



Internship Report on the Dietetic Hospital Placement and Case Studies

Prepared by: Tirsit Demissew

MSc. Program in Dietetics

Advisor: Dr. Zelalem Debebe (Asst. Prof.)

June 2021

Advisor: Dr. Zelalem Debebe (Asst. Prof.)

Signature: _____

June 2021

Internship Report on the Dietetic Hospital Placement and Case Studies2021

Table of Contents

I. Acknowledgment	7
Section 1: Internship Report of the Dietetic Placement in Three Government Hospitals	8
I. Objective of the Internship	8
II. Introduction	8
III. Activities	10
IV. List of Cases	13
V. Reflection and Learning Outcome of the Dietetic Hospital Placement	13
VI. Challenge of the Internship	15
VII. Conclusion	16
Section 2: Case Studies:	17
I. Introduction	17
II. A Case Study on Hemorrhagic Stroke	17
III. A Case Study on Type 2 Diabetes Mellitus	32
IV. A Case Study on Traumatic Brain Injury (TBI)	38
I. References	44
II. Annexes	45
Annex 1: Dietetic Assessment form No. 1	45
Annex 2: Dietetic Assessment Form No. 2	46
Annex 3: Dietetic Assessment Form No. 3	47
Annex 4: Dietetic Assessment No.4.....	48
Annex 5: Assessment Form No. 5.....	49
Annex 6: Dietetics Assessment form for Paediatrics	50
Annex 7: Food Ordering Form No.1	51
Annex 8: Food Ordering Form No. 2	52
Annex 9: Food and Fluid Follow up Sheet /for Patient Use	53
Annex 10: Leaflet for Pre and Post Pregnancy	54
Annex 11: Leaflet for Gestational Diabetes	55
Annex 12: Leaflet for Complementary Food	56

Tables

Table 1 1 Anthropometry Measurements	20
Table 1 2 Laboratory Results	21
Table 1 3 Vital Signs	21
Table 1 4 Medications	23
Table 1 5 Analysis Of Food Intake From 24 Hrs. Recall	24
Table 1 6 Comparison Between Intake Verses Daily Requirement	24
Table 1 7 Nutritional Diagnosis	26
Table 1 8 Prepared Meal Plan	29
Table 1 9 Comparison Of Laboratory Results After The Intervention	31
Table 1 10 Laboratory Results	33
Table 1 11 Vital Signs	34
Table 1 12 Medications	35
Table 1 13 Laboratory Results	39
Table 1 14 Vital Signs	39
Table 1 15 Medications	40
Table 1 16 Nutritional Diagnosis	41
Table 1 17 Prepared Fluid For Ng Tube Feeding	42

Section I. Figures

Figure 1 One to One Consultation at TASH Diabetic Clinic OPD	9
Figure 2 Identification of Clients from Patient Chart.....	10
Figure 3 Summary of Verbal and Written Communications.....	12
Figure 4 Conducting Mass Education at Zewditu Memorial Hospital	12

Section II. Figures

Figure 2. 1 Hemorrhagic Stroke (Source: Shutter Stock.Com).....	17
Figure 2. 2 Tracheostomy (Source Istockphoto.Com)	25
Figure 2. 3 Nasogastric Tube (Source: Myamericannurse.Com)	25

Acronyms

TASH	-	TikurAnbesa Specialized Hospital
OPD	-	Out Patient Department
ICU	-	Intensive Care Unit
RVI	-	Retroviral Infection
GBD	-	Global Burden of Disease
TBI	-	Traumatic Brain Injury
GCS	-	Glasgow Coma Scale
MUAC	-	Middle Upper Arm Circumference
NG Tube	-	Nasogastric Tube
DM	-	Diabetes Mellitus
CVD	-	Cardiovascular Disease

I. Acknowledgment

First and foremost, praises and thanks to the God, the Almighty who helped me to finalize this program with all His providences.

I would like to express my deepest and sincere gratitude to my instructor and advisor Dr. Zelalem Debebe (Asst. Prof.), for her kindness and dedication to share her knowledge, time and experience wholeheartedly with continuous support and presence whenever needed. It was a great privilege and honor to study and get practical experience under her guidance. Her dynamism, sincerity and motivation have deeply inspired me as she is a real dietitian role model whom I always thankful for.

I would also be thankful to Dr. Paulos Getachew and faculty members for being supportive and facilitating such a conducive learning environment.

I am also grateful to all my instructors who are knowledgeable and passionate to share their knowledge because of that, I really enjoyed and always exited to come to class each day.

I would like to appreciate and express my gratitude to Zewditu Memorial Hospital Management, Paulos Millennium Hospital, and TikurAnbessa Specialized Hospital, kitchen and administrative staffs, Doctors and Nurses, for being supportiveness and for facilitating every resource they have and host us for this internship program.

I am extremely grateful to my husband and children for understanding me and continuing support to complete this program.

Section 1: Internship Report of the Dietetic Placement in Three Government Hospitals

I. Objective of the Internship

To have a necessary knowledge skills and attitudes of alldietetic disciplines required to support practice in placement:

II. Introduction

During Nov 2020, I started my internship at the TikurAnbessa Specialized Hospital. The purpose of this first hospital placement was to introduce to us the practical aspects of doing nutritional assessment. I and the other interns were expected to observe our advisor and supervisor how the nutritional assessment interview and recording information is practically done with the patient. I learned how she communicates with the patients to do the assessment. Then I started assisting a senior dietitianintern in filling the assessment form and continued to do it my selves, when I becamecomfortable.

My second hospital placement was at St. Paul Hospital that was on January 2021 in medical ward. In this hospital I have gotten a good experience of handling the nutritional assessment, analysing the diseases and its relationship in affecting the nutritional status of the patient. In addition to this, I have also acquired an experience of prioritizing the nutritional problem to intervene accordingly, by ordering appropriate meal from the hospital and family, doing follow up whether the food ordered is delivered or not, how much is consumed by the patient, gaging their progress by reassessing the status.

Starting from Feb-June 2021my third placement wasatZewdituMemorial Hospitals. In this hospital, I have passed through all nutritional care processes and got hands on experiences. Though it was so challenging due to lack of convenient environment that promotes dietetic services, it also gave me an insight of how much effort is needed to create awareness, install the system and work in harmony with the hospital staffs.

Internship Report on the Dietetic Hospital Placement and Case Studies2021

The fourth placement was at TirkurAnbesa diabetic clinic that was conducted from May – June 2021. It was a one to one consultation that was done for Pediatric and Adult outpatients parallel to my Zewditu Hospital placement.



Figure 1 One to one consultation at TASH Diabetic Clinic OPD

The hospital rotations were helpful to relate the knowledge I have gotten from class and develop skills and attitude in assessing, planning, implementing, and evaluating nutritional care for hospitalized patients and having consultation time with outpatients by providing instant advice. In addition, we participate in the Doctors' morning team rounds and contributed to answering their questions related to nutrition and identifying a potential patient for nutritional care support.

The case study preparation and presentation to our supervisor weekly was also part of the internship program, which gave us deeper insight and challenged us to better understand nutritional care processes by emphasizing learning the physiology of disease states concerning nutritional therapy. With the facilitation of our supervisor, we also had an opportunity to participate in a seminar that was organized by the Ministry of Health for the preparation of nutritional care protocol for ICU patients from April 23 - 24 2021 at Adama and other online seminars.

III. Activities

1. Main Activities

I have accomplished different main and related activities in my stay at Zewditu Memorial Hospital. These main activities in the wards for inpatients include but not limited to



Figure 2 Identification of clients from patient chart

- i. Identification of a client from a patient chart or from ward round observation and prioritizing a case which needs urgent attention such as a patient with chewing/ swallowing problems, pressure ulcers/ bedsores and nonhealing wounds, significant weight changes, anyone that is unable to meet his or her daily requirements to heal, maintain weight, etc.
- ii. Assessing using nutritional assessment tools that comprises taking anthropometric measurements, vital signs, referring medical history, nurses note, diet history, social history, biochemical status, drugs ordered, etc.
- iii. By doing dietetic diagnosis, identifying the nutrition-related problems, the etiology or causes that contribute to the nutritional problem, and sign and symptoms that are evidenced by different parameters such as diet history, medical notes, visual observation, etc
- iv. Plan an intervention for each individual client that includes preparing nutritional care short term and long-term plans after doing a thorough analysis

- v. Setting an indicator for each intervention plan that serves as a tool to monitor and evaluate where it is done according to the plan or not.
- vi. I and the other interns designed and wrote an educational leaflet that is enclosed in the Annex.
- vii. Preparing an appropriate nutrition care implementation plan to execute the pre-set goal/plan such as
 - a. Consultation, preparing a meal plan, modified diets as well as for those patients who are on tube feedings.
 - b. Providing information sheets when necessary such as eating position, recording fluid input and output, etc.
 - c. Conducting informal and instant education to doctors related to questions that arises in discussing cases.
 - d. Facilitating services for patients with the kitchen for additional services such as providing them specializes meals and additional meals other than regular mealtime when necessary and connecting patients with social workers to provide them clothes and buy them medicine if the patient couldn't afford or for those who have low financial status.
 - e. Educating group of patients.
 - f. Monitoring and evaluation
 - g. Recording and listing down the outcome that is obtained due to the intervention.

2. Other Related Activities

These additional activities are done together with other intern dietitians by discussing, brainstorming, and agreeing in a way it serves our purposes.

- i. Modifying the existing dietetic assessment and advice sheet and follow up sheet
- ii. Preparing new forms that are used to order food from the hospital kitchen and families etc.
- iii. Adapting a questioner in our country context for a one-day rapid nutrition assessment that is taken from the Nutrition day website.

- iv. Conducting, a trial assessment using the adapted questioner of nutrition day, reviewing, analyzing, and arrive at conclusion. The aim of the nutrition day assessment program is to improve knowledge and awareness of malnutrition in health care institutions and enhance the quality of nutritional care. We assessed using the adapted questioner in Medical, surgical, Pediatrics, Gynecology & Obstetrics, and ICU wards.
- v. Conducting Gap Assessment of Zewditu hospital related to nutritional care services.

Activities Summary of Verbal and Written Communications with Patients, Care Takers, Kitchen Staffs and Doctors									
Consultation and Education Given					Meal Plan and Menu in Written Form				
Consultation		Education			Meal Plan with Recipe		Menu		
Outpatients	Inpatients	Mass	Instant to doctors	Patients and Care takers	For inpatients	Modified to the Hospital kitchen	To the Hospital Kitchen	For inpatients	For out patients
22	30	1	5	49	13	6	8	24	14
Total		Total			Total		Total		

Figure 3 Summary of Verbal and Written Communications



Figure 4 Conducting Mass Education at Zewditu Memorial Hospital

IV. List of Cases

In the internship period, I have seen patients with different diseases. Most of them had more than one disease and needed dietetic care desperately. Some of the diseases are listed below.

- Cardiovascular diseases
- Gastrointestinal Fistula
- Ischemic Stroke
- Haemorrhagic Stroke
- RVI
- Deep Vein Thrombosis (DVT)
- Dyslipidaemia
- Pneumonia
- Myelomeningocele / Spina Bifida

- Diabetes Mellitus Type 1
- Diabetes Mellitus Type 2
- Gestational Diabetes
- Heart Failure
- Hypertension
- Ruptured Appendicitis
- Perforated Appendicitis
- Chronic Kidney Disease
- Epilepsy

Reflection and Learning Outcome of the Dietetic Hospital Placement

i. Knowledge acquired from Nutrition Science and how it is related to Health.

I have learned that how nutrition science that we have given in the class such as about the nature and uses of macro and micronutrients related and applicable in human health in terms of prevention and its contribution in increasing energy level, wound healing, and minimizing long hospital stay. I have also gotten a good impression on how an appropriate meal can help in controlling many health problems such as diabetes, wound, hypertension, etc.

ii. Nutritional Care Practices

I have acquired knowledge on how the nutritional care processes are handled namely doing the assessment, diagnosis intervention monitoring, and evaluation, etc that needs filling of forms with proper data, documentation, good listening, communicating, and critical thinking, analytical skills, etc. I have also learned that how the nutritional care process needs a thorough investigation of the disease in relation to the nutritional care process.

In addition to this, I have developed the skill of preparing specialized meals such as a feed that can be taken through a Nasogastric tube, developing a menu based on the

person's energy and protein requirements with due consideration of other micronutrients.

I have learned that in order to monitor the planned intervention activities, it is very important to prepare an indicator for each short-term and long-term plan, in order to measure the results and serves as monitoring tools.

iii. Communication:

I had verbal and written communication with patients, health professionals, and other staff. I have practiced active listening, and patient-centered communication, paraphrasing what is said so that we are on the same page, etc. I have also well understood how written information is effective as the patient or the caretaker couldn't memorize all the information by heart.

iv. Professionalism:

The internship program and the dietetic discipline itself require and encourage to continuous reading, referring, research documents, discussion, and continual updating that makes it very interesting. I have also learned to work in working hrs and more such as at lunchtime when the work demands due to different reasons.

Since there was no supporting system to do the dietetic activities as required and needed, I got an opportunity to exercise and realized that I was doing it with passion considering myself as the owner of the job with or without Supervision.

v. Educating others:

I also had an opportunity in introducing the nutrition care process to the 1st year Ph.D. Candidate starting from demonstrating how we make an interview, doing the assessment, intervention plan, implementation, and monitoring and evaluating of our intervention plan.

V. Challenge of the Internship

The challenges of the internship were

1. The unavailability of an installed dietetic or proper nutritional support system was the biggest challenge for our work.

For instance, patients are not measured their weight and height upon admission and their nutritional status is not clearly recorded on the patient card. In addition to this, there is no measuring scale so that we can measure them. Therefore, in order to start our assessment and know their nutritional requirement, we had to get their measurement by borrowing from other wards which are very difficult, or by estimating using different methods such as visual observation, measuring Middle Upper Arm Circumference (MUAC).

2. The unwillingness of some doctors to cooperate with us and avoid us due to lack of knowledge or ignorance.

In order to solve this problem, I used different approaches such as educating them, asking them some medical questions so that they understand that there are things that we also do not know, and let them know that it is teamwork.

3. The resource limitation of the kitchen to providing special diet orders to those who are in need.

It was resolved by designing and preparing a meal that can be done with available resources.

4. The miscommunication between nurses/ doctors with the social worker, physiotherapists, etc that creates a big gap as there is no chain of command.
5. To facilitate our work, we prepared a food ordering form. Previously we were giving the food order directly to the kitchen. However, afterward, as they start complaining that it is out of budget and needs a stamp, we start to give the order to one of the nutritionists who was assigned to help us then he gives it to the kitchen.

VI. Conclusion

During my internship I had acquired many useful experiences with those three hospitals, I was able to develop my skills like doing nutritional assessment, communication skills, direct interaction with patients, developing meal plans and recipes by taking patients preferences and financial status into account, reading and understanding of patents cards, case writing. Moreover, I also found the one-to-one consultation practice I have done at TASH- Diabetic Clinic to be very much useful to my counselling skill.

I also realized and observed that there are many inpatients and outpatients who badly need dietetic support. Therefore, I am planning to give a voluntary service and dedicate my time once a week for a specific period of time at TikurAnbessa Specialized Hospital, a diabetic clinic for adult and paediatric Diabetes Type I and Type II patients.

In conclusion, my experience with those three hospitals was crucial in my career development as a dietitian.

Section 2: Case Studies:

Based on Nutritional care Model and Process for Nutrition and Dietetic Practice, 2020 British Dietetic Association.

I. Introduction

In my hospital placement, I have learned a lot in the preparation of a case study that has been reported to our supervisor every week aiming to develop our ability to obtain, assess and present appropriate information. Moreover, in a case study preparation, I have gotten experience in knowing and understanding the patient's medical, cultural, social, and economic circumstances in relation to clinical conditions and how these link to any dietary treatment given. The three case studies that I have chosen for this report will focus on the patient's primary disease state of Hemorrhagic stroke, Diabetes Mellitus, and Traumatic Brain Injury.

II. A Case Study on Hemorrhagic Stroke

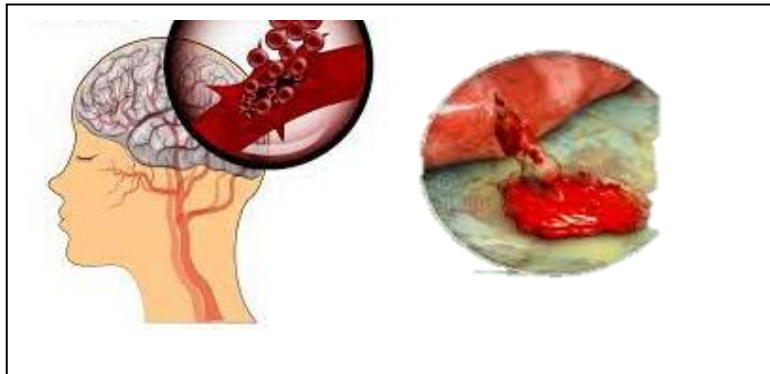


Figure 2. 1 Hemorrhagic Stroke (source: shutterstock.com)

1. Overview of the disease - Hemorrhagic Stroke

A stroke occurs when brain tissue is broken because there's no enough blood flow or oxygen delivery to the brain's cells. There are three main styles of stroke. Ischemic, Hemorrhagic and Transient ischemic. Ischemic stroke - is that the results of lack of blood flow, stroke - caused by bleeding into or round the brain, and Transient ischemic (mini attack) - a short stroke-like attack that mostly resolved within minutes to hours. (Janet M. Torpy, 2010).

Hemorrhagic strokes also are accountable for severe, nonfatal damage to brain tissue that may leave individuals paralyzed or weak, with difficulty speaking, swallowing, thinking properly, or doing activities of daily living. Hemorrhagic strokes are less common than ischemic strokes but cause a major number of deaths worldwide. (Janet M. Torpy, 2010) Stroke considered second leading reason for death, accounting for 11.13 % of total deaths, total deaths, and also the main reason behind disability worldwide. the main kind of stroke is ischemic, which occurs in about 87% of all stroke cases. As per a worldwide Burden of Disease (GBD) study in 2010, over 11 million ischemic strokes occurred while 63% of them were in low- and middle-income countries. Also, near 3 million deaths occurred because of ischaemic stroke. About 13% of strokes are of a Hemorrhagic type. in line with a GBD study in 2010, there have been about 5.3 million Hemorrhagic stroke cases, out of which about 80% occurred in low- and middle-income countries. Over 3 million deaths occurred from Hemorrhagic stroke. (Mahdi Habibi-koolae,2018)

In a cross-sectional study that was done in all patients admitted with a clinical diagnosis of stroke between September 2000 and August 2001 at the Addis Ababa University Teaching Hospital, Hemorrhagic stroke was the foremost common reason for stroke accounting for 57% of all patients and 59.2% among people who had CT scan. the number of patients with stroke increased linearly until cohort 55-64, with a peak incidence within the age bracket 55-64 years accounting for a 3rd of all admissions. Hypertension was the foremost frequent risk factor identified followed by cardiac disease, 65.6%, and 22.7% respectively. (Zenebe, 2005)

2. RiskFactors for Hemorrhagic Stroke

Hypertension (high blood pressure) is that the most significant risk factor for hemorrhagic. Anticoagulant (blood-thinning) medications make bleeding into the brain more likely, especially if taken improperly or in large doses. Cerebral brain, enlargements of blood vessels drug abuse history of stroke in the family, smoking, diabetes, high cholesterol, obesity, and a sedentary lifestyle are risk factors for every kind of strokes. (Janet M. Torpy, 2010)

3. Symptoms

Without known causes Hemorrhagic strokes may have a symptom of sudden weakness or numbness of the face, arm, or leg, especially on one side, confusion, trouble to speak and understanding, trouble seeing in one or both eyes, the difficulty of walking, dizziness, loss of balance, or loss of coordination, and severe headaches. (Saengsuwan, 2017 Oct 9.)

4. Medical Treatment

Treating a Hemorrhagic stroke includes discontinuing any ongoing bleeding in the brain. To stop bleeding, to remove a blood clot, and to relieve excess pressure on the brain surgical treatment may be necessary. High blood pressure often required to be treated by Medications. A blood transfusion may be necessary, and life support such as tracheostomy and NG tube may be obligatory if a Hemorrhagic stroke is severe. (Janet M. Torpy, 2010)

5. Introduction for a Case Study on Hemorrhagic Study

Mrs. W is a 70-year-old retiree female living in Addis Ababa. She was Admitted to Zewditu Memorial hospital ICU on 15/04/13 (4 months before I met her). On that date, she was found lying on the floor unconscious in her bedroom early in the morning and taken to the hospital. She was not referred by the doctors but while I was visiting another patient whom I was followed I observed that she can't move by herself and was on NG (Nasogastric) Tube feeding as they were in the same room. She had deep bed sore that is stage IV on bilateral gluteus in which I noticed while the nurses are doing wound care for her and suspected that she was bedridden for a long time then I decided to start the dietetic assessment.

6. Nutritional Assessment

Measures of nutritional status are usually valuable in as much as they may be predictive of health outcomes. The practical requirements for assessment of nutritional adequacy arise from the need to intervene, either by consultation or by more aggressive strategies, to improve the nutrition of individuals or populations, and thereby to decrease the risks and the burdens of those diseases that have, or may have, a nutritional component. (Bates, 2017)

The nutritional assessment consists of Anthropometry, Biochemistry, Clinical, Dietary Information, Environmental / behavioural / social and Functional.

a. Anthropometry

Description	Measurement	Remark
Previous Weight	90 kg (e)/ BMI 33.4	Based on information from her daughter and visual estimation. >30 kg/m ² – Obese ESPEN (Cederholm, 2016) Her estimated weight loss indicates Severe Malnutrition (>10% within the past 6 months ESPEN (Cederholm, 2018)
Current weight	80 (e)	
Weight loss history	>10kg (11.1%) ↓(e)	
Height	164 Cm (e)	Estimated by her daughter and visual Estimation
BMI	29 cm kg/m ² (e)	Overweight (e) BMI between 25 and 30 kg/m ² implies overweight ESPEN g. (Cederholm, 2016)
MUAC	30cm	Overweight Cut off 23- 25.5cm ESPEN (Alice M ,2017)

Table 1 1 Anthropometry Measurements

b. Biochemistry

The biochemistry results that are listed below are the relevant ones, otherwise there were many kinds of biochemistry tests in her chart.

Description	6/8/13 6days before assessment	Normal Range	Interpretation
Hgb	7.8↓	11.2-15.7	
HCT(Hematocrit)%of RBC in the blood	23.1↓	34-44.9%	Shows insufficient supply of healthy red blood cells (anemia)

			Nutritional deficiency (iron, vit B12, folate)
ESR (Erythrocyte Sedimentation Rate) degree of inflammation Present	120	Up to 20	shows degree of inflammation present in the body
K	2.34↓	3.5-5.1 mmol/l	Medicines such as Diuretic
Mg	1.1 ↓	1.9-2.5 mg/dl	Malnutrition, medicines like diuretics
Ca	6.8 ↓	8.8-10.6 mg/dL	
Na	150↑	136-145 mmol/L	
Cl	116↑	98-107 mmol/L	

Table 1 2 Laboratory Results

c. Clinical History

i. Vital Signs

The vital signs are put to show the range of her

Description	Measurement /Result	Normal Range
Blood Pressure	126/100-202/124 ↑	120/80mmHg
PR	92 -108	60-100 bpm
RR (Respiratory Rate)	18-24 ↑	12-20 rpm
SPO₂	84↓-99	95-100%
Temperature	34-36	37 °C

Table 1 3 Vital Signs

ii. Past Medical History

She had Known Hypertension and taking a medication for the past 6 years and based on the information given by her daughter she has been obese weighing 90 (e) for long time before admission.

iii. Current Medical History

In the patient chart it shows that her current status and has the listed diseases below.

- Hemorrhagic Stroke
- Right-sided hemiparesis 2⁰
- Type I Respiratory Failure 2⁰
- Tracheostomy tube inserted
- Stage IV bedsore bilateral gluteus
- Ventilator- associated pneumonia (VAP) Treated
- Hospital- Acquired Pneumonia (HAP)Treated
- Hypokalemia (Unstable)
- Hypomagnesemia (Unstable)
- Hypocalcemia
- Moderate to severe Anemia

iv. Medication

She has taken many medications; however, few are mentioned below.

Drug Name	Dose	Purpose	DrugNutrient Interaction
Ufh (Subcutaneous) inj.	5000 BID SC	For abnormal blood clotting in leg, lung heart	
KCl	40mg TID and 500 ml NS	To treat Hypokalemia	
Magnesium Sulfate	MgSo ₄ 2g and 200ml NS BID	To treat hypomagnesemia	

Metronidazole, Vancomycin	500mg IV, TID1g/BID, IV	To treat skin infection, prevent growth of bacteria/inflammatory disease	Electrolyte depletion (Rehan, 2019)
Amlodipine	5g Po/d	To treat Hypertension	
Omeprazole	20mg po/BID	To treat Gastroesophageal reflux	Electrolyte depletion (Shabajee, 2008)
Other Orders			
Repositioning	Every 2 hrs.	To prevent bed sore, for normal blood flow	
Wound care	With hydrogen peroxide BID	For fast wound healing	
BedsidePhysiotherapy	Not mentioned	Not done	
Supplement /Calcident	1000mg Po/d	To correct calcium deficiency	

Table 1 4 Medications

d. Dietary/Nutrition Diagnosis

She had an inadequate intake that is 300ml Atmit with milk every 3 hrs. which is estimated to **604 kcal/** day as evidenced by diet history.

They acknowledged that they had little understanding of nutrition and no nutrition education before as evidenced by interview and diet hx, i.e. feeding her the same type of food for over 4 months.

She also had Excessive fluid intake without considering the outcome as evidenced by diet history.

i. Analysis of the Food Record from 24 hrs. Recall

Type of Food	Ingredient	Amount
Atmit/ Gruel	Barley Flour	75 g
	Oat Flour	75 g
	Semi Skimmed Milk	200 ml
Estimated Intake Per Day		
Energy	604 kcal/day	Calculated based on Ethiopian food composition and Nutrisurvey
Protein	25.3 g	
Fluid intake Atmit 2,250 ml Water used for flushing of the tube 160 ml Pure water 1000 ml IV fluid 1500 ml	4,910 ml	

Table 1 5 Analysis of Food Intake from 24 hrs. Recall

N.B. Starting before 10 days before my nutritional assessment started, she was feed Ensure that makes her daily intake 854kcal/day Every other or two days. The reason it was not included in the above analysis is that it was not given to her on regular basis.

ii. Comparison between Estimated Energy, Protein and Fluid Taken Verses Daily Requirement.

	Energy	Protein	Fluid
Taken for the last 4 months	604 kcal/day↓	25.3g↓	4,910 ml↑
Estimated Requirement	2000 kcal/day (25g X 80kg)	80 g (1g x 80kg)	2000 ml (80kg x 25)

Table 1 6 Comparison Between intake verses Daily Requirement

e. Environmental/ Behavioral/ Social

The patient looks stressed and depressed. Though the care takers do not know much about nutrition, they are so willing and motivated to learn and follow the nutritional advices. Since they are economically capable to provide her appropriate feed financial issue was not a problem.

f. Functional Assessment

She had a paralysis caused by the Hemorrhagic Stroke and unable to communicate due to the diseasesand extremely less daily calory intake.

She also had Tracheostomy that is inserted by operative procedure to create a surgical airway in the cervical trachea to assist her breathing and Nasogastric tubeto feed her.



Figure 2. 2 Tracheostomy (source istockphoto.com)



Figure 2. 3 Nasogastric Tube (Source: myamericannurse.com)

7. Nutritional Diagnosis

The nutritional diagnosis identifies the main problems, etiology, sign and symptoms that are related to nutrition.

Problem	• Malnutrition • Electrolyte depletion • Swallowing difficulty
Etiology	• Malnutrition is related to inadequate intake and lack of knowledge of fortifying the fluid. • Electrolyte depletion related to excessive fluid intake, unbalanced diet and may also be the side effect of medicines. • Swallowing difficulty related to the stroke
Sign and Symptom	• Choking when trying to drink thin drink orally as evidenced by Diet history • Fatigue, tiredness, shortness of breath as evidenced by medical note and visual observation. • Inability to move, Edema on her legs, Stage IV bedsore bilateral gluteus as evidenced by medical note and visual observation.

Table 1 7 Nutritional Diagnosis

8. Intervention, Monitoring and Evaluation Plan

The intervention plan is needed as the patient has a very low energy intake which causes malnutrition, slows down the wound healing process stage by prolonging the inflammatory phase (Fentahun, 2021), and hamper the recovery of her general health.

It is also needed that her caretakers do not know how to prepare fortified meals in the form of fluid that can be suitable for NG tubes.

The intervention plan is divided into short-term and long-term plans with an indicator to each specific plan so that it will help as a monitoring tool and in the process of progress evaluation.

a. Short Term Plan

Energy intake will increase from 604 to 2,000 kcal/day progressively as per ASPEN guidelines to avoid refeeding syndrome. (Silva, 2020) Refeeding Syndrome is described as a series of metabolic and biochemical changes that occur as a consequence of the reintroduction of feeding after a period of starvation, fasting decreased, or absent caloric intake. (Khan, 2010)

Protein intake will increase from 25.3 to 80g/day and more. The Micronutrient will also improve and also Fluid intake will be corrected from 4,910 to 2,000 ml. Moreover, the caretaker's nutrition knowledge will increase.

Indicators:

- Biochemistry results.
- Bedsore wound healing level.
- Diet history
- Normal state of mind and physical feeling (energy level)
- Reading the measurement of input and output of the fluid intake.
- Application of acquired nutrition knowledge by the care takers.

b. Long Term Plan

- Patient will be able to Maintain the required nutritional need and to keep BMI to 22– 26.9kg/m² ESPEN guideline
- Lifestyle intervention, physiotherapy and doing exercises.

Indicators:

- Monitoring weight.
- Diet history
- Bedsore wound healing level
- Normal state of mind and physical feeling (energy level)

c. Evaluation

- Comparing the current (Anthropometry, Biochemistry, Clinical, Dietary, Environmental and Functional) status with the previous one.
- After discharge to have monthly follow up at least for the first 3 months and continues based on the progress.
-

9. Implementation Plan

The implementation plan was intended to elaborate how both the short-term and long-term intervention plan will be executed.

1.The implementation plan for the Short-Term intervention Plan was

- Preparing a meal plan that meets her daily energy, protein and micronutrient requirement.
- Discussing with the doctor to prescribe her a multivitamin supplement.
- Guiding how care takers record fluid input and output.
- Educating care takers orally and in written form.

2.The Implementation Plan for the Long-Term Intervention Plan

- Preparing a meal plan that meets her daily energy, protein and micronutrient requirement.
 - Advising them to start a physiotherapy.
 - Educate her and the care takers about life style change.
-
- Four types of meal plans were prepared and given in written form with oral explanation. The analysis was done using Based on Ethiopian Food Composition table and Nutrisurvey 2007 version.
 - Written and oral education was given to the care takers about monitoring of fluid intake and output.
 - They were also advised to feed her up right position and to make the food thicker than before to prevent aspiration when she started to take the food orally.

Meal Plan

Description	Ingredients	Energy (Kcal/day)	Protein (g)	Fluid (ml)	Remark	Route of Feed
1st Meal	Beso 5 Tbsp Milk p. 5 Tbsp Oil 1Tbsp, salt1/2 Tsp water 800ml	970	35	1500	From feed 1000, IV 1,500ml Total Fluid 2500ml	NG tube
2nd Meal	Beso 4 Tbsp Peanut butter 4 tbsp 2banana Milk 1000ml Dates 7, Coco powder 3Tbsp	1200	64.	1100	IV 1000 Total fluid 2100	Oral Feed
3rd Meal	Chicken wing100g, Carrot,100g, Tomato 100g, Oats 3 Tbsp, Red bean 50 g S/skimmed milk, Oil 2 Tbsp Salt ½ Tsp	1500	104	1800	P75x1.4 Fluid 1800ml	Oral feed
4th Meal	S/Skimmed Milk 1200ml Banana 6 small Boiled egg 6, Oil 6 Tablespoon Salt 1/2, water 800, peanut butter 60g	2130	107	2000	P75X1.4g	Oral Feed

Table 1 8 Prepared Meal Plan

10. Monitoring and Evaluation after the Intervention

After the intervention was done there were repeated follow up and diet history was taken frequently. In addition to this, fluid intake and urine output were also closely monitored.

It was also assisted by comparing the previous and current nutritional status by assessing Anthropometry, Biochemistry, Clinical, Dietary, Environmental and Functional.

11. Outcome of the Intervention

- The very low energy and protein intake improved gradually. (from 604-2130kcal/day).
- Excessive fluid intake, corrected. 4,910-2,000ml.
- The level of bed sore minimized from 4th to 3rd stage.
- She said that she is tired up of sleeping and asked for walking stick.
- Her appetite level increased and asked for Doro wet.
- Started to communicate and expresses her feeling.
- She tried to hold my hand to express her gratitude.
- Her energy level increased and she became awake most of the time.
- Electrolyte depletion was improved.

12. Biochemistry Comparison after the Intervention

Description	6/8/13	28/9/13 50 days later	Normal Range	Interpretation
Hgb	7.8↓		11.2-15.7	
HCT (Hematocrit) % of RBC in the blood	23.1↓		34-44.9%	Shows insufficient supply of healthy red blood cells (anemia) Nutritional deficiency (iron, vit B12, folate)
ESR (Erythrocyte Sedimentation Rate) degree of inflammation Present	120		Up to 20	Shows degree of inflammation present in the body

K	2.34↓	5.8↑	3.5-5.1 mmo1/L	
Mg	1.1 ↓	N/A	1.9-2.5 mg/dl	Malnutrition, medicines like diuretics
Ca	6.8 ↓	10.3↓	8.8-10.6 mg/dL	Improved
Na	150↑	147↑	136-145 mmol/L	Improved
Cl	116↑	110↑	98-107 mmol/L	Improved

Table 1 9 Comparison of Laboratory Results After the Intervention

13. Discussion

From this case study, I have learned that malnutrition occurred as the result of the disease state, aging, swallowing problems, depression, and immobilization. In addition, taking some medicines for long periods such as omeprazole which is prescribed to treat gastroesophageal reflux and antibiotics such as Metronidazole and Vancomycin have a big contribution to the depletion of electrolytes.

Since the woman was bedridden for a long period of time which is more than 4 months without having an adequate diet with having lots of medication, she was severely malnourished. Though it is not the exact measurement, based on the estimation she had more than 10% weight loss that qualifies her for severe malnourishment.

However, I have noticed that nutritional support has favorable effects on the prognosis of the medical outcome. When her meal is changed her energy level increased, she stopped taking omeprazole that was suspected for her electrolyte depletion, the bedsore stage improved from stage IV to stage III.

14. Conclusion and Recommendation

Hemogenic stroke is a disease that can be prevented through lifestyle modification, diet control, and control of overweight and obesity.

Nutritional assessment and care help to improve the nutritional status, and thereby reduce the risks and the burdens of those diseases that have, or may have, a nutritional component.

Therefore, the Hospitals should give due attention to train their health professionals the doctors, nurses, etc. so that they would get a good impression of the use of nutritional support for their patients for quick recovery that contributes to minimized long hospital stay.

III. A Case Study on Type 2 Diabetes Mellitus

1. Overview of the Disease

Type 2 diabetes mellitus (DM) is a chronic metabolic disorder in which prevalence has been increasing gradually all over the world. Type 2 DM is due mainly to lifestyle factors and genetics. A number of lifestyle factors are known to be important to the development of type 2 DM. These are, sedentary lifestyle, physical inactivity, cigarette smoking and generous consumption of alcohol. Obesity has been found to contribute to approximately 55% of cases of type 2 DM. (Olokoba, 2012)

Type 2 diabetes mellitus (T2DM) is associated with a high risk of early mortality and morbidity due to cardiovascular diseases (CVD) such as hypertension (HTN), stroke, and end-stage renal disease. Hypertension is the leading CVD-attributable cause of morbidity and mortality among T2DM patients. The comorbidity of DM and hypertension is increasing globally. Hypertension with diabetes increases mortality risk by 7.2 times with a higher risk of death in developing countries like Ethiopia, Africa's first ranked country with the number of diabetes mellitus patients. (Akalu, 2020). In 2017, the projected national diabetes prevalence among individuals aged 20-79 was estimated to be 5.2% in Ethiopia, and there are 2.6 million DM cases in the country. (Wolde, 2020)

2. Introduction for a Case Study on Type II Diabetes Mellitus

B is a 63-year-old retiree woman who is living in Addis Ababa. She is obese with type 2 DM for 5 years, known stage 2 Hypertension for 5 years, 2o HHD (Hypertensive Heart Disease and New York Heart Association) NYHA class IV CHF.

She was transferred from Emergency on her 3rd DOA (Death on Arrival). She had Dysphagia for a month and had shortness of breath on mild exertion.

When she was admitted she also had Grade 1 pitting edema that started from the leg and continued to the thigh, abdomen, and then to her face. She has been referred for dietetic consultation as the Medical Practitioner was concerned with the inconsistency of her random sugar level.

3. Assessment

a. Anthropometry:

No weight history is found

Estimated current weight = 100kg

Estimated height = 168cm

Estimated BMI = 35.4kg/m²

b. Biochemistry

	Result	Normal Range
K+	5.04↑	3.5 - 4.8mmol/L
Hgb	17.7↑	12 - 16 g/dL
Creatinine	1.2↑	0.5 - 0.9 mmol/dL
Urea	56.9↑	10 - 45mg/dL
Glucose	136↑	74 -109 mmol/L
LDL Cholesterol	125.8 ↑	0 – 100 mg/dL

Table 1 10 Laboratory Results

c. Clinical

i. Vital Signs

	Result	Normal Range
Blood Pressure	130 – 168 /70-98	120 - 80mmHg
Body Temperature	36 -37	36.5 - 37.5 °C
Respiratory Rate (RR)	20 -26 ↑	12 – 20 breaths/min
Heart Rate (HR)	51-100	60 – 100 beats/Min
SPO₂	85-95 ↓	95-99 mHg

Table 1 11 Vital Signs

ii. Previous Clinical History

- Obese
- Type 2 DM for 5 years,
- known stage 2 Hypertension for 5 years,
- 2° HHD (Hypertensive Heart Disease and
-

iii. Current Clinical Status

- New York Heart Association) NYHA class IV CHF .
- Upon admission she had grade 1 pitting edema and weigh 105 kg but at a time when she was referred to dietetic support the edema was gone and she lost 5kg and become 100kg.
- She was very weak and couldn't even stand by herself.
- She had shortness of breath
- As she has also a hearing problem she was not interested to talk and her daughter was the one whom I interviewed.

iv. Medication

Drug name and dose	Purpose
Metformin 500g po BID	To treat Type 2 diabetes Reducing glucose production by the liver and improve the way body handles insulin
Atorvastatin 40g	Reduction of elevated Cholesterol
Amlodpine 5g po/day	To control Hypertension
NPH Insuline 18/10 (correctional dose)	Intermediate acting insulin to control blood sugar level
Enalapril 10mg po/day	To treat High blood pressure
Ceflaxon 1g IV BID	To fight bacterial infection
Azitromicine 500g Po/d	To treat bacterial infection
Lasix 60mg IV TID	To reduce extra fluid from the body
Glibenclamide 25mg	Increase the amount of insulin Pancreas produces
Spironolactone 25 gm	To treat fluid retention with congestive heart failure
Tramadol 50mg IV PRN	To relieve moderate to severe pain
Plasil 10 mg IV PRN	Anti-sickness medicine to stop feeling of nausea or vomit

Table 1 12 Medications

d. Dietary information

- Starting from few weeks before her admission the caretakers were told by the medical practitioner to
- correct or manage her diet in order to control her blood sugar.
- As they were not guided on how to do it, they just simply cut the amount of food she ate.
- In order to evaluate her nutritional intake 24 hrs. recall was taken.
- She was given dry injera, bread without wot or sauce, and one banana sometimes that is equivalent to 424.2 kcal, Protein 16.6g/day, and fluid 1,300 ml which is very low intake.

e. Environmental/ Social/Behavioural

- Her daughters were the ones who are taking care of her.
- Since many visitors surround them, the caretakers were very busy entertaining her visitors as a result she was less attended and they cannot walk her around, etc.

f. Functional

- Due to the presence of many chronic diseases concurrently and extremely less daily calory intake, she didn't have the energy to move and even to communicate.

4. Nutritional Diagnosis

Problem	• Malnutrition (taking <50% of estimated energy requirement for >7 ASPEN Guideline)
Aetiology	• Inadequate calorie intake related to lack of knowledge of what to feed her.
Sign and Symptom	• Very week evidenced by visual observation and an interview • Inability to move, headache, fatigue, shortness of breath evidenced by medical note and visual observation.

5. Intervention

Short term Plan:

- to create awareness and give guidance to the caregivers about the right intake with the right amount.
- To add a variety of food based on her preference.
- To increase his daily intake from 424.2 kcal /day to 2000 kcal/day and protein intake from 16.6g to 70 g/day progressively.
- Frequent nutritional assessment. (ABCDEF Anthropometric Biochemistry etc....)

Long term Plan:

- Nutritional Assessment Anthropometric measurements, biochemistry.
- To reduce her blood pressure by controlling sodium intake and increasing potassium intake by advising her to eat potassium - rich foods such as spinach, broccoli, leafy green vegetable cucumbers pumpkin, orange juice, orally and in written form.
- Lifestyle intervention/increasing exercise levels.

Indicators for both short-term and long-term plans

- Biochemistry results.
- Diet history

- Measurement of input and output of the fluid intake.
- Measuring her weight

6. Monitoring and evaluation

- By doing repeated diet history and blood pressure measurements. urine output water intake
- By Comparing the previous and current ABCDEF.
- By having monthly follow up until there is progress.

7. Implementation

Since she has a good appetite to eat, they were advised to bring her from home foods that she likes and increase the amount slowly.

8. Outcome

The improvement started on the same day she started eating properly and her face also showed happiness and so grateful because she is allowed to eat. Since she was discharged from the hospital on weekends, I did the follow - up through the telephone and heard from her daughter that she is walking by herself, started eating a proper diet adequately and her glucose level also was regulated.

9. Discussion

The patient has uncontrolled diabetes, hypertension, obesity, etc., and another complex set of comorbidities all of which need treatment and contribute to her weakness or helplessness. However, despite this fact, it is visible that her incapability of being mobile, shortness of breath, fatigue, etc. might be directly related to her unbalanced and inadequate nutritional intake. Since most doctors do not know what to advise related to nutrition, they prefer to tell their patients to watch out for their diet that doesn't explain the type and amount of the food they can take.

10. Conclusion and Recommendation

Traumatic brain injury (TBI) presents in various forms starting from mild alterations of consciousness to an unrelenting comatose state and death. within the most severe sort of TBI, the whole lot of the brain is littered with a diffuse form of injury and swelling. Treatment modalities vary extensively supported the severity of the injury and range from daily cognitive therapy sessions to radical surgery like bilateral decompressive craniectomies. (Traumatic Brain Injury, 2017). The prevalence of TBI in Ethiopia was 20% (Abate, 2020).

IV. A Case Study on Traumatic Brain Injury(TBI)

1. Overview of the Diseases

Traumatic brain injury (TBI) presents in various forms ranging from mild alterations of consciousness to an unrelenting comatose state and death. In the most severe form of TBI, the entirety of the brain is affected by a diffuse type of injury and swelling. Treatment modalities vary extensively based on the severity of the injury and range from daily cognitive therapy sessions to radical surgery such as bilateral decompressive craniectomies. (Traumatic Brain Injury, 2017). The prevalence of TBI in Ethiopia was 20% (Abate, 2020).

2. Introduction for a Case Study on Traumatic Brain Injury (TBI)

Mr. H is a 50-year-old man living in Afar who had a head injury due to an unknown reason and found at his house unconscious. He was referred to Zewditu Intensive Care Unit (ICU) with a severe (Traumatic Brain Injury) TBI from ALERT Hospital due to lack of bed. He was referred to me by the ICU Nurse for nutritional care.

3. Assessment

a. Anthropometry

No weight history is found

Estimated current weight = 77kg

Estimated height = 175cm

Estimated BMI = 24.48kg/m^2

b. Biochemistry

On the 2 nd and 3 rd day of admission	Normal Range
Blood Urea Nitrogen (BUN) = 76 ↑	7-18 mg/dL
Creatinine (CRE) 2.18 ↑	0.7-1.3 mg/dL
Hemoglobin (Hgb) 6.8 ↓	13.7-17.5 g/dL
White blood Cell (WBC) 18.16 ↑	3.98-10.04 k/ul
Electrolyte	
Sodium (Na) 161 ↑	136-145 mg/dl
Chloride (Cl) 129 ↑	98-107 mg/dl

Table 1 13 Laboratory Results

c. Clinical

Vital sign	Result	Normal Range
Temperature	36-37 °C	
Blood Pressure	100-120/60-80 mmHg	120/80
PR	98 -120bm	60-100
RR (Respiratory Rate)	20-24 breath/m	12-20
SPO ₂	94-97 %	95-100

Table 1 14 Vital Signs

i. Previous Clinical History

- He has no known history of chronic disease.
- The ALERT Hospital referral slip indicates that his (Glasgow Coma Scale) GCS was six that indicates it is severe.
- It also elaborated that GCS three tests score was E₁ V₁ M₄ (Eye₁ meaning does not open eyes, Verbal₁ meaning-making no Sounds, Motor 4 meaning Flexion/ withdrawal to painful stimuli).
- His Blood pressure was 118/79 mmHg, Pulse Rate was 124bm, and oxygen saturation was 93%.

ii. Current Clinical Status

- Since he had an epidural hematoma (bleeding occurs between the tough outer membrane covering the brain), hematoma evacuation and right craniotomy (surgical removal of part of the bone from the skull) were performed on the same day of his admission.
- Healthcare-associated Infection (HAI)
- Hypernatremia
- Anaemic

iii. Medication

Drug Name and Dose	Purpose
Ceftriaxone 1g/BIDIV	To treat bacterial Infection
Phenytoin 100mg po/ TID	To control seizure
Omeprazole 40mg IV/daily	To treat gastroesophageal reflux
Dopamine 5mg/kg	To influence mood and feelings of motivation
Tramadol 50mg	For pain relief
Metronidazole	To prevent growth of bacteria/inflammatory disease
Vancomycin 1g/BID, IV	Antibiotic for bacterial infections
Ufh 7500 BID SC (Subcutaneous) injection	For abnormal blood clotting in leg, lung heart

Table 1 15 Medications

d. Dietary information

He was given Atmit (300 ml every 3 hrs.) that is made of Barley flour that is prepared in the hospital kitchen through an NG tube. It has estimated energy of 689.8 kcal per day and a protein of 21g/day.

e.Environmental/ Social/Behavioural

As he is in ICU and came from Afar, family members were not around.

f. Functional

Unconscious and unable to move, has an NG tube and urinary catheter.

4. Nutritional Diagnosis

• Problem	• Malnutrition (taking <50% of estimated energy requirement for >7 ASPEN Guideline) • Swallowing difficulty
• Aetiology	• Inadequate calorie intake related to lack of knowledge of how to enrich the fluid to meet the daily requirement. • Swallowing difficulty related to unconsciousness due to the disease (TBI)
• Sign and Symptom	• Unconscious as evidenced by visual observation and medical note. • Inability to move, evidenced by medical note and visual observation.

Table 1 16 Nutritional Diagnosis

5. Intervention

Short term Plan:

- To provide an appropriate textured modified diet that meets his nutritional requirements for NG tube feeding.
- To increase his daily intake from 689.8 kcal /day to 2330 kcal/day and protein intake from 21g to 92.4 g/day progressively.
- Monitoring fluid intake by measuring output and input to control to prevent edema and electrolyte depletion
- Frequent nutritional assessment. (ABCDEF Anthropometric Biochemistry etc....)

Long Term Plan:

- Nutritional Assessment Anthropometric measurements, biochemistry.
- Lifestyle intervention/increasing exercise levels.

Indicators for both short-term and long-term plans

- Biochemistry results.
- Diet history
- Measurement of input and output of the fluid intake.

6. Monitoring and evaluation

- By doing repeated diet history and blood pressure measurement. urine output water intake
- By Comparing the previous and current ABCDEF.
- By having monthly follow up until there is a progress.

7. Implementation:

The Atmit is modified and given to the hospital kitchen through the ICU nurse.

Description	Ingredients	Energy (Kcal/day)	Protein (g)	Fluid (ml)	Remark	Route of Feed
1 st Meal	Barely powder 200g Tbsp Milk 1000ml. 1 Tbsp, 1 boiled egg, Oil 1Tbsp, sugar 1 Tbsp.	1,295	58		Energy, protein and Fluid requirement will be amended progressively	NG Tube
2 nd Meal	Barely powder 200g Tbsp Milk 1500ml. 1 Tbsp, 2 boiled egg, Oil 2Tbsp, sugar 2 Tbsp.	1,825	83	From feed 2150 ml To flush the NG tube 160ml/24hrs Total= 2310 ml	The same ingredients but the quantity is increased. It will be improved based on the progress	NG Tube

Table 1 17 Prepared Fluid for NG Tube Feeding

8. Outcome

The outcome could not be measured as the internship program is ended. However, as the intake is already amended his nutritional status will definitely be improved but it is difficult to predict the impact on the neurological outcome.

9. Discussion

Studies show that when feeding starts early i.e. 24-48 hrs. inadequate amount following traumatic brain injury (TBI), mortality, and a neurological outcome like disability are better compared to late feeding. (J, 2011). Since he was first referred from Afar region and then stayed at ALERT Hospital, it was difficult to get information whether he was feed earlier

or not. In addition to this, even in Zewditu hospital he was not given adequately that is while his body requirement was 2,330 kcal/day, he was given 689.8 kcal /day, and while his body protein requirement was 92.4 g/day his intake shows only 21g/day.

10. Conclusion and Recommendation

Since Early Nutritional support is vital to reduce mortality and for the best neurological outcome, hospitals should give emphasis to early nutritional intervention that meets the patient's body requirement. Therefore, the intensive care unit needs to have a nutrition guideline for patients who need immediate nutritional support alongside the medical treatment.

I. References

1. Abate, S. M. (2020, June 21). Prevalence of Traumatic Brain Injury Among Trauma Patients in Ethiopia: Systematic Review and Meta-Analysis. *Annals of African Surgery*, 18(13).
2. Akalu, Y. (2020, May 13). Hypertension and Its Associated Factors Among Type 2 Diabetes Mellitus Patients at Debre Tabor General Hospital, Northwest Ethiopia. *NCBI*, 13, 1621–1631.
3. Bates, C. M. (2017). *Nutritional Assessment Methods*.
4. J, E. (2011). Nutrition and Traumatic Brain Injury: Improving Acute and Subacute Health Outcomes in Military Personnel. *NCBI*.
5. Janet M. Torpy, M. (2010, June 09). Hemorrhagic Stroke. *JAMA*, 303(22).
6. Khan, L. U. (2010 , August 25). Refeeding Syndrome: A Literature Review. *Gastroenterology Research and Practice*.
7. Mahdi Habibi-koolaee, L. S. (2018, July 26). Prevalence of Stroke Risk Factors and Their Distribution Based on Stroke Subtypes in Gorgan: A Retrospective Hospital-Based Study—2015-2016. *Neurology Research International*.
8. Olokoba, A. B. (2012, July). Type 2 Diabetes Mellitus: A Review of Current Trends. *NCBI*, 27(4), 269-273.
9. Rehan, H. S. (2019, April). Antimicrobial Agents-induced Hypokalemia: A Possible Causality Association. *ResearchGate*, 23(4), 175-177.
10. Saengsuwan, J. (2017 Oct 9., October 09). Knowledge of Stroke Risk Factors and Warning Signs in Patients with Recurrent Stroke or Recurrent Transient Ischaemic Attack in Thailand. *Neurology Research International*, 2017.
11. Shabajee, N. (2008, July 19). Omeprazole and Refractory Hypomagnesaemia. *PMC*, 173-175.
12. Silva, J. S. (2020, March 02). ASPEN Consensus Recommendations for Refeeding Syndrome. *Nutrition in Clinical Practical*.
13. Traumatic Brain Injury. (2017, July). 26(17), 1118-1130.
14. Wolde, H. F. (2020, November 23). High Hidden Burden of Diabetes Mellitus among Adults Aged 18 Years and Above in Urban Northwest Ethiopia. *Journal of Diabetes Research*.
15. Zenebe, G. (2005, October). Characteristics and outcomes of stroke at Tikur Anbessa Teaching Hospital, Ethiopia. *Ethiop Med J*, 43(4), 251-9.

II. Annexes

Annex 1:Dietetic Assessment form No. 1

Dietetic Assessment and Advice Sheet/For Adults

Date	Name	DOB/Age	Sex	Address/Region	
			M ☐ F ☐		
MRN/Card No.	B. No	Occupation	Telephone/ Email	Admission Date	
Relation of care taker & info		Contact Address.			
Telephone /email Address					
Dietetic Referral					
Reason for Dietetic Referral					
Referred by				Contact Detail	

Vital Signs											
BP		PR		RR		T°		SPO ₂		Pain Score	

Physical Parameters												
On Admission	Wt.		Ht.		BMI		MUAC		Waist Circumference		Oedema	
Current	Wt.		Ht.		BMI		MUAC		Waist Circumference		Oedema	

Medical and Related Information	
Relevant Investigation Detail (HB, Na+, Creatinine, Urea...)	
Past Medical History Chronic Disease/ Medication/ No. of past admission/Surgery, No. of admission	
Current Medical Diagnosis and Condition	
Medication/s	
Supplement/s	

Form No. 1

RR	Respiratory rate	12-20 breaths/min	SPO ₂	O ₂ level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80mmHg
Pain	Pain score	0-10			

Internship Report on the Dietetic Hospital Placement and Case Studies2021

Annex 2: Dietetic Assessment Form No. 2

Food Diary (Past 24-Hour Recall)/Fluid			
Time	Type of food	Amount (best estimation)	Remark
Breakfast			
Snack			
Lunch			
Snack			
Dinner			
Snack			

Energy Requirement Assessment			
Estimated Energy Taken		Fluid Taken	
Nutritional Status	Energy Requirement	Protein Requirement	Fluid Requirement
Advice given			

Additional Relevant information; _____

Form No. 2

RR	Respiratory rate	12-20 breaths/min	SPO2	O2 level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80mmHg
Pain	Pain score	0-10			

Internship Report on the Dietetic Hospital Placement and Case Studies2021

Annex 3: Dietetic Assessment Form No. 3

Dietary Habit and other General Evaluation	
Most preferred foods	
Intake amount changed? (How, why...)	
Appetite loss/Dietary habit change why, when.	
Chewing / Swallowing issues:	
How often do you skip meal	
Allergy/Intolerance	
Change in weight in the last 3 months	
Who prepares your food?	
Client's Main Concern (Related to diet)	
Nausea/ Vomiting, Elimination:	
Bowel movement/Urine output	
Alcohol/Chat, tobacco /how long / current status	
Mood or emotions play a role in your eating habits or food choices? If so, please describe.	
What things would you like to change about your food intake	
Are you currently following a particular diet	
With whom do you eat your meals?	
How often do you eat fast food or go to a restaurant?	
Food that you eat Frequently	

Additional Relevant information; _____

Form No. 3

RR	Respiratory rate	12-20 breath/min	SpO2	O2 level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80mmhg
Pain	Pain score	0-10			

Internship Report on the Dietetic Hospital Placement and Case Studies2021

Annex 4: Dietetic Assessment No.4

Information Related to Weight Management	
Whose idea/ What influenced your decision to seek a nutritionist to assist you with your weight loss/gain efforts? (doctor, my idea, family ...etc)	
List all factors associated with your wt. gain/loss (eg pregnancy, changing eating, or exercise habits, life stresses, long working hours, etc)	
Have you had any recent changes in your wt. that you are concerned about? Yes /No	
If yes, please explain:	
What would you like to weigh?	
How long have you been thinking about loss/gain weight?	
How committed are you:	
How many hours of sleep do you get, on average? Is your sleep restful? Yes/No	
Explain your daily base activity? Mor.-Eve	
Level of Activity ☐ Inactive – seated or reclined most of the day, some household chores ☐ Minimally active – household chores, light walking less than 30 minutes per day ☐ Moderately active – walking, heavy yard work, more than 30 minutes per day ☐ Very active – Intense exercise 5-6 days per week plus daily walking, chores, etc.	
Please select the physical activities you are involved often	
☐ Stretching/Yoga ☐ Cardio/Aerobics ☐ Strength-training ☐ Sports or Leisure ☐ Other _____	
Who will be supporting you with your wt. loss/gain efforts?	

General Evaluation	
What expectations do you have for your nutrition consultation?	
Do you have any specific questions or concerns that you would like to discuss with me?	
What things might make it hard for you to make lifestyle changes?	
Is there anything else you would like me to know?	

Advice Given	
Goal/Challenges	
Review/ App. Date	

Form No. 4

RR	Respiratory rate	12-20 breath/min	SpO2	O2 level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80 mmHg
Pain	Pain score	0-10			

Internship Report on the Dietetic Hospital Placement and Case Studies2021

Annex5: Assessment Form No. 5

Name _____ MRN/Card No. _____ Bed No. _____
Contact Address _____

Follow Up Sheet		
Assessment		
Date	B. Chemical Status	
Wt.		
Ht.		
BMI		
Waist Circumference		
Previous		
Goal/Challenges		
Revised (New)		
Goal/Challenge		
Advice Given		
Review Date		
Assessment		
Date	B. Chemical Status	
Wt.		
Ht.		
BMI		
Waist Circumference		
Previous		
Goal/Challenges		
Revised (New)		
Goal/Challenge		
Advice Given		
Review Date		
Assessment		
Date	B. Chemical Status	
Wt.		
Ht.		
BMI		
Waist Circumference		
Previous		
Goal/Challenges		
Revised (New)		
Goal/Challenge		
Advice Given		
Review Date		
Assessment		
Date	B. Chemical Status	
Wt.		
Ht.		
BMI		
Waist Circumference		
Previous		
Goal/Challenges		
Revised (New)		
Goal/Challenge		
Advice Given		
Review Date		

Form No. 5

RR	Respiratory rate	12-20 breaths/min	SPO2	O2 level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80mmHg
Pain	Pain score	0-10			

Internship Report on the Dietetic Hospital Placement and Case Studies2021

Annex 6: Dietetics Assessment form for Paediatrics

Dietetic Assessment and Advice Sheet

Date	Name	DOB/Age		Sex		Date of Admission		Address	
		P.of Birth		M ☐ F ☐					
Bed No	MRN/Card No	Occupation		Relation of care taker & info				ROF	
				Siblings No. <15					
V/S	BP	PR		RR	T [°]		SPO ₂	Pain	
Physical parameters on admission		Wt.		Ht.		BMI		MUAC	oedema
Current physical parameters		Wt.		Ht.		BMI		MUAC	oedema
Breast Feeding		Within 1hr	Colostrum given						
Yes	No								

Physical Parameters									
On Admission	Wt.		Ht.		BMI		MUAC	Waist Circumference	Oedema
Current	Wt.		Ht.		BMI		MUAC	Waist Circumference	Oedema

Medical and Related Information	
Relevant Investigation Detail (HB, Na+, Creatinine, Urea...)	
Past Medical History Chronic Disease/ Medication/ No. of past admission/Surgery, No. of admission	
Current Medical Diagnosis and Condition	
Medication/s	
Supplement/s	

Form No. 1

RR	Respiratory rate	12-20 breath/min	SPO ₂	O ₂ level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80mmhg
Pain	Pain score	0-10			

Internship Report on the Dietetic Hospital Placement and Case Studies2021

Annex 7: Food Ordering Form No.1

ለታካሚ ምግብ ማዘዣ ፎርም

ቀን _____

ዋርድ	
የአልጋ ቁጥር	
የታካሚ ስም	
ጾታ	
እድሜ	

የሚዘጋጀው የምግብ አይነት/ዝርዝር

ማስታወሻ _____

ምግቡን ያዘዘው _____

ፊርማ _____

ለታካሚ ምግብ ማዘዣ ፎርም

ቀን _____

ዋርድ	
የአልጋ ቁጥር	
የታካሚ ስም	
ጾታ	
እድሜ	

የሚዘጋጀው የምግብ አይነት/ዝርዝር

ማስታወሻ _____

ምግቡን ያዘዘው _____

ፊርማ _____

ለታካሚ ምግብ ማዘዣ ፎርም

ቀን _____

ዋርድ	
የአልጋ ቁጥር	
የታካሚ ስም	
ጾታ	
እድሜ	

የሚዘጋጀው የምግብ አይነት/ዝርዝር

ማስታወሻ _____

ምግቡን ያዘዘው _____

ፊርማ _____

ለታካሚ ምግብ ማዘዣ ፎርም

ቀን _____

ዋርድ	
የአልጋ ቁጥር	
የታካሚ ስም	
ጾታ	
እድሜ	

የሚዘጋጀው የምግብ አይነት/ዝርዝር

ማስታወሻ _____

ምግቡን ያዘዘው _____

ፊርማ _____

Internship Report on the Dietetic Hospital Placement and Case Studies2021

Annex 9: Food and Fluid Follow up Sheet /for Patient Use

ለአስታዎሚዎች/ለታካሚዎች የሚሰጥ የምግብ/ፈሳሽ መከታተያ ቀን _____

ቀን		የመመገቢያ ሰዓት	የምግብ አይነት	መጠን	ከ ሆስፒታል የመጣ ምግብ	ከ ቤት የመጣ ምግብ	ከምግብ ቤት የተገዛ	አስተያየት
	ቁርስ							
	የቁርስ መከሰስ							
	ምሳ							
	የምሳ መከሰስ							
	እፊት							
	ሌሊት							
	ፍሬፍሬ							
	ውሃ/ፈሳሽ							
	ቁርስ							
	የቁርስ መከሰስ							
	ምሳ							
	የምሳ መከሰስ							
	እፊት							
	ሌሊት							
	ፍሬፍሬ							
	ውሃ/ፈሳሽ							
	ቁርስ							
	የቁርስ መከሰስ							
	ምሳ							
	የምሳ መከሰስ							
	እፊት							
	ሌሊት							
	ፍሬፍሬ							
	ውሃ/ፈሳሽ							
	ቁርስ							
	የቁርስ መከሰስ							
	ምሳ							
	የምሳ መከሰስ							
	እፊት							
	ሌሊት							
	ፍሬፍሬ							
	ውሃ/ፈሳሽ							

Annex10: Leaflet for Pre and Post Pregnancy

የዘወዳቱ መታሰቢያ ሆስፒታል

ከሚከተሉት 6 የምግብ አይነቶች ስር ከተዘረዘሩት ውስጥ፣ ቢያንስ አንዱን መርጠው፣ በዋና የምግብ ሰዓት ለማካተት የሞክሩ።

ለሚያጠቡ እናቶች

- ማጥባት ለእናትም ሆነ ለህጻኑ ጤንነት ያለው ጠቀሜታ የላቀ ነው።
- ማጥባት ከወሊድ በኋላ ባሉ ቀናት የሚፈሰን ደም ደቀንሳል፣ ማህጸን በቶሎ ወደቦታው እንዲመለስ ያግዛል፣ ካላስፈላጊ ክብደት መጨመርና ከጡት ካንሰር ይከላከላል።
- የመጀመሪያው ወተት (እንግር)፣ ለህጻኑ፣ ሕመም የመከላከል አቅምን በከፍተኛ መጠን ይጨምርላታል።
- በተጨማሪም የእናት ወተት ልጇች ሲያድኑ ጥሩ የእእምሮ ብስለት እንዲኖራቸው ይረዳል። ከስኳር ህመም፣ ከአለርጂ፣ ከተቅማጥ፣ ከመሳሰሉት ሕመሞች በተሻለ ሁኔታ ይጠብቃቸዋል።
- ህጻናት እንደተወለዱ በ24 ሰአት ውስጥ እስከ 12 ማዜ መጥባት ይችላሉ። በሚቀጥሉት ወራትም እንደዚሁ ከ 8 እስከ 12 ማዜ እንዲጠቡ የመከራል።
- ሕጻኑ በአግባቡ የእናት ጡት መያዙን ይረጋግጥ ጡ
- የጡት ወተት መውጣት ካልቻለ ወይም ህጻኑ መጥባት ካልቻለ፣ በእስክኒይ የህክምና በለሞያ ምክር መጠየቅ
- የጡት ወተት እስፈላጊውን ንጥረ ነገረ ህግራ ስለሚያሟላ እስከ 6 ወር ምንም አይነት ተጨማሪ ምግብም ሆነ ውሃ መስጠት አያስፈልግም።
- የምታጠባ እናት ቀድሞ ከምትመገው የበለጠ መጠን ከሁሉም የምግብ አይነቶች መመገብ እና ተጨማሪ ፈሳሽ መውሰድ ይኖርባታል።

በቅደም እርግጠኛ፣ በእርግጠኛ እና ጡት በማጥባት ወቅት ሊወሰዱ የሚገባቸው ጥንቁቄዎች፣ የለመጋገብና የአፈጻጸም ዘዴዎች



ከእርግጠኛ በፊት፣ በእርግጠኛ እና የሚያጠቡ እናቶች የተመጣጠነ ምግብ መመገብና ጤናን መጠበቅ በዘላቂነት ጤናማና ሁለንተናው ብቁ የሆነ ሴጋ ለማፍራት ይጠቅማል

አዘጋጅቶ፡
ኦሊፒያ መካሪያ ፡ ትርጉሙ ደምባው ፡ ሰሜራ ያህያ
የከነ ምግብ ላይነት ህክምና ባለሙያዎች

አርታኤ፡ ዶ/ር ዘላለም ደበበ (ረዳ/ጥ)
የከነ ምግብ ህክምና ሳይንስ ባለሙያ

2013

ለበለጠ መረጃ ኢሜል፡ elenimekuria4@gmail.com
dktirsit@gmail.com, Samiraffan7@gmail.com

የቅድመ እርግጠኛ ዝግጅት

- ከእርግጠኛ በፊት ጠቅላላ የጤና ምርመራ ማድረግ (የጉባዔ፣ የኮሌሊት፣ የስኳር ህመም፣ የደም ግፊት የኤች አይቪ ወዘተ) ይመከራል።
- ፎሊክ አሲድ (Folic acid)፣ አይረን (Iron) የመሳሰሉትን ሽይታሚኖች ከሃኪም ጋር ተማክሮ ቢያንስ ከ3 ወር በፊት በቅድሚያ መውሰድ (የህብረ ሰራሰር አፈጣጠር ችግርና እና የጭንቅላት ፈሳሽ መቁጠርን ለመከላከል)።
- እነዚህ የነርቭ ዘንግ ክፍተቶች የሚፈጠሩት እርግጠኛ በጀመረ በ 1 ወር ግዜ ውስጥ ስለሆነ ከእርግጠኛ በፊት ቀድሞ መውሰዱ ተገቢ ነው።
- የሰውነት ክብደት ከሚፈለገው በላይም ሆነ በታች እንዳይሆን ማስተካከል
- የተመጣጠነ እና ጤናማ አመጋገብ መከተል ማለትም ያልተፈተኑ እህሎች፣ ያልበዛ ቅባት፣ጥራጥሬዎች (ምስር፣ቦሌ፣ ባቄላ፣ ሽንብራ...) አትክልትና ፍራፍሬዎች ስጋ (አሳ፣ ዶሮ፣ የበግ...) ወተትና የወተት ተዋጽኦችን
- ውሃ ቢያንስ ከ2 ሊትር ያላነሰ መጠን
- አካላዊ እንቅስቃሴ በቀን ቢያንስ ለ 30 ደቂቃ ማድረግ ቢያንስ በየ2 ሰአቱ ከተቀመጡበት ተነስቶ መንቀሳቀስ
- አልኮል ያለው መጠጥ፣ ጫት፣ ሲጋራ፣ ሺሻ፣ የመሳሰሉትን አለመውሰድ

በእርግጠኛ ወቅት ሊደረጉ የሚገቡ

- ሲወስዱ የነበሩትን ፎሊክ አሲድ (Folic acid)፣ አይረን (Iron) እና ሌሎች ሽይታሚኖች እርግጠኛም ከጀመረ በኋላም ቢያንስ ለ3 ወር መውሰድ
 - ሆኖም ምንም አይነት ሽይታሚኖችም ሆነ መድሀኒት ያለ ሀኪም ፈቃድ አለመውሰድ
 - ቀለል ያሉ የሰውነት እንቅስቃሴዎችን በቀን ለሰላሳ ደቂቃ ማድረግ ለምሳሌ የእግር መንገድ፣ የቤት ውስጥ ስራ
- 
- በእርግጠኛ ወቅት ሊጨምር የሚገባው ክብደት እርግጠኛው ሲጀምር እና ቲቱ የነበራት ክብደት ይወስነዋል።
ባጠቃላይ ክብደቷ ከፍ ያለ ከነበረ፣ ከ5 ኪሎ ያልበለጠ፣ ክብደቷ ዝቅጠኛ ከነበረ 16 ኪሎ ያላነሰ ቢሆን ይመከራል።
 - የተመጣጠነ እና ጤናማ አመጋገብ መከተል ያልተፈተኑ እህሎች፣ ያልበዛ ቅባት፣ጥራጥሬዎች (ምስር፣ቦሌ፣ ባቄላ፣ ሽንብራ...) አትክልትና ፍራፍሬዎች ስጋ (አሳ፣ ዶሮ፣ የበግ...) ወተትና የወተት ተዋጽኦችን ማካተት። ቀድሞ ይመገቡ ከነበረው አንድ መከሰስ መጠን መጨመር ያስፈልግ ይሆናል። (ለምሳሌ 1መዝ፣ የተቀለ ድንች/ስኳር ድንች፣ 1እፍን ባቄላ ወይም ሽንብራ እንደመክስ ቢጨመር)

ለበለጠ መረጃ ኢሜል፡ elenimekuria4@gmail.com
dktirsit@gmail.com, Samiraffan7@gmail.com

Annex 11: Leaflet for Gestational Diabetes

የዘውዲቱ መታሰቢያ ሆስፒታል

በእርግዝና ጊዜ የሚከሰት የስኳር ህመም

በ እርግዝና ጊዜ ስለሚመጣ የስኳር ህመም እና ጤናማ አመጋገብ ለእናቶች ግንዛቤ ለማስጨበጥ ታስቦ የተዘጋጀ



አዘጋጅች:
እሌኒ መኩራታ - ትርጉሟን ይመሰግናል ስሜራ ያህያ
የስነ ምግብ ሳይንስ ህክምና ባለሙያዎች

አርታኢ: ዶ/ር ዘላለም ደበበ (ረዳት/ፕ)
የስነ ምግብ ህክምና ሳይንስ ባለሙያ

2013

ስሙንት ገንቢ ምግቦች

ስጋ፣ ወተት፣ የ ዶሮ ስጋ፣ እንቁላል፣ በቄላ፣ በሎቄ፣ ሽንብራ፣ ምስክር፣ አኩሪ አተር

ጤናማ የ ቅባት ምንጮች

አሸካይ፣ ጉግ፣ አሳ፣ አንስተኛ መጠን

አትክልትና ፍራፍሬዎች

እንደ ጎመን፣ ካሮት፣ ቀይስር፣ ቲማቲም፣ ቆስጣ፣ ሰላጣ፣ ኣስባ ጎመን፣ ዝኩኒ፣ ብሮኮል፣ የመሳሰሉትን መመገብ

ፍራፍሬ እንደ አሸካይ፣ ማንጎ፣ ብርቱካን፣ እንጆረ፣ አፕል፣ ሃባብ፣ የመሳሰሉትን በመጠኑ መመገብ (ሲብዛ የስኳር መጠንን በጣም እንዳይጨምር)

የስሙንት እንቅስቃሴ

በቀን ውስጥ ቢያንስ በእንቅስቃሴ ለ 30 ደቂቃ እንዲያሳልፉ ይመከራል። ይህንም ለ 3 ጊዜ በመከፋፈል ለ 10 ደቂቃ የእግር መንገድ ማድረግ ሊሆን ይችላል፤ በተቀመጡበት ቦታ እጅ እግር ማንቀሳቀስ፣ ዋና መዋኘት እና የዮጋ እንቅስቃሴ ማድረግ ይመከራል።

ምክሮች

- የምግብ ሰዓት አለመዝለል
- የአሰር መጠናቀው ከፍተኛ የሆኑ ያለተፈተጉ እህሎችን፣ እትክልት እና ፍራፍሬዎችን አዘውትሮ መመገብ
- የደም ስኳር መጠንን የ ሚጬምሩ በፋብሪካ የተቀነባበሩ እንዲሁም እንደ ለስላሳ እና የታሸጉ ጁሶች ከመጠቀም መቆጠብ
- በቂ ውሃ መጠጣት
- ሽይ እና ቡና በመጠኑ መጠቀም

ለበለጠ መረጃ ኢሜል: elenimekurja4@gmail.com
dkirsit@gmail.com, Samiraffan7@gmail.com

እርግጥና ጊዜ የሚከሰት የስኳር ህመም ምንድነው?

በእርግጥና ጊዜ የሚከሰት የስኳር በሽታ ከስኳር በሽታዎች አንዱ ነው።

ብዙ ጊዜ በእርግጥና ጊዜ የሚከሰት ሲሆን ከወሊድ በኋላ ሊጠፋ ይችላል። በብዛት የሚፈጠረው ከ24 - 28 ዓመት ባለው ጊዜ ነው። አስፈላጊው ጥንቃቄ ከልተደረገ የተለያዩ ችግሮችን ሊያስከትል ይችላል።

ለዚህ በሽታ ተጋላጭ የሆኑት እነማን ናቸው?

- ከዚህ በፊት በእርግጥና ጊዜ የሚከሰት የስኳር ህመም ተጋላጭ የነበሩ
- እድሜያቸው ከ40 ዓመት በላይ የሆኑ ሴቶች
- ቤተሰባቸው ውስጥ የስኳር ህመም ያለባቸው ሴቶች ወይም እህትም ሆነ እናታቸው በእርግጥና ጊዜ የሚከሰት የስኳር ህመም ተጋላጭ ከነበሩ
- የክብደት መጠናቸው ከሚፈለገው በላይ የሆኑ
- የእርግጥናው የመጀመሪያ ግማሽ ላይበፍጥነት የክብደት መጠን የመጨመር ነገር ሲኖር

- ከዚህ በፊት የተወለደው ልጃቸው ከ4.5ኪ.ግ በላይ ከነበር ወይም ከዚህ በፊት በእርግጥና ወቅት ሌሎች ችግሮች ገጥሞባቸው ከነበር

- ማስታወሻ፡- አንድ አንድ ሴቶች ባልታወቁ ምክንያት ሊይዛቸው ይችላል

አንዲት ሴት በእርግጥና ጊዜ የሚከሰት የስኳር ህመም እንዲያዝት እንዴት ይታወቃል?

ማን ለዚህ ህመም ተጋላጭ እንደሆነ በእርግጥናነት ስለማይታወቅ በእርግጥና ጊዜ ሁሉም ሴቶች እንዲመረመሩ ይመከራል።

ከ24 - 28 ባለው የእርግጥና ሰዎች ውስጥ (በባዶ ሆድ የሚደረግ ምርመራ) ሊሰጣቸው ይገባል፡ ምርመራው የተለያዩ አጋላጭ ምልክቶች ከታዩ ቀድሞ ሊሰጥ ይችላል ።

በእርግጥና ጊዜ የሚመጣ የስኳር ህመምን እንዴት እንቆጣጠር?

- ጤይናማ የአመጋገብ ዘይቤ በመከተል
- የ ሰውነት እንቅስቃሴ በማድረግ
- የደምን የስኳር መጠን በመከታተል
- አስፈላጊ ከሆነ ከሃኪም ጋር በመመካከር ምድሃኒት በመውሰድ

ጤናማ አመጋገብ

በእርግጥና ጊዜ የሚከሰት የህመም ጊዜ ጤናማ አመጋገብ መከተል የደም የስኳር መጠን ለማስተካከል ይረዳል።

ጤናማ አመጋገብ ማለት ሁሉንም የ ንጥረ ነገር ይዘት የሚያመጥኑ ምግቦችን ለሰውነት በሚያስፈልግ መጠን መመገብ ነው።

ሀይል ሰጭ ምግቦች

እንጂራ፣በቤት ውስጥ የሚዘጋጁ ካልተፈተነ ስንዴ፣ እጃ፣ገብስ እና ከመሳሰሉት የሚዘጋጁ ጨጨብሳ ፣ እንባሻ በአስተኛ ዘይት ቆጭ ወዘተ

ለበለጠ መረጃ ኢሜል: elenimekuri4@gmail.com
dkirtsit@gmail.com , Samiraffan7@gmail.com

Annex 12: Leaflet for Complementary Food

የ ዘዉዳቱ መታሰቢያ ሆስፒታል

1000 ቀናትድረስ ላሉ ህጻናት ጤናማ አመጋገብ ለ እናቶች ግንዛቤ ለ ማስፍብጥ ታስቦ የተዘጋጀ



ጤናማ አመጋገብ ለ ህጻናት አካላዊ፣እእምሮአዊ እና ጤናማ እድገት ወሳኝ ነው

2013

አዘጋጅች:

እሌኒ መኮራያ : ትርጉሟ ይመሰራል ስሜራ ያህያ የከነ ምግብ ሳይንስ ህክምና ባለሙያዎች

አርታኤ: ዶ/ር ዘላለም ደበበ (ረዳት/ገ) የከነ ምግብ ህክምና ሳይንስ ባለሙያ

አዘጋጅች መመሪያ

- እጅ በ ዉሃ እና ሳሙና በአግባቡ መታጠብ
- የ ምግብ ማዘጋጃ ቁሳቁሶች ንጽህና በ አግባቡ መጠበቅ
- የ በሰሉእና ጥሬ ምግቦችን ለ ያይቶ ማስቀመጥ
- የበሰሉ ምግቦችን በአግባቡ ከድኖ ማስቀመጥ

የ ህጻናት ተጨማሪ ምግብ

ህጻናት ከ ተወለዱ ጊዜ አንስቶ እስከ 6 ወር ድረስ ከ እናታቸው ጡት የሚያገኙት ውተት ለ አካላዊም ጤናም ፣ሆነ እእምሮአዊ እድገታቸው የሚያስፈልጉንጥረንገሮችን የ ሚያሟላ ነው።

ተጨማሪ ምግብ መቼ እንጀምር?

የ እናትጡትውተት ከ 6 ወር በ ኋላላ ህጻኑየሚያስፈልገውን መጠን ያክል የ ንጥረንገር ይዘት ስለማይዝ ከ እናትጡት በተጨማሪ ፣ሌሎች ተጨማሪ ምግቦች መጀመር ያስፈልጋል።

2 ዓመት እስኪሞላቸውድረስ በ 24 ሰዓት ዉስጥ ቢያንስ 8 ጊዜ መጥባት ይኖርባቸዋል።

ልጆች ተጨማሪ ምግቦችን ለመውሰድ ዝግጁመሆናቸውን የሚገልጹበት ምልክቶች ምንድን ናቸው?

- ሌሎች ሰዎች በሚመገቡበት ሰአት አፍ መክፈት
- ሌሎች ሰዎች በሚመገቡበት ሰአት ምግቡን/ላማንሰት/ለመያዝ መሞከር
- ቶሎ ቶሎ ጡት የ መጥባት ፍላጎት ማሳየት

ለበለጠ መረጃ ኢሜል: elenimekuri4@gmail.com
dkirtsit@gmail.com , Samiraffan7@gmail.com

በምን አይነት ምግቦች እንጀምር?

- በፈሳሽ ምግቦች ምሳሌ በቀጭን ምጥን ገንጮቻቸው ከዛም ከፈልገው ምግቦችን ማለትም በምጥን ገንጮ ውስጥ ተቀቅሎ የተፈጸመ እንደ ጎመን፣ ከሮት፣ ብሮክሊ፣ የመሳሰሉትን አትክልቶች መጨመር ይቻላል።
- በሂደትጣጣር ምግቦችን እንደ እንጀራ፣ ጻብ፣ የመሳሰሉትን የቤተሰብ ምግቦች ማለጣት
- ከ 6-12 ወር ላሉ በቀን ከ 2-3 ጊዜ መመገብ
- ከ 12-24 ወር ላሉ በቀን ውስጥ ከ 3-4 ጊዜ ተጨማሪ 1-2 መክሰስ ምግቦች መመገብ
- ለመመገብ የምናዘጋጃቸው ምግቦች ለህጻናት እድገት እና ጥንካሬ ውሳኔ የሆኑትን የምግብ ንጥረ ነገሮች የያዙ ምግቦች መሆን ይኖርባቸዋል።

በምናዘጋጃቸው ምግቦች ውስጥ

- ስጋ
- እንቁላል
- ዘይት
- ቂቤ
- ለውዝ
- ምስር
- አትክልት እና ፍራፍሬዎችን ማካተት ይመከራል

ለበለጠ መረጃ ኢሜል: elenimekuria4@gmail.com
dkitirsit@gmail.com, Samiraffan7@gmail.com