Center of Food Science and Nutrition

Dietetics Internship Report

In Addis Ababa, Ethiopia.

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This document contains descriptions about activities conducted during the internship with a detail representative case report and mini cases.

Advisor's Signature

Dr. Zelalem Debebe (Ass. Prof)

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Acronyms

AAU	Addis Ababa University
AKI	Acute Kidney Injury
BP	Blood Pressure
RVI	Retro Viral Infection
GDM	Gestational Diabetes Mellitus
GBS	Guillain Barre Syndrome
ICU	Intensive Care Unit
Kcal	KiloCalories
MUAC	Middle Upper Arm Circumference
NG Tube	Nasogastric Tube
OPD	Out Patient Department
PR	Pulse rate
RVI	Retroviral Infection
RR	Respiration Rate
SpO2	Saturation of partial pressure of oxygen
TB	Tuberculosis

Introduction

This internship report highlights the practical and theoretical experience gained while working at three different governments specialized hospitals from November 2020 to June 2021.
It help by supporting students in gaining knowledge of leadership and management skills, learning more about medical nutrition therapy, and applying theoretical knowledge gained at university, to use the Nutrition Care Process to manage medical conditions, and to learn about reporting, monitoring, and evaluation. During our stay, we were able to work in several of hospital units, both inpatient and outpatient.

The internship program began in (TASH) Tikur Anbesa Specialized Hospital in November in the pediatric ward by observing our senior dietetics students in which we were able to see how they communicate with patients, how they introduce themselves before interviewing and filling out forms, and how to look at medical records for relevant information's needed. In May–June2021, we were able to provide one-on-one counseling to adult and pediatric outpatients in the TASH diabetic clinic without supervision.

The internal medicine ward at St. Paul Hospital Millennium Medical College was our second placement. During the first stay, I was able to work both supervised and unsupervised. Some of the experience we have is that I have good experience handling nutritional assessments, analyzing diseases and their relationship to the nutritional status of the patient. How to order food and what to take under consideration when ordering or designing menus.

The last placement was at Zewditu Memorial Hospitals, which lasted from the end of February to the end of June 2021. We were able to work in various wards such as Internal Medicine, Surgical Unit, ICU, Gynecology & Obstetrics, Pediatrics, and gynecology & Obstetrics Outpatient Department.

Objective of the Internship

General Objective

- To demonstrate working knowledge of all disciplines required to support practice in placement and communicate effectively using appropriate aides and skills at an appropriate level within a Professional practice.

Specific Objective

- To Collect record and use relevant medical, nutritional, social, cultural, financial and personal information and food intake details in line with established standards and procedures.
- Demonstrate the ability to contribute to the effectiveness of both dietetic and multi-disciplinary teamwork in individuals or groups of clients, Colleagues, Other health professionals and Report accurately to relevant people on actions taken.
- Demonstrate and understanding and ability to implement the strategies which can be used to influence nutritional intakes and nutritional standards.

Section One

This section includes Placement and activity report in three government specialized hospitals located in Addis Ababa, Ethiopia (Tikur Anbesa Specialized Hospital, St. Paul Hospital Millennium Medical College and Zewditu Memorial Hospital) that lasted from November 2020 to June 2021 in which I was able to come across a total of 51 Patients 31inpatient and 20 outpatient.

Placement	Ward	Date	Activities
Tikur Anbesa Specialized Hospital	Paediatrics Inpatient	November – December 2020.	Observation and assisting in nutritional assessment
	Diabetics Clinic(Paediatrics and Adult OPD)	May- June 2021	Unsupervised nutritional assessment and care + education
St. Paul Hospital Millennium Medical College	Medical Ward	December – February 2021	Supervised and unsupervised assessment and nutritional care
Zewditu Memorial Hospital	Medical, Surgical, paediatrics, ICU, GYN & Obstetrics	March-June 2021	Supervised and unsupervised assessment and e + education

Table 1. Placement and duration of internship

Activities during internship

Nutritional Care in Different wards

A. Internal Medicine

My first placement started in St. Paul Hospital Millennium Medical College at Internal medicine ward that lasted 8 weeks and again in Zewditu Memorial Hospital which lasted 12weeks along with other wards. In this ward I was able to come across several of diseases of which most common were RVI, TB, liver diseases, heart diseases, stroke, hypertension, type 2 DM and other

related diseases. Referrals came from different health professional like interns, nurses, residents but mostly self-assessment by looking at their charts or rounding. Because most patients in this ward had a longer stay compared to other wards they were more susceptible of having a nutritional problem. All patients referred got dietetic care by following nutritional care process.

B. Surgical Ward

In the surgical ward at Zewditu Memorial Hospital I was able to access and give nutritional care for different patients during my stay which was from March 2021 to June 2021. Most Patients were there for pre and post operations due to different surgical cases. Some of the diseases were appendicitis, amputations, abscess drainage, Exploratory laparotomy the patients may also have other medical conditions like Hypertension, Type 2 DM or even malnutrition.

In surgical wards most referrals came from the health professionals in the ward. All the patients who needed nutritional care were given advice by following the nutritional care process by a verbal and written communication with everyone related to the nutritional care for kitchen by giving ordering forms and for doctors and nurses by attaching assessment note on medical record.

C. Gynaecology and obstetrics (Inpatient and outpatient)

During my stay at this ward at Zewditu Memorial Hospital i was able to give nutritional care in two different wards (maternal and labour ward). In labour ward the patients did not stay for a long time maybe 4-6hr after giving birth and in maternal wards they stayed for days in which most of my patient were GDM. Most pregnant patients with GDM have a have a hard time choosing foods and get confused I was able to help them by addressing their main concern like what to snack, what type of foods they can eat and what type of food they should limit.

I was able to give mass education for pregnant women about GDM by including topics what is GDM what causes it, how can it be detected, what to do to prevent it and what to do to manage it.

Figure 1 Conducting Mass Education at Zewditu Memorial Hospital source picture taken by Eleni M (Intern Dietiatian)

D. Intensive Care Unit

In the ICU of Zewditu Memorial Hospital I was able to access the patients for nutritional issue in which the problem most of the time was low energy intake and over hydration. I was able to help by assessing the estimated energy and fluid requirement and comparing with current intake and correcting as the patients need. I was able to do that by modified and designing different feeds.

E. Paediatrics ward (Inpatient and outpatient)

We first started Pediatrics in (TASH) Tikur Anbesa Specialized Hospital in November in the pediatric ward by observing our senior dietetics students in which we were able to see how they communicate with patients, how they introduce themselves before interviewing and filling out forms, and how to look at medical records for relevant information's needed.

In paediatrics ward of inpatient at Zewditu Memorial Hospital most of the patients who were malnourished were receiving F75 and F100. Because the hospital didn't have a special any special kitchen it was hard to order special foods. We were at the hospital from March – June 2021 giving nutritional care simultaneously in all the wards available.

In May–June2021, we were able to provide one-on-one counseling to pediatric outpatients in the TASH diabetic clinic without supervision.

F. Adult Out Patient Department

In May–June2021, we were able to provide one-on-one counseling to adult outpatients in the TASH diabetic clinic without supervision. I was able to get referrals from the doctors when they saw they needed to improve their dietary habit. I was able to do that by interviewing and taking a diet history and by addressing the main concern of the patient and what I thought was the main problem based on my assessment. Advice was given verbally and the patients took note in the counseling session so they could remember.

During my rotation in all wards I was able to come across different diseases some are listed below:

Malnutrition	Alcoholic Liver Disease
P-TB	Heart failure
RVI	Ischemic stroke
Type 2 DM	Inflammatory Bowel Disease
Type 1 DM	Dyspepsia
GDM	Guillain Barre syndrome
Hypertension	Congestive heart failure
Cholesterol	Steven johns syndrome
Chronic Liver Disease	Acute kidney Injury

Table 2 List of Diseases got nutritional care

Designing and modifying forms

I was able to developing different forms with my classmates that are used in the clinical practices and working with patients and redesigned as needed. Different forms were designed during our clinical placement in all three Specialized Hospitals which includes:

- Design dietetic assessment and advice sheet for patient interview
- Follow up sheet
- Dietetic report form to attach on ward notes
- Food order sheet to give to kitchen
- Food tracing sheet for patients and care takers
- Ward nutrition assessment questioner adapted and modified from nutrition day website

Designing education materials on leaflets

During our stay at Zewuditu Memorial Hospital Developing nutrition education leaflets for mothers before and during pregnancy and during lactation , for GDM and DM ,about complementary feeding and individual information sheets on specific health conditions and their questions related to their diet to be given for patients on discharge.eg RVI, liver, DM, Hypertension and giving during mass educations.

Kitchen and Menu Designs

Different menu options are prepared for patients to address their specific needs and given to them on written forms for them to prepare the food and give to the patient. The menu options can be used for NG tube feeding by adjusting the viscosity as the amount of fluid is not more than 1,000ml. Here are some examples listed below:

Name of the food	ingredients	Amount/Volume	Protein (g)	Calorie (Kcal)
1. Smoothie	Yoghurt	500 ml	17.5	300
	Banana	2 Medium	1.76	193.6
	Date	7 piece	1.176	161.357
	Cinnamon	1 tsp.	0.135	17.55
	Flax seed roasted flour	2 tbsp.	6.52	248.08
	Oil	1 tbsp.	0	132
Estimated Total amount	**---**	**829 ml**	**27.091g**	**1052.587 kcal**
2. Juice	Avocado	2 Medium	3.2	220.2
	Honey	2 tbsp.	0.12	108.15
	Milk	500ml	17.5	235
	Flax seed roasted flour	2 and half tbsp.	8.15	310.1
	Oil	1tbsp.	0	132
Estimated Total amount	**---**	**795ml**	**28.97g**	**1005.45kcal**
3. Bread spread option	Peanut	2 tbsp.	7.8	176.4
	Honey	1tbsp.	0.08	72.1
	Cinnamon	Pinch	0.081	10.53
	Oil	1 tbsp.	0	132
Estimated Total amount	---	68ml	**7.961g**	**391.03kcal**
4. Plumpy nut smoothie	Plumpy nut	1 pack	11.776	460
	Milk	500ml	17.5	235
	Strawberry	1 handful	0.7	32
Estimated Total amount	**---**	**692ml**	**29.976g**	**727kcal**
5. Atmit (Aja)	Water	1000ml	0	0
	Sugar	3tbsp.	0	231
	Salt	Half tsp.	-	-
	Peanut butter	2tbsp	10.4	235.2
	Oil	2tbsp.	0	264
	Aja	6tbsp.	15.24	455.64
Estimated Total amount	**---**	**1,250ml**	**25.64g**	**1185.84kcal**
6. Barely	Barely flour	6tbsp.	12.12	445.08
	Milk	1000ml	35	470
	Oil	2tbsp	0	264
	Salt	Half tsp.	0	0
	Sugar	3 tbsp.	0	231
Estimated Total amount	**---**	**1,212ml**	**47.12g**	**1410.08kcal**

7. Bombe	Egg	4 Piece	25.52	336.38
	Milk	1000ml	35	470
	Banana	3 medium	2.64	290.4
	Oil	2tbsp.	0	308
	Salt	Half tsp.	0	0
	Sugar	3tbsp.	0	231
Estimated Total amount	**---**	**1,622.5ml**	**63.16g**	**1635.78kcal**

- calculated based on Ethiopian food composition table and Nutrisurvey

Table 3 Collection of Optional Meal Designs

Internship Reflection and learning outcome

Nutrition Science and Nutrition and Health

Based on the classes we learnt in during our first year of the master's program I was able to relate the diseases with nutrition while practicing. For example learning about diseases like liver disease what occurs in different stages and then when practicing how to apply the knowledge to benefit the patient for a better outcome. Learning about the nutritional management of diseases by diet then when practicing being able to see the difference like in diabetics, malnutrition and wound healing.

Nutritional Care

To be able to give nutritional care to patients I had to c read articles, guidelines and books which helped we improve my knowledge and increase my reading habit.an di have developed the skill to communicate with patient and health professional. The clinical practice has given me a chance to practice nutritional assessment, record keeping, interviewing skill and how to conduct a detail food dairy.

Communication

Better communication is learned through practice is one of the important things I have learnt. The way I communicated has improved by voice, active listening and paying attention. When the patients get distracted I have learnt how the get their attention by addressing their concern and to always introduce myself before interviewing and asking a consent which makes them more confortable.

I have also learnt that written information is more effective for the patient and the care taker might have a hard time memorize all the information by heart but not just for the patient also for me it's important as I might forget when I have multiple patients to look after.

Professionalism

Keep records of each patient was hard at first (attaching forms to the doctors, keeping notes to myself, recording follow ups) but when I started writing all the information gathered it actually made my work easier. Patient's information was kept confidential by not describing their name on case report by not talking unnecessary information with people who are not part of the patients care.

Independent and autonomous professional practice

The dietetic placement has helped me gain a lot of experience for my future work as a dietician. I have gained experience on how to communicate with patients coming from different backgrounds and different behaviours (delusional).

I have learnt to not act quickly on things am not sure about I will read or talk to my classmates before deciding. Dietetics practice can have a great impact on the physiology and emotion of the patient especially in patients who tend to stay for a longer period.

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Education

We were able to assist our senior dieticians and also help PhD 1 year students in nutritional assessments how to start interviewing, how to actively listen and look for information's from medical record. Which both helped me increase my confidence, knowledge and communication skill.

Challenge of the internship

My biggest challenge during the internship was not having a clinical background and being new to the new environment which I was able to get used to through time and practice.

A. Communication between different departments on the health care issues regarding patients
   - ➢ Different health professional did not really understand what we do so it was hard for them to accept it.we would introduce our selves and explain the practice

B. Resource limitations of the kitchen

   - ➢ Diet orders were not properly sent to patient because of lack of resource so I started only ordering foods that are were available like Milk and Egg.

C. Lack of referral and method of referrals
   - ➢ We had problem getting referrals as some don't need they need nutritional care unless they are severely malnourished so we started to do self-assessment.

D. Unavailability of nutritional care protocol
   - ➢ Which made it hard for us to communicate and give nutritional care we did a rapid assessment to show the hospital the gap.

Conclusion

the practical and theoretical experience gained while working at three different governments specialized hospitals from November 2020 to June 2021. It help by supporting me in gaining knowledge of leadership and management skills, learning more about medical nutrition therapy, and applying theoretical knowledge gained at university, to use for the Nutrition Care Process to manage medical conditions, and to learn about reporting, monitoring, and evaluation.

Recommendation

As dietetic care is very important to minimize hospital stay and to decrease relapse from different diseases. Hospitals could create a good working environment so they would get the service and students will be able to practice. The university should have a health insurance that could help in a pandemic or if any diseases occur as a result of the internship.

Section Two

This Section includes three different inpatient cases that received nutritional care during my hospital stay in Zewditu Memorial Hospital.

Case One (Presentation)

Introduction

This is a 45 year old male patient who was imprisoned six months back who has a wife and three kids. He was referred to Zewditu Memorial Hospital from a local health center for a better management on 17/02/2021 and Admitted to inpatient medical ward for a known RVI not on HAART + Pulmonary TB + Dyspepsia 2° ? On 22/03/2021.He was referred for a nutritional care through the hospital nutritionist a week after his admission. The patient's main concern was to have food availability during his hospital stay as his wife was not able to provide daily sufficient meal.

Nutritional Assessment

Anthropometry

Measurements	Results	Interpretations	Remark
Weight	56kg (before six month) 44kg (initial weight) 45.2kg(last measurement weight after	• During his imprisonment he had lost more than 21% of his body weight • After starting nutritional care he gained 2.7% of his body weight within a week	Measured with available scale at the hospital and calibrated with the measurement of a known weight of the interviewer ,then measured the patient 2x

	stating the dietetics treatment)		
Height	183cm		Estimated visually and based on a known height of a family member
BMI	16.7kg/m^2 (BMI before six month) 13.1 kg/m^2 (initial BMI after being hospitalized) 13.5 (BMI after starting the treatment)	Very severely underweight = < 15 Severely underweight < 16 Under Weight = < 18.5 Normal Weight = 18.5-24.9 Overweight = 25 – 29.9 Obesity = > 30 Note :-After being imprisoned, he went from being underweight to severely underweight .	Calculated based on the estimated height and the measure weight or history of weight measurement as evidenced by the patient.

Table 4 Anthropometric measurement of case report one

Biochemistry

Vital Signs

Date	BP (120/80mmHg)	PR (60-100beats/min)	RR (12-20breath-min)	TEMP (36 - 37.2°C).	SPO2 (95-100%)
21/03/21	104/66mmHg	82 beats/min	19 breath-min	37.5°C	94%
14/03/21	104/66mmHg	82 beats/min	19 breath-min	37.3°C	94%
24/03/21	90/67mmHg	100 beats/min	20 breath-min	36.5°C	96%
26/03/21	98/69mmHg	90 beats/min	20 breath-min	36.7°C	94%
17/04/21	106/81mmHg	80 beats/min	20 breath-min	36.3°C	98%

Table 5 Vital Signs of case report one

The table listed below is biochemical investigations done from 22/03/21 to 02/04/2021

Investigations	22/03/21	24/03/2021	25/03/21	30/03/21	02/04/21	Remark
WBC (3.98-10.04)	---	5.9	3.3	1.9	1.7	
LYM% (19.3-51.7)	---	10.3	5.2	12.8	15.4	
NEU%	---	74.1	83.8	67.3	70.6	
MON%	---	13.4	10.4	17.5	11.3	
EOS%	---	1.8	0.5	2.2	2.3	
BAS%	---	0.4	0.1	0.2	0.4	
HGB	---	12.1	8.5	9.6	9.6	
HCT	---	35	25.7	28.9	28.6	
RBC	---	3.91	2.96	3.39	3.38	
PLT	---	---	---	96	101	
ESR (0-15)	100	85	137	---	---	
BUN(7-18)		---	---	---	---	
CRE (0.7-1.30)	0.49	---	---	---	---	
Electrolyte level						
Na (136-145)	129	---	---	---	---	
K (3.5-5.1)	3.9	---	---	---	---	
Cl (98-107)	94	---	---	---	---	
Ca (8.5-10.1)	9.0	---	---	---	---	
CD4 Cell count	7	---	---	---	---	(0.94%)
Random Blood Sugar	134	---	---	---	---	

Table 6 biochemical investigations of case report one

Clinical History

(Past Medical History)

He is a known RVI patient for the past 3 years not on medication; He was diagnosed with TB 5 months back and discontinued medications 3 months back. He was presented with epigastric pain of 3 month duration associated with this he had vomiting of ingested matter 3-4 episodes per day for the past 2 months for this reason of his GI discomfort he discontinued all of his medications, he also had intermittent day cough of 3 month duration with estimated weight loss of 12kg in the

past 6month as evidenced by the patient interview and he had night sweat and fever. HE was admitted to Zewditu Memorial Hospital on 13/7/2013 for a known RVI not on HAART + pulmonary TB + dyspepsia after being referred from a local health center on 10/06/13 for a better management. During his one month admission he was diagnosed with Known RVI not on medication, Severe CAP (treated), Adult on set malnutrition, Pulmonary TB, Dyspepsia 2° to ?, Oral candidiasis, Pancytopenia, Post inflammatory hyperpigmentation of the skin.

Current Medical History

- Known RVI Patient not on HAART
- Severe CAP (treated)
- Adult on set malnutrition
- Pulmonary TB
- Dyspepsia 2° to ?

Medications

Name of the medication	Use	Dose
Omeprazole	Reduces the amount of acid the stomach makes	20mg PO ID
Multivitamins	fill nutritional gaps and make sure people get their daily allowance of under consumed nutrients	PO Daily
Liquid Paraffin application	Used for dry skin, itching and eczema	Daily
Contrimoxazole syrup	to treat certain bacterial infections, such as pneumonia (a lung infection)	20ml PO Daily
Cetirizine	is an antihistamine used to relieve allergy symptoms such as watery eyes, runny nose, itching eyes/nose, sneezing, hives, and itching.	10mg PO Daily

Betamethasone Skin Ointment	to treat itching, swollen and irritated skin	NA
Ceftriaxone	injection is used to treat certain infections caused by bacteria	1g IV BID
Fluconazole	is an antifungal medication used for a number of fungal infections.	100 mg PO BID
Azithromycin	is an antibiotic medication used for the treatment of a number of bacterial infections.	500mg PO daily

Table 7 Medications of Case Report One

Dietary Information

During his hospital stay, he ate three meals a day, with snacks in between. Meals were provided by the hospital, but he only ate them when they were (shero). When other food was served, his wife would eat it, and his roommates would sometimes provide additional meals for him when they could. He has no allergies, can chew and swallow properly, and has a good appetite. Prior to his hospitalization, he did not eat properly, only eating once or twice a day due to food availability and epigastric pain, which caused him to vomit ingested matter.

First Assessment	
Breakfast	**Aja Nefro (200g)**
Snack	-----------
Lunch	Shero with injera (1/2)
Snack	Macoroni (150g) with injera (1/4)
Dinner	Macoroni (150g) with injera (1/4)
fluid	300ml(2x)
Estimated total energy taken=1,454kcal	
Estimated Total protein taken=45.6g/day	
Estimated Total fluid taken=>600ml	

*Calculated using NutriSurvey 2007 and Ethiopian Food Composition

Table 8 First Assessment of Case Report One

Total Estimated nutrient requirements	
Estimated energy requirement	44kg x 35/40 =1,540-1,760kcal + 30% =2,002kcal-2,288 kcal
Estimated protein requirement	44kg x 1.2/1.5g = 52.8g- 66g/day44kg x 1.2-1.5g =52.8-66g/day
Estimated fluid requirement	44kgx 35ml = 1,540ml/day

Table 9 Estimated protein requirement of case report one

*Calculated based on ESPEN guidelines

Second Assessment	
Breakfast	Firfir (1/2 injera)
Fluid	Tea with sugar
Fluid	500ml milk
lunch	Shero with half injera
Snack	500ml milk and 3 boiled eggs
Dinner	Shero with half injera
fluid	300ml
Estimated total energy taken = 2,085kcal *>100%	
Estimated Total protein taken = 90.2g/day *>137%	
Estimated Total fluid taken = 1,500ml/day *100%	

Table 10 Second assessment of case report one

*Calculated using NutriSurvey 2007 and Ethiopian Food Composition

Environmental / behavioural /social

- He used to work as a guard and is currently imprisoned.
- Low economic status.
- He has a wife and three little kids oldest 10years old.
- He has food insecurity due to multiple reasons (low economy, imprisonment).
-

Functional

- Muscle wasting (Visually)
- Looks emaciated
- Easy fatigability
- Weak and needs support to walk around

Nutritional Diagnosis

Nutritional statement

A. Problem

- Severe Malnutrition due to prolonged inadequate intake of food.
- Severe Malnutrition due to disease related malnutrition.

Aetiology

- Prolonged inadequate food intake related to low economical capacity
- High energy requirement related to diseases (TB and HIV).
- Food insecurity related to imprisonment.
- Low appetite related to epigastric pain
- Frequent Vomiting related to epigastic pain

Signs and symptoms

- Easy fatigability as evidenced by the patient
- Weight loss as evidenced by the medical record and patient interview
- Post inflammatory hyperpigmentation as evidenced by medical records
- Muscle wasting and emaciated as evidenced by visual assessment
- Multiple vomits per day as evidenced by medical records.

Nutritional intervention and monitoring

Goals of Nutrition Intervention

Short term goal

- To make food available from the hospital
- To increase energy and protein intake
- To discuss with the doctor multivitamin supplementation
- To increase frequency of eating during the day

Long term goals

- To increase energy and protein intake to promote healthy weight gain
- To increase his BMI into normal range
- To increase knowledge on healthy eating and substitute foods that could be affordable.
- To increase knowledge about food and water safety hygiene.
- To have follow up when he starts HAART medication

Implementation Plan

Objective and methods of achievement of nutrition intervention
➢ By ordering foods from hospital
Justification of nutrition intervention
➢ Because he is not able to buy for himself and his wife won't be able to deliver that also every day.
Strategies used to influence nutrition intake
➢ Listening what the patient wants and delivering based on that ➢ Delivering food he could eat ➢ Teaching the importance of snacking for a better energy intake
Barriers with Implementation
➢ Consistent of food available in kitchen and delivery
Information Provided to patient
Methods of communication with others involve ➢ To add a short summary report of the nutritional care on the medical record ➢ To talk to the doctors and nurses in person when needed ➢ To write on kitchen ordering form for foods that are needed to be provided by the hospital through the hospital nutritionist or doctor.

Table 11 Implantation Plan of Case Report One

Evaluation and Monitoring

First Follow up	
Weight	44kg
Previous Goal	• To increase his energy and fruit intake
Challenge	• His family was not able to provide fruits and additional meal
Revised Goal	• To take 44kg as a starting point and use it to monitor • To make the hospital provide oral support foods(Milk & Egg) and fruits(one banana per day) for him
Advice Given	• For him to try eating the food that is provided from the hospital

Table 12 First Follow up of Case Report One

Second Follow up	
Weight	Not measured
Previous Goal	To make the hospital provide oral support foods(Milk & Egg) To provide fruits(one banana per day)
Challenge	Banana was not able to be provided for him
Revised Goal	To add additional Calorie in the form of (atmit or bombe) To ask if fruit can be provided again
Advice Given	To eat small amount of foods between meals or at a night time

Table 13 Second follow up of Case Report One

Third Follow up	
Weight	45.2kg
Previous Goal	To add additional Calorie in the form of (Atmit or Bombe) To ask if fruit can be provided again
Challenge	Additional meal and fruit was not able to be provided
Revised Goal	To recommend the doctors to initiate multivitamin supplement
Advice Given	To Educate the importance of eating meals in between meals or at a night time to have a higher energy level

Table 14 Third Follow up of Case Report One

Outcome

During his one month hospital stay he was able improved health he had gained weight, he had better energy and was able to walk without help. He was compliant and ate his meals.his wife was supportive in helping him eat and providing what she can within her capacity as she had 3 kids at home.

The patient may not have much control over what he eats when in imprisonment as what he can eat is limited. However, if he does not continue with his medication and don't get enough meals it is possible that he may end up in the hospital again within the year. He was discharged from hospital for the cause of improvement

Discussion

Malnutrition is described as a condition of nutrition during which a scarcity of or excess (or imbalance) of calories, protein, and other nutrients has measurable negative consequences on tissue/body shape, size, and composition (Gandy, 2014).In the case prison conditions not only contribute to the possibility of transmission, it also hastens the progression of HIV and deterioration within the health of prisoners living with HIV/AIDS.Prisons typically comprise marginalized sections of society and at high nutritional risk because of lack of diet diversity, as these prisoners rely on few varieties of food for an extended time and in an exceedingly very situation, adequacy of nutritional requirement may be a good issue of concern (Tsebaot Kassa, 2017)

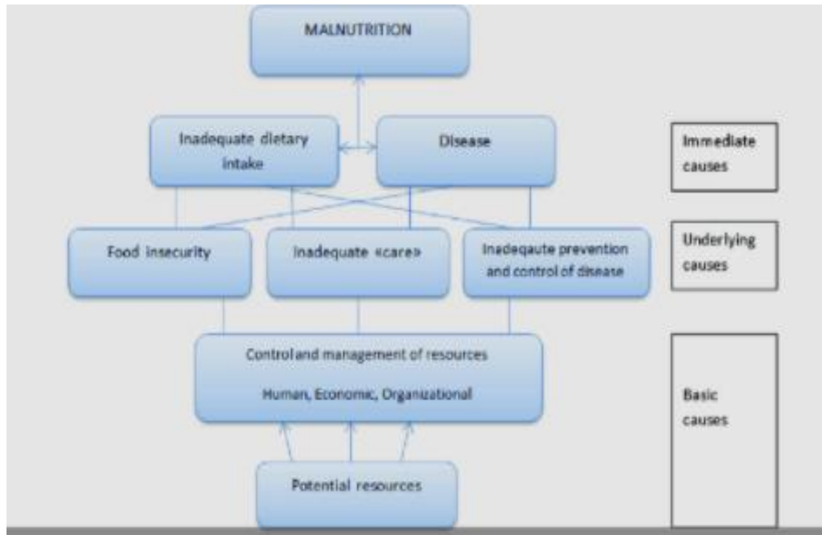

Figure 2 Causes of malnutrition source Manual of Dietetics Practice

Nutritional support should be provided to patients who are malnourished as a result of infectious diseases, based on generic indications and procedures. Nutritional support has been shown to increase weight gain during pulmonary tuberculosis treatment. Underweight status during Tuberculosis (TB) treatment is linked to a higher risk of unsuccessful TB treatment outcomes and relapse (Zekariyas Sahile, 2021 Mar 2).

Being underweight at baseline and after two months of treatment was a predictor of unsuccessful treatment outcomes in people being treated for tuberculosis. Nutritional assessment, counseling, and management are critical components of tuberculosis treatment programs that can improve treatment success.

Patients who had eating problems were 95 percent more likely to develop malnutrition. This could be due to a decrease in food consumption as a result of eating difficulties such as loss of appetite, vomiting, nausea, and oral thrush, as well as the food eaten being poorly absorbed. (Tsebaot Kassa, 2017).

Weight loss can occur at any stage of HIV infection. Seroconversion is frequently characterized by severe systemic disease with weight loss, followed by spontaneous recovery. Approximately one-third of patients lose weight (J.Ockenga, 2006)

Recommendation and Conclusion

Conclusion

Adult malnutrition is a multifactorial and can easily happen with imprisoned patient with lack of proper medical care and with people with low economy. Additionally Food insecurity is likely to happen during imprisonment and If discontinuation with his medication and don't get enough meals he will have to visit the hospital more frequently. Disease related malnutrition is an additional problem. During this case study I learned that there are several contributing factors that cause malnutrition in adults like diseases (RVI, TB) and environment (imprisonment)

Recommendations

The government should provide the needed foods and medical care for imprisoned people with different diseases (RVI & TB).Prison should be able to provide enough meal for people with higher energy needs. Improving financial capacity of the prisoners by providing occupational training and able to work in the compound. If not able to provide sufficient meal to provide oral nutritional support foods even before starting medication will help with outcome.

Case Two (Mini Case)

Introduction

This is a 70 year old female patient admitted to the hospital on 3/8/2013. After being referred from tesfa kokeb higher clinic for right side clavicle swelling 2° to?. She was admitted to the Clinic on 16/7/2013 complaining of right side Clavicles Swelling of 1 week duration associated with feeling pain in the affected area of the right Clavicles. Between the times she was admitted to the Clinic and Zewditu she was getting (tsebel) then she got worse she was admitted to hospital.

Nutritional Assessment

Anthropometry

- Before a year she was around 45 kg as evidence by her son doesn't have that much difference.
- MUAC - 25cm

Biochemistry

On 3/26/21

- WBC was high 11.1(3.98-10.4)
- LMY%-7.0 (21.8-53.1)
- NEU%87.5(34.0-67.9)
- EOS% 0.1(1-6)
- , BAS% 11.1(11.2-15.7)
- HGB 34(34.1-44.6)
- PLT 485(182-337)
- ESR 67(0-20)

On 4/8/21

- Her Ca level is low 7.4 (8.5-10.1)

On 4/9/21

- Her serum glucose level 49 (65-110)

Clinical History

Past Medical History

She is a known a Type 2DM admitted to her clinic then referred to zewditu Memorial Hospital.

Current Medical History

- known Type 2 DM
- Disseminated TB (Lung)
- Pyogenic meningitis (bacterial meningitis) is a CNS infectious diseases affecting the meninges.
- Old lacunar infarcts (2-20mm in diameter in deep cerebral white matter, basal ganglia, or pons, presumed to result from the occlusion of a single small perforating artery supplying the subtropical areas of the brain).(ischemic stroke)
- Stage ii HTN (systolic 140mm/Hg- Diastolic pressure of 90 mm Hg)
- Essential tremor (kinetic tremor) a nervous system disorder that causes rhythmic shaking. Essential tremor most often affects the hand though it may affect the head, voice, arms or legs.

Medications-

Name of the medication	Use	Remark
Ampicillin	Antibiotic used to treat bacterial infections	2gm
Omeprazole	Reduces the amount of acid the stomach makes	40 mg IV daily
Plasil/ Metocolopramide	Stomach and esophageal problems.	10 mg
Propanol	Beta blockers used to treat heart problems with anxiety and prevent migrains. And to treat high blood pressure.	40 mg
Amlodipine	Treat high blood pressure	10mg
NPH (Neutral protamine hagedorn)/ isophane insulin	Control blood glucose level	

Dexamethasone	It's reduces inflammation (swelling, heat , redness, and pain)	4mg
UFH / unfractionated heparin	Blood thinner	7500 IV BID
Sodium Valproate	Preventing seizures	
RHZE	first line TB treatment	3 tabs
Morphine	moderate to severe pain	4mg IV daily
bisacodyl	laxative used for constipaty	5mg po
Pralidoxime	poising by chemical disorder	
Diazepam	anxiety and muscle spasms and seizures	2.5 mg

Table 15 Medications of Case Report Two

Dietary Information

Before she was admitted to the hospital she used to eat normally while avoiding foods that they thought was bad for a diabetic patient. When she got sick she started vomiting 2-4x of ingested matter. After her admission NG tube was inserted they prepared for her atmit with gebse and aja and Meten atmit without any oil sugar or milk (300ml every 3hrs) her estimated fluid taken was - 2,400ml and her estimated energy taken was 600kcal per day.

Her energy requirement -(45 x 30 = 1350kcal)

Her estimated fluid requirement -(45 x 30= 1350 ml)kcal

Her estimated protein requirement - (45 x 1.0 g= 45g)

Environmental Factors/ behavioral /social

- she has sons who bring her foods

Functional

- Bedridden unable to walk or talk .
- frequent seizure and is tied to the bed

Nutritional Diagnosis

Problem

- Malnutrition related to prolonged inadequate intake.
- Over hydration related to frequency of feed

Aethiology

- Inadequate intake related to insufficient amount of energy given
- Higher frequency of feed related doctors' orders

Sign & Symptoms

- Weight loss as evidenced by her son
- Hypoglycemia evidenced by her medical record

Nutrition interventions & Monitoring

Aims and goals

Short term goals

- To provide a meal that is adequate in every, fluid and protein through verbally and written form.
- Improve hypoglycemia

Long term goals

- To promote a healthy weight gain
- To educate about healthy eating for diabetic patients

Implementation plan

- By counseling the family and giving written meal plans
- Talking to the doctors about fluid status

Evaluation and Monitoring

- By asking the family how the prepared it and how they have given it to her.
- Taking diet history

Outcome

During her hospital stay she was able to improve her hypoglycemia by decreasing her insulin level and increasing her energy intake.. Her family were compliant and ready to prepare menus that were given to them .The patient may not have much control over what she eats because on the NG tube and she can't talk

Case Three (Mini Case)

Introduction

This patient is a 12-year-old male who was referred by Tulu Bolo General Hospital after a week of upper and lower extreme weakness. On22/04/13, he was admitted to Zewditu Memorial Hospital for Quadriparesis 2° to Guillain Barre Syndrome 2° to Anti Rabies Vaccine to ICU after being referred from hospital for better management and a possible ICU admission.

Nutritional Assessment

Anthropometry

Date	22/07/2013 (measurement was taken 3month after his admission)
Weight	23kg
Height	142cm
MUAC	13.9cm
BMI	11.4

Table 16 Anthropometry measurement of case report three

*his past weight is unknown but his family confirms he has lost weight as evidenced by their observation

Biochemistry

HGB	11.2%	Low
RBC	4.05%	low
HCT	32.3	Low

PLT	360	High
Na	132.7	Low
Cl	97.3	Low

Table 17 Investigation of Case Report Three

Clinical History

Current Medical History

- Quadriparesis 2° to GBS
- Tracheostomy
- Constipation

Past Medical History

He was a healthy kid, one day he was fitting a dog to chase him away and its nail scratched his left hand after that after that he went to a local health center to get vaccinated for anti-rabies.

Vital Signs

PR- 109 , T°- 38° c , SPO_2 -99%

Medications

Name of the Medication	Use	Dosage
Lactulose	Used to treat constipation	
Cimetine	To treat backflow of acid reflux	
Enema	Aims to empty the bowl	

Table 18 Medications of Case Report Three

Dietary Assessment

Before admission he had a good appitie and eats 3times a day. During his admission he was on NG Tube for 3month 300ml every 3hrs with estimated enery intake of 700kcal per day with total protein intake of 12-15g/day.

Estimated amount on energy requirement- 65kcal * 23 = 1495kcal

Estimated amount on energy requirement-0.8 x 23 =19.2

Estimated amount on energy requirement = 23= 1000 x20+ 50 x 3 =2,150ml

Environmental / behavioral /social

- His family doesn't live in Addis Ababa
- Cannot communicate properly because of his tracheostomy
- Language barrier

Fictional

- Muscle wasting (Visually)
- Looks emaciated
- Easy fatigability
- Bedridden
- Quadriparesis

Nutritional Diagnosis

Problem

-
- Severe Malnutrition due to prolonged inadequate energy intake.

Aetiology

- Prolonged inadequate energy and Protein Intake related to lack of information on how to prepare NG feeding
- Over hydration related to frequency of feeding as directed by the doctors
- Low appetite related to discomfort of disease and conditions

Signs and symptoms

- Easy fatigability as evidenced by the patient
- Unspecified amount of weight loss as evidenced by family members and patient interview
- Muscle wasting and emaciated as evidenced by visual assessment
- Constipation

Nutrition interventions & Monitoring

a. Aims and goals

Short term goal

- To make food available from the hospital
- To increase energy and protein intake
- To increase frequency of eating during the day

- To improve bowel movement

Long term goals

- To increase energy and protein intake to promote healthy weight gain
- To remove his NG tube by promoting optimum feed orally
- To increase his BMI into normal range.
- To increase knowledge about healthy eating

b. Implementation plan

- By counseling the family and giving written meal plans
- To removing tube by increasing oral intake
- By talking to the doctors about the plan
- By tracking input and out put

c. Evaluation and Monitoring

- By asking the family how the prepared it and how they have given it to her.
- Talking diet history
- Recording input and out put

Outcome

- During his hospital stay he was able to improve his oral intake and as a result NG Tube was removed. His bowel movement improved and the tracheostomywas removed.

Annex

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 breath/min	SPO2	O2 level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80mmgh
Pain	Pain score	0-10			

Appendix 1: Dietetic Assessment form No. 1

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 breath/min	SPO2	O2 level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80mmgh
Pain	Pain score	0-10			

Appendix 2: Dietetic Assessment Form No. 2

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	120/80mmgh
Pain	Pain score	0-10			

Appendix 3: Dietetic Assessment Form No. 3

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 to 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	120/80mmgh
Pain	Pain score	0-10			

Appendix 4: Dietetic Assessment No.4

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 breath/min	SPO2	O2 level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80mmgh
Pain	Pain score	0-10			

Appendix 5: Assessment Form

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 Yes / No		Within 1hr	Colostrum given									

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	SPO2	O2 level	95%-100%
PR	Pulse rate	60-100 beats/min	BP	Blood pressure	120/80mmgh
Pain	Pain score	0-10			

No Appendix 6: Dietetics Assessment form for Paediatrics

ለታካሚ ምግብ ማዘዣ ፎርም

ቀን____________________

ዋርድ	
የአልጋ ቁጥር	
የታካሚ ስም	
ጾታ	
እድሜ	

የሚዘጋጀው የምግብ አይነት/ዝርዝር

ማስታወሻ______________________________

____

ምግቡን ያዘዘው ______________________________

ፊርማ____________________

Appendix 7: Food Ordering Form No.1

ለታካሚ ምግብ ማዘዣ ፎርም

ዋርድ	
የአልጋ ቁጥር	

የታካሚ ስም			
ጾታ		እድሜ	

ቀን________________

የ ምግብ አይነት	ግብዓቶች	መጠን
አሰራር		
የሚቀርብበት ሰዓት እና መጠን		

ማስታወሻ______________________________

ምግቡን ያዘዘው ______________________________ ፊርማ____________________

Appendix 8: Food Ordering Form No. 2

የ ዘዉዲቱ መታሰቢያ ሆስፒታል

በቅደመ እርግዝና፣ በእርግዝና እና ጡት በማጥባት ወቅት ሊወሰዱ የሚገባቸው ጥንቀቄዎች፣ የአመጋገብና የአኗኗር ዘይቤዎች

ከእርግዝና በፊት፣በእርግዝና እና የሚያጠቡ እናቶች የተመጣጠነ ምግብ መመገብና ጤናን መጠበቅ በዘላቂነት ጤናማና ሁለንተናው ብቁ የሆነ ዜጋ ለማፍራት ይጠቅማል

አዘጋጆች:
እሌኒ መኩሪያ . ትርሲት ደምሰው . ሰሚራ ያህያ
የስነ ምግብ ሳይንስ ህክምና ባለሞያዎች

አርታኢ: ዶ/ር ዘላለም ደበበ (ረዳት/ፐ)
የስነ ምግብ ህክምና ሳይንስ ባለሞያ

2013

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

1. ***እህል (ሃይል ሰጪ ምንጭ) ከሆኑት***
   ያልተፈተጉ እህሎች ከስንዴ፣ከገብስ ፣ከአጃ፣ ጤፍ፣ ቆጮ እና ከመሳሰሉት የተዘጋጁ ምግቦች፣ ወይም ሩዝ፣ ፓስታ የመሳሰሉትን በርከት ካለ አትክልት ጋር መመገብ።
2. ***ጤናማ ቅባቶችን***
   የኑግ፣የሱፍ፣ የወይራ ዘይቶችን በመጠኑ መጠቀም
3. ***ገንቢ ምግቦች (ለሰውነት ጥገናና እድገት ምንጭ) ከሆኑት***
   ስጋ፣ ዶሮ አሳ፣ ወተትና የወተት ተዋእጾች፣ ምስር፣ባቄላ፣ ቦሎቄ፣ ሽንብራ የመሳሰሉትን በየቀኑ መመገብ
4. ***ሕመም ተከላካይ ቫይታሚንና ማዕድኖች.***
   አትክልትቶች ቆስጣ፣ ጎመን፣ሰላጣ፣ቲማቲም፣ ድንች፣ ካሮት፣ቀይስር፣ ዱባ የመሳሰሉትን **በየቀኑ** መመገብ
5. **ፍራፍሬዎች** ሙዝ፣ ብርቱካን፣ ሎሚ፣ማንጎ፣ ፓፓያ የመሳሰሉት መመገብ፣ **ከተቻለ በቀን 2 ጊዜ።**
6. **ውሃ/ፈሳሽ ነገር በቀን ከ 2 እስከ 2 ½ ሊትር መጠጣት።**

ምንም አይነት የእንስሳ ተዋጽዎ የማትውስድ እናት የቫይታሚን ቢ12 (B12) እጥረት እንዳይገጥማት ሀኪሟን ማማከር ይኖርባታል (ጽንሱ ከነርቭጋ ተያያዥ ችግሮች እንድይገጥሙት ለመከላከል)

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ለሚያጠቡ እናቶች

- ማጥባት ለእናትም ሆነ ለህጻኑ ጤንነት ያለው ጠቀሜታ የላቀ ነው።
- ማጥባት ከወሊድ በኋላ ባሉ ቀናት የሚፈስን ደም ይቀንሳል፣ ማህጸን በቶሎ ወደቦታው እንዲመለስ ያግዛል ፣ ካላስፈላጊ ክብደት መጨመርና ከጡት ካንሰር ይከላከላል።
- የመጀመሪያው ወተት (እንገር)፣ ለህጻኑ፣ ሕመም የመከላከል አቅሙን በከፍተኛ መጠን ይጨምርለታል።
- በተጨማሪም የእናት ወተት ልጆች ሲያድጉ ጥሩ የአእምሮ ብስለት እንዲኖራቸው ይረዳል። ከስኳር ህመም ፣ ከአለርጂ፣ ከተቅማጥ፣ከመሳሰሉት ሕመሞች በተሻለ ሁኔታ ይጠብቃቸዋል።
- ህጻናት እንደተወለዱ በ24 ሰአት ውስጥ እስከ 12 ግዜ መጥባት ይችላሉ። በሚቀጥሉት ወራቶችም እንደዚሁ ከ 8 እስከ 12 ጊዜ እንዲጠቡ የመከራል።
- ሕጻኑ በአግባቡ የእናት ጡት መያዙን ያረጋግ ጡ
- የጡት ወተት መውጣት ካልቻለ ወይም ህጻኑ መጥባት ካልቻለ፤ በአስቸኳይ የህክምና ባለሞያ ምክር መጠየቅ
- የጡት ወተት አስፈላጊውን ንጥረ ነገር ሁሉ 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።

የቅድመ እርግዝና ዝግጅት

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

በእርግዝና ወቅት ሊደረጉ የሚገቡ

- ሲወስዱ የነበሩትን ፎሊክ አሲድ (Folic acid), አይረን (Iron) እና ሌሎች ቫይታሚኖች እርግዝናም ከጀመረ በኋላም ቢያንስ ለ3 ወር መውሰድ
- ሆኖም ምንም አይነት ቫይታሚንም ሆነ መድሀኒት ያለ ሀኪም ፈቃድ አለመውሰድ
- ቀለል ያሉ የሰውነት እንቅስቃሴዎችን በቀን ለሰላሳ ደቂቃ ማድረግ ለምሳሌ የእግር መንገድ፣ የቤት ውስጥ ስራ

- በእርግዝና ወቅት ሊጨምር የሚገባው ክብደት እርግዝናው ሲጀምር እናቲቱ የነበራት ክብደት ይወስነዋል።
  ባጠቃላይ ክብደቷ ከፍ ያለ ከነበረ፣ ከ5 ኪሎ ያልበለጠ- ክብደቷ ዝቅጠኛ ከነበረ 16 ኪሎ ያላነሰ ቢሆን ይመከራል።
- የተመጣጠነ እና ጤናማ አመጋገብ መከተል ያልተፈተጉ እህሎች፣ ያልበዛ ቅባት፣ጥራጥሬዎች (ምስር፣ቦሌቄ፣ ባቄላ፣ ሽንብራ...)

  አትክልትና ፍራፍሬዎች፣ ስጋ (አሳ፣ ዶሮ፣ የበግ...) ወተትና የወተት ተዋጽኦችን ማካተት። ቀድሞ ይመገቡ ከነበረው አንድ መክሰስ መጠን መጨማር ያስፈልግ ይሆናል። (ለምሳሌ 1ሙዝ፣ የተቀቀለ ድንች/ስኳር ድንች፣ 1እፍኝ ባቄላ ወይም ሽንብራ እንደመክስ ቢጨመር)

- ስኳርና ጣፋጭ ምግቦችን አለማብዛት እስከተቻለው ድረስ መቀነስ
- አዮዲን ያለው ጨው ምግቡ ከእሳት ከወረደ በኋላ መጨመር (በቀን ከግማሽ - አንድ የሻይ ማንኪያ)
- ውሃ ቢያንስ ከ2 ሊትር እና ከዛ በላይ መጠጣት
- ቫይታሚን ዲ ለማግኘት የጠዋት ፀሀይ ከ4፡00- 5፡30 ባለው ሰአት ከ 15-30 ደቂቃ ሰውነትን የተቻለውን ያህል ገልጦ መሞቅ ፤ ካልተቻለ እና እጥረት ካለ ከሀኪም ጋር በመመካከር የቫይታሚን ዲ እንክብል መውሰድ
- መጠጥ፣ ጫት፣ ሲጋራ፣ ሺሻ፣ የመሳሰሉትን አለመውሰድ
- በጽንሱ አካላዊና አዕምሮዊ እድገት ላይ ተጽእኖ እንዳይፈጥር ከሚያስጨንቅና ጫና በሚፈጥር ሁኔታ ውስጥ አለመግባት ወይም እራስን መቆጠብ
- በየቀኑ በቂ እንቅልፍ መተኛት (ከ7-8፡00 ሰዓት)
- የጽንሱ እድገት እንዳይገደብ ቢቻል ቡና አለመጠጣት፤ የግድ ከሆነ በቀን ከሁለት ሲኒ ያልበለጠ ምግብ ከተበላ ከ1፡00ሰዓት በኋላ መውሰድ
- የለስላሳ መጠጦች፣ የታሸጉ ምግቦች እና የታሸጉ ጮማቂዎች ከስኳር ነፃ የሚባሉትን ጨምሮ በተቻለ መጠን አለመጠቀም
- ምንም እንኳን በንጥረ ነገር እጅግ የበለጸጉ ቢሆኑም በእርግዝና ወቅት ፌጦ፣ አብሽ፣ ሰሊጥ እና ተልባ አለመውሰድ (በወሊድ ግዜ/ በቀዶ ጥገና ግዜ ደም በቶሎ አልረጋ እንዳይል፣ ያለግዜው የሆነ ምጥና ውርጃን ለመከላከል)

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dktirsit@gmail.com, Samiraffan7@gmail.com

Appendix 9: Leaflet for Pre and Post Pregnancy

የዘውዲቱ መታሰቢያ ሆስፒታል

በእርግዝና ጊዜ የሚከሰት የስኳር ህመም

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

አዘጋጆች:
እሌኒ መኩሪያ . ትርሲት ደምሰው . ሰሚራ ያህያ
የስነ ምግብ ሳይንስ ህክምና ባለሞያዎች

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

2013

ሰውነት ገንቢ ምግቦች

ስጋ፣ወተት፣የ ዶሮ ስጋ፣እንቁላል፣ባቄላ፣በሎቄ፣ሽንብራ፣ምስር፣አኩሪ አተር

ጤናማ የ ቅባት ምንጮች

አቮካዶ፣ኑግ፣አሳ፣አነስተኛ መጠን

አትክልትና ፍራፍሬዎች

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

ፍራፍሬ እንደ አቮካዶ፣ማንጎ፣ብርቱካን፣እንጆሪ፣አፕል፣ሃባብ፣የመሳሰሉትን በመጠኑ መመገብ (ሲበዛ የስኳር መጠንን በጣም እንዳይጨምር)

የሰውነት እንቅስቃሴ

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

ምክሮች

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

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እርግዝና ጊዜ የሚከሰት የስኳር ህመም ምንድነው?

በእርግዝና ጊዜ የሚከሰት የስካር በሽታ ከስኳር በሽታዎች አንዱ ነው።

ብዙ ጊዜ በእርግዝና ጊዜ የሚከሰት ሲሆን ከወሊድ በኋላ ሊጠፋ ይችላል። በብዛት የሚፈጠረው ከ24 - 28 ሳምንት ባለው ጊዜ ነው። አስፈላጊው ጥንቃቄ ካልተደረገ የተለያዩ ችግሮችን ሊያስከትል ይችላል;;

ለዚህ በሽታ ተጋላጭ የሆኑት እነማን ናቸው?

- ከዚህ በፊት በእርግዝና ጊዜ የሚከሰት የስኳር ህመም ተጋላጭ የነበሩ
- እድሜአቸው ከ40 ዓመት በላይ የሆኑ ሴቶች
- ቤተሰባቸው ውስጥ የስኳር ህመም ያለባቸው ሴቶች ወይም እህትም ሆነ እናታቸው በእርግዝና ጊዜ የሚከሰት የስኳር ህመም ተጋላጭ ከነበሩ
- የክብደት መጠናቸው ከሚፈለገው በላይ የሆኑ
- የእርግዝናው የመጀመሪያ ግማሽ ላይበፍጥነት የክብደት መጠን የመጨመር ነገር ሲኖር
- ከዚህ በፊት የተወለደው ልጃቸው ከ4.5ኪ.ግ በላይ ከነበር ወይም ከዚህ በፊት በእርግዝና ወቅት ሌሎች ችግሮች ገጥሞዋቸው ከነበር
- ማስታወሻ፡- አንድ አንድ ሴቶች ባልታወቀ ምክንያት ሊይዛቸው ይችላል

አንዲት ሴት በእርግዝና ጊዜ የሚከሰት የስኳር ህመም እንደያዛት እንዴት ይታወቃል?

ማን ለዚህ ህመም ተጋላጭ እንደሆነ በእርግጠኝነት ስለማይታወቅ በእርግዝና ጊዜ ሁሉም ሴቶች እንዲመረመሩ ይመከራል።

ከ24 – 28 ባለው የእርግዝና ሳምንት ውስጥ (በባዶ ሆድ የሚደረግ ምርመራ) ሊሰጣቸው ይገባል፡ ፡ ምርመራው የተለያዩ አጋላጭ ምልክቶች ከታዩ ቀድሞ ሊሰጥ ይችላል ።

በእርግዝና ጊዜ የሚመጣ የስኳር ህመምን እንዴት እንቆጣጠር ?

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

ጤናማ አመጋገብ

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

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

ሀይል ሰጭ ምግቦች

እንጀራ፣በቤት ውስጥ የሚዘጋጁ ካልተፈተገ ስንዴ፣ አጃ፣ገብስ እና ከመሳሰሉት የሚዘጋጁ ጨጨብሳ ፣ አንባሻ በአነስተኛ ዘይት ቆጮ ወዘተ

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Appendix 10: Leaflet for Gestational Diabetes

የ ዘዉዲቱ መታሰቢያ ሆስፒታል

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

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

2013

አዘጋጆች:
እሌኒ መኩሪያ . ትርሲት ደምሰው . ሰሚራ ያህያ
የስነ ምግብ ሳይንስ ህክምና ባለሞያዎች

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

አዘገጃጀት 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 ወተት ለ አካላዊም ጤናም ፣ሆነ አእምሮአዊ እድገታቸው የሚያስፈልጉንጥረነገሮችን የ ሚያሟላ ነው።

ተጨማሪ ምግብ መቼ እንጀምር ?

የ እናትጡትወተት ከ 6 ወር በ ኋላለ ህጻኑየሚያስፈልገውን መጠን ያክል የ ንጥረነገር 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 ምግቡንለማንሳት/ለመያዝ መሞከር
- ቶሎ ቶሎ ጡት የ መጥባት ፍላጎት ማሳየት

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Appendix 11: Leaflet for Complementary Food

ለአስታማሚዎች/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 መክሰስ							
	ምሳ							
	የምሳ መክሰስ							
	እራት							
	ሌሊት							
	ፍራፍሬ							
	ውሃ/ፈሳሽ							
	ሌላ							

Appendix 11: Food follow up sheet

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