

CHAPTER 1

INTRODUCTION

1.1 Background

Chronic Kidney Disease is a serious health problem considering its increasing prevalence, Renal Replacement Therapy (RRT) that must be experienced by CKD patients is an expensive treatment, it takes time and patience from the patients and their families (Hutagaol, 2017b). The most used RRT is Hemodialysis (HD). Its success is influenced by HD patient adherence to treatment regimens, fluid restriction, and diet. However, patient non-compliance with fluid restrictions and diet is the main problem in the majority of HD patients, so they need effective health management to increase knowledge in fluid monitoring and diet, especially care at home because the patient's knowledge when leaving the hospital is an important element that must be met (Nursalam *et al.*, 2020).

The results of a systematic review and meta-analysis conducted by Hill et al, 2016, found a global prevalence of CKD was 13.4%. In Indonesia, the number of patients with kidney failure increased from 2.0 % per mile in 2013 to 3.8% per mile in 2018, and as many as 98% of patients undergo hemodialysis therapy (Kemenkes RI, 2018). The non-adherence rate of hemodialysis patients in limiting fluid intake reached 79.5% in America, Germany, Belgium, and Ireland. Similarly, in China the number of patients who do not comply with hemodialysis to fluid restriction ranges from 43.6 - 54.9% (Nursalam *et al.*, 2020). In East Java, it was found that more than half of the patients did not comply with fluid Restrictions (Putri, Sukartini,

and Efendi, 2019). In Blambangan Hospital, patients undergoing hemodialysis have increased in the last 3 months, namely in July 100 patients, August 105 patients, and September 108 patients. The high rate of non-compliance is caused by the low level of knowledge obtained by patients.

Chronic kidney disease is a condition in which kidney function has decreased quite severely and occurs slowly (chronically) caused by various kidney diseases, progressive, and generally cannot recover. This condition causes the kidneys fail to maintain metabolism and fluid and electrolytes balance so renal replacement therapy is needed in the form of hemodialysis. Commonly Hemodialysis is done routinely twice a week for approximately 5 hours, but there are also undergoing hemodialysis 3 times a week for 4 hours (Widiyanti, 2017).

Hemodialysis is an action or attempts to clean the blood from toxins that cannot be removed by the kidneys from the body. The fluid balance in the body will be disturbed for chronic kidney disease sufferers, so monitoring to limit fluid intake needs to be done. If the patient does not restrict fluid intake, it will build-up fluid in the body. Adherence to fluid restriction is a very important factor in determining the level of health and well-being of patients on hemodialysis. Fluid restriction is difficult to do and make the patient stressed and depressed, especially if they take drugs that can dry mucous membranes such as diuretic, causes thirst and the patient tries to drink (Saraswati, Antari and Suwartini, 2019). The compliance level of patients undergoing hemodialysis is still relatively low,

this is in line with research conducted by Herlina and Rosaline (2021) lack of patient compliance undergoing hemodialysis therapy to fluid restriction often causes the increase in interdialytic weight gain (IDWG). IDWG is a benchmark to determine the amount of fluid consumed during the interdialytic period. A good IDWG for the body is not more than 3% of dry bodyweight, which is bodyweight without excess fluid. IDWG will cause bad effects on the body including muscle cramps, shortness of breath, nausea, and vomiting (Engla, Bayhakki, and Hasanah, 2020).

Adaptation of lifestyle changes needs to be done in hemodialysis patients to regulate diet, fluid intake, and medications (Stevenson *et al.*, 2018). The existence of a family can provide very meaningful support when the patient has various problems such as a complicated life and all kinds of health programs. Family is also a driving force in learning efforts to keep up with life changes. Losing support from family can increase anxiety, stress, and psychological changes that can increase other health problems and even death for people with CKD undergoing hemodialysis (Saraswati, Antari, and Suwartini, 2019).

Educating patients with CKD or their families to monitor the intake of fluid needs in patients also helps them in controlling thirst due to restrictions on fluid intake. Controlling the patient's thirst can be done by drinking little but often, limiting the amount of sodium and spicy foods, reducing the consumption of oily foods, avoiding excessive activity as well as modifying the environment, and encouraging patients not to do much activity (Nanda G.M.P *et al.*, 2020). Assistance by nurses needs to be done to improve

compliance in consuming energy, fluids, and potassium due to the treatment given.

The plan carried out by researchers is a fluid control calendar. It can help respondents regulate their fluid intake. A calendar is a print media that contains images and writings to clarify the information served. Widiyani and Afriani (2019) revealed that the more information the patient gets, the better their level of compliance with fluid intake restrictions. In their research Riswanda and Wajayanti (2020) stated that educational media using a fluid control calendar intake can improve fluid intake compliance in patients undergoing hemodialysis. This fluid management calendar helps respondents control fluid intake during inter-dialysis intervals. Add liquid related to IDWG, so if fluid intake can be controlled, then the increase in body weight can also be controlled not to be high. The recommended fluid intake daily allowance for patients undergoing hemodialysis is the amount of urine plus insensible water losses.

Based on the description of the problems above, the researcher is interested in raising the issue of ineffective health management in CKD patients in the hemodialysis room at Blambangan Hospital.

1.2 Limitation of Problem

The problem is limited to nursing care for Chronic Kidney Disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Regional Public Hospital.

1.3 Formulation of the Problem

How is the nursing care for Chronic Kidney Disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Hospital?

1.4 The Objective of the Study

1.4.1 General Aim

Doing nursing care for Chronic Kidney Disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Hospital.

1.4.2 Special Aim

1. Carry out nursing assessments on Chronic Kidney Disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Hospital Banyuwangi.
2. Identify nursing diagnoses in Chronic Kidney Disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Hospital Banyuwangi.
3. Develop a nursing plan for Chronic Kidney Disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Hospital Banyuwangi.
4. Carry out nursing actions on Chronic Kidney Disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Hospital Banyuwangi.
5. Carry out nursing evaluations on Chronic Kidney Disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Hospital Banyuwangi

1.5 Expected Result

1.5.1 Theoretical

This case study was expected to provide information about nursing care for chronic kidney disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Hospital.

1.5.2 Practical

1. For Nurse

It is hoped that it can serve as additional knowledge for the nursing profession in terms of providing Nursing Care for chronic kidney disease (CKD) patients with ineffective health management nursing problems in the hemodialysis room of Blambangan Hospital.

2. For Hospital

This case study can be used as reference material for the parties of Blambangan Hospital in carrying out nursing and active SOP settings for Chronic Kidney Disease (CKD) patients with ineffective Health management nursing problems in the hemodialysis room of Blambangan Hospital Banyuwangi.

3. For Educational Institutions

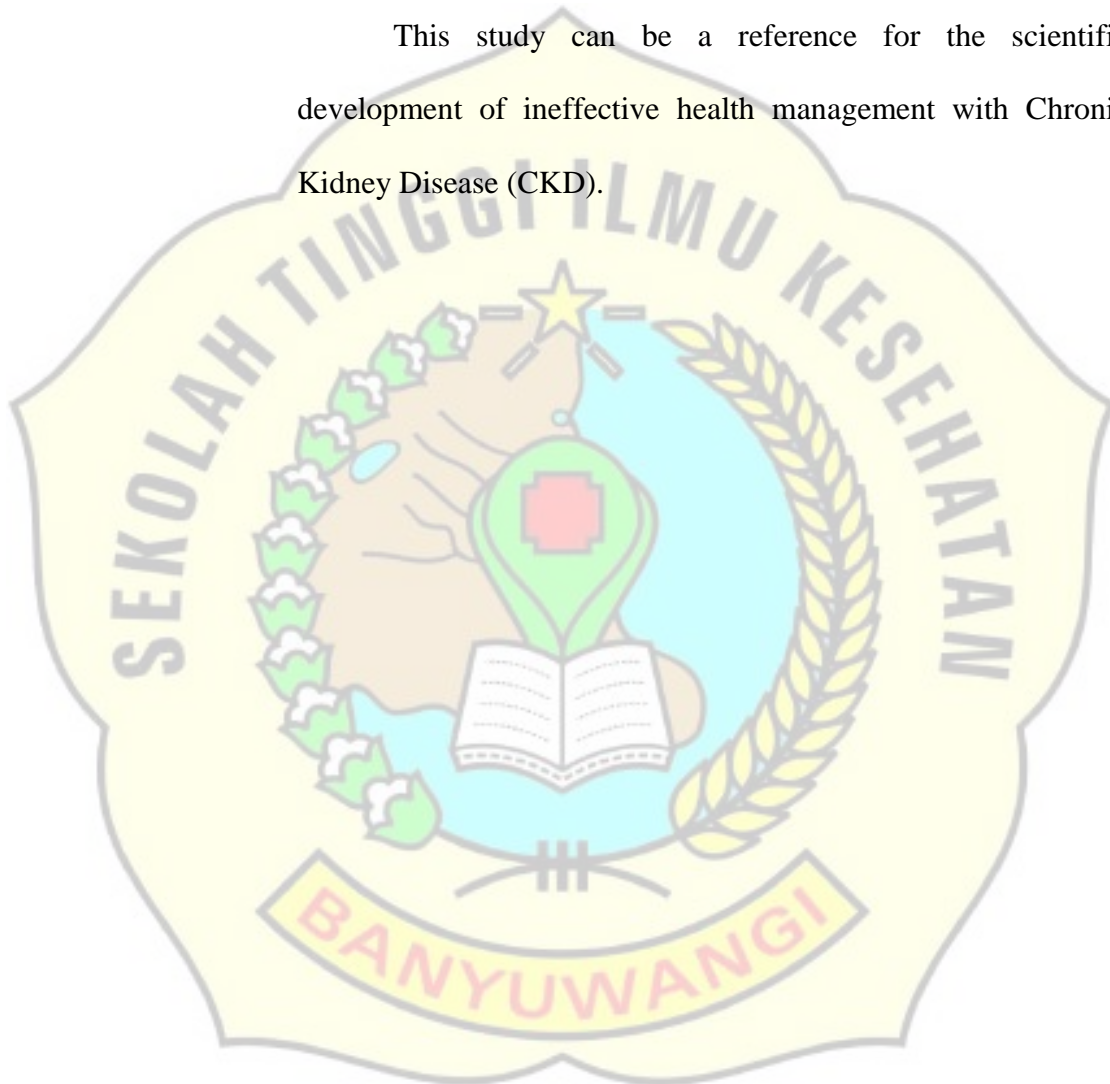
This study can improve the quality of teaching and learning process, especially in the Medical-Surgical Nursing course to produce professional nurses.

4. For Patients and Families

Increase the knowledge of clients and families about Chronic Kidney Disease (CKD) especially in non-compliance to the increase in Interdialytic Weight Gain (IDWG).

5. For Student

This study can be a reference for the scientific development of ineffective health management with Chronic Kidney Disease (CKD).



CHAPTER 2

LITERATURE REVIEW

2.1 Overview Chronic Kidney Disease (CKD)

2.1.1 Definition

Chronic kidney disease (CKD) is a kidney disorder characterized by abnormalities in kidney structure or function for more than 3 months. CKD is indicated by one or more signs of kidney damage including albuminuria, abnormalities in urine sediment, electrolytes, histology, renal structure, or a history of kidney transplantation accompanied by a decrease in the glomerular filtration rate (Aisara, Azmi and Yanni, 2018).

Chronic kidney disease is defined as progressive kidney damage for a long time and is characterized by a decrease in its ability to filter the blood (Glomerular Filtration Rate/GFR). CKD patients often have no symptoms or signs till their function remains less than 15% (Kusuma *et al.*, 2019).

2.1.2 Etiology

Chronic kidney failure is caused by various diseases such as acute glomerulonephritis, acute renal failure, polycystic kidney disease, urinary tract obstruction, pyelonephritis, nephrotoxins, and systemic diseases such as diabetes mellitus, hypertension, lupus erythematosus, polyarthritis, sickle cell disease, and amyloidosis (Hutagaol, 2017a).

2.1.3 Classification

CKD is categorized based on the Glomerular Filtration Rate (GFR) and albuminuria as shown in the table below:

Table 2.1 Classification of CKD (KDIGO, 2021)

				Albuminuria categories description and range		
				A1	A2	A3
Prognosis of CKD by GFR and albuminuria categories: KGIGO 2012				Normally mildly increased	Moderately Increased	Severely Increased
				<30 mg/g <3 mg/mmol	30-300 mg/g 3-30 mg/mmol	>300 mg/g >30 mg/mmol
GFR categories (ml/min/1.73 m ²) Description and Range	G1	Normal or high	≥90			
	G2	Mildly decreased	60-89			
	G3a	Mildly to moderately decreased	45-59			
	G3b	Moderately to severely decreased	30-44			
	G4	Severely decreased	15-29			
	G5	Kidney failure	<15			

Description:

- Green, low risk (if no other markers of kidney disease),
- Yellow: moderately increased risk
- Orange: high risk
- Red: very high risk
- GFR : Glomerular Filtration Rate

GFR can be calculated by the Cockcroft-Gault formula:

For Man:

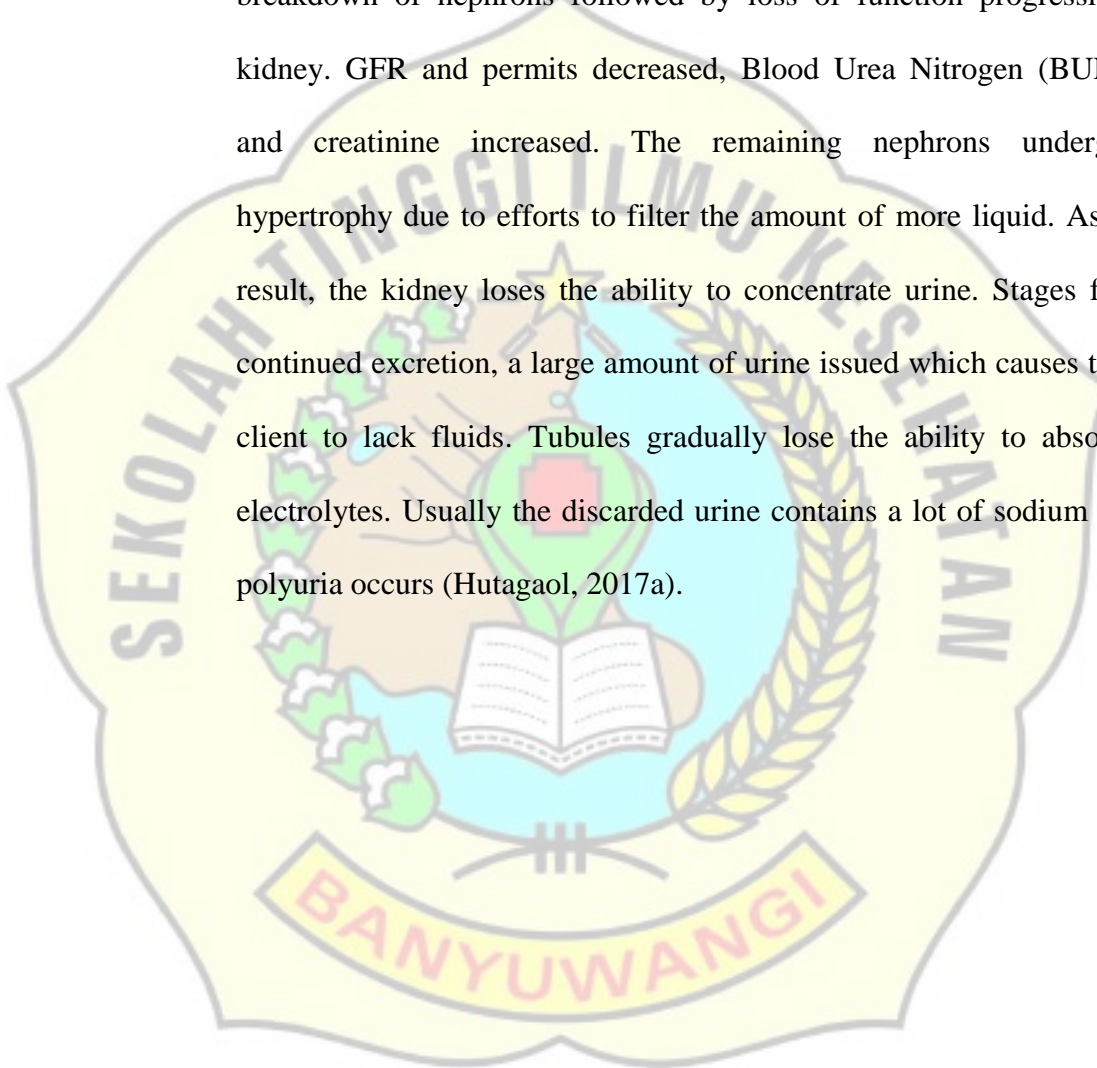
$$CCT = \frac{(140 - \text{age}) \times \text{weight (kg)}}{72 \times \text{serum creatinine } \left(\frac{\text{mg}}{\text{dl}}\right)}$$

For Girl:

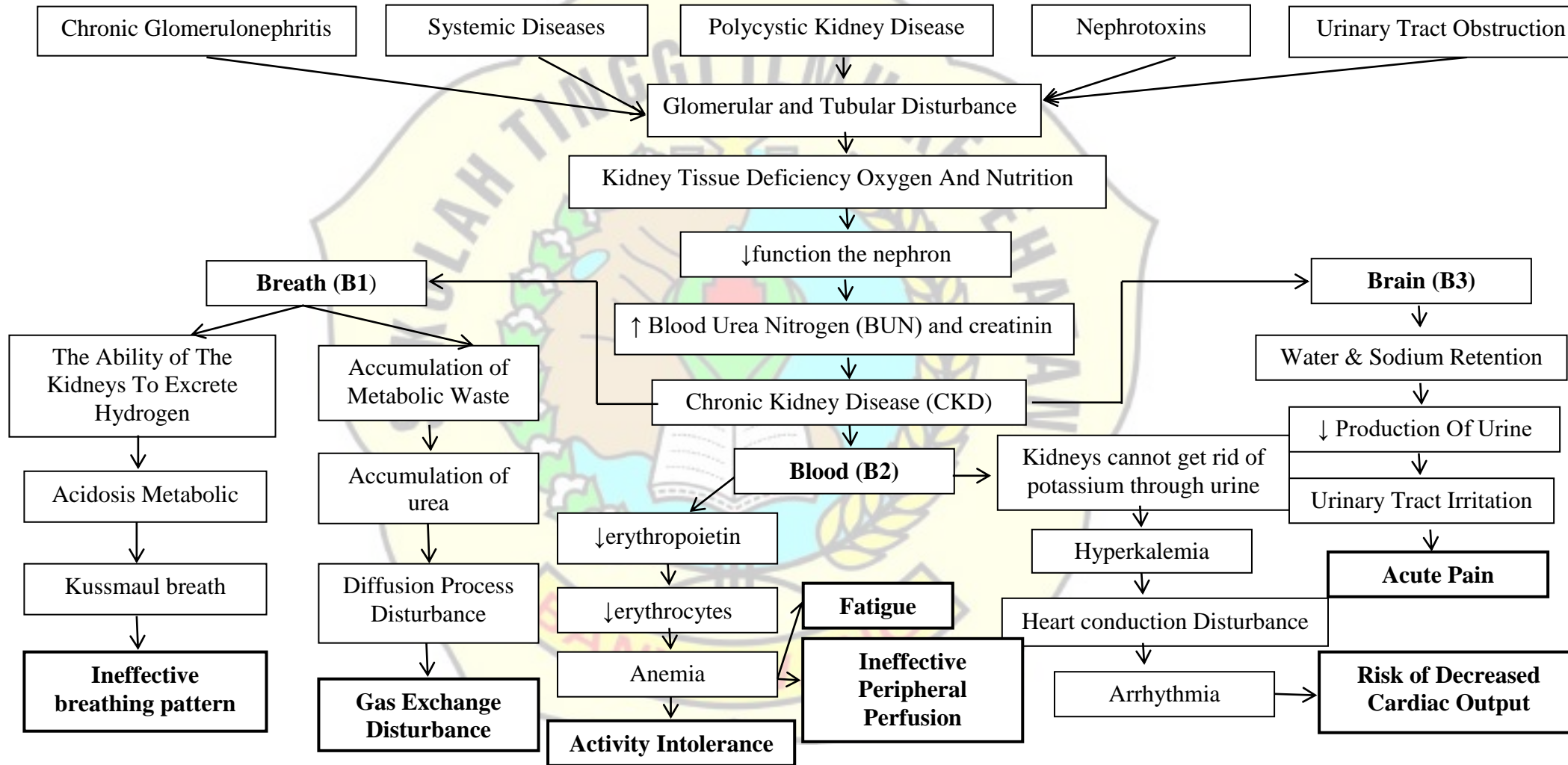
$$\text{CCT} = \frac{(140 - \text{Age}) \times \text{weight (kg)}}{72 \times \text{serum creatinine } \left(\frac{\text{mg}}{\text{dl}}\right)} \times 0,85$$

2.1.4 Pathophysiology

Pathogenesis of chronic renal failure involves decline and breakdown of nephrons followed by loss of function progressive kidney. GFR and permits decreased, Blood Urea Nitrogen (BUN) and creatinine increased. The remaining nephrons undergo hypertrophy due to efforts to filter the amount of more liquid. As a result, the kidney loses the ability to concentrate urine. Stages for continued excretion, a large amount of urine issued which causes the client to lack fluids. Tubules gradually lose the ability to absorb electrolytes. Usually the discarded urine contains a lot of sodium so polyuria occurs (Hutagaol, 2017a).



2.1.5 Web of Causation



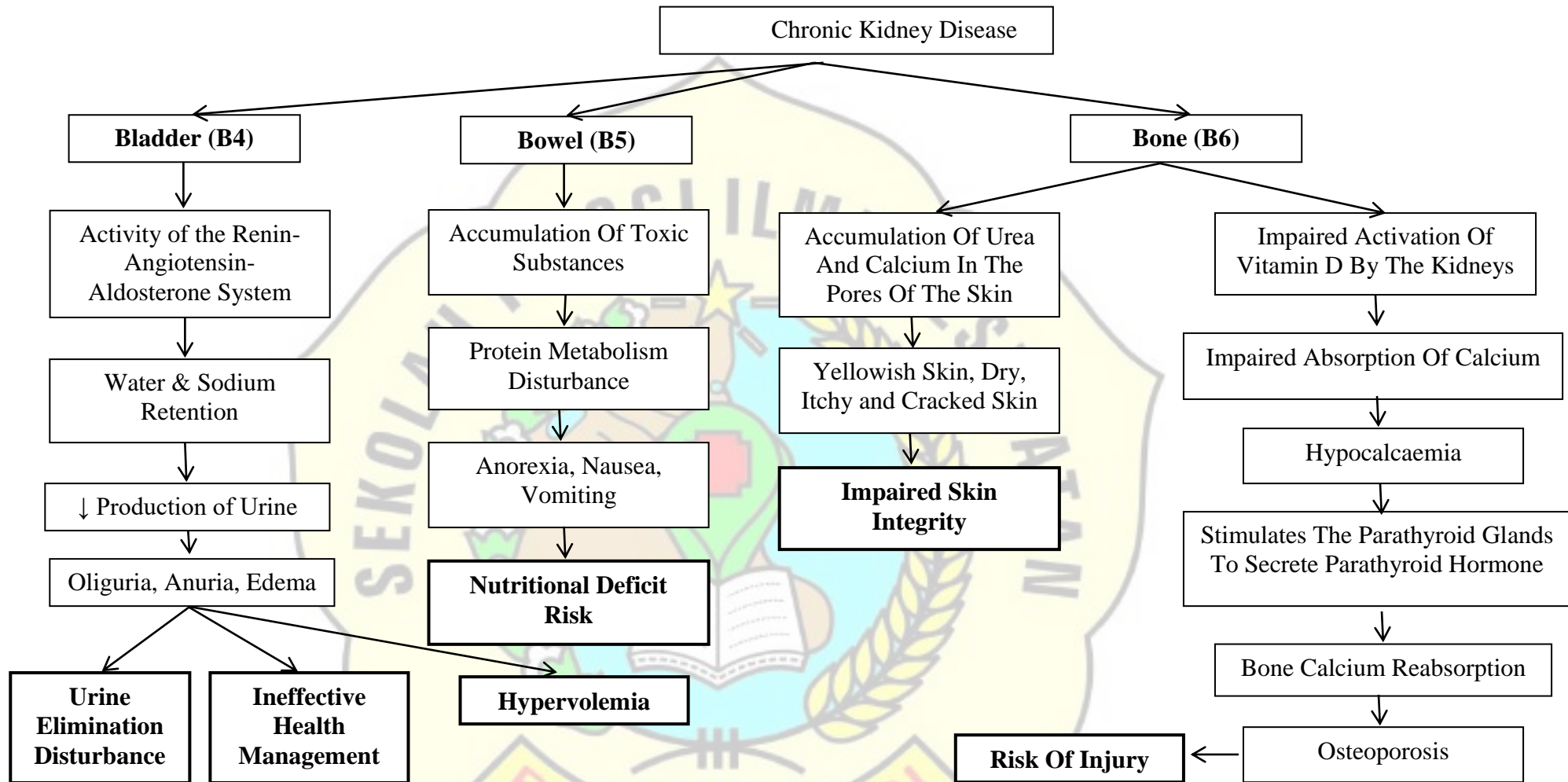


Chart 2. 1 WOC of CKD

2.1.6 Clinical Manifestations

According to Isroin (2016) Clinical signs and symptoms of failure chronic kidney disease due to disorders systemic. Kidneys as organs coordinated in the role of circulation have multiple functions (organs multifunction), resulting in kidney chronic damage physiologically which causes balance disorders in circulation and vasomotor. The followings are signs and symptoms of chronic kidney failure:

- a) Gastrointestinal
- b) Cardiovascular
- c) *Respiratory System*
- d) Integument
- e) Neurological
- f) Endocrine
- g) Hematopoietic
- h) Musculoskeletal

2.1.7 Complications

The complication of CKD according to (Utami, Santhi, and Lestari, 2020)

1. Hyperkalemia

Hyperkalemia (high blood potassium levels) is a condition in which the concentration of blood potassium is more than 6 mEq/L

2. Metabolic acidosis

Under normal conditions, the kidneys can absorb metabolic waste acids from the blood and excrete them in the urine.

3. Hypertension

It is a disturbance to the circulatory system which can cause an increase in blood pressure above the normal value of 140/90 mmHg.

4. Hyperuricemia

Enhancement of urea levels where the cause of uremia is prerenal, renal, and post renal

5. Anemia

It is caused by erythropoietin deficiency, iron deficiency, blood, and acute and chronic inflammatory processes

2.1.8 Treatment

The management goal is to maintain kidney function and homeostasis by treating any underlying condition, slowing down the progression, and reducing the risk factor as long as possible:

1. Dialysis

a. Hemodialysis

Hemodialysis aims to produce kidney function to extend survival and improve the quality of life in patients with CKD. CKD patients undergo hemodialysis 1-3 times a week and it takes 2-5 hours, this activity will continue for 3-4 hours per therapy and throughout his/her life (Putri, Alini, and Indrawati, 2020).

b. CAPD (Continuous Ambulatory Peritoneal Dialysis)

Peritoneal dialysis (PD) is a renal replacement therapy based on the infusion of sterile solutions into the peritoneal

cavity through a catheter and providing removal of solutes and water using the peritoneal membrane as an exchange surface (Claudia, Andreoli, and Totoli, 2020)

2. Renal Transplantation

Transplantation is surgery to relocate a healthy kidney from a living or deceased donor to someone whose kidneys are not functioning properly.

3. Lifestyle changes

Lifestyle changes can help protect a person and their kidneys healthier longer. Apart from eating properly and drinking as prescribed medication, exercising regularly and not smoking are very helpful for prolonging kidney health.

4. Dietary

A low protein and high-calorie diet relieve symptoms of anorexia, nausea, and uremia causing a decrease in urea and symptom improvement. Avoid excessive input from potassium and salt (Isroin, 2016)

5. Optimize and maintain a balance of liquid and salt

Monitoring is carried out through body weight, urine, and fluid balance records (Isroin, 2016).

6. Control electrolyte imbalance

To prevent hyperkalemia, avoid intake of large amounts of potassium, potassium-sparing diuretics, and drugs associated with potassium excretion (eg, nonsteroidal anti-inflammatory drugs).

7. Complication detection

Close supervision is possible for uremic encephalopathy, pericarditis, peripheral neuropathy, increased hyperkalemia, excess fluid volume increased, life-threatening infections, and failure to endure, so dialysis is necessary (Vassalotti *et al.*, 2016).

2.1.9 Chronic Kidney Disease (CKD) Patients Undergoing Hemodialysis with Ineffective Health Management Nursing Problem

Chronic kidney disease (CKD) is a kidney disorder that is characterized by abnormalities in kidney structure or function for more than 3 months (Aisara, Azmi, and Yanni, 2018). Renal Replacement Therapy (RRT) must be experienced by CKD patients to change their kidney function. The most used RRT is Hemodialysis (HD). Its success is influenced by HD patients' adherence to treatment regimens, fluid restriction, and diet. However, patient non-compliance with fluid restrictions and diet is the main problem in the majority of HD patients, so they need effective health management to increase knowledge in fluid monitoring and diet, especially care at home because the patient's knowledge when leaving the hospital is an important element that must be met (Nursalam *et al.*, 2020).

2.2 Concept of Hemodialysis

2.2.1 Definition

Hemodialysis comes from the word “hemo” which means blood and “dialysis” means to separate. So hemodialysis is a process of separating the blood from substances inorganic/toxic/metabolic

waste through a membrane semi-permeable in which blood is on the other side and fluid dialysate on the other side of the room. Hemodialysis is a process used to remove liquid and waste products from the body when the kidneys are not able to perform this function (Isroin, 2016).

2.2.2 Purpose

The goal of hemodialysis therapy is to take toxic nitrogen substances from the patient's body to the dialyzer where the blood is cleaned and returned to the patient's body (Hutagaol, 2017b).

2.2.3 Working Principles

Three principles underlie work hemodialysis, namely diffusion, osmosis, and ultrafiltration. On the diffusion of toxins and substances wastes in the blood are removed from the blood that has high concentrations to dialysate which has low concentrations. On osmosis excessive water in the body will be removed by creating a pressure gradient where water moves from the patient's body to the fluids. This gradient can be increased through the addition of negative pressure known as ultrafiltration on the machine dialysis (Hutagaol, 2017b).

2.2.4 Indication

Hemodialysis is indicated for acute patients who need short-term dialysis therapy (several days to several weeks) or patients with end-stage kidney failure requiring long-term therapy/permanent. General indications of hemodialysis of kidney failure are (Hutagaol, 2017b):

- a) GFR less than 15 ml/min
- b) Hyperkalemia
- c) Treatment failure conservative
- d) Urea levels of more than 200 mg/dl
- e) Creatinine more than 65 mEq/L
- f) Fluid overload; and
- g) Prolonged anuria more than 5 times

2.2.5 Complication

1. Hypotension
2. Chest pain
3. Pruritus
4. Muscle cramps and pain
5. Hypokalemia

2.2.6 Hemodialysis success

Effective hemodialysis treatment is directly related to patient compliance with diet and fluid restrictions, medications, and regular hemodialysis medication (Claudia, Andreoli, and Totoli, 2020). Successful fluid management and diet on hemodialysis therapy were analyzed by IDWG (Intradialytic Weight Gain). IDWG is used to evaluate how the patient regulates fluid intake, which is the calculation in kilograms or as dry weight presentation of the patient. To reduce the risk of overload between times dialysis, IDWG should be less than 2.5 kg or 5% of body weight between two dialysis sessions. This case indicated that hemodialysis patients are advised

to take fluid per day allowed is 500 ml plus the total amount of urine output per day (Claudia, Andreoli, and Totoli, 2020).

2.3 Ineffective Health Management Concept

2.3.1 Definition of Ineffective Health Management

Ineffective Health Management is setting the pattern and integrated handling of health problems, and daily life habits unsatisfactory to achieve the expected health status (PPNI, 2017).

2.3.2 Causes

According to Indonesian National Nurses Association (2017), the causes of ineffective health management are:

1. Health care system complexity
2. The complexity of the treatment/care program
3. Decision-making conflict
4. Lack of exposure to information
5. Economy difficulty
6. Excessive demands (for example individual, family)
7. Family conflict
8. Ineffective family health care patterns
9. Insufficient directions for action
10. Lack of social support

2.3.3 Symptoms and Major Signs

According to Indonesian National Nurses Association (2017) Symptoms and Major Signs of ineffective health management are:

1. Subjective

- a. Expressing difficulties in carrying out the treatment or care program

2. Objective

- a. Failing to take action to reduce risk factors
- b. Failed to implement treatment/care program in daily living
- c. Activities of daily living are not effective for fulfilling health goals

2.3.4 Associated clinical conditions

According to Indonesian National Nurses Association (2017) Associated clinical conditions of ineffective health management are:

1. Chronic conditions (for example cancer, chronic obstructive pulmonary disease, sclerosis multiple, arthritis, Chronic kidney disease, chronic liver or heart)
2. A new diagnosis that requires lifestyle changes

2.3.5 Outcome

1. Take action to reduce risk factors
2. Implement a treatment program
3. Activities of daily living effectively meet health goals
4. Verbalization of difficulties in undergoing treatment/care programs

2.3.6 Intervention

According to (Indonesian National Nurses Association, 2018) interventions of ineffective health management are:

Health Education

Observation

1. Identify readiness and ability to receive information.
2. Identify factors that can increase and decrease motivation for clean and healthy living behavior.

Therapeutic

1. Provide health education materials and media
2. Scheduled health education as agreed
3. Give a chance to ask

Education

1. Explain the risk factors that affect health.
2. Teach clean and healthy living behavior
3. Teach strategies can be used to improve a clean and healthy lifestyle

2.4 Nursing Care Concept

2.4.1 Assessment

Assessment of Chronic Kidney Disease (CKD) clients emphasizes the support system to maintain balance condition in the body (hemodynamically process). With non-optimal/failure of kidney function, the body will make efforts to compensate within the reasonable threshold. However, if this condition continues (chronic), it will cause various problems and clinical manifestations that indicate system disorder. The followings are the Nursing assessment of clients with CKD:

1. Identity

There is no specification for CKD incidence, but men often experience a higher risk associated with work and a healthy lifestyle. This is in line with research conducted by (Sagita, Setiawan, and Hardian, 2018).

2. Main Complaint

Complaints vary widely, they can be in the form of decreased urine output (oliguria to anuria), anorexia, nausea, vomiting, fatigue, bad breath urea, shortness of breath, edema, pallor, and hematuria

3. History of Current Illness

Complaints are raised until they are taken to the hospital and enter the treatment room. This component consists of PQRST namely:

P: Palliative

Palliative is a factor that triggers the occurrence of disease to relieve or exacerbate symptoms, CKD clients complain about shortness of breath, nausea, and vomiting.

Q: Qualitative

It is a complaint or illness felt. The feeling of tightness will make you tired so it is difficult to do activities

R: Region

Location of spreading the patient complained about.

S: Scale

It is the severity or intensity of the complaint.

T: Time

The time at which the complaint was felt, its duration, and frequency

4. Past Medical History

Possible history of diabetes mellitus nephrosclerosis, hypertension, untreated acute renal failure well, urinary obstruction or infection, analgesic abuse.

5. Family History of Illness

CKD is not an infectious disease and is declining, so the family does not have an impact on it. However, Secondary triggers such as diabetes and hypertension affect the incidence of chronic kidney failure because the disease is hereditary, review the family health pattern applied if any sick family members, for example, drink herbal medicine when sick.

6. Psychosocial

In CKD clients, psychosocial changes usually occur when the client experiences change in the structure and function of the body and undergo the dialysis process.

7. Daily Activity Pattern

a) Nutrition Pattern

In CKD patients will be found the changes in diet or nutrition less than necessary because they are anorexic and have nausea and vomiting.

b) Elimination Pattern

The pattern of decreased urine elimination, anuria, oliguria, abdominal distension, diarrhea, or constipation will be found.

c) Rest And Sleep Patterns

There will be found disturbed sleep patterns due to manifestations of chronic kidney failure such as pelvic pain, muscle cramps, leg pain, fever, etc.

d) Personal Hygiene

CKD patients will be recommended to bed rest, so they need help with personal hygiene.

e) Activity

Kidney failure patients usually experience muscle weakness, loss of muscle tone, and decreased range of motion

8. Physical Examination

a) General Condition And Vital Signs

CKD client's condition is usually weak (fatigue), level of consciousness decreases according to the level of uremia

which can affect the central nervous system. On examination, vital signs revealed tachypnea, hypertension, or hypotension.

b) Physical Examination

1) Respiratory System

The breathing pattern will be faster and internally as a form of compensation the body maintains ventilation

2) Cardiovascular System

One of the diseases that are directly related to CKD incidence is hypertension. High blood pressure above the reasonable threshold will affect the vascular volume. This stagnation will trigger sodium and water retention it will increase the load on the heart.

3) Digestive System

Digestive system disorders are more due to the effects of the disease (stress effect), often found in anorexia, nausea, vomiting, and diarrhea.

4) Hematology System

Usually, there is increased Blood Pressure (BP), cold acral, CRT > 3 seconds, palpitations heart, heart rhythm disturbances, and other circulatory disorders. Other than that, in the physiology of the blood, there is often an anemia disorder because of a decrease in erythropoietin.

5) Endocrine System

If the CKD condition is associated with diabetes mellitus, there will be disturbances in insulin secretion that affect the process of metabolism.

6) Urinary System

With complex renal function impairment/failure (filtration, secretion, reabsorption, and excretion), then the most prominent is a decrease in urine output <400 ml/day even up to anuria (absence of urine output).

7) Integumentary System

Remainder metabolic acids that are not excreted by the kidneys can accumulate in the skin which causes pruritus. Dry skin because of dehydration and sweat gland atrophy.

8) Musculoskeletal System

A decrease/failure of secretory function in the kidneys impacts the process of bone demineralization, so the high-risk incidence of osteoporosis

9. Supporting data

a. *Glomerular Filtration Rate* (GFR)

According to Gounden, Bhatt, and Jialal (2021), the most excellent general marker of glomerular work is the glomerular filtration rate (GFR). GFR is the rate in milliliters per minute at which substances in plasma are sifted through the

glomerulus; in other words, the clearance of a substance from the blood. The characteristics of a GFR perfect marker are as follows:

- a. It ought to show up endogenously within the plasma at a consistent rate
- b. It ought to be unreservedly sifted at the glomerulus
- c. It cannot be one or the other reabsorbed or discharged by the renal tubule
- d. It ought to not experience an extrarenal end.

b. *Creatinine*

According to Gounden, Bhatt, and Jialal(2021), the foremost commonly utilized endogenous marker for the appraisal of glomerular work is creatinine. The calculated clearance of creatinine is utilized to supply a GFR marker. This includes the collection of pee over 24 hours or ideally over a precisely coordinated period of 5 to 8 hours since 24-hour collections are famously questionable. Creatinine clearance is then calculated using the condition:

$$C = \frac{u \times v}{p}$$

C = clearance,

U = urinary concentration,

V = urinary flow rate (volume/time i.e. ml/min),

P = plasma concentration

c. Diagnostic Test

1) Electrocardiogram (ECG) Examination

It is used to look for left ventricular hypertrophy, signs of pericarditis, arrhythmias, and electrolyte disturbances (hyperkalemia, hypocalcemia).

2) Ultrasound Examination

Assess kidney size and shape, renal cortex thickness, and density of renal parenchyma (Chen, Knicely, and Grams, 2020).

d. *Blood Urea Nitrogen (BUN)*

According to Gounden, Bhatt, and Jialal (2021) urea or BUN is a nitrogen-containing compound formed in the liver as an end product of protein metabolism and the urea cycle. Approximately 85% of urea is eliminated through the kidneys; the remainder is excreted through the gastrointestinal (GI) tract. Serum urea level is increased in conditions where renal clearance is decreased (in acute and chronic renal failure/impairment). Urea may also be elevated in other conditions unrelated to kidney diseases, such as upper GI bleeding, dehydration, catabolic states, and high protein diets. Urea may decrease in starvation, low-protein diets, and severe liver disease. Serum creatinine is a more accurate assessment of renal function than urea; however, urea increases earlier in kidney disease.

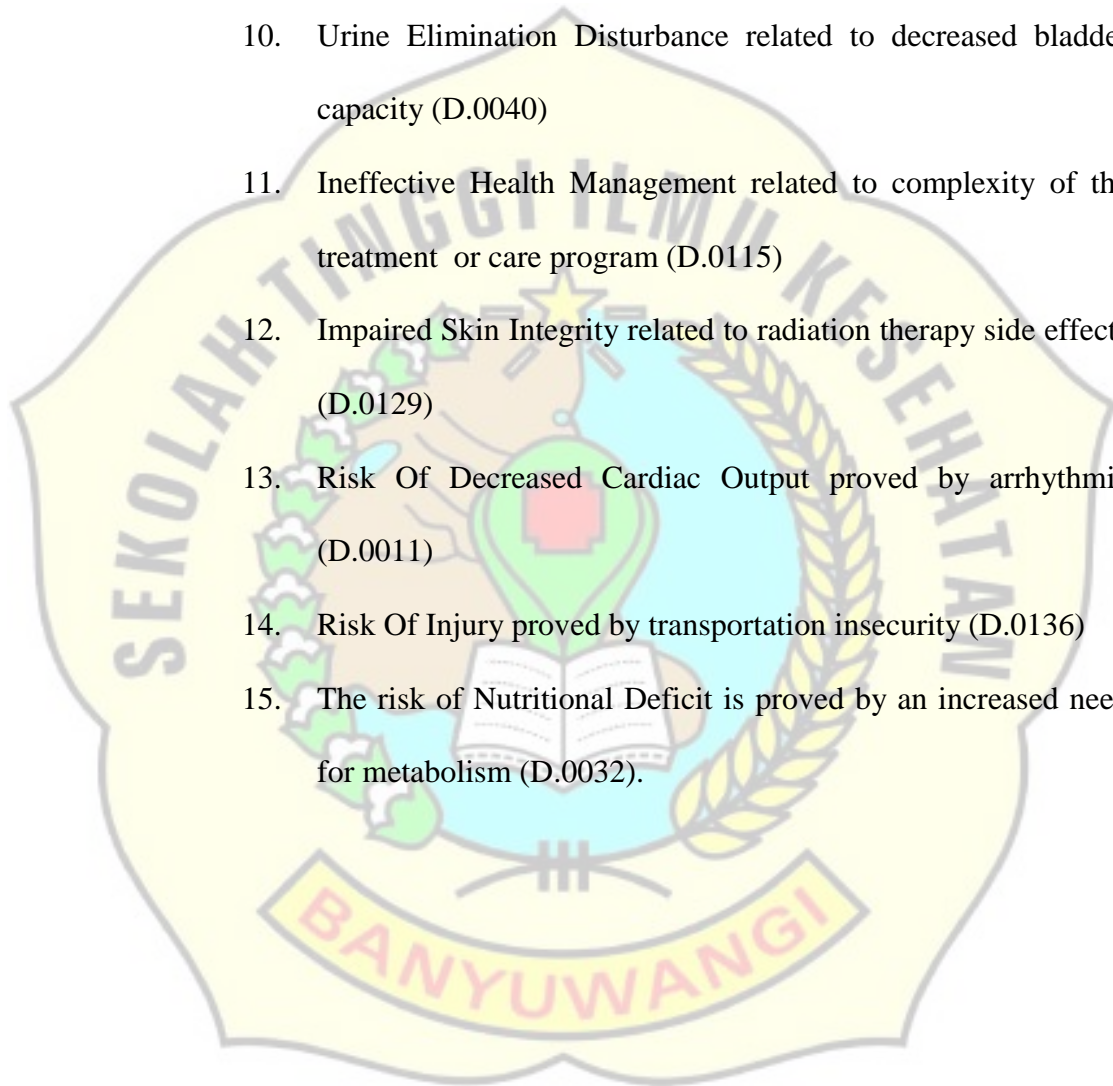
e. Urinalysis

Urine analysis involves assessing the urine characteristics to aid in the disease diagnosis. It consists of physical, chemical, and microscopic examination. Physical examination includes assessment of color and clarity. Normal urine is straw-colored, whereas if you are dehydrated, the urine is darker. Red urine may indicate hematuria or porphyria or may represent intake of foods such as beets. Cloudy urine may be seen in the presence of pyuria due to urinary tract infection. Specific gravity is an indicator of the kidneys concentrating ability which can be measured by refractometry or chemically using a urine dipstick. The physiological range for specific gravity is 1.003 to 1.030. Specific gravity increases in concentrated urine and decreases in dilute urine (Gounden, Bhatt, and Jialal, 2021).

2.4.2 Diagnosis

1. Ineffective breathing pattern related to respiratory effort obstruction (D.0005).
2. Gas Exchange Disturbance related to ventilation-perfusion imbalance (D.0003).
3. Activity Intolerance related to weakness (D.0056).
4. Ineffective Peripheral Perfusion is related to a decrease in hemoglobin concentration (D.0009).
5. Fatigue is related to the physiological condition (D.0057).
6. Acute Pain related to physiological injury agent (D.0077).

7. Sleep Disorder is related to a lack of sleep control (D.0055)
8. Disturbance of Comfort is related to therapy side effects proved (D.0074)
9. Hypervolemia related to disruption of regulatory mechanisms (D.0022)
10. Urine Elimination Disturbance related to decreased bladder capacity (D.0040)
11. Ineffective Health Management related to complexity of the treatment or care program (D.0115)
12. Impaired Skin Integrity related to radiation therapy side effects (D.0129)
13. Risk Of Decreased Cardiac Output proved by arrhythmia (D.0011)
14. Risk Of Injury proved by transportation insecurity (D.0136)
15. The risk of Nutritional Deficit is proved by an increased need for metabolism (D.0032).



2.4.3 Intervention

No. Dx	Diagnosis	Goal and outcome criteria	Intervention	Rational
1.	Ineffective breathing pattern respiratory effort obstruction (D.0005) b/d	Breathing Pattern (L.01004) Goals : After nursing actions for 3x24 hours, it is expected that the patients' breathing pattern is effective with the outcome criteria : 1. Dyspnea, decreased (5) 2. The use of accessory muscles for breathing, decreased (5) 3. Breath frequency, better (5) 4. Breath depth, better (5)	Respiration Monitoring (i.01014) Observation 1. Monitor the frequency, rhythm, depth, and effort of breathing 2. Monitor the breathing pattern 3. Monitor cough ability effectively 4. Breath sound auscultations 5. Monitor chest x-ray results Therapeutic 1. Set intervals of respiratory monitoring according to the patient's condition 2. Monitoring documentation Education 1. Explain the purpose and procedure of monitoring 2. Inform monitoring results	Observation 1. There is an increase in frequency, depth, and breath effort is a sign that the breathing pattern ineffective 2. To determine breathing patterns (such as bradypnea, tachypnea, hyperventilation, Kussmaul, Cheyne-Stokes Biot, ataxic. 3. To know the ability of effective cough 4. To know the sound of breath. 5. To find out the results of a chest x-ray Therapeutic 1. So that the time interval for monitoring respiration is following the patient's condition 2. To monitor monitoring results Education 1. Help patients know the goals and procedures of monitoring 2. So that patients know the results of monitoring
2.	Gas Exchange Disturbance b/d	Gas Exchange (I.01003)	Oxygen Therapy (i.01025)	Observation 1. Prevent inappropriate oxygen

ventilation-perfusion imbalance (D.0003)	<p>Goals :</p> <p>After nursing actions for 3x24 hours, it is hoped that the patients' oxygenation will improve, with the outcome criteria :</p> <ol style="list-style-type: none"> 1. Level of consciousness increased (5) 2. Dyspnea decrease (5) 3. Additional breath sounds decrease (5) 	<p>Observation</p> <ol style="list-style-type: none"> 1. Monitor the effectiveness of oxygen therapy 2. Monitoring of oxygen flow rate 3. Monitor the ability to release oxygen while eating 4. Monitor for signs of hypoventilation 5. Monitor the integrity of the nasal mucosa due to the installation of oxygen 	<p>therapy Monitor oxygen therapy to determine the patient's respiratory progress</p> <ol style="list-style-type: none"> 2. Prevent hypoventilation 3. to find out if your breathing is normal or not 4. So that the patient feels comfortable
		<p>Therapeutic</p> <ol style="list-style-type: none"> 1. Clear the secret 2. Maintain a patent airway 3. Use an oxygen device appropriate to the patient's level of mobility 	<p>Therapeutic</p> <ol style="list-style-type: none"> 1. To prevent obstruction or aspiration, suction is performed if the patient is unable to expel secretions independently 2. Airway obstruction affects ventilation and impairs gas exchange 3. Lighten the work of the lungs to meet the needs of oxygen in the body
		<p>Education</p> <ol style="list-style-type: none"> 1. Teach patient and family how to use oxygen at home 	<p>Education</p> <ol style="list-style-type: none"> 1. So that families can help fulfill the patient's oxygen at home
		<p>Collaboration</p> <ol style="list-style-type: none"> 1. Collaboration for oxygen dose determination 	<p>Collaboration</p> <ol style="list-style-type: none"> 1. To reduce hypoxemia
3. Activity Intolerance b/d weakness (D.0056)	<p>Activity Tolerance (I.05047)</p> <p>Goals :</p> <p>After nursing actions for 3x24 hours, the patient is expected to be able to carry out activities with the outcome criteria :</p> <ol style="list-style-type: none"> 1 Fatigue complaints decreased (5) 	<p>Activity Therapy (I.05186)</p> <p>Observation</p> <ol style="list-style-type: none"> 1. Identification of activity level deficit 2. Identification of resources for the desired activity 	<p>Observation</p> <ol style="list-style-type: none"> 1. To find out the level of activity. 2. To determine the ability to perform certain activities. <p>Therapeutic</p> <ol style="list-style-type: none"> 1. So that you can focus on your abilities.

	2	Dyspnea on exertion 33 decreased (5)		Therapeutic		2.	So that families can be involved in activities.
	3	Feeling weak decreased (5)		1. Agree on a commitment to increase the frequency and range of activities			
	4	Blood pressure better (5)		2. Facilitate regular physical activity and involve family members in activities	Education	1.	To find out the steps of individual activities
				Education		2.	So that the family is involved in providing positive reinforcement to the client
				1. Teach how to do the chosen activity			
				2. Encourage families to provide positive reinforcement for participation in activities			
4.	Ineffective Peripheral Perfusion decrease in hemoglobin concentration (D.0009).	Peripheral Perfusion (I.02011)	Circulation Care (I.02079)		Observation	1.	To know the general condition of the patient
	b/d Goals:	After nursing actions for 3x24 hours, hopefully, the patients' peripheral perfusion will be resolved with the outcome criteria :	Observation			2.	To know risk factors for circulatory disorders (for example, elderly, hypertension, diabetes)
	1.	Peripheral pulse strength increased (5)	1. Check peripheral circulation			3.	To find out if there are signs of infection in the extremities
	2.	Pale skin color decreased (5)	2. Indication of risk factors for circulatory disorders	Therapeutic			
	3.	Capillary refill better (5)	3. Monitor calor, dolor, rubor, tumor in extremities	1. Do infection prevention	Therapeutic	1.	To protect or prevent the spread of infection
	4.	Acral better (5)		Education			
	5.	Skin turgor better (5)		1. Recommendation stop smoking	Education	1.	To find out the increase in blood pressure that is not controlled
				2. Recommendation exercise routine		2.	So that the patient's blood pressure is within normal limits
				3. Inform the emergency signs and symptoms that must be reported		3.	To reduce delays in handling

					emergencies
5.	Fatigue physiological condition (D.0057).	b/d	<p>Fatigue Level (L.05046)</p> <p>Goals : After nursing actions for 3x24 hours, hopefully, the patients' fatigue will be resolved with the outcome criteria :</p> <ol style="list-style-type: none"> 1. Verbalization of energy recovery increased (5) 2. The ability to perform routine activities increased (5) 3. Tired verbalization decreased (5) 4. Lethargic decreased (5) 	<p>Education Activity or Rest (I.12363)</p> <p>Observation</p> <ol style="list-style-type: none"> 1. Identification of readiness and ability to receive information <p>Therapeutic</p> <ol style="list-style-type: none"> 1. Provide materials and media for activity and rest arrangements 2. Schedule the provision of health education according to the agreement 3. Allow the patient and family to ask questions <p>Education</p> <ol style="list-style-type: none"> 1. Explain the importance of doing physical activity or exercise regularly 2. Teach how to schedule activities and rest 	<p>Observation</p> <ol style="list-style-type: none"> 1. So that patients can get good information <p>Therapeutic</p> <ol style="list-style-type: none"> 1. Facilitate rest and sleep so that the patient feels comfortable 2. To adjust the schedule for providing health education 3. Allow the patient and family to ask questions <p>Education</p> <ol style="list-style-type: none"> 1. So that patients are more obedient and enthusiastic in carrying out activities 2. Make it easier for patients to carry out activities and sleep
6.	Acute Pain physiological agent (D.0077)	b/d injury	<p>Pain Level (I.08066)</p> <p>Goals : After nursing actions for 3x24 hours, hopefully, the patients' pain will be resolved with the outcome criteria :</p> <ol style="list-style-type: none"> 1. Complain pain decreased (5) 2. Nervous decreased (5) 3. Trouble sleeping decreased (5) 	<p>Pain Management (i.08238)</p> <p>Observation</p> <ol style="list-style-type: none"> 1. Identification of location, characteristic, frequency, quality of pain 2. Identification pain levels 3. Identification of non-verbal pain responses 4. Monitor the success of complementary therapy that has 	<p>Observation</p> <ol style="list-style-type: none"> 1. Be a reference about where the pain is, the duration of the pain, and the intensity of the pain 2. Everyone has a different pain threshold 3. Pain will cause a non-verbal response that can be seen 4. A supportive

		been given	environment can reduce pain
		<p>Therapeutic</p> <ol style="list-style-type: none"> 1. Give non-pharmacology techniques for reduction of pain <p>Education</p> <ol style="list-style-type: none"> 1. Explain the causes and triggers of pain 2. Explain pain relief strategies 3. Teach non-pharmacological techniques to reduce pain <p>Collaboration</p> <ol style="list-style-type: none"> 1. Collaboration about analgesic administration 	<p>Therapeutic</p> <ol style="list-style-type: none"> 1. Increasing understanding of relieving pain is not just with drugs <p>Education</p> <ol style="list-style-type: none"> 1. The client knows what causes pain so that the client can avoid it 2. The client can choose which strategy to use to deal with the pain he feels 3. The patient does it himself by taking a deep breath <p>Collaboration</p> <ol style="list-style-type: none"> 1. Analgesics can block pain so that pain is reduced
7.	<p>Hypervolemia b/d excess fluid intake (D.0022)</p> <p>Fluid Balance (L.03020)</p> <p>Goals :</p> <p>After nursing actions for 3x24 hours, the fluid volume is within normal limits with the outcome criteria :</p> <ol style="list-style-type: none"> 1. Edema decrease (5) 2. Blood pressure better (5) 3. Pulse rate better (5) 4. Skin turgor better (5) 	<p>Fluid Monitoring (I.03121)</p> <p>Observation</p> <ol style="list-style-type: none"> 1. Monitor pulse rate and strength 2. Monitor the amount, color, and specific gravity of urine 3. Monitor intake and output of fluid 4. Monitor blood pressure 5. Monitor skin turgor 6. Monitor serum test results 7. Identification signs 	<p>Observation</p> <ol style="list-style-type: none"> 1. Check hydration status to prevent hypervolemia to know the signs and symptoms of fluid overload 2. To determine the balance of fluids in the blood 3. Hypervolemia can affect vital signs 4. The occurrence of edema in the skin proves that there are signs of hypervolemia

			hypervolemia		5. Laboratory results can reflect the fluid content in the blood plasma
			8. Identify risk factors for fluid imbalance		6. Signs of hypervolemia: edema, weight gain in a short time, positive fluid balance
			Therapeutic		7. Prevent hypervolemia
			1. Set the monitoring time interval according to the patient's condition		Therapeutic
			2. Document monitoring results		1. With time intervals, the patient's general condition can be known
			Education		2. The importance of documentation of monitoring results to compare with previous monitoring and be used as an evaluation reference for subsequent interventions
			1. Explain the purpose and procedure of monitoring		
			2. Inform monitoring results		Education
					1. Fostering a trusting relationship between patient and nurse
					2. To provide information to families about the client's condition and reduce family anxiety about the actions taken
8.	Urine Elimination Disturbance decreased capacity (D.0040)	Elimination b/d bladder	Urine Elimination (I.04034) Goals : After nursing actions for 3x24 hours, it is hoped that urine elimination will be better with the outcome criteria : 1. Anuria decreased (5) 2. Urination frequency improved (5)	Urine Elimination Management (i.04152) Observation 1. Identify signs and symptoms of urine inkontinensia 2. Identify etiology of urine inkontinensia 3. Monitoring elimination urine	Observation 1. Perform a comprehensive urinary assessment focusing on incontinence (eg, urine output, voiding pattern, cognitive function, and urinary problems) 2. To find out the cause of

			<p>Therapeutic</p> <ol style="list-style-type: none"> 1. Record time and urine output 2. Limit fluid intake 3. Take urine sample <p>Education</p> <ol style="list-style-type: none"> 1. Teach measuring fluid intake and urine output 2. Teach to take a midstream urine specimen 3. Recommend reducing drinking before bed 	<p>urinary incontinence</p> <ol style="list-style-type: none"> 3. Know the progress of the patient's health <p>Therapeutic</p> <ol style="list-style-type: none"> 1. To find out if progress or there are deviations from the expected results 2. To avoid the desired 3. To find out the abnormalities in the client <p>Education</p> <ol style="list-style-type: none"> 1. So that patients know how to balance fluids 2. In order to make it easier for nurses to carry out implementation and there are no errors in taking specimens 3. So that it does not happen to the urine
9.	Ineffective Management b/d complexity of the treatment or caring program (D.0115)	<p>Health Management (I.12104)</p> <p>Goals :</p> <p>After nursing actions for 3x24 hours, hopefully, it can improve health management with the outcome criteria :</p> <ol style="list-style-type: none"> 1. Take action to reduce risk factors improved (5) 2. Implementing a treatment program improved (5) 3. Activities of daily living 	<p>Health Education (i.123830)</p> <p>Observation</p> <ol style="list-style-type: none"> 1. Identify readiness and ability to receive information 2. Identify factors that can increase and decrease motivation for healthy and clean living behavior <p>Therapeutic</p> <ol style="list-style-type: none"> 1. Provide health education 	<p>Observation</p> <ol style="list-style-type: none"> 1. The readiness of the client has a major influence on the success of the information 2. Good motivation can be a positive thing that can improve health <p>Therapeutic</p> <ol style="list-style-type: none"> 1. Educational materials as a basis for providing

	effectively meet health goals improved (5)	materials and media	information
	4. Verbalization of difficulties in undergoing a care /treatment program decreases (5)	2. Schedule health education as agreed 3. Allow asking questions	2. More structured schedule 3. The client expresses how he feels
		Education	Education
		1. Explain the risk factors that can affect health 2. Teach clean and healthy living behavior 3. Teach strategies that can be used to increase clean and healthy living behavior	1. Avoid triggers 2. The client knows what to do 3. Clients can do it in stages
10. Impaired Skin Integrity b/d radiation therapy side effects (D.0129)	Skin Integrity (I.14125) Goals : After nursing actions for 3x24 hours, it is hoped that the patient's skin integrity will improve with the outcome criteria : 1. Elasticities improved (5) 2. Hydration improved (5)	Skin Integrity Treatment (I.11353) Observation 1. Identify the cause of impaired skin integrity Therapeutic 2. Change position every 2 hours if bed rest Education 1. Recommend using a moisturizer 2. Recommend taking a bath and using soap sparingly	Observation 1. So that nursing actions can be carried out Therapeutic 1. Reduce unwanted (decubitus) Education 1. Prevent skin integrity 2. So that clients feel comfortable
11. Risk Of Decreased Cardiac Output d/d arrhythmia (D.0011)	Cardiac Output (L.02008) Goals : After nursing actions for 3x24 hours hope the heart is adequate with the outcome criteria : 1. Arrhythmia EKG decrease (5) 2. Edema decrease (5) 3. Oliguria decreases (5)	Cardiac Treatment (I.02075) Observation 1. Identify signs and symptoms of decreased cardiac output 2. Monitor blood pressure 3. Monitor intake and output fluid 4. Monitor weight every day and at the same time	Observation 1. Decreased cardiac output can be identified by symptoms that include dyspnea, fatigue, edema, orthopnea, and an increase in CVP 2. The blood pressure of patients with cardiac

		<p>5. Monitor arrhythmia</p> <p>Therapeutic</p> <ol style="list-style-type: none"> 1. Give the appropriate diet 2. Give therapy realization for reducing stress 3. Give support emotional and spiritual <p>Education</p> <ol style="list-style-type: none"> 1. Recommend activities according to tolerance 2. Recommend activities according to gradually 3. Teach patient and family to measure weight daily 4. Teach patient and family to measure intake and output fluid daily <p>Collaboration</p> <ol style="list-style-type: none"> 1. Collaboration gift anti-aritmia 	<p>output needs to be monitored because it is important for diagnostics</p> <ol style="list-style-type: none"> 3. See the balance between fluid intake and output <p>Collaboration</p> <ol style="list-style-type: none"> 1. Anti-arrhythmics are drugs used to treat arrhythmic conditions or when the heart beats too fast or too slow and irregularly.
<p>12. Risk Of Injury d/d transportation insecurity (D.0136)</p>	<p>Injury Level (L.14136)</p> <p>Goals :</p> <p>After nursing actions for 3x24 hours, It is hoped that the injury rate will decrease with the outcome criteria :</p> <ol style="list-style-type: none"> 1. Injury incidents decrease (5) 2. Mobility impairment decreases (5) 3. Wound and injury decrease (5) 	<p>Injury Prevention(L.14537)</p> <p>Observation</p> <ol style="list-style-type: none"> 1. Identification of environmental areas that have the potential to cause injury 2. Identification of drugs that have the potential to cause injury <p>Therapeutic</p> <ol style="list-style-type: none"> 1. Provide adequate lighting 2. Socialize the patient and the patient's family in the inpatient 	<p>Observation</p> <ol style="list-style-type: none"> 1. To find out so that there is no injury to the patient 2. To find out which drugs are at risk of causing injury to the patient <p>Therapeutic</p> <ol style="list-style-type: none"> 1. To reduce the risk of injury 2. So that both patients and their families can know how to use the available

			<ul style="list-style-type: none"> 3. Make sure personal items are easily accessible 4. Keep the bed in the lowest position when in use 5. Use bed safety under health care facility policies 6. Discuss the necessary exercise and physical therapy 	<ul style="list-style-type: none"> 3. facilities properly to prevent injury to the patient 4. So that the patient remains in a good position to prevent injury 5. So that patients feel safe and prevent the risk of falling 6. To find out the best physical therapy to use
			<p>Education</p> <ul style="list-style-type: none"> 1. Explain the reasons for fall prevention interventions for patients and families 	<p>Education</p> <ul style="list-style-type: none"> 1. So that patients and families know the reasons for intervention to avoid the risk of falling
13.	Risk of Nutritional Deficit b/d increased need for metabolism (D.0032)	<p>Nutritional Status (I.03030)</p> <p>Goals :</p> <p>After nursing actions for 3x24 hours, nutritional status fulfilled with the outcome criteria :</p> <ul style="list-style-type: none"> 1. Bodyweight improves (5) 2. BMI improves (5) 3. Knowledge of proper nutritional intake standards increases (5) 	<p>Nutrition Management (I.03119)</p> <p>Observation</p> <ul style="list-style-type: none"> 1. Identification nutrition status 2. Identification of food allergies and intolerances 3. Identification of caloric needs and types of nutrients 4. Weight monitor 5. Laboratory test results monitor <p>Therapeutic</p> <ul style="list-style-type: none"> 1. Facilitation in determining dietary guidelines <p>Education</p> <ul style="list-style-type: none"> 1. Teach the diet that has been 	<p>Observation</p> <ul style="list-style-type: none"> 1. To find out the client's nutritional deficiencies 2. So that nurses know which foods the patient cannot consume 3. to determine the caloric needs and types of nutrients needed by the patient 4. Helps monitor weight so as not to be overweight. 5. To determine whether there are abnormalities in laboratory results <p>Therapeutic</p>

programmed

1. To make it easier for patients to determine diet

Collaboration

1. Collaboration with nutritionists to determine the number of calories and types of nutrients needed

Education

1. To maintain the intake of food that the body needs

Collaboration

1. To assist in the patient's healing process
-

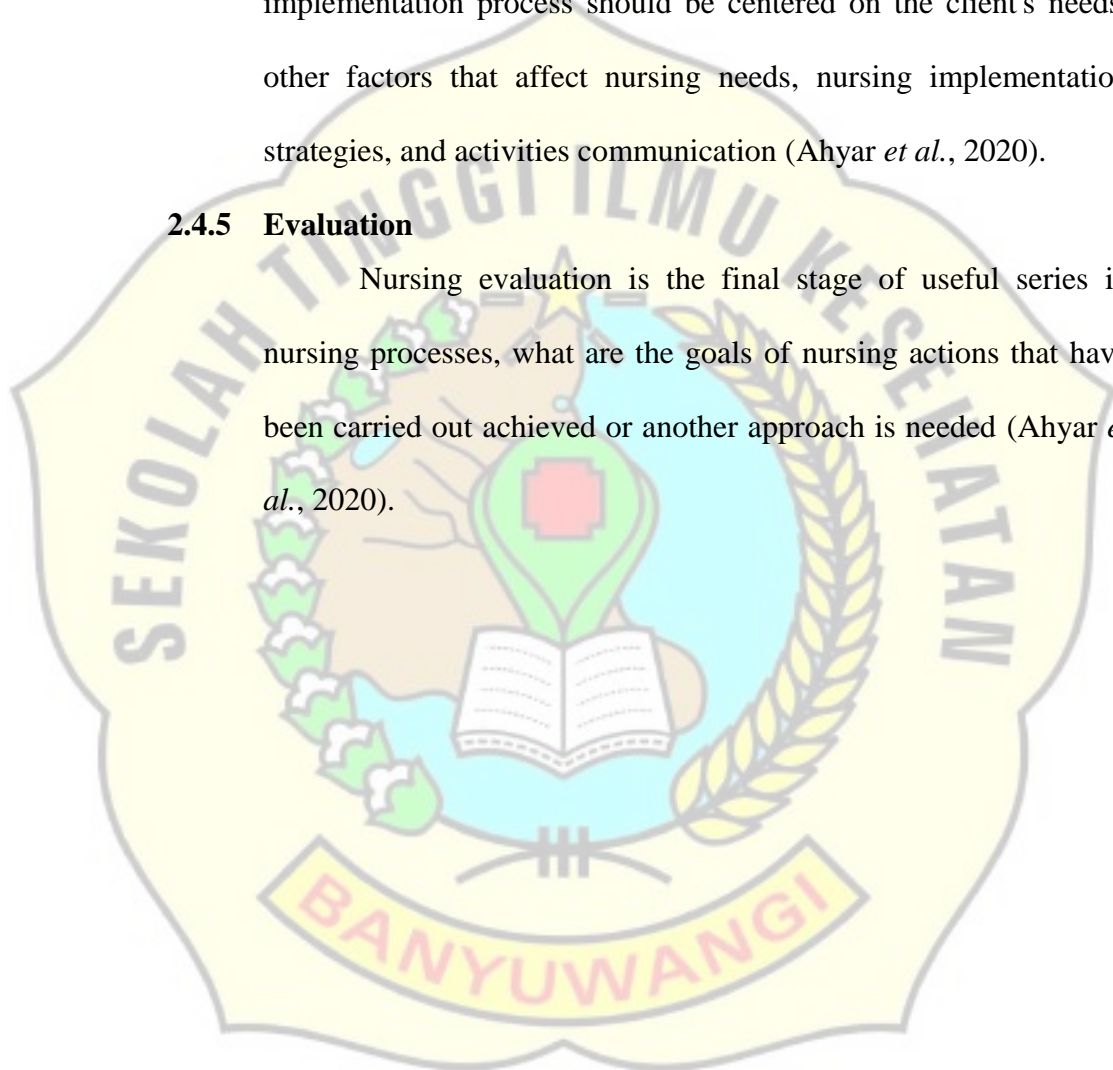


2.4.4 Implementation

Nursing implementation is a series of activities carried out by nurses to help patients from health status problems faced to health status which describes the expected outcome criteria. The implementation process should be centered on the client's needs, other factors that affect nursing needs, nursing implementation strategies, and activities communication (Ahyar *et al.*, 2020).

2.4.5 Evaluation

Nursing evaluation is the final stage of useful series in nursing processes, what are the goals of nursing actions that have been carried out achieved or another approach is needed (Ahyar *et al.*, 2020).



CHAPTER 3

RESEARCH METHODS

3.1 Research Design

The research design used is a case study. It is a study to explore the problem of Nursing Care. In this study, the title taken is Chronic Kidney disease (CKD) with Ineffective Health Management nursing problems.

3.2 Limitation of Terms

Definition of Chronic Kidney Disease (CKD)	CKD patients who have decreased kidney function and underwent hemodialysis 6 months ago.
Definition of Ineffective Health Management	Ineffective health management is characterized by patients who are less compliant with treatment between hemodialysis 1 and 2, increasing IDWG
Related Clinical Conditions	Patients undergoing hemodialysis therapy who do not understand health problems

Table 3.1 Definition of CKD with ineffective health management and its clinical condition

3.3 Participants

The participants in this case study are clients who have chronic kidney disease with ineffective health management problems in the hemodialysis room of Blambangan Hospital. The participants used two people who were then compared. Participants in this research are subjects who meet the inclusion and exclusion criteria:

1. Inclusive Criteria

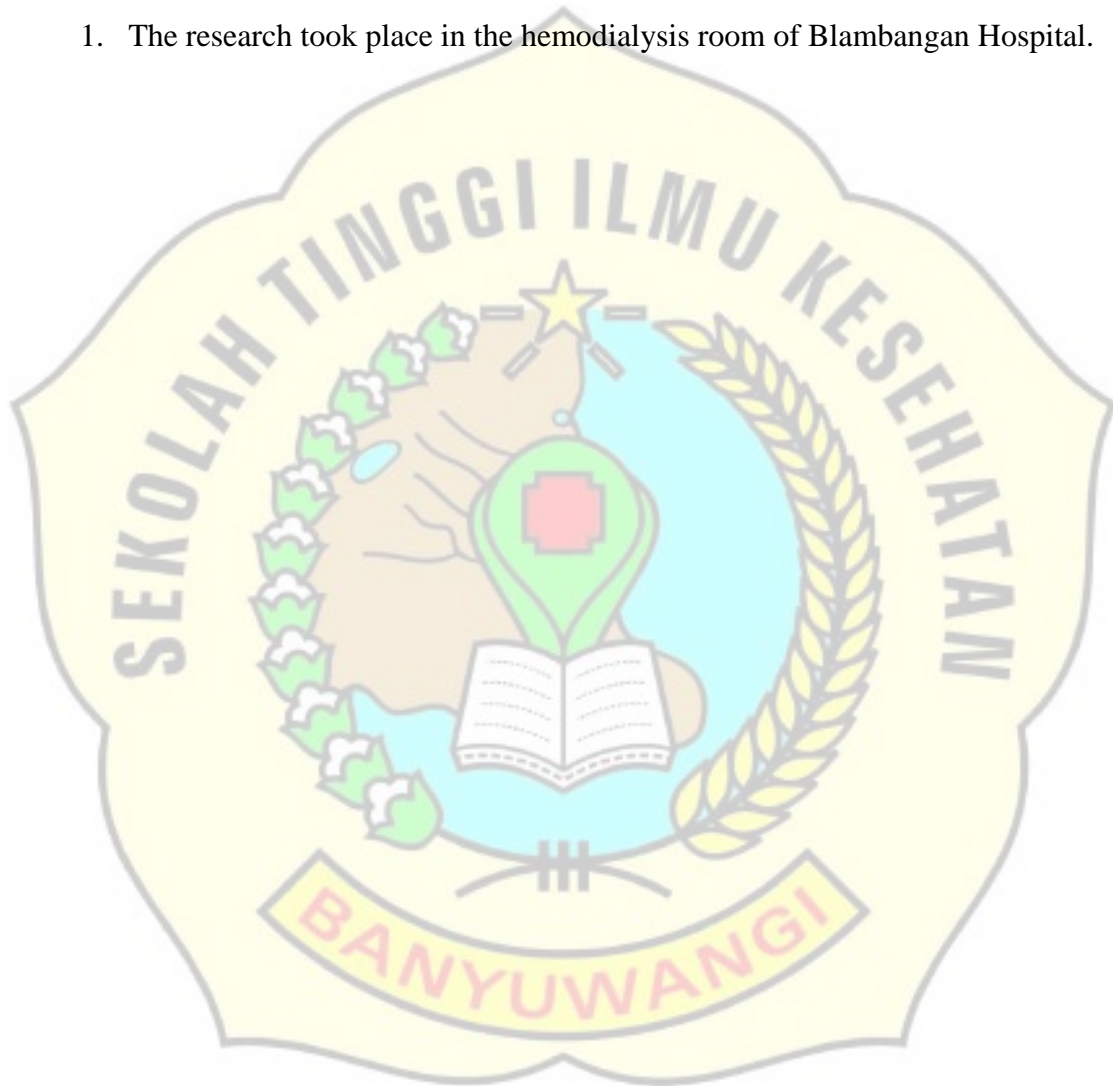
- a. Patients diagnosed with CKD who are undergoing hemodialysis
- b. Productive age.
- c. Have increased interdialytic weight gain for the last 6 months.

2. Willing to be a respondent and have signed informed consent. Exclusive Criteria

- a. Patients with psychiatric disorders.
- b. Patients with decreased consciousness.
- c. Hemodialysis patients suffering from comorbidities: heart, hepatitis, HIV/AIDS.

3.4 Location and Time of Research

1. The research took place in the hemodialysis room of Blambangan Hospital.



2. Timeline

The study was carried out when the client was doing hemodialysis therapy at Blambangan Hospital and intervention had been carried out. In this study, the research time is divided into several stages, namely:

NO	Activity	Sept		October				November				December				May		July				August		
		1	2	1	2	3	4	1	2	3	4	1	2	3	4	3	4	1	2	3	4	1	2	
1.	Sample search process																							
2.	Submission of the Thesis Proposal Title																							
3.	Guidance process for the Thesis Proposals preparation																							
4.	Proposal examination of Thesis																							
5.	Revision of Thesis Proposals																							
6.	Data collection at the case study site																							
7.	Guidance process for the thesis preparation																							
8.	Examination of Thesis																							
9.	Revision of Thesis																							

Table 3.2 Timeline of the Stages of Completing Scientific Paper

3.5 Data Collection

1. Interview

The interview is an oral question and answer between two people or more directly or conversation with a specific purpose. The conversation was carried out by two parties, namely the interviewer who asked the question and the interviewee who answered the question (Ahyar *et al.*, 2020). In this case study, the data sources were obtained from the client, the client's family, and the nurse.

2. Physical Observation and Examination

A technique or method of collecting systematic data on the object of research both in terms of directly and indirectly (Ahyar *et al.*, 2020). Observations were made to look for changes or things to be investigated with a physical examination including inspection, palpation, percussion, and auscultation, on the client's body system that was carried out head to toe, especially on data that supported CKD nursing care with ineffective health management uses tools in the form of nursing kits, assessment formats, and course stationery.

3. Documentation study

Nursing documentation records that contain all the data needed to make a nursing diagnosis, planning, actions, and assessments of systematic nursing, are valid and can be accounted for morally and legally (Rezkiki, Febrina, and Anggraini, 2019).

3.6 Data Authenticity Test

To reach a valid conclusion, the validity was tested on all the data collected. The validity of this data was tested by using the triangulation technique. It can be obtained in various ways including data that can be collected at different times (time triangulation), places (place triangulation), and people (source triangulation)(Yusuf *et al.*, 2017). In this study, the technique used is source triangulation obtained from clients, clients' families, and nurses. Triangulation of the source technique, the main data from the client and family was carried out by comparing and observing the development of the client's health. The triangulation technique of the main data source of nurses is used to equalize perceptions between clients and nurses

3.7 Data Analysis

Data analysis is a very important part because data can give meaning that is useful in solving research problems

1) Data collection

Data are collected from WOD results (interviews, observations, documentation). The results are written in the form of field notes, then copied in the form of a transcript (structured notes).

2) Reduce data

Interview data were collected in the form of field notes made in the form of transcripts and grouped into subjective data and objective analysis based on the results of diagnostic examinations compared to normal values.

3) Data presentation

Data presentation can be done with tables, pictures, charts, or narrative text. Confidentiality of clients is guaranteed by way of obfuscation of the identity of the client.

4) Conclusion

The data are discussed and compared with the research results first and theoretically with health behavior. Drawing conclusions is done by the method of induction. Collected data related to data assessment, diagnosis, planning, action, and evaluation.

3.8 Research Ethics

In this study, an ethical test was carried out at the Health Research Ethics Committee (KEPK) of STIKES Banyuwangi with an ethical certificate number: 043/KEPK-STIKESBWI/II/2022

1. *Informed Consent*

This sheet is made so that respondents know the purpose of the research conducted. After knowing the respondent is expected to understand and willing to be a participant and to sign the consent form that has been made, but if they are not willing to be respondents, the researcher is willing to respect their rights.

Before the consent form is given to the patient, the researcher explains the aims, advantages, and disadvantages of the research to be conducted to the participants.

a) Purpose

The purpose of this study was to determine the clients' knowledge about how to manage health, the actions to be taken if there had been ineffective health management, and to explore the clients' knowledge about the possible impact of ineffective health management.

b) Profit

Some benefits obtained from the research include clients knowing how to prevent an increase in IDWG, being able to determine actions to take if there is an increase in IDWG, and being able to find out about the impact of an increase in IDWG.

c) Disadvantage

In this study, there are no dangers and losses for the participants because it uses an interview process and provides interventions with direct assistance from the advisor. The possible loss occurs is that it takes up the participants' time. If they have understood and are willing, then they sign a consent letter to be a participant. But if they refuse, the researcher does not force it. If the participant has signed the agreement then there are rights and obligations as a participant including:

1) Participants' rights

After an explanation (informed consent) is made, the participant has the right not to be a participant, and if the participants agree, then they resign as a participant, they have the

right to postpone the time if they are unable and they have the right to refuse to be interviewed for a while. In addition, the other rights of participants are they get rewards from researchers for their participation in the study. Participant's Obligations

The participant's obligation after signing the consent form is to comply with what has been determined by the researcher, for example answering all the questions given by the researcher and they must provide the correct answer without being manipulated

2. *Anonymity* (no name only initials are listed)

Researchers keep research identities confidential by not including the patient's name in the case study and only including the patient's initials

3. Confidentiality

The confidentiality of the information that has been collected will be guaranteed by the researcher, only certain groups of data are presented.

4. Respect

Respect is defined as the behavior of nurses who respect clients and families. Nurses must respect the clients' rights.

5. Autonomy

Autonomy is related to a person's right to regulate and make their own decisions, although there are still limitations, especially related to situations and conditions, backgrounds, individuals, legal interference, and existing health professionals.

6. Beneficence

Beneficence relates to the obligation to do well and not harm others. If the principle of generosity trumps the principle of autonomy, it is called paternalism. Paternalism is behavior based on what the health professional believes for the good of the client, sometimes not involving the client's decision.

