



**Internship Report on
Nutritional Management of CKD Patient at Kidney Foundation
Hospital and Research Institute**

**Submitted To Department of Nutrition & Food Engineering
Daffodil International University**

Supervised By Ms. Tasmia Tasnim

Assistant Professor
Department of Nutrition and Food Engineering
Daffodil International University

Submitted By

Paroma Sukanna

ID: 191-34-861

Department of Nutrition and Food Engineering
Daffodil International University

LETTER OF TRANSMITTAL

Date:

The Head
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences
Daffodil International University
Daffodil Smart City, Ashulia, Savar, Dhaka.

Subject: Submission of Internship Report.

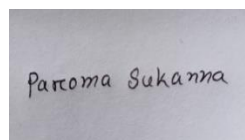
Dear sir,

I sincerely appreciate your assistance and suggestions while I labored on this report. I need your help to complete this paper. My information on the nutritional management of patients with chronic kidney disease is presented with pleasure. I worked sixty days at **Kidney Foundation Hospital and Research Institute, Bangladesh**. With your assistance, I can finish this report. I compiled the patient data I collected to make this report as trustworthy as feasible. My contribution will help the information achieve its goals. I have worked extremely diligently on this. Writing the essay was a valuable learning experience that will benefit my future endeavors. Please forgive me if, despite my diligence, there are errors in the report.

I would greatly appreciate it if you shared your thoughts on the report. I am also available to respond if you have any additional queries regarding my writing.

Thank you again for your support and patience.

Yours Sincerely,

A rectangular box containing a handwritten signature in cursive script that reads "Paroma Sukanna".

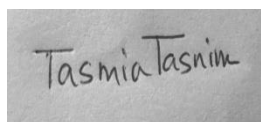
Paroma Sukanna
ID: 191-34-861
Department of Nutrition and Food Engineering (NFE)
Daffodil International University

CERTIFICATE OF APPROVAL

This is confirmation from the university that **Paroma Sukanna, student ID 191-34-861**, is enrolled as a regular student in the B.Sc. in Nutrition & Food Engineering program at the Faculty of Allied Health Sciences at Daffodil International University. She completed her two-month internship at **Kidney Foundation And Research Institute Bangladesh** on CKD Patients. After that, she completed her report on the Nutritional Management of CKD Patients with my assistance. Per our knowledge, Paroma Sukanna completed her report while her supervisor observed her. We confirm that her information was genuinely required for the NFE program.

.....

Dr. Nizam Uddin
Associate Professor & Head In-Charge
Department of Nutrition & Food Engineering
Faculty of Allied Health Sciences
Daffodil International University



Supervisor

Ms. Tasmia Tasnim
Assistant Professor
Department of Nutrition and Food Engineering
Faculty of Allied Health Science
Daffodil International University

ACKNOWLEDGMENT

I want to begin by thanking God for the opportunity to write this apprenticeship report.

My internship at the **Kidney Foundation and Research Institute, Bangladesh**, gave me valuable experience and insight. I gained invaluable professional and personal experiences during this time.

I want to thank **Ms. Tasmia Tasnim**, my supervisor, and **Dr. Nizam Uddin**, the head of the Department of Nutrition and Food Engineering. And **Dr. Md. Bellal Hossain**, our esteemed dean(in charge) and professor here at Daffodil International University, for their support, helpful suggestions, and instruction as I managed my internship and wrote this report.

I must express my gratitude to **PROF. DR. HARUN-UR-RASHID** sir for accepting this internship and allowing me finish my internship at the Kidney Foundation and Research Institute.

I also want to express my genuine thanks to **Tazreen Yusuf Malick**, a dietician at the Kidney Foundation and Research Institute, who supervised my internship and provided me the opportunity to study despite her busy schedule.

To the Honorable Head of the Department of Nutrition and Food Engineering and my superior, thank you for making my internship possible.

Last but not least, I want to thank each and every patient personally for their cooperation.

Table of Contents

| Contents | Page Number |
|---|-------------|
| Title Page Letter of Transmittal Acknowledgement Table of contents | i-vi |
| Chapter One: 1.1 Overview of Kidney Foundation And Research Institute 1.2 Services and Facilities 1.3 Vision and Misson | 1-3 |
| Chapter Two: 2.1 Introduction 2.2 Objectives of the programe | 4 |
| Chapter Three: 3.1 Activities 3.2 Observation and daily visits to the ward 3.3 Patients Management 3.4 Main goals of this internship | 5-6 |
| Chapter Four: 4.1.CKD 4.2. Stages of Chronic Kidney Disease 4.3 Dietary modification of Chronic Kidney Disease 4.4 Prevention | 7-10 |
| Chapter Five: Case study and Diet chart | 11-27 |

| | |
|-----------------------------------|----|
| Chapter six Conclusion | 28 |
| Chapter seven Reference | 29 |

Chapter One

1.1: Overview of Kidney Foundation Hospital and Research Institute Bangladesh

With a modest investment of \$1,000, the hospital opened its doors to patients in October 2003.

The Kidney Foundation Facility has nearly 300 beds and is home to 287 qualified individuals. Dialysis, kidney transplantation, interventional nephrology, laboratory services, inpatient and outpatient facilities, and therapy without reducing facilities are affordable treatments for acute and chronic kidney disease. Carries researches rural and urban populations to comprehend better how to diagnose, prevent, and treat acute and chronic renal injury.

The Kidney Foundation of Bangladesh is one of only eleven organizations worldwide to receive this distinction. The referral centers were selected due to their scale and business volume. Other organizations interested in learning and development may find helpful resources at the reference center.



1.2 Services and Facilities:

At the Kidney Foundation Hospital and Research Institute in Bangladesh, various facilities and services are available to patients. That is

Clinical Nephrology, Interventional Nephrology, Clinical Urology, Dialysis, Facility, Capd Facility, Transplantation Facility, Indoor Facility, Outdoor Facility, Laboratory Facility, Radiology And Imaging.

1.3 Vision And Mission:

Vision:

To enhance the quality of life for everyone with kidney disease or at risk of developing it.

Mission:

The National Kidney Foundation is changing the battle to save lives by attempting to eradicate preventable kidney disease, enhance patient dignity, and reduce structural disparities in renal care, dialysis, and transplantation.

Chapter Two

2.1 Introduction:

one of two organs located in the abdominal. The kidneys assist in maintaining the balance of substances in the body, including salt, potassium, and calcium, as well as removing waste and excess water from the circulation (as urine). The kidneys also produce hormones that influence blood pressure and encourage the production of red blood cells in the bone marrow. (1)

2.2 Objectives of the Progame:

This report was primarily written to fulfill a requirement for my B.sc in Food and Nutritional Engineering. I chose this institution primarily due to my interest in medicine and the opportunity to gain hospital-based work experience. Now that I have gained some experience, I can increase my knowledge.

Chapter Three

3.1 Activites :

During my training, I could work in both interior and outdoor environments. I interacted with a diverse array of patients both indoors and outdoors. The supervisor of my internship, Tazreen Yusuf Malick, My patients' needs, difficulties, and other concerns have always been addressed per Ma'am's instructions. I will therefore concentrate on CKD patients. Consequently, these were the patients with whom I had the most interaction.

3.2 Observation and daily visits to the ward:

My supervisor Ma'am and I began our day of hospital work at 9 a.m., handling hospital patients. When I visit the place of a patient, I dedicate my full attention to determining the cause of their problem by discussing their issues, health, dietary requirements, and diet chart. After closely monitoring their diet and health, I made a mental note to inform my superior of the situation.



3.3 Patients Management :

A majority of patients receiving treatment at Kidney Foundation Hospital have CKD. When I was a patient in one of these facilities, every nurse went out of their way to help me. I observed individuals with chronic kidney disease managing their symptoms. Therefore, nutritionists provide patients with diet charts and condition-specific advice on enhancing their health through diet. They check on their patients every hour and ensure they receive the necessary medication. The attendants always adhere to the patients' meal schedules.

3.4 Main goals of this internship:

This internship will assist me in achieving my goals of learning about the nutritional requirements of CKD patients and obtaining experience in managing and treating patients by physicians and nurses. This information is invaluable for my prospective career as a nutritionist.

Chapter Four

4.1 CKD:

Structural abnormalities in chronic nephrotic syndrome and impaired renal excretory function characterize chronic kidney disease (CKD). Most individuals with CKD are at significant risk of developing cardiovascular disease and ultimately dying. In many regions worldwide, patients with end-stage renal disease have difficulty obtaining access to renal replacement therapy. Low nephron numbers at birth, nephron loss with age, and acute or chronic kidney injury due to harmful exposures or diseases (such as obesity and type 2 diabetes) are risk factors for the development and progression of CKD.. (1)

Symptoms:

- Nausea
- Vomiting
- Loss of appetite
- Fatigue and weakness
- Sleep problems
- Urinating more or less
- Decreased mental sharpness
- Muscle cramps
- Swelling of feet and ankles
- Dry, itchy skin
- High blood pressure (hypertension) that's difficult to control
- Shortness of breath, if fluid builds up in the lungs
- Chest pain (1)

Causes:

Diseases and conditions that cause chronic kidney disease include:

- Type 1 or type 2 diabetes
- High blood pressure
- Heart (cardiovascular) disease
- Smoking
- Obesity
- Family history of kidney disease
- Abnormal kidney structure (1)

4.2. Stages of Chronic Kidney Disease:

There are 5 stages of CKD: (1)

| Stages | Kidney function (GFR) | Description |
|------------|-----------------------|------------------------|
| Stage 1 | >90 mL/min | Normal |
| Stage2 | 60-89 mL/min | Mild |
| Stage 3(a) | 45-59 mL/min | Moderate |
| 3(b) | 30-44 mL/min | |
| Stage 4 | 15-29 mL/min | Severe |
| Stage 5 | <15 mL /min | End of Stage(Dialysis) |

4.3 Chronic Kidney Disease and Dietary Changes:

Chronic kidney disease (CKD) occasionally requires dietary modifications. These modifications include reducing fluid intake, consuming a low-protein diet, limiting sodium, potassium, phosphorous, and other electrolytes, and consuming sufficient calories regardless of your weight loss objectives.

CARBOHYDRATES

Carbohydrates are a fantastic energy source if you can quickly assimilate them. If your physical therapist has recommended a low-protein diet, fruits, pieces of bread, cereals, and vegetables can serve as nutritious alternatives to protein. The energy of hard candies, sugar, honey, and gelatin lacks fiber, minerals, and vitamins. The occasional consumption of high-calorie desserts such as pies, cakes, and pastries is acceptable, so long as you avoid those rich in dairy, chocolate, pistachios, or bananas.. (2)

FATS:

In resources, calories can be found in lipids. To protect your heart, consume foods rich in monounsaturated and polyunsaturated lipids (such as olive, canola, and safflower oils).. (2)

PROTEIN:

Meals low in protein may benefit patients who have just begun dialysis. Your doctor or dietitian may advise you to consume less protein depending on your weight, illness stage, muscle mass, and other factors. However, you should consult your physician about the best diet to ensure adequate protein intake. Patients on dialysis must consume 8 to 10 ounces (225 to 280 grams) of high-protein meals daily. Your physician or nutritionist may recommend protein powder or egg white powder to help you gain muscle. (2)

SALT OR SODIUM:

Reducing your sodium intake may help you maintain a healthy blood pressure level. It also prevents the body from retaining extra fluid, preventing dehydration. (2)

POTASSIUM:

When potassium levels in the blood are normal, the heart rate is moderate and constant. However, when kidney function is compromised, potassium accumulation may occur. This may result in a potentially life-threatening irregular heartbeat. (2)

Fruits and vegetables should be avoided in order to maintain a healthy heart since they are high in potassium. The proper diet from each food category might help you keep your potassium levels under control. (2)

FLUIDS:

In the early phases of renal failure, fluid restriction is unnecessary. However, as your health declines or you begin dialysis, you must be mindful of how much fluids you consume. (2)

4.4 Prevention

- Control blood sugar levels if someone has diabetes,
- Control blood pressure
- Control daily salt intake
- No smoking
- Do not eat oily food
- Avoid drink alcoholic beverage
- Keep doing your regular exercise
- Always maintain a proper diet

Chapter Five

Case study and Diet chart:

Patient information (1)

Female

Age : 46 year, weight: 79kg ,height: 1.63 cm BMI=29.7 (over weight) , GFR:Stage 3(a)

Medical condition :

- Cholestrol
- fatty liver
- gastic
- constipation
- Diabetics

Biochemical Report:

- Blood glucose = 7.9
- Potassium: 6 .1 mmol/L
- Uric Acid: N/A
- Phosphate:N/A
- Cretinine: 1.5 mg/dL
- Sodium Level:N/A

Protein requirement:47.4g

Energy requirement: 2370kcal

Meal plan

| |
|---------------------------|
| No breakfast taken |
|---------------------------|

Lunch

| Food | Portion size | Protein | Energy | CHO |
|-----------|--------------|------------|--------------|--------------|
| Rice | 1/2 plate | 16.4 | 644 | 135.6 |
| Daal | 1 cup | 14 | 222 | 34 |
| Vegetable | 1 cup | 5.2 | 118 | 24 |
| Beef | 1 piece | 7.8 | 77.7 | 0 |
| | | 7.8 | 861.7 | 193.6 |

Snacks

| Food | Portion size | Protein | Energy | CHO |
|--------|--------------|------------|-------------|-------------|
| Fruits | 1 cup | 0.3 | 61 | 16 |
| Tea | 1 cup | 0 | 2.4 | 0.7 |
| | | 0.3 | 63.4 | 16.7 |

Dinner

| Food | Portion size | Protein | Energy | CHO |
|-----------|--------------|---------|--------|-------|
| Rice | 1/2 plate | 6.4 | 644 | 135.6 |
| Daal | 1 cup | 14 | 118 | 24 |
| Vegetable | 1 cup | 23 | 233 | 0 |

| | | | | |
|---------|---------|-------------|-------------|--------------|
| Chicken | 2 piece | 14.4 | 132 | 0 |
| | | 67.8 | 1127 | 159.6 |

Total protein in take : 111.5 g

Total CHO intake: 396.9

Total energy intake : 2052.1 kcal

She is taking more protein which is bad for her health.

Note: I've included a food plan based on the patient's daily needs.

Diet plan :

| Time | Food | Serving size |
|-------------------------------|------------------------|---------------------|
| Breakfast (7-8 am) | Whole grain ruti/ rice | 2, 1 cup |
| | Boiled egg | 1 |
| | Vege table | 100 g |
| Morning snacks (11 am) | Biscuit | 2-3 pieces |
| | Or any kind of fruits | 1(100g) |
| Lunch (1-2 pm) | Rice | 2cup |
| | Vegetable | 100g |
| | Chicken or fish | 1 piece(30g) |
| Afternoon snacks | Tea without milk | |
| | Biscuits | 2-3 pieces |
| | Muri | 1 cup |

| | | |
|------------------------|------------------|-----------|
| Dinner (8-9 pm) | Whole grain ruti | 2 |
| | Vegetable | 1 cup |
| | Daal | 1 cup |
| | Chiken or beef | 1-2 piecs |

Water : 1 litter daily

Guideline for this paitent:

- ✓ she should be must take in breakfast.
- ✓ she should control her protein intake .if she should not control it must be dangerous for her life.
- ✓ she need daily exercise at least one hour if possible atleast daily she should walk 15 mins.
- ✓ She has diabetics so he should absoltely avoid any kind of suger and she should be aware to eat her carbohydrate related food because this will be increase suger level in your blood.
- ✓ She has constipation so that she take more fiber rich food also.
- ✓ At last i will suggest that she should maintain her diet paln for lead a healthy life.

Paitent information (2):

Male

Age : 43 yeras ,**weight** : 67.5 kg recently :65 kg (1 month water intention), **height** : 5 feet 6 inch , **BMI**: 27.7(over weight) **GFR** : 16ml/min (stage 4)

Medical condition :

- Gastic
- Constipation
- Diabetics

Biochemical Report:

- Potassium: 6.7 mmol/L
- Phosphate: 4.1 mg/dL

- Creatinine: 1.32mg/dL
- Sodium Level: High

Energy requirement : 1950 kcal

Protein requirement : 32.5 g

Meal plan

Breakfast

| Food | Portion size | Protein | Energy | CHO |
|------------------|--------------|-------------|--------------|--------------|
| Whole grain ruti | 2 | 6.2 | 240 | 182 |
| Egg whites | 4 | 14.4 | 68 | 68 |
| Oats | Half cup | 5,3 | 153 | 27 |
| Milk | 200 ml | 6.5 | 97.6 | 9.6 |
| | | 32.4 | 558.6 | 219.4 |

Mid morning

| | | | | |
|-------|---------|---------------|-------------|---------|
| Apple | 1 large | Protein (0.5) | Energy (95) | CHO(25) |
|-------|---------|---------------|-------------|---------|

Lunch

| Food | Portion size | Protein | Energy | CHO |
|------------|--------------|-------------|--------------|--------------|
| Rice | 1/2 plate | 16.4 | 644 | 135.6 |
| Fried okra | Half cup | 2 | 120.5 | 8.5 |
| | | 18.4 | 764.5 | 144.1 |

Snacks

| Food | Portion size | Protein | Energy | CHO |
|--------------|--------------|------------|--------------|-----------|
| Black coffee | 1 cup | 0.3 | 644 | 0 |
| Biscuits | 1 piece | 4,2 | 212 | 27 |
| | | 4.5 | 214.4 | 27 |

Dinner

| Food | Portion size | Protein | Energy | CHO |
|------------|--------------|------------|--------------|-------------|
| Rice | 1 cup | 3 | 130 | 13 |
| vegetable | Half cup | 2 | 120.5 | 0.2 |
| Egg whites | 1 large | 3.6 | 17 | 0.2 |
| | | 8.6 | 267.5 | 23.7 |

Total protein intake : 64.4g

Total energy intake: 1900kcal

Total CHO intake: 439.2g

He is taking more protein which is bad for his health.

Note: I've included a food plan based on the patient's daily needs.

Diet pan:

| Time | Food | Serving size |
|-------------------------------|------------------------|--------------|
| Breakfast (7-8 am) | Whole grain ruti/ rice | 2, 1/2 cup |
| | Boiled egg | 1 |
| | Vege table | 100 g |
| Morning snacks (11 am) | Biscuit | 1-2 pieces |

| | | |
|-------------------------|-----------------------|--------------|
| | Or any kind of fruits | 1(100g) |
| Lunch (1-2 pm) | Rice | 2cup |
| | Vegetable | 100g |
| | Chicken or fish | 1 piece(30g) |
| Afternoon snacks | Tea without milk | |
| | Biscuits | 1-2 pieces |
| | Muri | 1 cup |
| Dinner (8-9 pm) | Whole grain ruti | 2 |
| | Vegetable | 1 cup |
| | Daal | 1 cup |
| | Chiken or beef | 1-2 piecs |

Water : 1.5 litter daily

Guideline for this paitent:

- ✓ He should control his protein intake .if he should not control it must be dangerous for her life.
- ✓ He has diabetics so he should absoulately avoid any kind of suger and he should be aware to eat his carbohydrate related food because this will be increase suger level in his blood.
- ✓ He has constipation so that he should eat also fiber rich food.
- ✓ He has gastic in this case he must be avoid oily food.
- ✓ He has high sodium level so that he should prepare foods with less salt just like a 2g of salt will be perfect for his health and also avoid the high sodium rich foods
- ✓ At last i will suggest him to maintain his daily diet plan routine which will help him to stay healthy.

Patient information (3):**Female**

Age : 60 years ,**weight :** 59kg , **height :** 1.59 cm , **BMI:** 23 (Normal) ,**GFR :** 36ml/min (stage 3b)

Medical condition :

- Hypertension
- Diabetics (type 2)
- Hba1c- 6.6
- Constipation

Biochemical Report:

- Potassium: 6.6 mmol/L
- Phosphate: 4.9 mg/dL
- Creatinine: 1.3 mg/dL
- Sodium : Normal

Energy requirement : 2065 kcal

Protein requirement : 35.4 g

Meal plan**Breakfast :**

| Food | Portion size | Protein | Energy | CHO |
|------------------|---------------------|----------------|---------------|--------------|
| Whole grain ruti | 2 | 6.2 | 240 | 182 |
| Egg | 1 large | 6 | 72 | 0.4 |
| vegetables | Half cup | 1.7 | 39 | 7.9 |
| Tea | 1 cup | 0 | 2.4 | 1.3 |
| | | 13.2 | 353.4 | 191.6 |

Lunch :

| Food | Portion size | Protein | Energy | CHO |
|-----------|--------------|------------|--------------|--------------|
| Rice | 1/2 plate | 16.4 | 644 | 135.6 |
| Daal | 1 cup | 14 | 222 | 34 |
| Vegetable | 1 cup | 5.2 | 118 | 24 |
| Beef | 1 piece | 7.8 | 77.7 | 0 |
| | | 7.8 | 861.7 | 193.6 |

Dinner :

| Food | Portion size | Protein | Energy | CHO |
|-----------|--------------|-------------|-------------|--------------|
| Rice | 1/2 plate | 6.4 | 644 | 135.6 |
| Daal | 1 cup | 14 | 118 | 24 |
| Vegetable | 1 cup | 23 | 233 | 0 |
| Chicken | 2 piece | 14.4 | 132 | 0 |
| | | 67.8 | 1127 | 159.6 |

Total protein in take : 88.8 g

Total CHO intake: 544.8

Total energy intake : 2342 kcal

She is taking more protein which is bad for her health.

Note: I've included a food plan based on the patient's daily needs.

Diet plan :

| Time | Food | Serving size |
|------|------|--------------|
|------|------|--------------|

| | | |
|-------------------------------|------------------------|--------------|
| Breakfast (7-8 am) | Whole grain ruti/ rice | 2, 1 cup |
| | Boiled egg | 1 |
| | Vege table | 100 g |
| Morning snacks (11 am) | Biscuit | 2-3 pieces |
| | Or any kind of fruits | 1(100g) |
| Lunch (1-2 pm) | Rice | 2cup |
| | Vegetable | 100g |
| | Chicken or fish | 1 piece(30g) |
| Afternoon snacks | Tea without milk | |
| | Biscuits | 2-3 pieces |
| | Muri | 1 cup |
| Dinner (8-9 pm) | Whole grain ruti | 2 |
| | Vegetable | 1 cup |
| | Daal | 1 cup |
| | Chiken or beef | 1-2 piecs |

Water : 1-1.2 litter daily

Guideline for this paitent:

- ✓ she should control her protein intake .if she should not control it must be dangerous for her life.
- ✓ She has diabetics so she should absoultey avoid any kind of suger and she should be aware to eat her carbohydrate related food because this will be increase suger level in her blood.
- ✓ She has constipation so that she should eat also fiber rich food.
- ✓ Do not use more salt(sodium) to cook your food.
- ✓ Select proper diety food which is good for her health.
- ✓ If possible she should take regular physical exercise.
- ✓ At last i will suggest her to maintain his daily diet plan routine which will help her to lead a healthy life .

Patient information (4):**Male**

Age : 70 years ,**weight :** 65kg , **height :**1.54 cm , **BMI:** 27.40 (over weight) **GFR :** 45ml/min (stage 3a)

Medical condition :

- Blood pressure
- Diabetics
- gastic
- Constipation

Biochemical Report:

- Potassium: 6.6 mmol/L
- Phosphate: 4.9 mg/dL
- Creatinine: 0.7 mg/dL
- Sodium : High
- Uric acid : 7.9 mmol/L

Energy requirement: 1950kcal

Protein requirement : 39g

Meal plan**Breakfast :**

| Food | Portion size | Protein | Energy | CHO |
|------------------|---------------------|----------------|---------------|------------|
| Whole grain ruti | 3 | 9.3 | 360 | 273 |
| Egg | 1 large | 6 | 72 | 0.4 |
| vegetables | Half cup | 1.7 | 39 | 7.9 |
| Tea | 1 cup | 0 | 2.4 | 1.3 |

| | | | | |
|--|--|-----------|--------------|--------------|
| | | 17 | 473.4 | 282.6 |
|--|--|-----------|--------------|--------------|

Lunch :

| Food | Portion size | Protein | Energy | CHO |
|-------------|---------------------|----------------|---------------|--------------|
| Rice | 1/2 plate | 16.4 | 644 | 135.6 |
| Daal | 1 cup | 14 | 222 | 34 |
| Vegetable | 1 cup | 5.2 | 118 | 24 |
| Beef | 2 piece | 15.6 | 155.4 | 0 |
| | | 51.2 | 1139.4 | 193.6 |

Dinner :

| Food | Portion size | Protein | Energy | CHO |
|-------------|---------------------|----------------|---------------|--------------|
| Rice | 1/2 plate | 6.4 | 644 | 135.6 |
| Daal | 1 cup | 14 | 118 | 24 |
| Vegetable | 1 cup | 23 | 233 | 0 |
| Chicken | 2 piece | 14.4 | 132 | 0 |
| | | 67.8 | 1127 | 159.6 |

Total protein in take = 136 g

Total CHO intake= 635.8

Total energy intake = 2739 kcal

He is taking more protein which is bad for his health.

Note: I've included a food plan based on the patient's daily needs.

Diet plan :

| Time | Food | Serving size |
|-------------------------------|------------------------|--------------|
| Breakfast (7-8 am) | Whole grain ruti/ rice | 2, 1 cup |
| | Boiled egg | 1 |
| | Vege table | 100 g |
| Morning snacks (11 am) | Biscuit | 2-3 pieces |
| | Or any kind of fruits | 1(100g) |
| Lunch (1-2 pm) | Rice | 2cup |
| | Vegetable | 100g |
| | Chicken or fish | 1 piece(30g) |
| Afternoon snacks | Tea without milk | |
| | Biscuits | 2-3 pieces |
| | Muri | 1 cup |
| Dinner (8-9 pm) | Whole grain ruti | 2 |
| | Vegetable | 1 cup |
| | Daal | 1 cup |
| | Chiken or beef | 1-2 piecs |

Water : 1-1.2 litter daily

Guideline for this paitent:

- ✓ He should control his protein intake .if he should not control it must be dangerous for his life.
- ✓ He has diabetics so he should absoltely avoid any kind of suger and she should be aware to eat his carbohydrate related food because this will be increase suger level in his blood.
- ✓ He has constipation so that he should eat also fiber rich food.
- ✓ Do not use more salt(sodium) to cook your food.His sodium level is already high in this case he should avoid extra salt in his food .It is harmful.
- ✓ Select proper diety food which is good for her health.

- ✓ At last i will suggest him to maintain his daily diet plan routine which will help his to lead a healthy life .

Paitent information (5):

Female

Age : 54 yeras ,**weight :** 60kg , **height :**1.56 cm , **BMI:** 24.6(Normal) ,**GFR :** 47ml/min (stage 3a)

Medical condition :

- Diabetics
- gastic
- Constipation
- Fatty liver

Biochemical Report:

- Potassium: 7.1 mmol/L
- Uric Acid: 0.45 mmol/L
- Phosphate: : 4.7 mg/dL
- Creatinine: 1.6mg/dL
- Sodium Level: High

Energy requirement : 1800 kcal

Protein requirement : 36 g

Meal plan

Breakfast :

| Food | Portion size | Protein | Energy | CHO |
|------------------|--------------|---------|--------|-----|
| Whole grain ruti | 1 | 3.1 | 120 | 91 |
| Egg | 2 large | 12 | 144 | 0.4 |
| vegetables | Half cup | 1.7 | 39 | 7.9 |
| Milk | 1 cup | 8 | 100 | 15 |

| | | | | |
|--|--|-------------|------------|--------------|
| | | 24.8 | 403 | 114.3 |
|--|--|-------------|------------|--------------|

Snacks

| Food | Portion size | Protein | Energy | CHO |
|--------|--------------|------------|-------------|-------------|
| Fruits | 1 cup | 0.3 | 61 | 16 |
| Tea | 1 cup | 0 | 2.4 | 0.7 |
| | | 0.3 | 63.4 | 16.7 |

Lunch :

| Food | Portion size | Protein | Energy | CHO |
|-----------|--------------|-------------|-------------|--------------|
| Rice | 1/2 plate | 16.4 | 644 | 135.6 |
| Daal | 1 cup | 14 | 222 | 34 |
| Vegetable | 1 cup | 5.2 | 118 | 24 |
| Fish | 1 piece | 30 | 180 | 0 |
| | | 65.6 | 1164 | 203.6 |

Dinner :

| Food | Portion size | Protein | Energy | CHO |
|------------------|--------------|---------|--------|-----|
| Whole grain ruti | 2 | 6.2 | 240 | 182 |
| Chicken | 1 piece | 7.2 | 66 | 0 |

| | | | | |
|-----------|-------|-------------|------------|------------|
| Vegetable | 1 cup | 23 | 233 | 0 |
| | | 36.4 | 539 | 182 |

Total protein in take : 127.1 g

Total CHO intake: 516.3

Total energy intake : 2169 kcal

She is taking more protein which is bad for her health.

Note: I've included a food plan based on the patient's daily needs.

Diet plan :

| Time | Food | Serving size |
|-------------------------------|------------------------|--------------|
| Breakfast (7-8 am) | Whole grain ruti/ rice | 2, 1 cup |
| | Boiled egg | 1 |
| | Vege table | 100 g |
| Morning snacks (11 am) | Biscuit | 2-3 pieces |
| | Or any kind of fruits | 1(100g) |
| Lunch (1-2 pm) | Rice | 2cup |
| | Vegetable | 100g |
| | Chicken or fish | 1 piece(30g) |
| Afternoon snacks | Tea without milk | |
| | Biscuits | 2-3 pieces |
| | Muri | 1 cup |
| Dinner (8-9 pm) | Whole grain ruti | 2 |
| | Vegetable | 1 cup |
| | Daal | 1 cup |
| | Chiken or beef | 1-2 piecs |

Water : 1-1.2 litter daily

Guideline for this patient:

- ✓ she should control her protein intake .if she should not control it must be dangerous for her life.
- ✓ She has diabetics so she should absoulutely avoid any kind of suger and she should be aware to eat her carbohydrate related food because this will be increase suger level in her blood.
- ✓ She has constipation so that she should eat also fiber rich food.
- ✓ She should avoid oily food also.
- ✓ Do not use more salt(sodium) to cook your food.
- ✓ Select proper diety food which is good for her health.
- ✓ If possible she should take regular physical exercise.
- ✓ At last i will suggest her to maintain his daily diet plan routine which will help her to lead a healthy life .

Chapter six

Conclusion:

My internship at the "Kidney Foundation Hospital and Research Institute in Bangladesh" was phenomenal and highly beneficial to my professional growth. Despite facing many challenges throughout my apprenticeship, I completed it successfully. This time has taught me much about chronic renal disease, patient care, and dietary management. This program offers me the chance to learn more and will teach me how to monitor patients more efficiently.

The entire apprenticeship was a positive experience, and I now have a much deeper understanding of this discipline.

Chapter seven

Reference:

1. *Chronic kidney disease*. **Andrew S Levey, Josef Coresh**. USA : s.n., August 15, 2011, Vol. 379.
2. *Stirring the Pot: Can Dietary Modification Alleviate the Burden of CKD?* **Matthew Snelson 1, *†, Rachel E. Clarke 1,2,† and Melinda T. Coughlan 1,3,***. Melbourne : MDPI, : 11 March 2017, Vols. 9, 265.

