x/minute 5. Muscle strength 4 | 4 4 | 4	⇩ Anaerobic metabolism ⇩ ATP production ⇩ Weakness ⇩ Activity Intolerance

Diagnosis

The diagnosis comes from the SDKI published by PPNI.

Table 4. Nursing Diagnoses

Nursing diagnosis	No. Diagnosis	Page
Activity Intolerance Related to Imbalance Between Oxygen Supply and Body Needs	D. 0056	128

Planning

Nursing planning refers to and is sourced from SLKI and SIKI published by PPNI.

Table 5. Nursing Interventions

Nursing diagnoses	Objectives and Results Criteria	Intervention	Rational
Activity intolerance related to an imbalance between oxygen supply and the body's needs is characterized by subjective data: 1. The client says he gets tired easily 2. Clients say tired always appears after doing activities. 3. The client says the activity the patient needs is assisted by the family. Objective Data : 1. The client looks tired 2. The client seems to just lie in bed 3. Client activity appears to be assisted by the family 4. After doing activities such as going from bed to bathroom	After nursing care has been carried out for 1 x 24 hours, it is expected that Activity Tolerance (L.05047) will increase with the following indicators: 1. Complaints of fatigue have decreased considerably 2. Dyspnea on moderately decreased activity 3. Dyspnea after moderate activity decreased	SIKI: (Energy management I.050178) Observation 1. Identify tolerance in activities 2. Monitor physical fatigue Therapeutic 3 . Provide a comfortable, low-stimulus environment 4. Provide a comfortable position Education 5. Suggest doing activities gradually 6. Evidence Based Practice Do a back massage (Bambang, et al. 2017)	 1. Know about tolerance in activities 2. Monitor physical fatigue 3 . Provide a comfortable, low-stimulus environment 4. Provide a comfortable position 5. Suggest doing activities gradually 6. Back massage for 10-15 minutes for 3 days with a frequency of 1 x/day with the Efleurage technique can reduce fatigue scores (Nugraha BA, et al. 2017)

respiration : 26x/minute 5 . Muscle strength 4 | 4 4 | 4	

Implementation

Table 6. Implementation of Nursing

Nursing diagnoses	Tuesday, 30 May 2021	Wednesday, May 31 2021	Thursday, June 1 2021
Activity Intolerance related to Intolerance balance between oxygen supply and body demand .	07.00 WIB Ask the client about tolerance in activities 07.05 WIB Monitor physical fatigue on client when getting out of bed, standing, and walking from bed to bathroom . 07.10 WIB Adjust lighting, limit visits to clients 07.15 WIB Provide a comfortable position, namely the semi-Fowler's position 07.17 WIB Encourage clients to do activities gradually such as getting out of bed, sitting in bed 07.20 WIB Providing back massage therapy and measuring fatigue scores	07.15 WIB Ask the client about tolerance in activities 07.20 WIB Monitor the client's physical fatigue when getting out of bed, standing, and walking from bed to bathroom 07.25 WIB Adjust lighting, limit visits to clients 07.27 WIB Provide a comfortable position, namely the semi-Fowler's position 07.30 WIB Encourage clients to do activities gradually such as getting out of bed, sitting in bed 07.35 WIB Providing back massage therapy and measuring fatigue scores	07.15 WIB Ask the client about tolerance in activities 07.15 WIB Monitor physical fatigue on client when getting out of bed, standing, and walking from bed to bathroom 07.25 WIB Adjust lighting, limit visits to clients 07.27 WIB Provide a comfortable position that is semi fowler 07.30 WIB Encourage clients to do activities gradually such as getting out of bed, sitting in bed 07.35 WIB Providing back massage therapy and measuring fatigue scores

Evaluation

Table 7. Nursing Evaluation

Nursing diagnoses	Tuesday, 30 May 2021	Wednesday, May 31 2021	Thursday, June 1 2021
Activity intolerance related to an imbalance between oxygen supply and the body's needs .	subjective - The client says he still feels tired - The client says dyspnea after and when the activity is reduced objective - The client looks tired	subjective - The client says he still feels tired - The client says dyspnea after and when the activity is reduced objective	subjective - Clients say fatigue is reduced - The client says dyspnea after and when the activity is reduced objective - The client looks calm

	- Reduced client fatigue scores - The frequency of breathing before doing the activity 25x/minute after doing the activity 29x/minute Assessment - Problem not resolved planning - Continue Intervention Intervention - Ask the client about tolerance in activities - Monitor physical fatigue on client when getting out of bed, standing, and walking from bed to bathroom - Provide a comfortable position, namely the semi-Fowler's position - Advise the client to do activities gradually such as, getting out of bed, sitting in bed - Providing back massage therapy and measuring fatigue scores	- Client fatigue scores reduced - The frequency of breathing before doing the activity 24x/minute after doing the activity 28x/minute Assessment - Problem partially resolved planning - Continue intervention Intervention - Ask the client about tolerance in activities - Monitor the client's physical fatigue when getting out of bed, standing, and walking from bed to bathroom - Provide a comfortable position, namely the semi-Fowler's position - Advise the client to do activities gradually such as, getting out of bed, sitting in bed - Providing back massage therapy and measuring fatigue scores	- Clients look fresher - Clients seem more comfortable - The frequency of breathing before doing the activity 23x/minute after doing the activity 25x/minute - Reduced client fatigue scores Assessment - Problem partially resolved planning - Continue intervention Intervention - Monitor physical fatigue on client when getting out of bed, standing, and walking from bed to bathroom - Provide a comfortable position, namely the semi-Fowler's position - Advise the client to do activities gradually such as, getting out of bed, sitting in bed - Providing back massage therapy and measuring fatigue scores

Discussion

The author conducted a study on the 30 May 2021 and data obtained Mrs. T with complaints that the body feels tired easily, fatigue feels burdensome when the client does excessive activity and improves when rested. Fatigue always appears after doing activities. The client seems to just lie in bed and the activities the client needs are assisted by t he family. In addition to getting tired easily, clients also say they feel shortness of breath after doing activities such as going from bed to the bathroom respiration : 26 x/minute.

This is in accordance with the theory put forward by Dewi et al., (2021) where in the patient *Congestive heart failure* generally experiences fatigue. Fatigue in patients with *Congestive heart failure* is caused by a lack of oxygen and nutrition for the tissues, and excessive carbon dioxide is formed resulting in anaerobic muscle metabolism and increased production of lactic acid which results in excessive fatigue. This description shows that one of

the problems of people with heart failure is activity intolerance. Activity intolerance is an intolerance sufficient psychological energy to maintain or complete activities of daily life that must or want to be done.

Physical examination showed that the client's data appeared weak, the state of compos mentis GCS: 15 E=4 M=6 V=5 , the client's blood pressure was 110/80 mmHg, pulse 102 ×/m, respiratory rate 26 ×/m, body temperature 36.6 °C. Oxygen saturation 93 %. There is no jugular vein distension, skin temperature feels warm, normal conjunctival capillary refill < 2 seconds, no added breath sounds . muscle strength

4	4
4	4

According to Theory (Aspiani, 2016) Supporting examinations that can be carried out in patients *with Congestive Heart Failure* namely radiology laboratory, EKG, and ultrasound of the heart. In this case the results of the Thorax X-ray The patient has cardiomegaly.

Based on the results of the study, it was found that the client's main complaint was fatigue. Clients also say there is shortness of breath after doing activities such as going from bed to the bathroom. so that the writer raised the diagnosis of activity intolerance cases related to inactivity balance between oxygen supply and demand. So that in this study there is no gap between case reports and theory.

Nursing diagnosis with activity intolerance disorder, namely, inactivity sufficient energy to carry out daily activities (SDKI, 2016). With major symptoms, subjective data complain of fatigue and objective data, the heart rate increases from resting conditions. Subjective minor symptoms of dyspnea during/after activity, feeling uncomfortable after activity, feeling weak.

The authors focus on the diagnosis of activity intolerance related to an imbalance between oxygen supply and demand. The problem of clients who experience fatigue needs to be handled optimally . So that this condition does not last continuously which will affect the quality of life of individuals.

Activity intolerance shows an imbalance between the supply and demand for oxygen to the client and if there is a more serious problem the client will experience intense tightness and hinder the fulfillment of oxygen supply in the body so that oxygen supply decreases. Reduced oxygen supply in the body will lead to cell death, hypoxemia and decreased consciousness can even cause death (Holy, 2018) .

Plans are written with plans and outcome criteria based on the Indonesian Nursing Intervention Standards (SIKI) and Indonesian Nursing Outcome Standards (SLKI) . In the case of Mrs. T carried out a nursing action plan for 1 x 24 hours. The author plans to overcome the problem of activity intolerance on clients with the expected goals, namely the outcome criteria complaints of fatigue have decreased enough , dyspnea during activity has decreased sufficiently and dyspnea after activity has decreased sufficiently.

The intervention in this case is in accordance with the intervention of the diagnosis that the author has focused on, namely activity intolerance . With the Indonesian Nursing Intervention Standards (SIKI) that is done Identify tolerance in activities , Monitor physical

fatigue , Provide a comfortable environment and low stimulus , Provide a comfortable position , Suggest doing activities gradually. In this case, adding evidence-based practice relaxation therapy , namely doing back massage.

Massage is a relaxation technique that affects the body physically and psychologically. Back massage can stimulate parasympathetic receptors in the back area directly so that the client feels relaxed. In addition, with relaxation, it is hoped that blood vessels can dilate which will indirectly reduce the workload of the heart . Reducing the workload of the heart will have a positive impact on patients *with congestive heart failure* by providing an opportunity for the myocardium to relax . In this phase, circulation to systemic tissues will improve. Improved circulation will overcome the fatigue experienced with the record that the client is active according to his tolerance. (Nugraha et al., 2017) .

Back massage is done for 10-15 minutes for 3 days with a frequency of 1x/day with the Effleurag technique. e. Effleurag e is a massaging motion that is done rhythmically in an upward direction movements are carried out lightly and continuously . This massage has a relaxing effect and facilitates the flow of lymph and blood (Firdaus 2019) . Prior to back massage therapy, the authors measured the client's fatigue score using the FACIT (Functional Assessment Of Chronic Illness Therapy) questionnaire. The range of values in the FACIT questionnaire was between 0–40, where the higher the score, the better the quality of life. Value < 17 = severe, 18-30 moderate and 30-40 mild. (Wahyuni & Damanik, 2020) .

Based on the nursing implementation stage, efforts to realize the nursing action plan that has been determined, namely building a relationship of mutual trust is very important in this implementation stage, so that the implementation efforts or actions taken can be accepted as an effort to solve problems. Implementation by the author lasted for 3 days . The author carries out the implementation with plans that have been planned previously to meet the outcome criteria.

The action plan carried out by the author is identifying tolerance in activities , monitoring physical fatigue , providing a comfortable and low-stimulus environment , providing a comfortable position , advising to carry out activities in stages and adding evidence-based practice , namely doing back massages and measuring client fatigue scores with the FACIT (Functional Assessment of Chronic Illness Therapy) questionnaire.

The evaluation used is in the form of S (subjective), O (objective), A (analysis), P (planning) for analysis. The evaluation is carried out every day, namely using the SOAP evaluation evaluation after being given an intervention at the end of the service . Nursing evaluation of clients with activity intolerance associated with disuse the balance of oxygen supply to the body is showing the improvement and improvement of the client's health . After being given nursing intervention with SIKI: energy management and relaxation therapy back massage for 3 days showed signs signs with complaints of reduced fatigue , Dyspnea during activity and dyspnea after reduced activity , Feelings of fatigue are reduced . It seems that the client's condition has improved and looks fresher and more comfortable. The client's fatigue score also increased, the fatigue score on the first day was 29 (moderate), the fatigue score on the second day was 31 (mild), and the third day's fatigue score was 34 (mild) .

Conclusion

Assessments conducted on clients obtained subjective and objective data. Based on the results of the study, the patient found a complaint the body feels tired easily, fatigue feels burdensome when the client does excessive activity and improves when rested. Fatigue always appears after doing activities. The client seems to just lie in bed and the activities the client needs are assisted by the family. Apart from being tired, the client also says that it is shortness of breath after doing activities such as going from bed to the bathroom respiration : 26 x/minute.

The diagnosis based on the author's assessment that occurs in cases is activity intolerance related to an imbalance between oxygen supply and demand. Activity intolerance is a common diagnosis in complaints with *Congestive heart failure.*

Nursing care planning for clients with activity intolerance diagnoses is related to an imbalance between oxygen supply and demand Nursing planning refers to and originates from SLKI and SLKI namely (Energy Management I.050178) it is expected that Activity Tolerance increases (L.05047) with indicators of outcome criteria : Decreased complaints of fatigue , Dyspnea when activity decreases , Dyspnea after decreased activity and adding Evidence Based Nursing, namely back massage therapy and measuring client fatigue scores with the FACIT (Functional Assessment Of Chronic Illness Therapy) questionnaire.

Implementation is given to clients for 3 days in accordance with a pre-planned plan , namely identifying tolerance in activities , monitoring physical fatigue , providing a comfortable and low-stimulus environment , providing a comfortable position , recommending gradual activity . Evidence Based Nursing (EBN) that is given is relaxation therapy back massage and measure the client's fatigue score with the FACIT (Functional Assessment Of Chronic Illness Therapy) questionnaire.

After being given an intervention for 3 days, the evaluation showed a change in the client's activity tolerance, marked by an increased tolerance level with signs showing no fatigue complaints, no dyspnea during activity, no dyspnea after activity, no feeling of weakness, the patient appears to be in an improved condition looking more comfortable and the client's fatigue score has increased.

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