



Dietary Recommendations for Patients with Diabetes Mellitus at Munshiganj Diabetic Hospital

AN INTERNSHIP REPORT

BY

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Submitted to The Department of Nutrition and Food Engineering in the partial fulfillment
of B.Sc. in Nutrition and Food Engineering

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APPROVAL

This Project titled “**Dietary Recommendations for Patients with Diabetes Mellitus at Munshiganj Diabetic Hospital**”, submitted by Arnia Ahmed Kaspia to the Department of Nutrition and Food Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Nutrition and Food Engineering and approved as to its style and contents.

EXAMINING COMMITTEE

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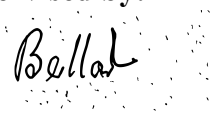


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DECLARATION

We hereby declare that this project has been done by us under the supervision of **Dr. Md. Bellal Hossain, Professor, Department of Nutrition and Food Engineering**, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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To begin with, I want to sincerely thank Allah for His divine favor, which allowed me to finish my final year internship successfully.

In the Department of Nutrition and Food Engineering at Daffodil International University, Supervisor Dr. Md. Bellal Hossain is a professor. I am deeply beholden to him and truly grateful. Strong expertise in the field of "Clinical Nutrition" as well as a strong desire to complete this assignment are possessed by our supervisor. It was made possible to finish this project by his unending patience, scholarly assistance, persistent encouragement, energetic supervision, constructive criticism, insightful advice, reading numerous subpar versions, and editing them at every level.

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CHAPTER 1

1.1 Introductory

The principal aim of furnishing nutritional support to patients diagnosed with diabetes is to facilitate the maintenance of ideal blood sugar levels, efficient weight management, and the mitigation of diabetes-related problems. An essential part of this support are individualized meal programs that are created to match each person's specific dietary needs while managing blood sugar levels. Controlling carbs, proteins, and fats is a common component of a diabetic diet plan to better control blood glucose levels.

Aiming to prevent overeating while addressing the increased caloric needs of diabetes patients due to their hyper-metabolic state, the earliest stages of nutritional assistance center upon this. To assess the caloric needs of patients, different techniques are used. For those facing swallowing or unable to eat, enteral nutrition, commonly known as tube feeding, becomes a viable option. This entails delivering a fluid solution into the intestinal tract or stomach via a tube that is put through the mouth or nose.

Nutrient-rich diets that include vegetables without starch, grains that are whole, fruits, protein from animal sources, and good fats are advised for diabetics. Meals should be high in essential vitamins, minerals, and fiber while keeping calorie and carbohydrate intake in check. Because fruits and vegetables naturally contain carbohydrates that can affect blood glucose levels, it is important to eat them in moderation. Good sources of fiber and minerals, such as iron and B vitamins, can be found in whole grain products including brown rice, pasta, and bread made of whole wheat. Lean protein sources such as skinless chicken, turkey, beans, fish, and eggs offer vital amino acids and nutrients.

Diabetes patients should see a certified nutritionist to create a thorough meal plan that takes into account their specific nutritional needs, preferences, and blood sugar management objectives. Nutritionists play a crucial role in the management of diabetes by offering personalized dietary education, advice, and support. They can create customized meal plans that account for a person's food preferences, dietary requirements, and cultural background, ultimately assisting individuals in achieving their health objectives.

1.2 Report's initial source:

Programs for internships are designed to provide interns a chance to think back on their experiences, identify their strengths and limitations, and make strategies to achieve their future career goals. An internship is seen as essential to preparing students for their future professional efforts by the Department of Nutrition and Food Engineering (NFE). Evaluations of the internship's worth and the intern's prospects for success in the future are largely based on the internship report. They remain an essential component of the overall internship experience, contributing to the evaluation of interns and their readiness for future professional challenges.

1.3 Purpose of the Report:

This internship report aims to demonstrate my ability to learn about evidence-based nutrition care in a hospital setting and my ability to communicate effectively with patients. This study can be a helpful resource for my future career objectives when I apply for jobs in clinical nutrition settings.

1.4 Goal

An in-depth understanding of the dietary guidelines for diabetics.

- Implementing nutrition counseling and personalized meal planning based on individual biochemical preferences and requirements.
- Improving the ability to communicate with patients to inform and counsel them on dietary and lifestyle changes to improve their management of diabetes.
- Getting the practical experience and skill development I need to be able to successfully counsel persons with diabetes on diet is the aim of my internship.
- Fulfilling the prerequisites for a Bachelor of Science in Food Engineering and Nutrition as well.

CHAPTER 2

2.1: A tour of the Munshiganj Diabetic Hospital *(New Munshiganj Diabetic Hospital. - Google Search, n.d.)*



Figure 1: Building of Munshiganj Diabetes Hospital

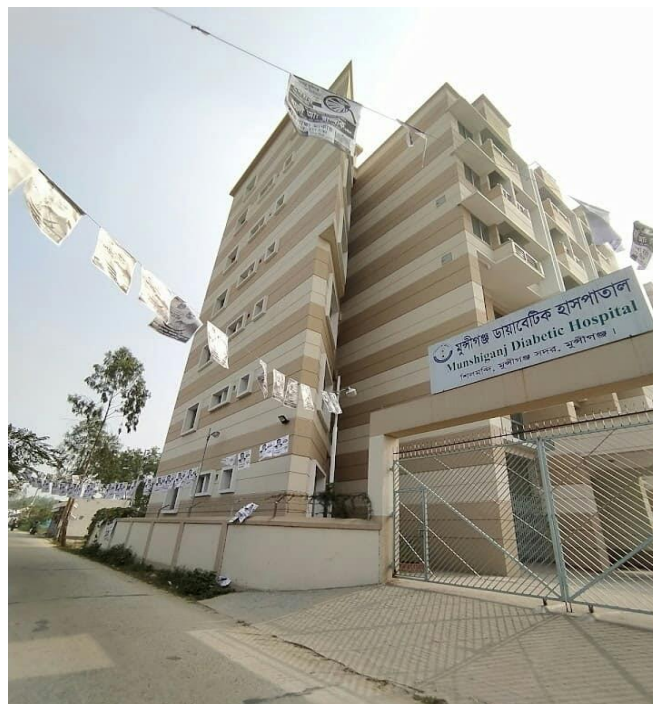


Figure 2: Entry gate of Munshiganj Diabetic Hospital



Figure 3: Internal view of the first floor



Figure 4: Waiting zone & information entry zone



Figure 5: Hospital Pharmacy for collecting authentic insulins & other drugs at a reasonable price

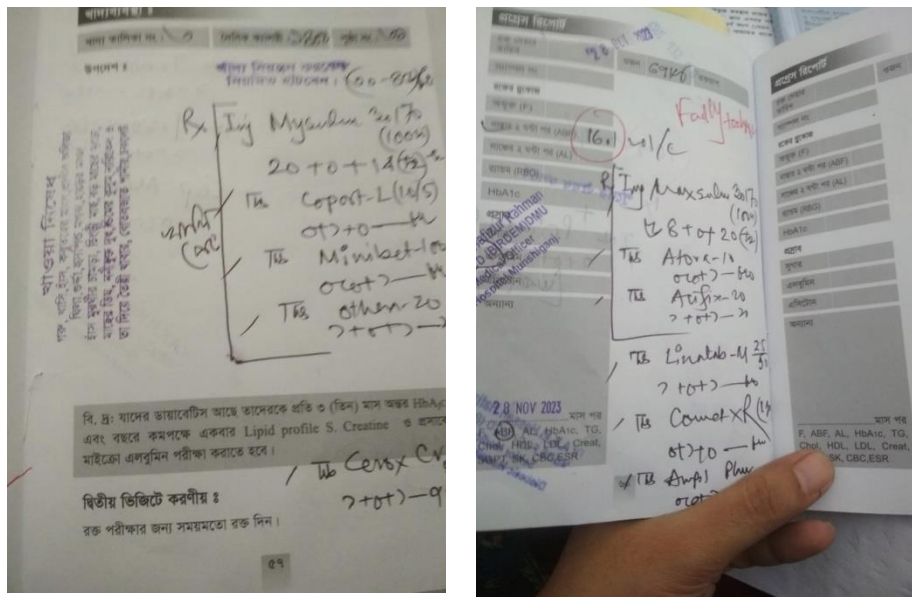


Figure 6: collecting patient's data.

2.2 The goal of the Munshiganj Diabetes Hospital

- There must be no diabetic who passes away neglected, jobless, or starving.
- All people must have access to reasonably priced healthcare services.

2.3 The purpose of the Munshiganj Diabetes Hospital

- Through the many institutions of the Diabetic Association of Bangladesh, provide comprehensive healthcare, including rehabilitation, to all diabetics, regardless of gender, economic condition, or social standing.
- Increase the scope of these services to include self-sustaining centers of excellence that offer accessible healthcare to all Bangladeshi residents.
- Provide skilled labor with the highest moral standards.
- Create sectors for the production of medications and other health foods, such as diabetic food.
- Improve healthcare leadership by implementing a committed and open management structure.

CHAPTER 3

3.1 A summary of the case study

Throughout my internship, I have gained some experience creating meal plans for diabetic individuals who are having issues. As an example:

- ✓ Diabetic syndrome type 2
- ✓ DM in conjunction with GDM
- ✓ Having constipation and a UTI are symptoms of diabetes mellitus
- ✓ CKD associated with DM
- ✓ Diabetes with stroke & eyesight problems
- ✓ Diabetes with Dyslipidemia

One issue in trying to balance diet in diabetic patients is the lack of resources.

- An absence of support from kin.
- Obstacles to patient engagement.
- A lifestyle change.
- Psychological health.
- Clinic facilities along with standards for medical care.
- Inconsiderate treatment of patient.

3.2 Distribution of macronutrients for diabetic patient

As suggested by the Institute of Medicine (IOM), the suitable macronutrient distribution ranges (AMDR) indicate how much of each of the three macronutrients—fat, protein-rich foods, and carbs—a person should consume daily. Below is the AMDR's advice:

1. Carbohydrates:

Approximately 45–62% of daily calories should come from carbohydrates. The body uses carbohydrates as its primary fuel source, therefore this range provides ample energy for daily activities.

2. Fat:

Ingesting 20–35 percent of fat each day is recommended. The body receives essential fatty acids and fat-soluble vitamins from this spectrum (Zaleha et al., 2023).

3. Protein:

It is advised to consume 15–20% protein each day (Zaleha et al., 2023). The human body can generate the building blocks it requires for a variety of biological functions, including muscular development and maintenance, within this range.

4.1 DM (DIABETES MELLITUS)

The illness known as diabetes mellitus is characterized by unusually elevated blood glucose levels because the body is unable to respond appropriately to insulin or produces insufficient amounts of it. Diabetes can cause people to lose weight even when they are not attempting to, and signs can include increased thirst and urination.

Categories of DM:

- DM type 1
- DM type 2
- GDM.
- Secondary type of DM.

Diabetic Treatment Plan

A diabetes educator can provide assistance and guidance, including how to manage diabetes, to individuals with or without a history of the disease:

- Create a strategy for a healthy diet and exercise
- Take a blood glucose test and note the findings.
- Understand the symptoms of elevated or lowered blood glucose levels and take appropriate action.
- Use a pump, pen, or syringe to give yourself insulin as needed.
- Track any changes in your complexion, eyes, or foot to identify any issues early.
- Purchase supplies for diabetes and preserve them correctly.
- Control anxiety and take care of your diabetes every day.

Important tests for diabetes

- Blood Glucose
- Lipid profile
- HbA1c
- BP
- SGPT
- ESR
- Creatinine test
- UR/E
- Electrolytes

4.2 An analysis of a case with type 2 DM

DM TYPE 2

Most people have DM type 2. The body produces too little insulin or resistance to insulin, which is when the hormone fails to function as intended, resulting in elevated glucose levels.

To try to elicit a response from the cells, the pancreas produces extra insulin. The conditions that lead to prediabetes and type 2 diabetes are eventually brought on by our pancreas' inability to keep up, which causes our blood sugar to spike. Blood glucose levels too high are harmful to the body and can lead to cardiovascular disease, damage to the kidneys, and other major health issues.

Patient information

Patient Name: Abdul Kadir

Address: Chasatola, Munshiganj

Phone No: 01963010035

Marital status: married

Gender: male

Anthropometric parameter

Weight: 64 kg

Height: 165 cm

Body Mass Index = $\text{Wt (kg)} / [\text{Ht (m)}]^2$
= 23.5 kg/m²

Clinical Assessment

1. Blood pressure: 115/75 mmHg

Dietary information

Physical Activity Level: sedentary

Appetite: good

BMR: 1503

Requirement Calories per day $\text{BMR} \times \text{PAL}$
= 1803.6 kcal/day

Distribution of calories into different macronutrients (1800 kcal)

Carbohydrate (62%): 280 gm/day

Protein (15%): 70 gm/day

Fat (23%): 46 gm/day

Restrictions: sugar

Biochemical Test:

Blood Glucose:

1. Blood Glucose (F): 10.0 mmol/L

2.2 hours after breakfast (ABF): 17.3 mmol/L

3HbA1c: 11.1 %

U.R/E

1. Sugar: (4+)

2. Albumin: Nil

Lipid profile:

1. Cholesterol: 137 mg/dl

2. LDL: 60.8 mg/dl

3. HDL: 47 mg/dl

4. TG: 146 mg/dl

Supplements: no

Insulin: Diasulin R (30/70)

Times: 2 times/day (100IU/ml)

Doses: 28+0+18(+2)

N: B: the previous insulin liquid was defected so the patient must have to collect a new insulin bottle.

DIET CHART (1800kcal)

Time & Meal Name	Food items with Measurement	specification
7 am-8 am: Breakfast	a). Ruti or chapati with flour- 3 P(90g) b)Egg-1p c)Vegetables(leafy)- as his wish	Boiled flours
11 am: Snacks (mid-morning)	a)puffed rice/popcorn- 30g or, large size biscuit(sugar-free)-4 p b)sour fruits-amount is as his wish	Sour fruits like amla, java apple, java plum, pomelo, etc.
1 pm-2 pm: Lunch	a)Rice-300g(2.5cup) b)Fish/meat-60g(2p) c)Lentils-20g(1 cup medium density) d)Vegetables(mixed)-Green tomatoes, capsicum, cabbage & cauliflower(amount is as his wish) e)Banana stems-60 g	
5 pm-6 pm: Snacks (afternoon)	a)Biscuits(sugar free, large size)-30 g(4 p)	

8 pm-9 pm: Dinner	a)Ruti or chapati with flour- 4P(120g) b)fish-2p(60g) c)Lentils-1 cup(medium density)(20g) d)Vegetables(mixed)-Green tomatoes, capsicum, cabbage & cauliflower	
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1.5 hours before sleep Bedtime	Skim milk-1 cup(30g)	

N: B: Use cooking oil: 25milL/day

4.3. DM in conjunction with GDM

The term gestational diabetes mellitus is GDM. A hormone produced by the placenta impairs the body's ability to use insulin, which leads to GDM. Rather than being absorbed by the cells, glucose accumulates in the circulation.

Gestational diabetes, also known as insulin resistance, is not brought on by a lack of insulin as in type 1 DM; rather, it is caused by various hormones released during pregnancy that might reduce the effectiveness of insulin. After birth, signs of gestational diabetes go away.

Patient information:

Patient Name: Najmin Shultana

Address: Mathpara, Munshiganj

Age: 30

Gender: Female

Anthropometric parameter

Weight: 64 kg

Height: 150 cm

Body Mass Index=Wt (kg) / [Ht (m)]²
= 28.4 kg/m²

Clinical Assessment

1. Blood pressure: 80/55mm HG
2. DM with GDM
3. Burning sensation in hand & legs

Dietary information:

Physical Activity Level: sedentary

Appetite: good

BMR: 1398

Requirement Calories per day BMRXPAL
= 1678 kcal/day

Extra calorie for pregnancy (3rd trimester): 400 kcal

So, Total calorie requirement: 2078 kcal (suggested diet for 2000kcal)

Distribution of calories into different macronutrients (2000kcal)

Carbohydrate (62%): 301 gm/day

Protein (15%): 76 gm/day

Fat 23%): 51 gm/day

Restrictions: Sugar-based food

Biochemical Test:

Blood Glucose:

1.2 hours after breakfast (ABF):12.7 m mol/l

Insulin:

Times: 3 times/day

Doses: Maxulin R (100 IU/ml): 32+36+16(+/-2)

Maxsulin N (100 IU/ml): 18+0+12(+/-2)

DIET CHART (2000kcal)

Time & Meal Name	Food items with Measurement		specification
7 am-8 am: Breakfast	a). Ruti or chapati with flour-4 P(120g) b)Egg-1p c)Mixed vegetables: calabash, green papaya, moringa stick, kohlrabi, sponge gourd-amount is as her wish		Boiled flours. She needs to cook this mixed veg in the semi-liquid form to reduce her burning sensation in different body parts.
11 am: Snacks (mid-morning)	a)puffed rice/popcorn-30g or, large size biscuit(sugar-free)-4 p b)sour fruits-amount is as her wish		Sour fruits like amla, java apple, java plum, pomelo, etc.
1 pm-2 pm: Lunch	a)Rice-360g(3cup) b)Fish/meat-60g(2p) c)Lentils-20g(1 cup medium density) d)Vegetables(mixed)-calabash, green papaya, moringa stick, kohlrabi, sponge gourd-amount is as her wish e)Carrot-50 g(medium size 1p)		
5 pm-6 pm: Snacks (afternoon)	a)Popcorn -30g		
8 pm-9 pm: Dinner	a)Rice- 1cup (120g) b)fish-2p(60g) c)Lentils-1 cup(medium density)(20g) d)Vegetables(mixed)-calabash, green papaya,		

	moringa stick, kohlrabi, sponge gourd-amount is as her wish	
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1.5 hours before sleep Bedtime	Skim milk-1 cup(30g)	Boiled for once
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N.B: Use cooking oil-30milL/day

4.4 Having constipation and a UTI are symptoms of diabetes mellitus

Constipation: The condition known as constipation is characterized by fewer bowel motions and harder-to-pass stool. It usually occurs as a result of poor fiber intake, dietary or behavioral changes, or both. If your constipation extends over three weeks, you should see a healthcare specialist. If you experience significant pain, there should be bleeding in your stool.

UTI: An infection that affects a portion of the urinary tract is known as a urinary tract infection (UTI). It is referred to as a kidney infection (pyelonephritis) when it affects the upper urinary tract and as a bladder infection (cystitis) when it affects the lower urinary tract. Lower urinary tract infection symptoms include pain during urination, frequent urination, and the urge to urinate even though your bladder is empty.

Relation between UTI and constipation

It is quite easy for bacteria cultures to grow in your bladder when you are constipated. There is enough time and space for the bacteria to grow and produce a UTI since you cannot get rid of the toxins in your body the same way you do when you poop.

Patient information:

Patient Name: Moklesur Rhaman

Address: Katakali, Munshiganj

Age: 40 years

Gender: male

Anthropometric parameter

Weight: 53 kg

Height: 163 cm

Body Mass Index = $Wt (kg) / [Ht (m)]^2$
 $= 20.3 \text{ kg/m}^2$

Clinical Assessment

1. Blood pressure: 120/70 mmHg
2. Having a constipation page
3. Having burning sensation in different body parts
4. Having a urinary tract infection

Dietary information:

Physical Activity level: light activity

Appetite:

BMR: 1335

Requirement Calories per day BMRXPAL

= 1835 kcal/day

Distribution of calories into different macronutrients (1800kcal)

Carbohydrate (62%): 280 gm/day

Protein (15%): 70 gm/day

Fat (23%): 46 gm/day

Restrictions: fat-related foods like fast food, chips, high caloric food like soft drinks, etc.

Biochemical Test:**Blood Glucose:**

1. Blood Glucose (F): 14mmol/L

2.2 hours after breakfast (ABF): 18 m mol/l

3. HbA1c: 10.8 %

Lipid profile:

1. Cholesterol: 190 mg/dl

2. LD: 70 mg/dl

3. HD: 35 mg/dl

4. TG: 110 mg/dl

Insulin:

Times: 2 times/day

Doses: 16+0+14

DIET CHART (1800Kcal)

Time & Meal Name	Food items with Measurement	specification
7 am-8 am: Breakfast	a). Ruti or chapati with flour-3 P(90g) b)Egg-1p c)Vegetables(leafy)- amount is as his wish	Boiled flours
11 am: Snacks (mid-morning)	a)Tandoor bread (small size)-half portion of 1 piece(30g) b)sour fruits-amount is as his wish	Sour fruits like amla, java apple, java plum, pomelo, etc.
1 pm-2 pm: Lunch	a)Rice-300g(2.5cup) b)Fish-60g(2p) c)Lentils-20g(1 cup medium density) d)Vegetables(mixed)-Green tomatoes, capsicum, cauliflower, moringa drum stick, green papaya(amount is as his wish) e)Boiled peas-30 g	
5 pm-6 pm: Snacks (afternoon)	a)Puffed rice-30g	
8 pm-9 pm: Dinner	a)Ruti or chapati with flour-4P(120g) b)fish-2p(60g) c)Lentils-1 cup(medium density) d)Vegetables(mixed)-Green tomatoes, capsicum, cauliflower, moringa drum stick, green papaya(amount is as his wish)	
1.5 hours before sleep Bedtime	Skim milk-1 cup(30g)	Boil of once

N: B: Use cooking oil: 25milL/day&
Take pure water 2-2.5 liters per day.

4.5 CKD associated with DM

All levels of reduced kidney function are included in the term chronic kidney disease (CKD), also known as chronic renal failure (CRF), which was once used to refer to damaged-at-risk kidney disease as well as mild, moderate, and severe chronic kidney failure. CKD is a global public health issue. Kidney failure is becoming more common in the US and is associated with poor prognoses and expensive treatment.

Patient information:

Patient Name: Mrs Hasina Begum

Address: Satarapara, Ramsingh.

Age: 55year

Gender: Female

Anthropometric parameter

Weight: 55 kg

Height: 153 cm

Body Mass Index=Wt (kg) / [Ht (m)]²
= 23.5kg/m²

Clinical Assessment

1. Blood pressure: 130/70 mmHg

2. Patient of Dialysis

Dietary information:

Physical Activity level: Sedentary

Appetite: good

BMR: 1199.9

Requirement Calories per day BMRXPAL
=1439.8 kcal/day

Recommended calorie – 1400 kcal

Distribution of calories into different macronutrients

Carbohydrate (62%): 216 gm/day

Protein (15%): 60 gm/day

Fat (23%):37 gm/day

Restrictions: sugary food, soft drinks, honey, chips, fast food items.

Biochemical Test:

Blood Glucose:

1. Blood Glucose (F): 19.9 m mol/L

2.2 hours after breakfast (ABF): 20.6 m mol/l

3. Hb %: 10.0 gm/dl

4. ESR: 41mm/hour

5. WBC: 18,640/Cumm

6. RBC: 3.79m/ul

7. Platelet count: 212000/cumm

Lipid profile:

1 .Cholesterol: 153 mg/dl

2. LDL: 79.0 mg/dl

3. HDL: 41 mg/dl
 4. TG: 165 mg/dl
OTHERS:
 Creatinine: 4.0 mg/dl
 SGPT: 23 U/L
 Insulin: (premixed) 34+0+14

DIET CHART (1400Kcal)

Time & Meal Name	Food items with Measurement	specification
7 am-8 am: Breakfast	a). Ruti or chapati with flour-2 P(60g) b)Egg-1p c)Vegetables(leafy green)-amount is as his wish	Boiled flours
11 am: Snacks (mid-morning)	a)puffed rice- 30g or, large size biscuit(sugar free)-4 p b)sour fruits-amount is as his wish	Sour fruits like amla, java apple, java plum, pomelo, etc.
1 pm-2 pm: Lunch	a)Rice-240g(2 cup) b)Fish-60g(2p) c)Lentils(cooked)-1/2cup medium density) d)Vegetables(leafy green)-amount is as his wish & e)Banana stems-60 g	

5 pm-6 pm: snacks	Popcorn -30g	
8 pm-9 pm: Dinner	a)Ruti or chapati with flour-3P(90g) or Rice-1.5 cup b)fish-2p(60g) c)Lentils-1/2cup(medium density) d))Vegetables(leafy green)-amount is as his wish	
1.5 hours before sleep Bedtime	Skim milk-1 cup(30g)	Boiled for once

N: B: Use cooking oil: 20milL/day

4.6 Diabetes with stroke and sight problems

Stroke: When a blood vessel in the brain bursts or something stops the blood supply to a portion of the brain, a stroke, also known as a brain attack, happens. Both scenarios result in damaged or dead brain tissue. Chronic brain damage, permanent disability, and even death are possible outcomes of a stroke.

A stroke and sight problems: Following a stroke, you could experience problems with visual processing, or trying to interpret what you see. Visual neglect (sometimes called spatial inattention) is the most prevalent visual processing issue following a stroke. It can cause you to lose sight of items to one side, which can alter how you perceive your surroundings.

Patient information:

Patient Name: Rashida Begum

Address: Betka, Tonginari

Phone no: 01848164274

Marital status: married

Age: 50 y

Gender: Female

Anthropometric parameter

Weight: 64 kg

Height: 153 cm

Body Mass Index = $\text{Wt (kg)} / [\text{Ht (m)}]^2$
= 27.3 kg/m²

Clinical Assessment

1. Blood pressure: 120/60 mmHg
2. Stroke patient
3. Memory loss: can't remember things for a long time
4. Right sight eye always blinking
5. Eye vision: Blur
6. Joint pain
7. Having UTI

Dietary information:

Physical Activity level: Sedentary

Appetite: good

BMR: 1319.8

Requirement Calories per day BMRXPAL
= 1583 kcal/day

Recommended calorie: 1600kcal

Distribution of calories into different macronutrients

Carbohydrate (62%): 254 gm/day

Protein (15%): 65 gm/day

Fat (23%):40 gm/day

Restrictions: fat-related foods like fast food, chips, high caloric food like soft drinks, etc.

Biochemical Test:

Blood Glucose:

1. Blood Glucose (F): 5 m mol/L

2.2 hours after breakfast (ABF): 16.5mmol/l

5. HbA1c: 13.1 %

Insulin:

Times: 2 times

Doses: Diasulin: 48+0+22(+2)

DIET CHART (1600Kcal)

Time & Meal Name	Food items with Measurement	specification
7 am-8 am: Breakfast	a). Ruti or chapati with flour-3 P(90g) b)Egg-1p c)Vegetables(mixed)-Green tomatoes, wax gourd, cabbage & moringa drum stick (amount is as his wish)	Boiled flours
11 am: Snacks (mid-morning)	a)puffed rice/popcorn- 30g or, large size biscuit(sugar-free)-4 p b)sour fruits-amount is as his wish	Sour fruits like amla, java apple, java plum, pomelo, etc.
1 pm-2 pm: Lunch	a)Rice-270g(2& 1/4cup) b)Fish/meat-60g(2p) c)Lentils-1/2 cup medium density d)Vegetables(mixed)-Green tomatoes, wax gourd, cabbage & moringa drum stick (amount is as his) e)Banana stems-60 g	
5 pm-6 pm: Snacks (afternoon)	a)Biscuits(sugar fee large size)-30 g	
8 pm-9 pm: Dinner	a)Ruti or chapati with flour-3P(90g) b)fish-2p(60g) c)Lentils-1/2cup(medium density)	

	d) Vegetables(mixed)-Green tomatoes, wax gourd, cabbage & moringa drum stick (amount is as his wish)	
1.5 hours before sleep Bedtime	Skim milk-1 cup(30g)	Boiled for once

N: B: Use cooking oil: 20mill/day

4.7. Diabetes with dyslipidemia

An imbalance in lipids including cholesterol, triglycerides, low-density lipoprotein (LDL-C), and high-density lipoprotein (HDL) is known as dyslipidemia. This disorder can cause serious consequences from cardiovascular disease can be brought on by genetics, nutrition, or tobacco use.

Patient information:

Patient Name: Dulal Badsha

Address: Firingi Bazar, Munshiganj

Marital status: married

Age:48 y

Gender: male

Anthropometric parameter

Weight: 57 kg

Height: 159 cm

Body Mass Index=Wt (kg) / [Ht (m)]²
= 22.5 kg/m²

Clinical Assessment

1. Blood pressure: 115/75 mmHg

Dietary information:

Physical Activity Level: sedentary

Appetite: good

BMR: 1579

Requirement Calories per day BMR X PAL
=1579 kcal/day

Recommended calorie 1600 kcal

Distribution of calories into different macronutrients

Carbohydrate (62%):254 gm/day

Protein (15%):65 gm/day

Fat (23%):40 gm/day

Restrictions: egg yolk, fish egg, chocolate, soft drinks, animal liver, animal brain, poultry meat, prawn, chips, fast food.

Biochemical Test:**Blood Glucose:**

1. Blood Glucose (F):15.5mmol/L
2. 2 hours after breakfast (ABF):18.7 m mol/l
3. HbA1c:13.7 %

Lipid profile:

1. Cholesterol: 186mg/dl
2. LDL: 106.8 mg/dl
3. HDL: 47mg/dl
4. TG: 161mg/dl

Others:

Creatinine: 0.9 mg/dl

SGPT: 24 U/L

Insulin: Premixed

Times: 2 times/day

Doses: 20+0+14

DIET CHART (1600kcal)

Time & Meal Name	Food items with Measurement	specification
7 am-8 am: Breakfast	a). Ruti or chapati with flour-3 P(90g) b)Egg-1p c)Mixed Vegetables- moringa leaf, green tomatoes, pointed gourd, snake gourd, luffa(amount is as his wish	Boiled flours
11 am: Snacks (mid-morning)	a)large size biscuit(sugar free)-4 p(30g) b)sour fruits-amount is as his wish	Sour fruits like amla, java apple, java plum, pomelo, etc.
1 pm-2 pm: Lunch	a)Rice-270g(2& ¼ cup) b)Fish-60g(2p) c)Lentils-20g(1 cup medium density) d)Mixed Vegetables- moringa leaf, green	

	tomatoes, pointed gourd, snake gourd, luffa (amount is as his wish) e) Ripe Tomatoes -1p	
5 pm-6 pm: Snacks (afternoon)	a) large size biscuit (sugar free)-4 p(30g)	
8 pm-9 pm: Dinner	a) Ruti or chapati with flour-3P(90g) or, rice-1 & ½ cup b) fish-2p(60g) c) Lentils-1/2 cup (medium density) d) Mixed Vegetables- moringa leaf, green tomatoes, pointed gourd, snake gourd, luffa (amount is as his wish).	
1.5 hours before sleep Bedtime	Skim milk-1 cup(30g)	Boiled for once

N: B: Use cooking oil: 20mill/day

CHAPTER: 5

My viewpoint regarding the meal plan:

Food size and calorie ratios are altered. Every meal doesn't have to be the same for the patient on a limited diet if there are some variances in the food chart based on their preferences. Regularly eating the same thing might get monotonous and reduce food-related happiness. A diverse range of flavors, textures, and colors in the diet contribute to the pleasure of eating.

CHAPTER: 6

Conclusions

I now have a comprehensive understanding of diabetes, how it affects people's life, and how important food habits are to managing the illness. I was able to assess and examine individuals' eating habits, which helped me identify trends and potential areas for enhancement.

I gained knowledge about dietary guidelines and how to apply them to make customized meal plans for each person, especially those with diabetes. Through my interactions with nurses and patients, I was able to hone my counseling and communication skills, which enabled me to provide support and give clear dietary recommendations. I gained knowledge about the numerous social and cultural factors that influence patients' eating habits, highlighting the significance of offering tailored advice. I developed my ability to collect and evaluate data regarding eating habits in order to support evidence-based choices.

My internship gave me the opportunity to learn. Patients and nurses needed to hear from me. It made me more proficient in conversation. By visiting others who suffer from various illnesses, I have gotten a lot of knowledge and have developed my talents. I know now what the diets of people with diabetes are. I am grateful to Dr. Md. Bellal Hossain, my supervisor, for handling this entire process. In general, the internship has enhanced my abilities and equipped me for a more promising future.

THANKS