



## Nursing Care for CKD On HD Patients at the Inpatient Facility of Royal Prima Hospital Medan in 2026

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### ABSTRACT

Chronic Kidney Disease (CKD) is a progressive kidney function disorder that causes the kidneys to be unable to maintain the balance of fluids, electrolytes, and remove the body's metabolic waste optimally. Patients with end-stage CKD generally require lifelong hemodialysis (HD) therapy to maintain quality of life. This study aims to describe nursing care for CKD on HD patients at the Inpatient Installation of Royal Prima Hospital Medan in 2026. The method used is a case study with a nursing process approach including nursing assessment, diagnosis, intervention, implementation, and evaluation. The subject of the study was Mr. N aged 84 years with a medical diagnosis of regular CKD on HD accompanied by anemia. Data were obtained through interviews, observations, physical examinations, and documentation studies.

The results of the study showed that the patient experienced shortness of breath, edema in both legs, nausea and vomiting, decreased appetite, weakness, and decreased urine output. Laboratory tests showed Hb 7.0 g/dL, urea 187 mg/dL, and creatinine 10.79 mg/dL. Established nursing diagnoses are that hypervolemia is associated with excess fluid intake, ineffective breathing patterns are associated with obstruction of breathing efforts, and nausea is associated with biochemical disorders due to increased urea. The nursing interventions provided include hypervolemia management, respiration monitoring, and vomiting management according to SDKI, SLKI, and SIKI for 3×24 hours. Evaluation showed that the problem of ineffective breathing pattern and nausea was resolved, while partially resolved hypervolemia was characterized by a decrease in edema to degree I and continued with a regular HD program. Comprehensive and continuous nursing care is indispensable to improve the clinical conditions and quality of life of CKD on HD patients.

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### INTRODUCTION

The kidneys are very important organs and have many important functions in the body. Some of its functions are to remove metabolic waste and toxins that are soluble in water, maintain fluid and electrolyte balance, maintain acid-base balance, and secrete various hormones and prostaglandins. Damage that causes part or all of the kidneys to not work properly, so the kidneys are unable to remove the remnants of the

body's metabolism and carry out their normal functions. If this condition persists for several months or even years, then a disease called Chronic Kidney Disease (CKD) can occur.

CKD disease is a condition in which the kidneys have damage to parts of their structure or to their function. CKD is recognized by one or more symptoms of kidney damage, such as albumin in the urine, abnormalities in the urine content, electrolyte balance disorders, abnormal kidney tissue examination results, unhealthy kidney shape, or history of kidney transplant surgery, and decreased kidney ability to filter blood.

People with Chronic Kidney Disease (CKD) may experience symptoms such as severe hematuria, foamy urine (which indicates albuminuria), frequent urination especially at night, pain in the back area, or reduced urine production. In more advanced stages, symptoms can include tiredness, loss of appetite, nausea, vomiting, a metallic taste in the mouth, unexpected weight loss, hives, changes in thoughts or personality, difficulty breathing, or swelling in parts of the body such as feet or hands. The cause of CKD can be due to diseases of the kidneys such as glomerulonephritis, or due to other diseases that are not directly related to the kidneys such as diabetes mellitus and hypertension.

Based on the results of the Indonesian Renal Registry (IRR) report in 2025, there has been a shift in the proportion of causes of CKD nationally with hypertension still dominating at 43.7%, followed by diabetic nephropathy as much as 27.2%, and primary glomeropathy which increased to 13%. Meanwhile, based on the latest research data in 2025 at the clinical level, it shows that the incidence of more specific events with hypertension reaching 58.1%, diabetic nephropathy reaching 25.4%, kidney stones (nephrolithiasis) as much as 11.5%, and other risk factors including chronic anemia which contributes 5%.

CKD disease has become a significant global health issue due to the difficulties in its cure, accompanied by an increase in incidence and prevalence. It also contributes to the high rates of morbidity and mortality worldwide, data showing that the prevalence of CKD continues to rise, with a major impact on public health and the economy, including high cost of care.

According to World Health Organization (WHO) data in 2021, it is estimated that more than 500 million people or 10% of the world's population have *Chronic Kidney Disease* (CKD), while around 1.5 million CKD patients are undergoing *hemodialysis* (HD) therapy. Every year, the incidence of CKD increases by 8%, with CKD ranking as the 20th leading cause of death worldwide with 20 deaths per 100,000 population in a gross mortality<sup>rate of 9</sup>. The figures also show that CKD is still one of the highest causes of death in the world.

The prevalence of CKD disease in Indonesia continues to show a significant increasing trend every year until 2025. According to the results of the latest Indonesian Health Survey (SKI) in 2025, the prevalence of CKD in Indonesia based on doctor's diagnosis in the population over 15 years old has reached 0.21% or equivalent to 752,410 people. The distribution of the largest disease burden is still concentrated in the West Java region which recorded the highest number of 154,215 people, followed by East Java in second place with the number of sufferers as many as 116,510 people. Meanwhile, West Sumatra now occupies the 9th position in the list of the highest prevalence of CKD in Indonesia with the number of patients diagnosed reaching 17,292 people.

The prevalence of CKD patients in North Sumatra in 2025 will be recorded at 42,150 people, of whom 34,980 will routinely undergo hemodialysis. CKD disease is one of the most deadly diseases in North Sumatra with a prevalence rate of 0.28%. North Sumatra consists of 33 districts/cities, where Medan City recorded a prevalence of CKD of 0.35% which makes it the third highest in North Sumatra Province, after Deli Serdang Regency and Pematangsiantar City which occupy the first and second positions respectively.

One of the treatment methods commonly applied to CKD patients is *hemodialysis therapy*, for CKD patients in the final stages, *hemodialysis* is the main choice in removing accumulated metabolic waste and fluids from the body, which aims to improve their quality of life. The results of the study of Amna et al. (2022) noted that the survival rate of hemodialysis patients reached about 79% in one year, but this figure decreased to 33% in five years and only 10% after ten years, dependence on *hemodialysis* machines is not only a treatment method, but also a must for patients.

Hemodialysis therapy should be carried out for a lifetime and does not cure/restore the disease, hemodialysis provides significant benefits for CKD patients, although it also has side effects both physically and biopsychosocially. The biological effects experienced by patients can be seen as a result of complications of systemic diseases and the process of the disease itself, while psychological effects that often occur in CKD patients are usually in the form of anxiety and depression such as guilt, hopelessness, and irritability.

Based on the results of Azzahra's research in 2022, about nursing care for patients with CKD in the internal medicine room of the Kindergarten Hospital. III Dr. Reksodiwiryono Padang, the problems found in CKD patients are, hypervolemia is related to disruption of regulatory mechanisms, ineffective breathing patterns are related to obstruction of breathing efforts and the risk of nutritional deficits is related to psychological factors. Meanwhile, based on the results of Rashid's research in 2024, about nursing care for CKD patients on hemodialysis at IRNA non-surgical hospital. Dr.M.Djamil Padang, problems that arise in CKD patients are hypervolemic related to disruption of regulatory mechanisms, ineffective breathing patterns related to central respiratory depression, acute pain related to physiological degenerative agents, ineffective peripheral perfusion, hyperthermia, and helplessness. From the two studies above, it can be

concluded that the nursing problem that is often found in CKD patients is hypervolemia related to disruption of regulatory mechanisms.

Based on the description of the phenomenon above, the researcher is interested in conducting nursing care for CKD On HD patients at the Inpatient Installation of Royal Prima Hospital Medan in 2026.

## CASE STUDY NURSING ASSESSMENT

### BIODATA

#### Patient Identity

Name	: Mr. N
Gender	: Male
Age	: 84 Years Old
Marital status	: Religious
Marriage	Buddhism
Education	: S1
Jobs	: PNS
Address	: Jl. Besi 21B/596
Admission to the Hospital	: 29 April 2026
Registration No.	308648
Room/room assessment	: 707/B Date of : 29 April 2026
Medical diagnostics	: CKD On HD Regular + Anemia

#### Person in Charge

Name	: Mrs. A
Relationship with patients	: Wife
Jobs	: Housewives
Address	: Jl. Besi 21B/596

### Client's Health History

Main complaints/Reasons for hospital admission:

Px came to the hospital to do regular HD on April 29, 2026, at 13:30 WIB, but when going to HD the patient complained of shortness of breath, nausea and vomiting, lack of appetite and weakness, and both legs looked swollen (edema). So the patient was delivered to the emergency room at 14:25 and then given the action of giving 5Lpm NK and furosemide and ranitidine. At 17.30 the patient was transferred to room Ranap 7b.

Current disease history:

Current Disease History, the patient has CKD on HD+Anemia.

Past Medical History (related to current illness) :

Paien's family, patients are often admitted to the hospital with hypertension. However, after years of hypertension, one and a half months ago the patient was admitted to the hospital with complaints of swelling in the face, hands and feet, nausea, vomiting, weakness, shortness of breath and a slight frequency of urine. Then the patient is declared to have CKD and must do dialysis/hemodialysis as soon as possible. So the patient until now runs HD 2x a week on Wednesday and Saturday afternoons. However, in the last 2 weeks, patients have HD with less bb pull due to the patient's blood pressure that often drops/drops when doing HD. Patients have taken OAH, but for now patients do not/rarely consume it.

## Family Health History:

There is one person, namely his sibling (the patient's younger brother) who has diabetes. And for the patient's parents, the family does not know his medical history. For CKD problems, the patient is the first person in his family to experience CKD on HD 2x a week.

## Daily Activity Patterns

### Activity/Exercise Patterns

**Self-Care Ability:** Patients experienced significant physical mobility impairment (moderate to severe dependency score) due to age factors (84 years) and clinical conditions.

**Physical Barriers:** The patient could not stand because both legs were swollen (grade II edema).

**Muscle Strength:** It appears that the hands are shaking (tremors) which can interfere with fine motor activities.

**Energy Level:** The general state of the patient appears lethargic, weak, and helpless.

## Sleep Rest Patterns

**Sleep Quality:** Patients often sleep during the day and appear weak.

**Sleep Disorders:** The patient was bothered by nausea and shortness of breath

**Supporting Factors:** The sleeping position should be set semi-fowler (head height 30-40°) to reduce tightness due to excess fluid.

## Neurological System

Sensory Status: The patient complains of pain in his legs and head with a pain scale: 2.

Motor Status: It was found that there was tremor (trembling hands) and could not stand due to leg edema.

Self-Concept and Interdependence

Self-Description & Identity: The patient feels helpless.

Roles & Relationships (Interdependence):

Family Support: The patient has an excellent relationship with his wife (Mrs. A), who acts as the person in charge and the main companion while in the hospital.

Social Status: The patient is a retired civil servant with a final education of S1, who shows a stable socio-economic background.

Dependence: Nowadays patients rely heavily on the help of family and nurses for basic activities due to leg swelling and weakness.

Spiritual: The patient is a Buddhist, who is a source of strength in dealing with his illness.

## Physical Examination

### General Conditions and Vital Signs

The general condition of the patient looks lethargic and weak, palpable of swollen legs of degree II, face looks pale and attached Nasal 5L with examination of vital signs on April 28, 2026, namely: Blood Pressure: 141/78 mmHg, respiratory rate 22 x/min, pulse: 78 x/min and temperature 37°C

### Cardiorespiratory System

Inspection: Sternocleidomastoideus(SCM) (+), normochest (+), cyanosis (-), pale (+), symmetrical chest.

Palpation: Tactile fremitus decreased, acral cold.

Percussion: the sound of dullness in the lower part of the lungs

Aucultation: Ronkhi's voice is soft wet (Crackless).

## Oxygenation and Circulation Systems

- Respiratory rate : 23 x/min
- Oxygen Saturation (SpO<sub>2</sub>) : 94%
- Pulse : 78 x/min
- Blood Pressure : 141/78 mmHg

### Nutritional Status

- **A (Anthropometry):**
  - 1) BB : Not studied
  - 2) Excess fluids : There is swelling in the legs
- **B (Biochemistry):**
  - 1) Albumin : Not checked
  - 2) Hemoglobin (Hb) : 7.0 g/dL (Anemia)
  - 3) Creatinine : 10.79 mg/dL (severe kidney filtration function disorder)
  - 4) Urea : 187mg/dL (high uremia that triggers nausea)

### Clinical Sign:

- 5) General Conditions : the patient appears weak, lethargic and pale
- 6) Digestive system : Experience nausea and vomiting with a frequency of 3-4x/day
- 7) Mucosal membranes : Face looks pale
- 8) Miscellaneous : hands seem to be shaking and both legs are swollen

### (Dietry):

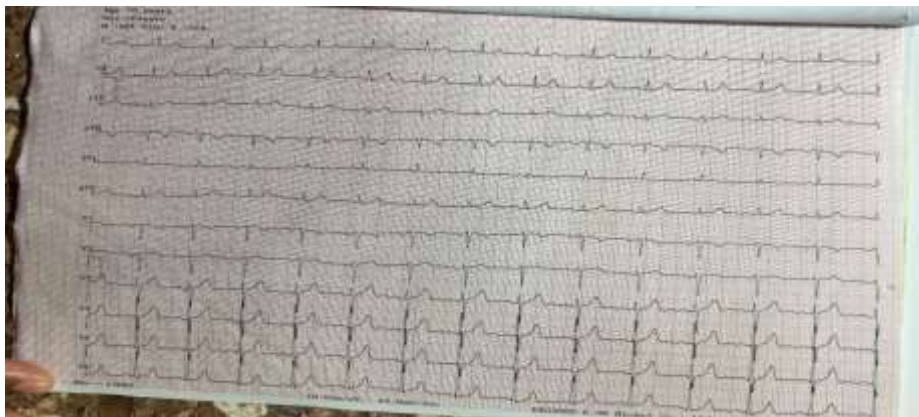
- 9) Appetite : Decreasing, before entering the hospital, patients eat 3 times a day, but when treated the patient eats only 2x/day
- 10) Drinking patterns : The patient has bad habits before getting sick, namely rarely drinking water and consuming cold and sweet drinks more often
- 11) Fluid intake : Currently fluid intake is strictly limited due to hypervolemia (excess fluid) conditions.
- 12) Elimination :
  - a. CHAPTER : Patient experiences constipation (not CHAPTER 2 days)
  - b. BATH: Before pain 500 ml/day, and after urine pain 200 ml/day, the color of the urine is dark yellow.

## Supporting Examinations

### Laboratory Examination

Inspection	Results	Reference Value	Units
Hemoglobin	<b>7.0</b>	13.0~17.0	g/dL
Leukocytes	<b>22.42</b>	4.0~10.0	103/ $\mu$ L
Sodium	<b>132.2</b>	136~145	mEq/L
Potassium	3.98	3.5~5.1	mEq/L
Chloride	<b>96</b>	98 ~ 107	mEq/L
Creatinine	<b>10.79</b>	0.70~1.30	mg/dL

### ECG



#### Description:

- Rhythm : Sinus
- HR : 82x/i (Regular)
- Axis : normoaxis
- P Wave : Mitral P (-) Pulmonary P (-)
- Interval PR : 3 Small Boxes (0.12 seconds)
- QRS Complex : 2 Small Boxes (0.08 seconds) Q pathological (-)
- ST Segment : Normal
- T Wave : normal 4-6 small boxes (0.4-0.6 mv) Impact :  
Normal

## Management and Therapy

No.	Date	Doctor's Prescription	Dosage
1.	April 29, 2026	<ul style="list-style-type: none"> <li>- Inj Ranitidine</li> <li>- Inj Ceftriaxone</li> <li>- Inj Ondansetron</li> <li>- Inj Furosemide</li> </ul>	50mg/2 mL 2x1 1gram/ 1 mL 2x1 4mg/2mL 3x1 20mg/2mL 2x1
2	April 30, 2026	<ul style="list-style-type: none"> <li>- Inj Ranitidine</li> <li>- Inj Ceftriaxone</li> <li>- Inj Ondansetron</li> <li>- Inj Furosemide</li> <li>- Clindamycin</li> <li>- Metoclopramidi Inj</li> <li>- B Complex</li> <li>- Inj Methylprednisolone</li> <li>- ISDN</li> <li>- Nystatin drop</li> <li>- Sicily</li> </ul>	50mg/2 mL 2x1 1gram/ 1 mL 2x1 4mg/2mL 3x1 20mg/2mL 2x1 4x300mg 3x1 3x1 1x62.5mg 3x5mg 4x4 drops 2x1
3	01 May 2026	<ul style="list-style-type: none"> <li>- Inj Ranitidine</li> <li>- Inj Ceftriaxone</li> <li>- Inj Ondansetron</li> <li>- Inj Furosemide</li> <li>- Clindamycin</li> <li>- Metoclopramidi Inj</li> <li>- B Complex</li> <li>- Inj Methylprednisolone</li> <li>- ISDN</li> <li>- Nystatin drop</li> <li>- Sicily</li> </ul>	50mg/2 mL 2x1 1gram/ 1 mL 2x1 4mg/2mL 3x1 20mg/2mL 2x1 4x300mg 3x1 3x1 1x62.5mg 3x5mg 4x4 drops 2x1

## Data Analysis

Yes			
1	<p><b>DS :</b></p> <ul style="list-style-type: none"> <li>- Patients complain of weakness and shortness of breath</li> </ul> <p><b>DO :</b></p> <ul style="list-style-type: none"> <li>- Grade II edema of both legs</li> <li>- Creatinine Level: 10 mg/dL and Urea: 187 mg/dL</li> <li>- Decreased urine output</li> </ul>	Excess Fluid Intake	Hypervolemia (D.0022)
2	<p><b>DS :</b></p> <ul style="list-style-type: none"> <li>- Patients complain of tightness</li> <li>- Patients complain of increased tightness if lying on their back (orthopnea)</li> </ul> <p><b>DO :</b></p> <ul style="list-style-type: none"> <li>- Use of the respiratory auxiliary muscles (SCM+)</li> <li>- Breathing Rate (RR): 23x/min</li> <li>- Sound of extra breathing can be heard of fine wet ronkhi (Crackles)</li> <li>- Oxygen saturation: 94%</li> </ul>	Obstruction of Breathing (Due to fluid buildup)	Ineffective Breathing Patterns ( d. 0005)

3	<p><b>DS :</b></p> <ul style="list-style-type: none"> <li>- Patients complain of nausea, vomiting and lack of appetite</li> </ul> <p><b>DO :</b></p> <ul style="list-style-type: none"> <li>- Vomiting with a frequency of 3-4x/day</li> <li>- Small meal portions</li> <li>- High urea content: 187mg/dL</li> <li>- Mucosal membranes pale</li> </ul>	<p>Biochemical disorders (increased urea levels in the blood)</p>	<p>Nausea (D.0076)</p>
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### Nursing Diagnosis

Patient's name : Mr. N

Age : 84 Years Old

Registration No. 308648

1. Hypervolemia b.d Excess fluid intake d.d edema in both legs, with Hb: 7.0 mg/dL
2. Ineffective Breathing Pattern b.d Obstruction of Breathing Effort d.d Patient complains of tightness, abnormal breathing pattern with RR: 23x/min
3. Nausea b.d Biochemical disorders d.d Patients nausea and vomiting 3-4 times, with urea levels: 187 mg/dL

### NURSING INTERVENTION

Patient's name : Mr. N

Age : 84 Years Old

Register 308648

No.	Diagnostic Unit Indonesian Nursing (SDKI)	Indonesian Nursing Output Unit (SLKI)	Indonesian Nursing Intervention Unit (SIKI)

1	Hypervolemia (D.0022)	<p>After nursing intervention for 3 x 24 hours, the fluid status improved (<b>L.03028</b>), with the following outcome criteria:</p> <ul style="list-style-type: none"> <li>- Decreased dyspnea</li> <li>- Decreased orthopnea</li> <li>- Decreased leg edema</li> <li>- Hb improves</li> </ul>	<p>Hypervolemia Management (<b>I.03114</b>) <b>Observation</b></p> <ul style="list-style-type: none"> <li>- Check for signs and symptoms of hypervolemia (ex: orthopnea, dyspnea, edema, increased JVP/CVP, positive hepatojugular reflex, additional breathing sound)</li> <li>- Identify the cause of hypervolemia</li> <li>- Vital signs monitor</li> <li>- Fluid intake and output monitor</li> </ul>
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			<p><b>Therapeutics</b></p> <ul style="list-style-type: none"> <li>- Limit fluid and salt intake</li> <li>- Raise the headboard 30 – 40 degrees</li> </ul> <p><b>Education</b></p> <ul style="list-style-type: none"> <li>- Discovering the causes of hypervolemia</li> <li>- Teach how to limit fluids</li> </ul> <p><b>Collaboration</b></p> <ul style="list-style-type: none"> <li>- Diuretic administration collaboration</li> </ul>
2	Ineffective Breathing Patterns ( <b>D.0005</b> )	<p>After nursing intervention for 3 x 24 hours, the breathing pattern improved (<b>L.01004</b>), with the following outcome criteria:</p> <ul style="list-style-type: none"> <li>- Decreased dyspnea</li> <li>- Breathing frequency improves</li> </ul>	<p>Respiratory Monitoring (<b>I.01014</b>)</p> <p><b>Observations</b></p> <ul style="list-style-type: none"> <li>- Monitor the frequency, rhythm, depth and ability of the breath</li> <li>- Auscultation of breathing sounds</li> <li>- Oxygen Saturation Monitor</li> </ul> <p><b>Educational Therapy</b></p>

			<ul style="list-style-type: none"> <li>- Explain the purpose and procedure of monitoring</li> <li>- Inform the results of monitoring, if necessary.</li> </ul> <p>Collaboration</p> <ul style="list-style-type: none"> <li>- Collaboration on corticosteroid administration</li> </ul>
3	Nausea ( <b>D.0076</b> )	<p>After nursing intervention for 3 x 24 hours, the level of nausea decreased (<b>L.08065</b>), with the following outcome criteria:</p> <ul style="list-style-type: none"> <li>- Decreased feeling of wanting to vomit</li> </ul>	<p>Vomiting Management (<b>I.03118</b>)</p> <p><b>Observations</b></p> <ul style="list-style-type: none"> <li>- Identify the experience of vomiting</li> <li>- Identification of nonverbal cues of discomfort (ex: infants, children, and those who cannot communicate effectively)</li> <li>- Identify the impact of vomiting on quality of life (e.g., appetite, activity, performance, role responsibilities, and sleep)</li> <li>- Monitoring vomiting (ex: frequency, duration, and severity)</li> </ul> <p><b>Therapeutics</b></p>

### IMPLEMENTATION AND EVALUATION

Patient Name : Mr. N Age : 84 Years Old

Register 308648

Yes	Day/Date	No.Dx	Hours	Implementation	Evaluation
1	Wednesday, April 29 2026	1	20.00	<ul style="list-style-type: none"> <li>- Checking for signs of edema in both legs</li> <li>- Monitor fluid intake and output</li> <li>- Accompanying the senior nurse to perform 20mg/2mL Furosemide Injection.</li> <li>- explain to the patient and the patient's family about the causes of swelling (hypervolemia) due to decreased function of kidney filtration)</li> </ul>	<p><b>Q:</b> Patients complain that their legs feel heavy and tight when lying down.</p> <p><b>O:</b> Leg edema (+), pitting edema of the second degree, urine output <math>\pm</math>300cc/day.</p> <p><b>A:</b> Hypervolemia has not been resolved.</p> <p><b>Q:</b> Continue fluid monitoring and intake restriction education.</p>
		2	20.31	<ul style="list-style-type: none"> <li>- Monitor breathing rate and saturation</li> </ul> <p>oxygen (RR: 22x/min, SpO2: 94%)</p>	<p><b>Q:</b> The patient complains of shortness of breath.</p>

				<ul style="list-style-type: none"> <li>- Adjusts the position of the semi-fowler to relieve tightness</li> <li>- Teaching deep breathing techniques to improve comfort when tight</li> <li>- explain the importance of using 5 Lpm nasal cannula consistently</li> </ul>	<p><b>O:</b> RR: 22x/min, minimal use of breathing aids, attached NK 5 Lpm semi-fowler position is maintained.</p> <p><b>A:</b> Ineffective breathing patterns have not been resolved.</p> <p><b>P:</b> Periodic respiration monitor and semi-fowler position</p>
		3	21.05	<ul style="list-style-type: none"> <li>- Identifying the causative factors of nausea (High urea: 187 mg/dL)</li> <li>- Accompanying senior nurses to perform Ondansentron 4mg and Ranitidine 50mg Injections.</li> <li>- Recommends eating little but often</li> <li>- explains the importance of avoiding foods that stimulate nausea (strong odors)</li> </ul>	<p><b>Q:</b> The patient complains of nausea and vomiting (2x tonight).</p> <p><b>O:</b> The patient looks weak, the portion of food is only 3 tablespoons.</p> <p><b>A:</b> Nausea has not been resolved.</p> <p><b>Q:</b> Continue antiemetic.</p>

2	Thursday,30 April 2026	1	09.00	<ul style="list-style-type: none"> <li>- Measure blood pressure (139/82 mmHg).</li> <li>- Teach families how to limit their intake of fluids according to medical instructions.</li> <li>- Explaining the dangers of consuming sugary and cold drinks on the patient's kidney condition</li> <li>- Accompanying the nurse to perform Furosemide 20mg Injection.</li> </ul>	<p><b>Q:</b> The family says they have started limiting the patient's drinking.</p> <p><b>O:</b> TD: 138/76 mmHg, leg edema is still present but slightly reduced.</p> <p><b>A:</b> Hypervolemia is partially resolved.</p> <p><b>Q:</b> Continue the fluid restriction.</p>
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		2	09.34	<ul style="list-style-type: none"> <li>- Monitor breathing patterns and auscultation of ronkhi breathing sounds.</li> <li>- Accompanying a senior nurse to perform Methylprednisolone Injection 62.5mg.</li> </ul>	<p><b>Q:</b> The patient feels that breathing is a little lighter.</p> <p><b>O:</b> RR: 21x/min, SpO2: 96% (Nasal 3 Lpm), breathing patterns improved.</p>
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				<ul style="list-style-type: none"> <li>- Inform the family about the progress of the patient's respiratory condition.</li> <li>- Encourage patients to remain calm/not talk much when tightness increases</li> </ul>	<p><b>A:</b> Ineffective breathing patterns are partially resolved.</p> <p><b>Q:</b> Maintain the semi-fowler position.</p>
		3	10.20	<ul style="list-style-type: none"> <li>- Control the environment from pungent odors that trigger nausea and maintain oral hygiene.</li> <li>- Explain the function of the drugs nystatin drop and bisacodyl to treat constipation</li> <li>- Encourage patients to do oral hygiene independently or be assisted by their families to reduce bitterness in the mouth</li> </ul>	<p><b>A:</b> The patient feels less nausea, the desire to vomit decreases.</p> <p><b>O:</b> Vomiting (-), half a portion of the meal.</p> <p><b>A:</b> Nausea is partially resolved.</p> <p><b>Q:</b> Continue oral therapy and comfort education</p>



				- Accompanying senior nurses to perform Inj. Metoclopramidi 3x1.	
3	Friday,01 May 2026	1	14.30	<ul style="list-style-type: none"> <li>- Reassess the degree of edema in the lower extremities.</li> <li>- Explains the importance of adhering to a regular HD schedule (Wednesday and Saturday) to remove excess fluids.</li> <li>- Accompanying a senior nurse to perform Furosemide 20mg Injection.</li> </ul>	<p><b>Q:</b> The patient feels that the swelling in the legs has greatly reduced.</p> <p><b>O:</b> Edema degree I</p> <p><b>A:</b> Hypervolemia is partially resolved.</p> <p><b>Q:</b> Resume regular HD plan and Hb checkup</p>
		2	15.17	<ul style="list-style-type: none"> <li>- Monitor breathing depth and breathing ability without aids</li> <li>- Explain the signs of congestion that should be reported to the nurse</li> <li>- Inform the family of monitoring results (normal RR)</li> </ul>	<p><b>Q:</b> The patient no longer feels tightness when leaning against the bed.</p> <p><b>O:</b> RR: 19x/min, SpO2: 98% without oxygen aid (weaning successful)</p> <p><b>A:</b> Breathing patterns are not effectively resolved.</p> <p><b>Q:</b> Monitor independent activity.</p>

## DISCUSSION

### Nursing assessment

The results of the assessment were obtained by conducting observations, interviews and documentation studies. A male patient named Mr. N who is 84 years old, the patient was admitted to Royal Prima Medan Hospital in the Hemodialysis room on April 29, 2026 to do regular HD on April 29, 2026, at 13:30 WIB, but when going to HD the patient complained of shortness of breath, nausea and vomiting, lack of appetite and weakness, and both legs looked swollen (edema). So the patient was delivered to the emergency room at 14:25 and then given the action of giving 5Lpm NK and furosemide and ranitidine. At 17.30 the patient was transferred to room Ranap 7b.

Patients are often admitted to the hospital with hypertension. However, after years of hypertension, one and a half months ago the patient was admitted to the hospital with complaints of swelling in the face, hands and feet, nausea, vomiting, weakness, shortness of breath and a slight frequency of urine. Then the patient is declared to have CKD and must do dialysis/hemodialysis as soon as possible. So the patient until now runs HD 2x a week on Wednesday and Saturday afternoons. However, in the last 2 weeks, patients have HD with less bb pull due to the patient's blood pressure that often drops/drops when doing HD. Patients have taken OAH, but for now patients do not/rarely consume it. There is one person, namely his sibling (the patient's younger brother) who has diabetes. And for the patient's parents, the family does not know his medical history. For CKD problems, the patient is the first person in his family to experience CKD on HD 2x a week.

In the results of the physical examination carried out on the patient on April 29, 2026, the results were obtained: blood pressure 141/78 mmHg, pulse 78x/minute, breathing 23x/minute with nasal oxygen cannula 5 LPM, and temperature 37°C, pale face, weak appearance and edema feet, and acral feel cold.

At a laboratory examination on April 29, 2026, it was found that the patient had severe anemia with a Hemoglobin level of only 7.0 g/dL (reference 13.0–17.0 g/dL) and significant leukocytosis, namely  $22.42 \times 10^3/\mu\text{L}$  (reference  $4.0\text{--}10.0 \times 10^3/\mu\text{L}$ ), and there was a very severe impaired renal function, characterized by a spike in Urea levels of up to 187 mg/dL (reference 15–38 mg/dL) and Creatinine of 10.79 mg/dL (reference 0.70–1.30 mg/dL).

### **Nursing diagnosis**

After a nursing assessment was carried out and data processing was carried out by grouping data according to subjective and objective data, the researcher has adjusted to SDKI. After the results of data grouping and validation are obtained, it is followed by analyzing the data and finding nursing problems in patients. From the data, 3 nursing diagnoses were obtained that were enforced to handle health problems faced by patients. The following is a nursing diagnosis that emerges.

The first nursing diagnosis, namely hypervolemia, is related to Excess fluid intake is characterized by subjective data, namely complaining of tightness, Objective data is obtained Edema degree II in both legs, Creatinine Level: 10 mg/dL and Urea: 187 mg/dL, and decreased urine output

The second nursing diagnosis, namely ineffective breathing patterns related to obstruction of breathing effort, is characterized by Subjective Data, namely Patients complain of tightness, and tightness increases if lying on their back (orthopnea). Objective data were obtained: Use of respiratory support muscles (SCM+), Breathing frequency (RR): 23x/min, Sound of additional breath of fine wet ronkhi (Crackles) and oxygen saturation (SpO<sub>2</sub>): 94%.

The third nursing diagnosis, namely Nausea related to Biochemical Disorders (increased urea levels in the blood), is characterized by subjective data patients complain of nausea, vomiting and lack of appetite. Objective data were obtained Vomiting with a frequency of 3-4x/day, Small meal portions, high urea levels: 187mg/dL, and pale mucosal membranes.

### **Nursing implementation**

The implementation of nursing is carried out on patients for 3 days starting from April 29, 2026 to May 01, 2026. Implementation is carried out in accordance with a nursing plan that has been prepared in advance and guided by SIKI.

The implementation of nursing carried out in the nursing diagnosis of hypervolemia is related to excess fluid intake that has been carried out, namely checking for signs of edema in both legs, monitoring fluid intake and output, accompanying senior nurses to perform Furosemide 20mg/2mL injections, explaining to patients and patients' families the causes of swelling (hypervolemia) due to decreased kidney filtration function), measuring blood pressure, explaining the dangers of consuming sugary and cold drinks to the patient's kidney condition, and explains the importance of adhering to a regular HD schedule to remove excess fluid.

The implementation of nursing carried out in the nursing diagnosis of ineffective breathing patterns is related to the inhibition of breathing efforts that have been carried out, namely monitoring breathing frequency and oxygen saturation, adjusting the semi-fowler position to relieve tightness, teaching deep breathing techniques to increase comfort during tightness, explaining the importance of using 5 Lpm nasal cannula consistently, and accompanying senior nurses to perform Methylprednisolone 62.5mg injection.

The implementation of nursing carried out in the diagnosis of Nausea related to Biochemical Disorders (increase in urea levels in the blood) that has been carried out is Identifying the factors that cause nausea (high urea: 187 mg/dL), accompanying senior nurses to perform Ondancetron 4mg and Ranitidine 50mg injections, advocating eating little but often, explaining the importance of avoiding foods that stimulate nausea (strong odor), controlling the environment from pungent odors that trigger nausea and maintaining oral hygiene, encouraging patients to do oral hygiene independently or with the help of their families to reduce bitterness in the mouth, and accompanying senior nurses to perform Inj. Metoclopramidi 3x1.

### **Nursing evaluation**

After the implementation of nursing to the patient, followed by a nursing evaluation of each diagnosis that has been enforced. Evaluation was carried out every day in 3 days of research. The following are the results of the evaluation conducted on the patient.

The evaluation of the nursing diagnosis of hypervolemia was related to excess on the 3rd day after the implementation was obtained, namely the patient felt that the swelling in the legs had been greatly reduced, edema of the first degree, then the hypervolemia was partially resolved, and continued with the regular HD plan and Hb examination

The evaluation in the nursing diagnosis of ineffective breathing patterns was related to the obstruction of breathing efforts on the 3rd day after the implementation was obtained, namely that the patient no longer felt tightness when leaning on the bed, RR: 19x/min, SpO<sub>2</sub>: 98%, without oxygen assistance (weaning successful), then the ineffective breathing pattern was resolved. And the evaluation of the nursing diagnosis of Nausea is related to a decrease in Biochemical Disorders (an increase in urea levels in the blood) on the 3rd day after the implementation is obtained, the patient says that the appetite begins to improve, the asien looks fresher, the portion of food is consumed by 1 small portion, then Nausea is resolved. And continued with post-treatment nutrition education.

## CONCLUSION

The results of the nursing assessment carried out on the patient were obtained that the patient came to the hospital to do regular HD but experienced complaints of shortness of breath, nausea and vomiting, lack of appetite and weakness, and both legs looked swollen (edem), so that HD was not carried out and transferred to the emergency room for examination and was transferred to the IRNA room. The results of laboratory tests showed that Hemoglobin levels were low at 7.0 g/dL (reference 13.0–17.0 g/dL) and significant leukocytosis, namely  $22.42 \times 10^3/\mu\text{L}$  (reference 4.0–10.0  $\times 10^3/\mu\text{L}$ ), as well as Urea levels of up to 187 mg/dL (reference 15–38 mg/dL) and Creatinine of 10.79 mg/dL (reference 0.70–1.30 mg/dL).

Nursing diagnoses that appeared in Mr. N patients found 3 nursing problems, namely hypervolemia related to excess fluid intake, ineffective breathing patterns related to obstruction of breathing effort, Nausea related to biochemical disorders (increased urea levels in the blood).

Planned nursing interventions are in accordance with SLKI and SIKI. The following interventions planned by the researchers are hypervolemia management, respiration monitoring and vomiting management.

Nursing implementation refers to the action plan that has been prepared. Most nursing actions can be carried out in the implementation carried out, including calculating the 24-hour fluid balance, monitoring tvv, limiting the patient's fluids. In addition, the researcher also examined the degree of edema, checked skin turglo, positioned the patient with a fowler/semi fowler, provided oxygen therapy, taught deep breathing techniques, checked peripheral circulation, monitored food intake, monitored the portion of meals spent, fed in a sitting position, and monitored nausea and vomiting.

The nursing evaluation obtained as a result of the problem that was resolved, namely ineffective breathing patterns related to obstruction of breathing efforts, and Nausea related to biochemical disorders (increased urea levels in the blood). While the problem that is partially resolved, namely hypervolemia is related to excess fluid intake, it will be continued with regular HD as scheduled (Wednesday and Saturday).

## SUGGESTIONS

The case study conducted by researchers on nursing care in patients with *Chronic Kidney Disease* (CKD) can be information for the room nurses at Royal Prima Medan Hospital in conducting nursing care. It is expected that room nurses will continue to maintain comprehensive and professional nursing care in accordance with SDKI, SLKI, and SIKI to achieve the set outcome criteria.

The results of this scientific paper are expected to improve the quality and quality of education. Increase the number of reference books on nursing and the latest medicine about *Chronic Kidney Disease* (CKD) so that it can increase interest in reading and the learning process.

This paper is expected to be a scientific reading material, a comparative framework for developing nursing science, and providing references to future researchers and students, so that it can increase students' knowledge about nursing care in patients with *Chronic Kidney Disease* (CKD).

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