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CASE REPORT ON A PATIENT WITH CHRONIC KIDNEY DISEASE STAGE V WITH IMPAIRED PHYSICAL MOBILITY AT RSUP DR SARDJITO YOGYAKARTA

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ABSTRACT

Introduction: Chronic Kidney Disease (CKD) is a problem that occurs in decreased kidney function where the kidneys cannot maintain the body's metabolic, fluid and electrolyte balance. CKD affects the ability of the kidneys to produce the hormone erythropoietin, which involves the function of oxygen distribution into cells for metabolism. Disruption of oxygen supply affects motor function, weakening the limbs and decreasing muscle strength. This study aims to describe a case study of a stage 5 CKD patient with impaired physical mobility.

Method: The method in this report used a descriptive design with a case study approach in patients with stage 5 CKD.

Results: Mrs. Y, a 59-year-old female with stage 5 CKD and multiple comorbidities, was found unconscious, immobile, and in critical condition. Assessment revealed decreased consciousness (GCS E2VtM1), anemia, anuria, pressure ulcers, and respiratory failure. Laboratory and radiological findings supported multi-organ dysfunction. She received palliative care and supportive pharmacological therapy.

Conclusion: Patients who participated in this study experienced complications of the disease, causing the outcomes of passive ROM exercise invisible. Further research required to evaluate the effectiveness of the interventions used in similar conditions, a compare of the success of the interventions provided.

Keywords: youth groups; simulation; emergency planning; readiness.

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INTRODUCTION

Palliative care is one of the approaches taken to improve the quality of life, aiming at families and patients with problems associated with terminal or life-threatening diseases (WHO, 2020). Palliative care is focused on maximising the patient's quality of life and reducing symptoms by paying attention to the psychological and spiritual aspects of patients and families (Sudarsa, 2020).

Chronic Kidney Diseases (CKD) is a problem that occurs due to kidney failure in maintaining metabolic, fluid and electrolyte balance which lead to uremia (retention of uria and other nitrogenous waste in the blood) (Hasanuddin, 2022). According to Ammirati (2020), the classification of CKD is divided based on a decrease in Glomerular Filtration Rate (GFR), which higher stages having lower GFR values (eGFR <60 mL/min/1.73m2) or other markers of kidney damage, such as albuminuria, hematuria, or abnormalities detected through laboratory testing. According to The Kidney Disease Outcomes Quality Initiative (KDOQI) as proposed by the National Kidney Foundation (2015) cited by Windarti et al. (2018) hypertension and diabetes are the main causes of CKD.

The incidence and prevalence of end-stage renal disease varies globally. According to Bobot et al.

(2023) CKD affects >10% of the global population (i.e. >800 million people) and is the eighth leading cause of death worldwide by 2022. The results of the 2018 Basic Health Research (RISKESDAS) by the Health Research and Development Agency show that the prevalence of CKD in Indonesia is 0.38% or 3.8 people per 1000 population, and around 60% of people with kidney failure must undergo dialysis. According to the Basic Health Research RISKESDAS (2018) in the Special Region of Yogyakarta there was an increase in the prevalence of chronic kidney failure by 0.43% (Azis, 2023).

According to Inker et al. (2014), clinical manifestations in patients with CKD include cardiovascular, integumentary, musculoskeletal, pulmonary, neurologic, reproductive, gastrointestinal, and hematologic. The biggest complaint in patients with CKD in the form of weakness, fatigue and lethargy reaches 50% experienced by CKD stage 5 patients as a common complication with prevalence increasing as CKD progresses (Coyne et al., 2021). The cause of weakness in CKD patients is the impact of decreased haemoglobin levels due to the lack of ability of the kidneys to produce the hormone erythropoetin which functions to stimulate the bone marrow to produce red blood cells (Hain et al., 2023). The lack of red blood cells (anemia) affects the distribution of oxygen into cells for metabolism so that the body gets tired easily and affects physical activity. In addition to weakness, fatigue and lethargy, other complaints such as cramps reach 33% - 86% experienced by CKD stage 5 patients (Sheshadri et al., 2024 and Xu et al., 2022). Cramps is a condition of tension in the legs and hands that creates a sensation of inability to perform mobility (Widodo & Khoiriyati, 2023). According to Bogataj et al. (2023), 40% of CKD patients have mild mobility impairment to dependence on caregivers.

Impaired mobility can be a temporary or permanent condition with physical and psychological impacts. Physical impacts include osteoporosis, hyperkalemia, obesity, pain and decubitus ulcers (Bogataj et al., 2023). The psychological impact of CKD includes death anxiety leading to spiritual distress, lack of peace of mind, and difficulty coping adaptively with stressors (D. S. Putri et al., 2024). According to Azis (2023), patients with chronic renal failure experience social changes such as changes in communication with family and self-control, as well as feelings of being shunned and abandoned by people. Patients often experience feelings of sadness, anxiety, loss of hope to deal with their illness, and death anxiety, with the high cost of dialysis procedures considered a heavy burden for affected individuals and families. Psychosocial issues arising from Chronic Kidney Disease (CKD) include decreased physical strength which can reduce motivation, insomnia, suboptimal physical condition, and stress which can potentially affect quality of life (D. S. Putri et al., 2024).

CKD patients with decreased activity can affect the condition of the body and can have an impact on worsening conditions (Bogataj et al., 2023). This raises one of the nursing problems in patients with CKD, namely impaired physical mobility. Physical mobility disorders can have an impact on muscle and joint stiffness, the risk of atelectasis due to edema, constipation, and skin damage due to prolonged and continuous pressure (Meiliarani & Indramsyah, 2023). Physical mobility can increase muscle strength because it can help stimulate the body's motor units, so that the more the body's motor units are involved, the less likely the patient will experience movement ability deficits (S. N. Putri et al., 2024a). Research on CKD patients found that every 10 minutes of physical activity a day can reduce the risk of death by 22% (Liu, 2016).

Decreased mobility ability leads to irreversibly impaired physical mobility with dependence on caregivers. Increased dependence on caregivers aligns with a decrease in patient quality of life (Bogataj et al., 2023). The long-term impact on CKD patients will experience damage to organs that can continue to deteriorate until entering the terminal period. Terminal is a condition where a person experiences a disease that cannot be cured so that it will be directed to provide palliative care when curative care is not possible (Pertiwi et al., 2024). Family as the patient's main caregiver has a close relationship in fulfilling satisfaction to improve the patient's quality of life (Faridah et al., 2024).

Patients with CKD continue to increase every year. The inclusion of CKD as one of the palliative diseases with treatment that allows up to a lifetime causes a considerable burden on patients, patients' families, and health care providers, especially in patients with impaired mobility. Palliative care is not only provided to the patient as a sufferer of the disease, but also the patient's family as the patient's main caregiver. Professional support is provided to the patient's family to be able to assist in improving the quality and survival of CKD patients. The increasing problem of CKD in Yogyakarta makes researchers interested in conducting research related to palliative nursing care for stage 5 CKD patients at Dr. Sardjito Hospital.

METHOD

The method used in this research explains the design of activities, the object of research, data collection techniques, and data analysis techniques used.

1. Research Design

This report uses a descriptive case study with a cross-sectional approach that aims to describe nursing care for patients (Gani, 2023).

2. Research Subject

This report is a case study of a patient diagnosed with stage 5 CKD with nursing problems of physical mobility disorders, given to patients and their family.

3. Data Collection Technique

a. Primary Data

Primary data is data obtained directly from patients through observation interviews during the assessment (Wijaya et al., 2014). Data obtained from patient and their family in the form of general conditions, level of consciousness, vital signs, and other physical examinations.

b. Secondary Data

Secondary data is data obtained by conducting documentation studies of related sources, both official and unofficial, such as reports, records and access to medical records (Mongi, 2021).

4. Data Analysis

According to Miles & Huberman (2021) activities in data analysis are carried out continuously as follows:

a. Data Reduction

Data reduction is a stage of human thinking towards understanding then summarizing important things to facilitate further data collection. The reduced data were obtained from interviews with patients and families with stage 5 CKD and patient medical record data.

b. Data Presentation

Data presentation is one of the report-making activities so that the data that has been collected can be understood and analyzed in accordance with the desired objectives. The assessment data is presented in narrative form as a series of sentences that tell a series of events.

c. Draw Conclusions

Drawing conclusions leads to the final result based on the results of data analysis, both primary and secondary data. Conclusions are drawn to determine the effectiveness of the intervention and the factors that influence the patient's condition.

RESULTS

The assessment data obtained in the patient is as follows:

1. Patient Identity

Name : Mrs. Y
Age : 59 years old
Gender : Female
Occupation : Housewife

2. Chief Complaint

The results of the assessment of the family of patient Mrs. Y with a medical diagnosis of stage 5 CKD said that the patient was unconscious and could not move by herself for a long time because of her declining condition. The family did not dare to help the patient move because they did not know how and were afraid that it would affect the tools attached to the patient.

3. Past Medical History

The patient was brought to the hospital in September with a chief complaint of shortness of breath for 1 month and continued to worsen until he was unable to perform activities such as walking to the bathroom. The patient had a history of stroke in 2010, hypertension >10 years uncontrolled and Diabetes Mellitus (DM) since 2017 with the highest blood sugar (GDS) in the 400s and an average GDS of 200s. At the hospital, the patient was diagnosed with CKD stage 5 and other medical diagnoses were type 1 respiratory failure, Right Heart Failure (RHF), mixed acidosis, cardiogenic shock, hypertension, diabetes mellitus, decubitus ulcers, and anemia. The patient was routinely hemodialyzed (HD) Monday-Thursday in the Cardiovascular Care Unit (CVCU) and stopped a week before transfer. The patient was admitted to the CVCU for 72 days before being transferred to the palliative inpatient ward. During her hospitalization, the patient was always accompanied by her husband as she had no children and no relatives to help take turns to watch her.

4. Vital Signs

a. Blood Pressure

The results of the blood pressure examination on the patient obtained a systolic pressure of 139 mmHg and a diastolic pressure of 63 mmHg.

b. Oxygen Saturation

The results of the oxygen saturation check on the patient were found to be 90% and a 3 lpm t-piece was installed.

5. Physical Examination

Physical assessment of Mrs. Y found a severe general condition with decreased consciousness Glasgow Coma Scale (GCS) E2VtM1. Conjunctiva anemis +/+, attached Nasogastric Tube (NGT) drained with yellowish green residue, attached HD cath in the right jugular, weak swallowing reflex, and weak cough reflex. Breathing appeared to have no retractions, additional breath sounds were ronchi. Acral warm,

Capillary Refill Time (CRT) < 2 seconds, extremity edema +/+ +/+, bowel noise < 5 times per minute, muscle strength 0/0 0/0 and anuria. The patient had decubitus ulcers on the sacrum of 5 cm and heel of 3 cm. The skin of the lower extremities appeared dry and peeling. An IV was attached to the right hand with tutosol 10 tpm. The patient was attached to bedside monitor, decubitus mattress with 30˚ head up position.

6. Supporting Examination

Supporting examination on Mrs. Y obtained low results in hematology, namely erythrocytes 2.78, hemoglobin 8.0, hematocrit 25.4, leukocytes 1.3 and platelets 109. Creatinine was found to be high at 0.99. Other results showed low values such as potassium 2.5, pH 7.348, pO2 68.3, albumin 2.96, and Potassium 3.5-5.1. High results were obtained in pCO2 52.0 and HCO3 27.9. In addition to blood test, thorax radiology examination showed grade II pulmonary edema, bilateral pneumonia, and bilateral pleural effusion especially dextra.

7. Pharmacotherapy

The pharmacology given to the patient was Beraprost Na tab 20 mcq/8 hours, Osteocal tab 500 mg/8 hours, Sildenafil tab 20 mg/8 hours, Lansoprazole inj 30 mg/8 hours, Combivent UDV 2.5 mL, Sucralfate 1000mg/10 mL given every 8 hours.

DISCUSSION

1. Demographics

The prevalence of CKD in Indonesia has increased with age. A significant increase occurred in the age group 65-74 years (8.23%), followed by age ≥75 years (7.48%), and age 55-64 years (7.61%) (Riskesdas, 2018). CKD increasingly attacks in adulthood, this is related to unhealthy lifestyles such as consumption of fast food, coffee, energy drinks and rarely consume water (Annis et al., 2016). With increasing age there will be a decrease in physical function, one of which is the kidney so that most patients who undergo hemodialysis in late adulthood towards the elderly (Mufidah et al., 2024).

The female gender is at risk of CKD because women are more likely to think, causing anxiety (Mardiani et al., 2022). Many women experience CKD due to the presence of more than one disease and are more susceptible to infection because the distance of the channel to the bladder is shorter than men (Mufidah et al., 2024). This is also in line with research that has been conducted Riyadina et al. (2020) that women have a higher risk of experiencing impaired renal function due to comorbid factors. These comorbid factors usually arise due to adverse complications from patients who experience more than one disease, for example diabetes mellitus, coronary heart disease, and prolonged stroke which can lead to impaired renal function (Mufidah et al., 2024).

According to Pranandhira et al. (2023), the job characteristics that experience a lot of CKD disease are housewives. This is related to housewives not having enough time to pay attention to their health because they are busy taking care of the household (Pranandhira et al., 2023). CKD patients who undergo hemodialysis most patients do not work because they experience a decrease in physical function which results in weakness if they are too tired and experience weakness and even complications so that patients cannot work again (Mufidah et al., 2024).

According to Bogataj et al. (2023) one of the abilities that will decrease is the ability to mobility. CKD patients who have reached stage 5 will undergo dialysis, where the dialysis process has a potential impact on blood parameters that are related to the patient's physical mobility. In addition, low hemoglobin levels and erythrocyte mass can also cause impaired physical mobility due to anemia (Bogataj et al., 2023).

Lack of physical activity is considered a contributing factor to the increased mortality seen in people with CKD. It can lead to worsening of other comorbidities such as diabetes, hypertension, cardiovascular disease, and can have a number of negative consequences for patients with CKD, including muscle shrinkage, decreased cardiovascular fitness, and impaired mobility. This decline is a progressive process with further deterioration of physical function during hospitalization and acute illness. The end result of the aforementioned decline often leads to irreversibly impaired physical mobility with dependence on caregivers. Impaired mobility can be a temporary or permanent condition (Mufidah et al., 2024).

Impaired physical mobility is a common problem experienced by people with CKD and is associated with increased morbidity and mortality. The most common cause of impaired mobility is musculoskeletal disorders (20%). In addition to chronic diseases, impaired mobility can be a consequence of age-related loss of muscle mass or acute events. In dialysis patients, the causes of hypoalbuminemia are multifactorial-resulting from an imbalance between albumin loss into the dialysate, catabolism, and albumin synthesis. Low serum albumin levels are an independent predictor of poor

outcomes, such as impaired mobility and even mortality (Mufidah et al., 2024).

According to Bobot et al. (2023) CKD is a major risk factor for stroke, with an increased risk of incident stroke of 43%. CKD also negatively impacts mortality after stroke with mortality increasing from 10% in non-CKD patients to 30% in CKD patients. A history of previous stroke in CKD patients also negatively impacts long-term mortality (Bobot et al., 2023).

Hypertension and Diabetes Mellitus are risk factors for CKD. Uncontrolled blood pressure, fasting blood sugar > 150 mg/dl, long duration of hypertension, and poor knowledge about CKD increase the incidence of CKD (Indrayani & Utami, 2022). Terminal musculoskeletal, cardiovascular and neurological diseases are common non-modifiable risk factors that can lead to permanent impairment (Bogataj et al., 2023).

Patients with hypotension are at risk of inadequate dialysis, rapid decline in residual renal function, vascular access thrombosis, increased risk of cardiovascular disease and increased risk of death (Novi et al., 2022). Hypotension is caused due to many factors, the influencing factors depend on the patient such as using antihypertensive drugs, the presence of cardiovascular disease, weight gain, as well as on the mode of HD application (concentration of sodium, calcium, osmolarity of dialyzed, temperature of dialysis fluid and type of buffer used in dialysis), and on additional factors, such as anemia, hypoxia or concomitant infection (Sidiq, 2021).

2. Assessment

When systolic blood pressure exceeds 120 mmHg and diastolic blood pressure above 80 mmHg with a pulse of 60-100 times a minute, damage to the blood vessel wall will continue to increase and this can cause leakage of the kidney filter (Pasaribu et al., 2021). Mrs. Y's blood pressure is abnormal due to high systolic values. The normal value of oxygen saturation is 95% to 100%, the saturation value <95% then the patient is said to have hypoxemia. Hypoxemia is one of the worsenings that can occur in chronic patients characterized by a decrease in oxygen (O2) content in the arterial blood, so that the supply of O2 to the tissues is inadequate (Sari et al., 2022). Mrs. Y's case obtained an abnormal oxygen saturation value of 90% with supplemental oxygen using a 3 lpm t-piece. Low oxygen saturation can occur due to disturbances in lung ventilation so that lung development is not optimal and there is a decrease in lung vital capacity (Prayoga et al., 2022). Oxygen administration is limited below 5 lpm to prevent aspiration of secretions. Patients who are attached to the t-piece have a very weak body response to cough and expel foreign objects such as secretions (Heriansyah et al., 2022). Aspiration of secretions in the upper respiratory tract can protect against pathogen invasion. However, the presence of a t-piece in the airway will prevent mucosal clearance of secretions from accumulating over the t-piece and eventually lead to microaspiration and pneumonia. T-piece can also cause virulent bacteria to easily enter due to excessive secretions or due to aspiration from the stomach (Fajrina et al., 2022).

According to Khusna et al. (2023) patients with CKD are at risk of anuria, which is urine production of less than 100 cc per day. As many as 46% of anuria in acute renal failure patients will manifest into chronic and their kidney function will not return perfectly. This makes the removal of metabolic waste of CKD patients who have lost their kidney function can only be done with hemodialysis therapy. Therefore, limiting fluid intake is necessary to help the remaining kidney function. Recording the amount of intake and output can help patients to prevent fluid overload (Kristiyan et al., 2023). CKD stage 5 patients will perform hemodialysis as a replacement therapy for kidney performance in removing metabolic waste and excessive fluid in the body. Hemodialysis is done 2-3 times a week with 4-5 hours each session (Widodo & Khoiriyati, 2023). Hemodialysis has not been done to Mrs. Y because the patient's condition has worsened so that curative treatments such as hemodialysis are stopped and focused on the patient's palliative care.

According to Rahmawati (2018) supporting examinations to determine the diagnosis of CKD are blood tests to see creatinine levels and urine tests to see albumin levels. The worse the kidney function, the creatinine value will increase and the low albumin. Increased creatinine levels have a significant relationship with decreased hemoglobin so that there is a high risk of anemia (Radityamurti et al., 2013). The results of the examination on Mrs. Y obtained abnormal results where the creatinine value was high, low albumin, and low hemoglobin.

The normal state of gastric juice will be light yellow and sometimes even mixed with food, but if the patient has a gastrointestinal obstruction or there is obstruction, a different color will appear, patients with illeus gastric juice will be greenish, in patients with hematemesis gastric juice will be blackish red, patients with peritonitis gastric juice will be yellowish (Suwignjo, 2008). Mrs. Y's case obtained greenish gastric residual fluid which indicates that it contains bile, meaning that intestinal obstruction is

suspected at the bottom of the bile duct mouth. Pharmacological action in Mrs. Y was given Lansoprazole and Sukralfat together as a combination drug in overcoming the problem of gastric residue. Drug combinations are intended to accelerate patient healing, where drug combinations will provide more effective results due to the synergistic effects of these drugs (Yuswar et al., 2023). Lansoprazole is a class of Proton Pump Inhibitors (PPI) which works in inhibiting the H + / K + ATPase pump in the parietal cell membrane, so that the production of gastric acid produced can be reduced, while sucralfate works in forming a polymer that can protect wounds in the gastric mucosa (Constantia et al., 2020 and Yuswar et al., 2023). Lansoprazole (PPI) with sucralfate (cytoprotective) was the most commonly prescribed two-drug combination at 20.6%. This is because combining two drugs is more effective, reduces complications, and speeds up recovery compared to monotherapy. These drugs are relatively safe to administer because they act on the surface (cytoprotective) (Yuswar et al., 2023).

3. Nursing Diagnosis

Nursing diagnosis is a clinical assessment of the patient's response to health problems or life processes that he experiences both actual and potential (PPNI, 2016). Based on the assessment of the case, one of the nursing diagnoses that arose was impaired physical mobility associated with decreased muscle strength. Physical mobility disorders are nursing diagnoses defined as limitations in physical movement of one or more extremities independently (PPNI, 2016). In the Indonesian Nursing Diagnosis Standards book (SDKI), physical mobility disorders are included in the physiological category and sub-category of activity and rest with the label D.0054.

Establishment of nursing diagnoses of physical mobility disorders in cases is taken from the patient's disease course, namely CKD stage 5 where the supply of oxygen bound in red blood cells is less than the body's oxygen needs. This occurs due to anemia due to decreased kidney function (Mwajib & Prihatiningsih, 2024). Decreased blood supply and decreased O2 can cause neurological deficits that interfere with motor function. Impaired motor function makes limbs experience weakness and decreased muscle strength (Budiarti, 2023). According to Bogataj et al. (2023), 40% of CKD patients have mild mobility impairment to dependence. In addition, disease complications in patients require patients to be bedridden and reduce physical activity. Deterioration of condition and consciousness during the treatment period further decreases the patient's ability to mobilize.

4. Nursing Outcomes

Nursing outcomes are aspects that can be observed and measured including conditions, behaviors, or from the perception of patients, families or communities in response to nursing interventions (PPNI, 2018b). Based on the nursing diagnoses that were established, the outcome chosen for physical mobility disorders was physical mobility labeled L.05042. The goal after 3x24 hours of nursing action is expected to increase physical mobility, as evidenced by the criteria for the results of muscle strength increasing from scale 1 to 3, range of motion (ROM) increasing from scale 1 to 3, and physical weakness decreasing from scale 1 to 3.

5. Nursing Interventions

Nursing interventions are all treatments carried out by nurses based on knowledge and clinical judgment to achieve the expected outcomes (PPNI, 2018a). The intervention provided is mobilization support with label I.05173, including monitoring blood pressure before starting mobilization, facilitating movement, involving the family to assist the patient in increasing movement, and teaching simple mobilization. Mobilization support was chosen as the intervention due to the patient's weak clinical condition as the intervention plan was developed.

6. Nursing Implementation

The implementation given to patient Mrs. Y is in accordance with the predetermined intervention plan, which is for 3x24 hours to monitor blood pressure before starting mobilization, facilitate movement, involve the family to assist the patient in increasing movement, and teach simple mobilization. The main implementation given is passive range of motion (ROM) exercises.

The body parts performed passive ROM on the patient include the upper extremities and lower extremities. During the process of implementing passive ROM, it is mandatory to always pay attention to vital signs, especially oxygen saturation because the patient's condition is easily desaturated. Passive ROM is not only given to patients, passive ROM education is also taught to the patient's family so that the family participates in the care process and increases the patient's bond with the family as a form of palliative care process.

The implementation of passive ROM on the first day was carried out on the upper extremities and

lower extremities. Movements made to patients on the upper extremities include grasping and straightening the fingers of the hands, moving the fingers of the hands as far as possible moving the palms inward and backward as far as possible, rotating the forearm so that the wrist faces up and down, bending the elbow and straightening. Movements performed on the lower extremities include bending the toes and straightening back, bending the soles of the feet up and down, turning the soles of the feet inward and outward, bending the knees and straightening back. During passive ROM, the patient's oxygen saturation was stable at 90% - 95% and there was no physical response from the patient.

The second day of implementation was carried out with the same movements to the patient as on the first day. Passive ROM education was carried out to the patient's family, namely the husband and family practicing passive ROM movements directly to the patient. Together with the nurse, the family was trained gradually in giving passive ROM to the patient. During the movement exercise, the patient's oxygen saturation was in the range of 88% - 93% and the patient seemed to open her eyes even though there was no response.

The third day of implementation was carried out by giving passive ROM exercises to the patient and evaluating the family in participating in giving passive ROM. During the implementation, the patient again showed no response such as opening the eyes on the previous day. Oxygen saturation was stable between 90% - 97%.

7. Nursing Evaluation

The application of physical mobility interventions with the provision of passive ROM for 3x24 hours has not shown an increase or worsening of the condition in patients. This is not in line with the research Said et al. (2019), which shows a change or increase in physical mobility in CKD patients after passive ROM training. Some things that can affect the difference in results are the patient's condition, the patient's illness, the length of exercise, the persistence of exercise, and environmental support in providing exercise (Collado-Mateo et al., 2021).

The condition of the patient in the case mentioned had decreased consciousness and experienced bed rest for more than 1 month. This condition is exacerbated by several diseases that accompany the patient during hospitalization such as respiratory problems to nutrients that are only obtained from IVs due to gastric residue that continues to produce. Patient mobilization in bed cannot be trained optimally because some movements affect oxygen saturation directly. In line with research Budaya et al. (2022), when given passive ROM on the upper extremities and lower extremities, the need for oxygen in the cells increases, as a normal response from the heart will increase the work of the heart so that hemoglobin which binds oxygen also increases to meet the needs of oxygen in cells, therefore the oxygen saturation value also increases. In addition, the patient's body, especially the extremities, experiences edema, which makes exercise unable to be done optimally.

The provision of exercise by physiotherapy in the hospital is carried out once a day with a duration of 15-20 minutes of exercise. According to Hidayat & Patmawati (2023), giving passive ROM is good to be given every day with 2-3 times a day to maintain muscle and joint strength. In patients with decreased consciousness, passive ROM exercises are important to keep muscles and joints from stiffness, provide time for the skin to breathe, and reduce the risk of pressure sores due to positions that do not change for a long time. Pressure sores have been experienced by the patient in the area of bone protrusion, which appears on the sacrum by 5cm and the heel by 3cm. Providing passive ROM can reduce the increase of pressure sores on other parts of the body (Shi et al., 2021)

Education on passive ROM to families has been carried out with the help of leaflets and demonstrations. Education using leaflets and demonstrations is one of the media that has an influence to increase knowledge (Al Rahmad et al., 2023). Families understand the steps to perform passive ROM to patients. Although the family understands, giving passive ROM cannot be done according to what has been taught. The family as a support provider to the patient does not show its role due to the condition of the family who is unable to do passive ROM alone and conditions such as forgetting that often occur. According to Marwanti et al. (2021) the presence of the family beside the patient is a positive aspect that can be utilized by health workers. Families are able to play an optimal role in patient care. The role of the family can be improved through learning provided by nurses while the family accompanies patient care in the hospital (S. N. Putri et al., 2024b).

In addition to neurological conditions and giving passive ROM to patients, one of the things that can slow down the patient's activity tolerance is nutrition. According to MacLaughlin et al. (2022), nutrition is a support for a person to carry out

activities. The patient was attached to a flowing NGT because of the greenish-yellow gastric fluid residue which continued to increase in number so that the NGT was flowed. The condition of the stomach filled with residue is a risk when enteral food is inserted, so as long as the production of gastric residue continues to come out through the NGT, enteral nutrition cannot enter. The patient could only receive parenteral nutrition through an IV. Given that the patient is a patient with CKD, the incoming fluid is very limited. This is due to the patient's deteriorating condition where extremities have edema, no urine output or anuria, hemodialysis has been stopped, problems with the lungs and heart.

Based on the patient's condition, physical mobility interventions are continued on the patient by continuing to monitor changes in the patient's condition. The outcome of providing physical mobility, namely increased muscle strength, increased range of motion (ROM), and decreased physical weakness, has not yet been obtained in the patient. Obtained from subjective data, the patient's family said they understood the ROM movements given to the patient, the family also said they were helped by leaflets to remember the movements to be done. Although the family said they understood, the family also said it was difficult to practice movements on the patient because the patient's body condition was swollen and the family was alone. Objective data on the patient found that the family seemed to understand when given education related to ROM, the family could apply ROM movements to the patient, saturation was between 90%-97% during ROM administration, and there was no spontaneous movement response from the patient.

Physical mobility in patients based on the outcome criteria obtained muscle strength remains on scale 1, range of motion (ROM) increases from scale 1 to 2, and physical weakness decreases from scale 1 to 2. Based on these results criteria, the assessment of the diagnosis of physical mobility disorders given to Mrs. Y for 3x24 hours has not been resolved. Planning to continue the intervention. The patient's condition that has experienced complications, decreased consciousness for a long time, and the patient's quality of life are factors that make the provision of implementation has not made significant progress (Bogataj et al., 2023). Seeing the patient's condition as a palliative patient with a persistent condition and a tendency to decline, psychological and spiritual interventions are more emphasized on patients and families (Tampubolon et al., 2021).

CONCLUSION

Based on the results of a case study on a Stage 5 CKD patient with a nursing problem of physical mobility disorders in Padmanaba East Ward, Dr. Sardjito Hospital, it can be concluded that the provision of mobilization support interventions (I.05173) with physical mobility outcome criteria (L.05042) has not been achieved. Implementation is carried out for 3x24 hours by monitoring blood pressure before starting mobilization, facilitating movement, involving the family to assist patients in increasing movement, and teaching simple mobilization. This is due to the condition of the patient who has experienced complications of the disease, decreased consciousness for a long time and decreased quality of life so that the improvement of the condition cannot be seen within the 3-day deadline. The suggestion is that further research is needed regarding the effectiveness of the interventions used in similar conditions to compare the success of the interventions provided.

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