

Nursing Care for Mr. K with Chronic Kidney Disease (CKD) in the High Care Unit (HCU) Room of Gunung Jati Hospital, Cirebon City

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Abstract

Chronic Kidney Disease (CKD) is an impairment of kidney function that occurs for more than three months in the form of structural and functional abnormalities of the kidneys with or without a decrease in the Glomerular Filtration Rate (GFR). Patients with CKD are increasing every year. West Java is the province that contributes the most cases of chronic kidney disease in Indonesia, with a prevalence of 0.48%, which is greater than the prevalence at the national level. The purpose of this case study is to provide nursing care to patients with CKD. Using a qualitative approach with case studies as the main method, using observation sheets, interviews, and documentation studies. The case study selected one patient as the study subject, namely a patient with CKD in the HCU Room, Gunung Jati General Hospital, Cirebon City. Nursing care management is based on meeting the needs of patients carried out in 2 days. The results of the case study showed that after being given nursing care, there was an improvement in breathing patterns and a decrease in pain. The conclusion is that the provision of nursing care is effective in meeting the needs of CKD patients.

Keywords: Nursing Care, CKD, Chronic Kidney Disease.

INTRODUCTION

Chronic Kidney Disease (CKD) is a condition of progressive and irreversible kidney function disorders in that the body fails to maintain metabolism and fluid and electrolyte balance, which causes uremia (retention of urea and other nitrogen waste in the blood) (Ammirati, 2020; Romagnani et al., 2017; Webster et al., 2017). CKD is defined as damage to kidney function that occurs for more than three months in the form of structural or functional abnormalities of the kidneys with or without a decrease in the Glomerular Filtration Rate (GFR) with manifestations of pathological abnormalities or signs of renal irregularities, including abnormalities in the chemical composition of blood, urine or radiological abnormalities (Brunner, 2010).

Based on the results of Basic Health Research in 2018, the prevalence of chronic kidney disease in Indonesia doubled in 2018 compared to 2013 (Hidayangsih et al., 2023; Hidayat et al., 2023; Wang et al., 2019). In 2013, the prevalence of CKD was 0.2% and increased in 2018 to 0.38%. Meanwhile, the prevalence of people with CKD who had to undergo hemodialysis was 19.33%. West Java is the province that contributes the most cases of CKD in Indonesia, with 131,846 cases with a prevalence of 0.48%; where

this figure shows that the prevalence in West Java is greater than the prevalence at the national level (Ministry of Health of the Republic of Indonesia, 2018).

In CKD patients with a decrease in GFR of 60%, there are still no symptoms, but there has been an increase in serum urea and creatinine levels (Eckardt et al., 2018; Levey et al., 2020; Pelletier et al., 2019). In patients with a GFR that decreases by up to 30%, it will cause symptoms and side effects such as weakness, nausea, decreased appetite, and weight loss. When the GFR is less than 15%, patients begin to experience pronounced uremia symptoms such as nocturia, oliguria, loss of appetite, nausea, vomiting, anemia, pruritis, hypertension, shortness of breath, edema, and loss of consciousness (Aef Eka Saputra et al., 2024).

CKD also results in the emergence of various nursing problems, some of which are acute pain, impaired gas exchange, ineffective peripheral perfusion, hypervolemia, urinary elimination disorders, activity intolerance, nutritional deficits, anxiety, and others. These problems must be addressed immediately so that there is no decline in health and further complications. Complications that arise due to CKD include hyperkalemia or excess potassium, pulmonary edema or swelling of the lungs, acidosis or excess acid in the body, renal osteodystrophy, anemia, heart failure, and others (Bragadóttir & Kalisch, 2018).

The emergence of various nursing problems in CKD patients causes the emergence of bio-psycho-socio-cultural spiritual problems. Therefore, CKD patients need to be given proper nursing care. The role of nurses is very important in caring for CKD patients, including as health service providers, educators, nursing care providers, reformers, and health service organizers, especially as nursing care providers. Nursing efforts that can be made are by maintaining blood pressure, maintaining and limiting fluid intake into the body, and maintaining a nutrient intake diet such as low protein, low potassium, and low sodium, which aims to ease the workload of the kidneys (Prameswari, 2019).

Based on this data and information, researchers are interested in conducting a case study by providing nursing care to patients with CKD to meet patient needs. In accordance with the background that has been stated, the objectives of this study include being able to explain the basic concept of nursing care in Mr. K with a medical diagnosis of CKD in the High Care Unit (HCU) Room of Gunung Jati Hospital, Cirebon City.

RESEARCH METHODS

This study uses a qualitative approach with case studies as the main method. The study subject used was one patient who experienced CKD and continued to receive nursing care according to standard practice guidelines. The taking of this case was carried out in the HCU Room of Gunung Jati Hospital, Cirebon City, on April 6, 2024. The data collection carried out by the researcher in managing this case study includes interviews, observations, and documentation studies. Data analysis is carried out from the time the researcher is at the research site during the data collection until the data is collected. Then, the researcher prepares a nursing care plan and implements and evaluates the nursing that has been provided to the patient.

RESULTS AND DISCUSSION

Result

The pre-arrival assessment in this case is a 93-year-old male patient named Mr. K, admitted to the HCU on April 5th, 2024, with a medical diagnosis of CK. The patient first came to the emergency room on April 4th, 2024, with complaints of shortness of

breath, abdominal pain, swollen abdomen, nausea, vomiting, weakness, difficulty defecating, and lack of appetite. In the assessment on April 6th, 2024, the patient experienced complaints of shortness of breath, abdominal pain, and an enlarged abdomen. The patient's family said that the patient had no history of infectious diseases or hereditary. Vital sign examination results: blood pressure (TD): 113/65 mmHg, heart rate (HR): 83x/min, temperature: 36.2 °C, SpO₂: 96%, respiratory rate (R): 25x/min.

A quick and immediate assessment on April 6th, 2024, was obtained. Airway: shortness of breath, obstacles to the airway, no additional sounds. Breathing: respiratory rate: 25x/min, SpO₂ 96%. Circulation: blood pressure (TD): 113/65 mmHg, heart rate (HR): 98x/min, Glasgow Coma Scale: eye 4, motor 5, verbal 5, 14 (compos mentis), CRT <2 seconds. Installed nasal cannula 5 LPM. Patients receive several drug therapies in the form of metamizole 2 x 1, omeprazole 2 x 1, mectoclopramide 2 x 1, vit K 2 x 1, zinc 1 x 20 mg, vit D 1 x 1000 mg, tonicard 1 x 1, lactulax 1 x 1. From the laboratory results, hemoglobin: 12.9 g/dL, hematocrit: 38.1%, erythrocytes 4.32/uL, leukocytes 29,370/uL, lymphocytes 1.1%, monocytes 4.2%, sodium 154.5 mmol/L, potassium 4.97 mmol/L, chloride 114.2 mmol/L, and calcium 8.64 mmol/L. Renal faal: urea 372.1 mg/dL, creatinine 4.13 mg/dL.

A comprehensive assessment obtained on April 6th, 2024, among others, showed that the patient still looked short of breath with symmetrical rapid breathing and rapid chest movements. The patient's respiratory status can be seen as irregular breathing patterns without any additional sounds, vesicular. Installed 5 liters/minute cannula nassal. Regular pulse circulation status, blood pressure 113/65 mmHg, oxygen saturation 96%, normal heart rhythm, HR: 98x/min. Neurosensory status obtained by compos mentis awareness with GCS of patient 14, pain assessment obtained by patients complaining of pain in the abdomen, pain assessment with PQRST obtained P: pain in the abdomen, Q: quality of pain such as slice, R: location of pain felt in the abdomen, S: pain scale 4, T: pain felt continuous. The patient's body temperature was 36.2°C. The gastrointestinal status is no fluid restriction, and the elimination status of urine appears yellow with an amount of 500 cc without complaints. Integument: no complaints, tan skin color, no tenderness, and elastic skin turgor.

Nursing diagnosis is based on the patient's condition using the Indonesia Nursing Diagnosis Standard (Tim & SDKI, 2016). There are two nursing diagnoses, namely ineffective breathing patterns related to obstruction of breathing effort and acute pain related to physiological injury agents. Nursing diagnosis aims to identify the response of individual, family, and community clients to health-related situations (Indonesia & Nomor, 2015).

Based on the nursing action plan that has been made and prepared to overcome the first problem, namely the ineffective breathing pattern for Mr. K, the action was carried out according to the plan. Ineffective breathing pattern intervention that has been prepared in patients includes monitoring breathing patterns, monitoring breath sounds, frequency, rhythm, and breathing effort, monitoring oxygen saturation, adjusting respiratory monitoring intervals according to the patient's condition, positioning semi-fowlers or fowlers, and providing oxygen if needed. The implementation of nursing was carried out to overcome the problem of ineffective breathing patterns in Mr. K by monitoring breathing patterns, breathing sounds, frequency, rhythm, depth, and effort of breathing, monitoring oxygen saturation, documenting monitoring results, and administering oxygen.

Based on the nursing action plan that has been made and prepared to overcome the acute pain problem in Mr. K, the action is carried out according to the plan. Interventions for acute pain treatment that have been prepared for patients include

identifying the location of pain, characteristics, duration, frequency, quality, and intensity of pain, identifying pain scales, identifying factors that aggravate and alleviate pain, controlling the environment that aggravates pain, explaining pain relief strategies, advocating independent pain monitoring, and collaborating by providing analgetics if needed. The implementation of nursing was carried out to overcome acute pain problems in Mr. K by identifying the location of pain, characteristics, duration, frequency, intensity, and scale of pain, as well as identifying factors that aggravate and alleviate pain.

The evaluation found on Mr. K after being treated for 2x24 hours on April 7th, 2024, the problem of ineffective breathing patterns related to obstruction of breathing effort has been resolved, in accordance with the planning criteria, namely, the patient's breathing pattern improved, and the intervention is stopped. Likewise, the evaluation found on acute pain problems related to physiological injury agents was resolved in accordance with the planning criteria, namely that the patient's pain was reduced, and the intervention was stopped.

Discussion

Ineffective Breathing Patterns

In this case, it was found that the patient's complaint was that he seemed to be short of breath. This is in accordance with the opinion of Siska & Vestabilivy (2023), who states that in patients with chronic kidney failure, there are disorders of the airway and airway patterns that are a response to pulmonary edema and the presence of uremia syndrome. This theory is strengthened by the opinion of Aef Eka Saputra et al. (2024), which stated that CKD patients with a GFR of less than 15% begin to experience obvious uremia behaviors such as nocturia, oliguria, loss of appetite, nausea, vomiting, anemia, pruritis, hypertension, shortness of breath, edema, and loss of consciousness. In Mr. K, the enforcement of nursing diagnosis, according to Tim & SDKI (2016), namely ineffective breathing patterns related to obstruction of breathing effort, is characterized by shortness of breath. Based on Tim & SDKI (2016), there are major, subjective dyspnea symptoms and objective data: use of respiratory aids, abnormal breathing patterns with symmetrical rapid breathing, and rapid chest movements.

There is no gap in the diagnosis of effective breathing patterns because, according to Tim & SDKI (2016), the symptoms and signs that support the enforcement of nursing diagnosis of ineffective breathing patterns are complaints of shortness of breath. According to Firdaus (2016), the main complaint most often felt by patients with CKD is shortness of breath; breathing appears fast and deep, or what is called kussmaul breathing. This can occur due to a buildup of fluid in the lung tissue or in the chest cavity. In addition to being caused by fluid buildup, shortness of breath can also be caused by decreased blood pH due to changes in electrolytes and the loss of bicarbonate in the blood. In line with research conducted by Komariah et al. (2023), nursing diagnoses in CKD patients that often appear are ineffective breathing patterns, excess fluid volume, and anxiety.

Shortness of breath can also occur due to a decrease in nephron function, which results in irreversible kidney disorders so that it is unable to secrete acid, which results in metabolic acidosis. Where acid secretion, ammonia secretion, and sodium and bicarbonate absorption decrease, so fluid and sodium retention occurs because the kidneys are unable to concentrate or dilute urine normally in end-stage kidney disease. This disorder has an impact on hydrostatic pressure in the body, as a result of which there will be a buildup of fluid in the lungs, especially in the alveoli, which are important organs for carrying out the respiration process (FITRIYANI, n.d.).

Based on the planning of Mr. K, the actions that will be taken are in accordance

with the intervention that the researcher has prepared for the problem of ineffective breathing patterns SLKI SIKI (2017). The intervention was carried out on Mr. K with the aim that after nursing treatment for 2 x 24 hours, it is hoped that the breathing pattern will improve and the problem will be resolved with the outcome criteria: shortness of breath/dyspnea decreased, breathing frequency improved. The action plan in respiratory monitoring includes observation: monitoring the frequency, rhythm, and effort of breathing. Monitoring breathing patterns, monitoring oxygen saturation, therapeutics: positioning the semi-fowler or Fowler; setting the respiratory monitoring interval according to the patient's condition; documenting the monitoring results; education: informing the monitoring results; collaboration: administering oxygen.

One of the actions that can be carried out in patients is oxygen therapy through the nasal cannula. According to Roca in Ramadhani (2017), the provision of oxygen through the nasal cannula can lower the respiratory rate. This is in line with Harahap's theory that oxygen therapy functions to meet the need for oxygen in all parts of the body. Providing adequate oxygen can maximize the patient's breathing patterns, reduce breathing work, and reduce dyspnea if done according to needs (Ramadhani, 2017).

Acute Pain

In this case, it was found that Mr. K's patient complained of pain in the abdomen, like a slice with a scale of 4 that was felt continuously, accompanied by an enlarged abdomen. The established diagnosis is acute pain related to physiological injury agents. At the time of the subjective data review, the patient said that the pain in the abdomen and abdomen was enlarged. Objective data was obtained from pain scale data and facial expressions that appeared to be grimacing in pain. This is in accordance with the major signs obtained from the diagnosis of SDKI (Indonesia Nursing Diagnostic Standard) (2016), where the major criteria that can be found in the form of objective data include grimacing, restlessness, increased pulse frequency, and difficulty sleeping. In contrast, the subjective data that can be found on major signs is complaining of pain.

According to the researcher, there was no gap in pain diagnosis because, in the physical examination of pain comfort in patients, pain assessment with PQRST was obtained by patients who said P: pain in the abdomen, Q: pain quality like slice, R: location of pain felt in the abdomen, S: pain scale 4, T: pain felt continuously in accordance with the opinion of Alatas (2017), who explained that pain in the abdomen felt by CKD patients could be caused by a buildup of fluid in the abdomen (ascites). If a large amount of fluid continues to accumulate, it will cause shortness of breath. This is marked by an increase in the size of the abdomen in patients, strengthened by Marfuah's theory (2018), which states that CKD patients are recommended to limit the intake of incoming fluids so that fluid buildup does not occur, which can cause decreased heart and lung function.

Based on the planning Mr. K, the implementation of interventions carried out in accordance with the acute pain measures that have been prepared for patients is in accordance with SIKI (Indonesia Nursing Intervention Standards), and the application and writing of outcome criteria in patients are in accordance with SLKI (Indonesia Nursing Output Standards). According to SIKI (Indonesia Nursing Intervention Standard) and SLKI (Indonesia Nursing Output Standard) which are used to diagnose acute pain with the aim that after nursing treatment for 2 x 24 hours, it is hoped that the pain level will be reduced and the problem will be resolved, the outcome criteria: pain complaints decrease, restlessness decreases, pulse frequency improves, breathing patterns improve. Action plans in pain monitoring include observation: identifying the location, characteristics, duration, frequency, and intensity of pain; identifying pain scales, identifying factors that aggravate and alleviate pain; therapeutics, controlling the

environment that aggravates pain, documenting monitoring results; education: informing monitoring results, teaching non-pharmacological techniques to reduce pain, collaboration: providing analgetics if needed.

One of the actions that can be carried out is non-pharmacological therapy with deep breath exercises. This technique is a form of deep breath relaxation that can increase the dilation of the lungs so that their development becomes optimal and the muscles relax. Deep breathing exercises can maximize the amount of oxygen flowing and supplying tissues, allowing the body to produce energy and reduce fatigue and pain (Nurjanah & Yuniartika, 2020).

CONCLUSION

Nursing problems in patients are ineffective breathing patterns and acute pain. The implementation of nursing actions in this case was carried out in accordance with the diagnosis that was established, the nursing intervention that had been made, and the data analysis of the needs of patients with chronic kidney disease (CKD). After the implementation of nursing to Mr. K with CKD for 2 x 24 hours, and the final result of the nursing process is an evaluation of the nursing care provided. In the evaluation, there were two nursing diagnoses that had been resolved as planned and the intervention was stopped.

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