2021

Addis Ababa University

Kebron Senay
Intern Dietitian, AAU

[ST. PAUL HOSPITAL ATTACHMENT REPORT]

This is a report document for the hospital attachment program as partial fulfillment of MSc. In dietetics at AAU center for food science and nutrition, department of dietetics December-March, 2020.

Advisor's Signature

Dr. Zelalem Debebe

March 2021.

Contents

Acknowledgements

I would like to thank Dr. Zelalem Debebe (MD,RD), my teacher, supervisor and advisor for every effort she had on me with the journey of being a Dietitian. Thank you for your advices and guidance in every aspect.

I also would like to thank the Clinical nutrition department staff members at St. Paul hospital for helping me in different ways and for what they did to make the hospital and office environment friendly and easy to learn, this is not something I take for granted, Thank you so much!

Abstract

Introduction

St. Paul hospital was the first institution I started my hospital attachment (Dietetics internship) for departments such as Internal medicine, Surgery and Pediatrics. My stay lasted from December-March 2020 until a notification to discontinue came from our instructor due to the corona virus case in the country and the institution closed for unknown period of time.

During my stay, things I have accomplished included, individual patient nutritional assessment and interventions, baseline anthropometric assessment for all patients admitted to Internal medicine ward, designing individual as well as general menu and recipe to be given to the patients or the hospital kitchen, developing health education materials and individual information sheets (on specific health conditions and their questions related to their diet) to be given for patients on discharge, giving health educations and developing a proposal for the pediatric ward to develop a separate kitchen that can provide an optimal nutrition to pediatric patients (this I did with my colleague).

Ward activities

Ward activities included developing different forms that are used in the clinical practices and working with patients at internal medicine, surgery and pediatric wards. Additionally giving health education and preparing educational materials such as leaflets, posters, presentations and brochures are among the works accomplished during the clinical practice period.

List of Tables

List of Annex

Acronyms

AKI- Acute Kidney Injury

BP- Blood Pressure

Crea- Creatinine

CXR- Chest X-ray

DASH- Dietary Approaches to Stop Hypertension

GFR- Glomerular Filtration Rate

GI- Gastro Intestinal

H-Pylori- Helicobacter Pylori

Hx- History

Kcal- KiloCalories

PR- Pulse rate

RR- Respiration Rate

RPGN- Rapidly Progressive Glumerulonephritis

SpO_2- Saturation of partial pressure of oxygen

Dietetic Internship report

1. Introduction

St. Paul hospital was the first institution I started my hospital attachment (Dietetics internship) for departments such as Internal medicine, Surgery and Pediatrics. My stay lasted from December-March 2020 until a notification to discontinue came from our instructor due to the corona virus case in the country and the institution closed for unknown period of time.

During my stay, things I have accomplished included, individual patient nutritional assessment and interventions, baseline anthropometric assessment for all patients admitted to Internal medicine ward, designing individual as well as general menu and recipe to be given to the patients or the hospital kitchen, developing health education materials and individual information sheets (on specific health conditions and their questions related to their diet) to be given for patients on discharge, giving health educations and developing a proposal for the pediatric ward to develop a separate kitchen that can provide an optimal nutrition to pediatric patients (this I did with my colleague).

2. Ward activities

2.1 Developing different formats

I have developed different formats that are used in the assessment of patients and meal ordering by using samples used previously by our instructor. This was not a one-time job but was being updated as we continue working with them.

The formats I have developed included

- Patient assessment and advice sheet (both for our use and being attached in patient charts to order and follow).
- Fluid input and output follow up (recorded by us and patient care givers).
- Fluid diet follow-up form to be filled by care givers. These forms are attached in the annex section.

The fluid diet follow-up format is intended to be used by care givers and be collected daily to evaluate intake of patients. The sample information sheets and food diary recording format are attached at the end of the report.

2.2 Individual patient assessment

During my entire stay at St. Paul hospital, I was able to assess a total of 43 patients including the ones I could intervene individually and the rest are from the general ward assessment used as a baseline data.

Internal medicine ward placement

My first placements started in the Internal medicine ward (which included Haemodyalysis unit) and lasted for 8 weeks. In this ward I have seen 23 patients. The individual intervention activities were advices and food preparation options for those who need and following them in their stay, developing standard menu for some fluid diets provided by the kitchen after demonstrating (for consistency especially for NG tube) and doing general nutritional assessment for all admitted patients.

Most of the referrals for nutritional assessment and advice came from physicians and nurses following the patients and the rest are from the general nutritional status assessment of every patient admitted to wards.

From the 23 patients I have evaluated so far, 12 were male and 11 were female. Their age ranged from 21-70 years. The common diagnosis they were admitted with were stroke (both ischemic and hemorrhagic), tetanus, cardiac illnesses, HIV and related diseases, cancers, disseminated TB and Asthma. From those 9 were discharged with appointments, 5 died and 9 were yet on admission and 7 stayed under nutritional follow-up.

Among the evaluated patients after referral from other health professionals, 4 were with inappropriate referral. The ward nurses and physicians reported patients had poor nutritional intake and needed nutritional advice. The reason why I categorized as inappropriate referral was the patients' poor food intake was not found to be directly related to poor appetite or things that I could improve with dietary advice and diet change.

Specially one patient with inappropriate referral and had unfortunate end is presented here as case report. In short, the patient's problem was found to be her distended abdomen and the pain and discomfort related to it. On physical examination, she had very distended abdomen and on history of nutritional intake, she said she is not eating much since past one week because of the discomfort and she also had no passage of stool and gas for almost a week. After this I had to discuss with her attending physician about the condition to focus on the problem other than the exacerbated asthma they were treating. Then the physician kept her NPO and planned to consult surgical side. After surgical evaluation she was found to have bowel obstruction and got transferred to ICU for possible surgery preparation. Ex-lap (exploratory laparatomy) was done the next day but she passed away within minutes of coming out of OR.

An example of a case and how I was trying to intervene as a dietitian can be shown in the following case report.

Case report

This is a 65YO male patient on his 37th day of admission at medical ward with a diagnosis of complicated hospital acquired pneumonia (+ empyema) + HTN with HHD + Type 2 DM + recurrent lower urinary tract infection + severe anemia and severe hypo-albuminemia. He came from Addis Ababa, Gullele area. He is living with his three children. He was a taxi driver before he got sick for months. He was diagnosed with HTN for the past 16 yrs and DM for the past 15 years and was on medication for both. He had surgery for BPH before 4 months. He had no history of using alcohol, tobacco or chat. He had no known allergy history. Prior to his sickness, he used to walk for at least 30min every other day. The physician who was following him consulted us if we could see and improve his nutrition to mainly address the problem of hypo-albuminemia. The patient also was willing to work together with dietitian and improve his health status. At the time, his main concern was loss of appetite.

Anthropometric measurements

Wt.- 70kg (reported) MUAC- 23.5cm (normals)

Biochemical assessment

Hgb- 8.9mg/dl (low/anemic) Serum albumin- 2.5mg/dl (low)

Nutrition intake history- he started to lose appetite before 4 months when he was sick and hospitalized and was getting better for the past month. He had vomiting whenever he tries to eat Enjera but feels better with pasta and soup. He was taking very small amount of food once (not more than three bites.)

He was taking pasta with tomato and meat sauce 3 bites every 2 hrs during day time and drink ½ L of milk in the morning. He took around 1/2L of water for the past 24hrs of dietetic assessment.

He had disturbed sleep pattern due to illness and discomfort from the presence of chest tube. He had bilateral lower extremity edema (swelling). He has red and dispersed hair pattern. He has moist but pale skin. But he has no problem of altered taste, muscle wasting or jaundice.

Nutritional status- Anemic (Biochemical)

- At risk of malnutrition resulting from decreased intake and disease process. (Anthropometric measurement)

Daily Energy requirement- 2450kcal

Daily protein requirement- 105g

Daily fluid requirement- 2100ml

After the nutritional assessment and discussion on food preferences, menu with different meal options that help in maintaining the body's function and treating the medical conditions such as anemia and wound healing was prepared and given. Family was selecting the convenient foods and prepare for him. His intake was getting improved from day to day.

His conditions were being improved very fast. He started to take better amount and variety of fluid and solid foods that provided more of energy, protein and possibly other nutrients as well. His hair started to become softer and darker, the paleness on his skin improved and his skin became pink and he started to support himself. He was discharged after 20 days of starting nutritional support and nutritional advice and meal options given on discharge.

The following is the menu prepared and given for him.

High protein diet options

Table 1 High protein diet options

Ingredient	Amount	Protein (g)	Calorie (kcal)	Remark
Oats porridge with milk • Oats • Milk	 60g 200g	 10.14 6.98	 233.4 84	
Total		17.12	317.4	
Barley bread with peanut butter spread • Barley bread • Peanut butter	 2 slices 20g	 4.4 5.16	 146 113.4	
Total		9.56	259.4	
Boiled or scrambled eggs	2pcs	26	310	
Total		26	310	
Soup1 (can be 2 portions) • Onion • Oil • Garlic • Lentils/beans/kidney beans • Lamb • Carrots • Macaroni • Water	 35g 25g 10g 50g 75g 50g 50g 500ml	 0.37 0.37 0.41 11.5 38.4 0.85 6.5 -	 24.95 224.1 13.83 76.45 441 21.0 185.5 -	
Total		58.4	986.83	
Soup2 • Onion • Oil	 35g 25g	 0.37 0.37	 24.95 224.1	

• Garlic • Peas • Broccoli • Chicken breast • Milk • Water	10g 50g 50g 100g 100ml 200ml	0.41 2.5 1.25 31 1.74 -	13.83 40.5 15.5 165 -	
Total		35.9	483.88	
Smoothie/Juice 1 • Milk • Avocado • Dates • Banana • Oats	 200ml 200g 20g 100g 30g	 6.98 8.0 0.32 1.2 5.07	 778 320 53.2 95 116.7	
		21.57	1362.9	
Smoothie/Juice 2 • Milk • Boiled eggs • Peanut butter • Banana • Oats	 200ml 2pcs 30g 100g 30g	 6.98 26.0 7.74 1.2 5.07	 778 310 170.1 95 116.7	
Total		46.99	1,469.8	
Pasta sauce 1 • Onion • Oil • Lamb • Broccoli • Beans/kidney • Garlic	 50g 25g 75g 50g 50g 10g	 0.52 0.37 19.2 1.25 12 0.41		
Total		33.75		
Pasta sauce 2 • Onion • Oil • Garlic • Boiled & chopped eggs • Beans • Carrots	 50g 25g 10g 1pcs 100g 50g	 0.52 0.37 0.41 5.9 21 0.85		
Total		29.05		
Additionally boiled kidney beans	100g	24		
Roasted peanut	100g	26		

After calculating for different nutritional requirements the interpreted menu given for the patient is as follows.

አልጋ ቁጥር 4 (የምግብአማራጮች)

1. **የአጃ ገንፎ**

- 2 የቡና ስኒ የሚሆን የቆርቆሮ አጃ እና 1 ብርጭቆ ወተት አብሮ በማፍላት በወፍራሙ የሚዘጋጅ

2. **የገብስ ዳቦ በለውዝ ቅቤ**

- 2 ተቆራጭ (1) የገብስ ዳቦ በ1 የሾርባ ማንኪያ ለውዝ መቀባት

3. **ሾርባ (1)**

- 1 መካከለኛ ሽንኩርት
- 1 የሾርባ ማንኪያ ዘይት
- 1 የሻይ ማንኪያ የተፈጨ ነጭሽንኩርት (ለጣዕም)
- 1 የቡና ስኒ ምስር ክክ (ቦሎቄ/ አደንዛፊ)
- 75ግ (1 መዳፍ ያህል) ስጋ
- 1 መካከለኛ ካሮት
- 1 የቡና ስኒ ማካሮኒ
- ግማሽ ሊትር ውሃ በመጨመር የሚዘጋጅ

(ይህ ሾርባ ለ2 ጊዜ ተካፍሎ መጠቀም ይቻላል)

4. **ሾርባ (2)**

- 1 መካከለኛ ሽንኩርት
- 1 የሾርባ ማንኪያ ዘይት
- 1 የሻይ ማንኪያ የተፈጨ ነጭ ሽንኩርት(ለጣዕም)
- 1 የቡና ስኒ አተር
- 1 መዳፍ የተፈለፈለ ብሮኮሊ ወይም ፎሶሊያ
- 100ግ (11/2 መዳፍ የዶሮ መላላጫ ወይም ሌላ ዓይነት እንደ አመቺነቱ)
- ግማሽ ብርጭቆ ወተት
- 1 ብርጭቆ ውሃ በመጨመር የሚዘጋጅ

5. **ጭማቂ (1)**

- 1 የውሃ ብርጭቆ ወተት
- 1 ተለቅ ያለ አቮካዶ
- 5 ፍሬው የወጣለት ቴምር
- 1 መካከለኛ ሙዝ (1/4 ፓፓያ/ 2 ማንጎ)
- 1 የቡና ስኒ የቆርቆሮ አጃ በአንድ ላይ በመፍጨት የሚዘጋጅ

6. **ጭማቂ (2)**

- 1 የውሃ ብርጭቆ ወተት
- 2 የተቀቀለ እንቁላል
- 1 የሾርባ ማንኪያ የለውዝ ቅቤ
- 1 ሙዝ
- 1 የቡና ስኒ የቆርቆሮ አጃ በአንድ ላይ በመፍጨት የሚዘጋጅ

    - ❖ **ይህ ጭማቂ ከተዘጋጀ በኋላ ወዲያው መጠቀም ያስፈልጋል!**

7. **የፓስታስጎ (1)**

- 1 መካከለኛራስሸንኩርት
- 2 የሾርባማንኪያዘይት
- 1የሻይማንኪያየተፈጨነጭሽንኩርት(ለጣዕም)
- 75ግ (1 መዳፍያህልየበግስጋ)
- 1 መዳፍየተፈለፈለብሮኮሊ
- 1 የቡናስኒየተቀቀለቦሎቄበአንድላይበማብሰልየሚዘጋጅእናከማንኛውምየፓስታአይነትጋርየሚበላ

8. የፓስታስጎ (2)

- 1 መካከለኛራስሸንኩርት
- 2 የሾርባማንኪያዘይት
- 1የሻይማንኪያየተፈጨነጭሽንኩርት(ለጣዕም)
- 1 ተቀቅሎየተከታተፈእንቁላል
- 2 የቡናስኒአተር(የተቀቀለ/የታሸገ)
- 1 መካከለኛካሮትበአንድላይበማብሰልየሚዘጋጅእናከማንኛውምየፓስታአይነትጋርየሚበላ

❖ **በተጨማሪም**

✓ የተገኘውንእናየሚመቸውንአይነትየቦሎቄ/ የአተር/ የባቄላንፍሮእንዲሁምየለውዝቆሎመመገብእጅግጠቃሚነው::

<u>በፕሮቲንየበለጸጉምግቦች</u>

ከፍተኛመጠንያላቸውምግቦች

- ስጋ (ጮማየሌለው/ የዶሮመላላጫ/ ዓሳ ተመራ ጭናቸው)
- እንቁላል
- ወተት (እሽግ/ ተፈልቶስልባቡቱየወጣለት)
- እርጎ
- አጃ/ አቮካዶ/ ለውዝ
- አይብ

መለስተኛመጠንያላቸው

- ባቄላ/ አተር/ ቦሎቄ
- ብሮኮሊ
- አደንዛሬ/ ምስር/ ፎሶሊያ
- አኩሪአተር (ወተቱንጨምሮ)

Surgery ward placement

In surgery ward (including septic unit) I worked for 6 weeks in total and was able to assess 20 patients. The most common diagnosis was pre and post-operation admission due to appendicitis, bowel obstruction, hernias, BPH, pancreatitis and perforated GI. Some of the patients also have medical conditions such as DM and newly diagnosed hypertension which I also intervene for. Totally I had 20 patients there. There was one death registered during the time.

Similar to the medical ward, I was giving advice on nutrition and healthy eating specifically for their disease conditions and given written information on hand that will help them as reminders and references. Here also dietetic referrals came from nurses and physicians following the patients and the general nutrition screening done on the surgery ward.

As intervention for the patients assessed and needed interventions I have developed individual menus for patients that help in improving their diet with their disease conditions.

2.3 General nutritional assessment for all admitted patients (Internal medicine ward)

The other thing I have done is doing basic anthropometric measurements for all patients admitted at medical ward. Total number of patients included was 36 (85.7%). Their age ranges from 16-89 years. Weight, height and MUAC were measured for 19 of them and the rest were assessed with only MUAC because of different reasons such as edema, ascites, inability to move and presence of chest tube. The summarized result of the patient's status according to their MUAC measurement is presented as follows.

Table 2 Ward assessment result summary

No.	Patient information	Number	Percentage
1.	Total no. of beds in the ward (occupied & not occupied)	42	100%
2.	No. of patients assessed	36	85.7% (of total beds)
3.	Number of male patients	14	38.8%
4.	Number of female patients	22	61.2%
5.	MUAC < 23 (Male)	7	50% (of the male pts)
6.	MUAC > 23 (Male)	7	50% (of the male pts)
7.	MUAC < 22 cm (female)	10	45.5%(of the female pts)
8.	MUAC > 22cm (female)	12	54.5%(of the male pts)
9.	Total no. of malnourished patients	17	47.2 % (of total patients assessed)
8	Average length of hospital stay	14 days	(3-120 days)

(Tang et al., 2020)

Globally the prevalence of malnutrition upon admission ranges from 10-75% (Blaauw et al., 2019; Miyoba et al., 2018) with risks increasing after hospitalization (Haile et al., 2015). It is difficult to know the extent of the problem in Africa as nutritional screening is not routinely performed (Blaauw et al., 2019). A study done to assess nutritional risk and associated factors on adult inpatients in Zambia found that 59.7% of the patients were at risk for malnutrition (Miyoba et al., 2018). In a study done on three public hospitals in South Africa by Tonder et al (2017), it was reported that 72.3% of patients were risk for malnutrition. The same study showed that 45.4% of the patients were malnourished (Van Tonder et al., 2019). Another multi-country (South Africa, Kenya & Ghana), multi-center cohort study Blaauw et al (2019) also reported that nearly two-thirds of patients who participated in the study were found to be at risk of malnutrition (Blaauw et al., 2019). In Ethiopia not much has been done to measure the prevalence of hospital malnutrition although one study done in Amhara Regional State Referral Hospitals found the prevalence of malnutrition among adult hospitalized patients to be 55.6% (Haile et al., 2015).

The assessment results show that almost half of the male and female patients attending the medical ward are malnourished based on their MUAC measurements alone. In order to address this problem from the start, it would be recommended that a routine anthropometric assessment be done on all patients when they are admitted to the ward and follow up anthropometric measurements should be done routinely for as long as the patients are admitted in the hospital. We recommend that a broader research be done with a larger sample size and longer time frame in order to get a better understanding of the problem and devise solutions to reduce the risk of malnutrition in adult hospitalized patients.

2.4 Ward assessment/evaluation

Internal medicine ward

The total number of beds in the ward is 42 and there are responsible nurses assigned for each room containing 6 beds with every shift. The patients here are admitted with respiratory, cardiac or hematologic disorders and different types of malignancies. The physicians following the patients are medical interns and residents. All the health professionals do their work in collaboration and I had witnessed a good working relationship between them. The nurses or the physicians occasionally refer patients to the clinical nutrition department when they think the patient has poor intake, looks physically wasted or have significant biochemical abnormalities. But no one does actual nutritional assessment before consulting dietitian/ nutritionist. At first it was not easy to introduce ourselves and work as a dietitian since the physicians randomly give diet orders and no one thinks there is additional work with diet. But from day to day with communicating with them all, I have tried to convince and take patients with need of nutritional support and work with them. As time goes, most of the health professionals were not involving in nutrition related care except consulting the clinical nutrition department at the hospital and I cannot pass this without appreciation.

Surgery ward

The total number of beds in the surgery ward is 83 including septic rooms, general surgery, urology and pediatrics. Here also there are responsible nurses assigned for each room containing with every shift. The patients here are admitted with different surgical diagnosis such as Intestinal obstruction, Appendicitis, Pancreatitis, BPH and different malignancies as both emergency and elective cases.

The physicians following the patients are medical interns and residents. All the health professionals do their work in collaboration as in the medical ward. In the surgery ward there is no much awareness about the existence of the clinical nutrition department and referring to them. But after we communicated and working with them it was the ward with very committed staff in following/updating diet orders and collaborating in different works with us. As in the internal medicine ward, there is no experience of doing nutritional/anthropometric assessment for patients.

Pediatrics ward

The work of the pediatric ward in general was measuring baseline assessment for all admitted patients and trying to develop standard menus based on age and nutrient requirements. And for this, the department had interest in establishing in-ward kitchen for only pediatric ward and requested us to participate. We, as a team developed a proposal about what we needed and how we were planning to intervene until the hospital placement was discontinued due to COVID-19. The assessment result and the proposal summary are included in the other report document.

2.5 Menu designing and food demonstration

There are different menu options prepared for patients to address their specific needs and given to them on discharge or while in hospital when families are able to provide. Specific medical conditions that were addressed included high protein diet for those having malnutrition and delayed wound healing, renal diseases, Anemia and those who are on tube feeding.

The menu options that were demonstrated for NG tube feeding and given to the hospital kitchen as a standard were gruel and supplementary juices. Here are some examples listed to understand how it was being done and given to the hospital kitchen and for care givers.

Menu given to the kitchen

Table 3 Gruel preparation guide

Gruel with milk

Ingredients	Amount	Energy (kcal)	Protein (g)	Fat (g)	Carb (g)
Gruel flour	120g (8tbs)	453.65	13.3	1.6	85.2
Milk	500ml (2cups)	247.4	17.3	8.1	24.9
Sugar	45g (3tbs)	182.5	-	-	44.9
Oil	15g (tbs)	132.4	-	15.0	-
Water	500ml (2cups)	-	-	-	-
Total	**1000ml**	**1015.95**	**30.6**	**24.7**	**155.0**

(1kg gruel/barley flour for 8lit of fluid)

If whole is prepared with milk it will add **247.4kcal** energy and **17.3g** of protein. Therefore, the total energy and protein will be **1263.35kcal** and **47.9g**

Table 4 Soup preparation for NGT

Soup (Demonstrated for NG-tube)

Ingredients	Amount	Energy (kcal)	Protein (g)	Fat (g)	Carb. (g)
Onion	60g	16.8	0.8	0.2	2.9
Oil	30g	264.8	-	29.9	0
Meat (chicken breast)	100g	101.8	23.5	0.7	0
Carrot	50g	12.9	0.5	0.1	2.4
Potato	50g	34.3	1.0	0.1	7.1
Spinach	40g	7.0	1.0	0.1	0.2
Macaroni (raw)	50g	185.5	6.5		37
Garlic (Optional)	10g	14.2	0.6	-	2.8
Salt	2g	-	-	-	0
Water	500ml	-	-	-	0
Total	**614g (~2 ½ cup)**	**637.3**	**33.9**	**31.1**	**52.4**

The other menu demonstrated for NG tube as well as oral intake is prepared to families who can afford and are willing to provide for patients. This helps the patients get higher quality and adequate amount of feeding since the hospital cannot provide their whole needs.

Also some menus are given without demonstration when they are not being fed with NG tube. Among those recipes are,

Table 5 Supplementary juice for NGT

Ingredients	Amount	Energy (kcal)	Protein (g)	Fat (g)	Carb. (g)
Milk	250ml (1 glass)	90.2	8.8	0.3	12.5
Oat flakes	60g (4tbs/2 coffee cups)	222.0	7.5	4.2	38.0
Peanut butter	30g (1tbs)	179.3	7.8	15.0	3.7
Dates	30g (5pcs without seed)	85.6	0.6	0.2	19.8
Total	**260ml**	**577.1**	**24.7 (17%)**	**19.7 (30%)**	**74 52%)**

Table 6 Supplementary juice for oral intake

Ingredients	Amount	Energy (kcal)	Protein (g)	Fat (g)	Carb. (g)
Milk	250ml (1 glass)	90.2	8.8	0.3	12.5
Oat flakes	60g (4tbs/2 coffee cups)	222.0	7.5	4.2	38.0
Peanut butter	30g (1tbs)	179.3	7.8	15.0	3.7
Dates	30g (5pcs without seed)	85.6	0.6	0.2	19.8
Banana	100g (1pcs)	95.1	1.1	0.2	21.4
Total	**300ml**	**672.3**	**25.9(16%)**	**19.8(26.8%)**	**95.4(58%)**

The menu given for patients and families on discharge or while in hospital are prepared in Amharic and tried to make them easily understandable for all as much as possible (including pictures and diagrams as needed). The entire menu were discussed for clarity, feasibility and affordability and corrected accordingly before given to them.

2.6 Health education

Giving nutritional education to breastfeeding mothers (Michu clinic)

The outpatient clinic for postnatal follow up of mothers contacted the clinical nutrition department requesting that we give nutritional education to mothers coming to the clinic for at least thirty minutes twice a week. Asper their request, we gave some sessions on the topic of breastfeeding aided by printed pictures and a power point presentation. Questions were raised by mothers, mainly on breastfeeding positioning and what to eat while breastfeeding. We had planned to give additional nutritional education on other topics but couldn't since we stopped our work because of COVID-19.

Health education materials

In addition to the materials mentioned in the above health education program I had also prepared other brochures providing information for different groups of people. They focused on

- General healthy eating guide
- Healthy eating for hypertensive patients (DASH diet)
- Healthy eating for children and
- Breast feeding.

All of these are prepared in Amharic language and revised by our supervisor. None of them were yet published but used for some patients as simple take home messages. Samples are attached in the annex section.

2.7 Challenges faced and how I tried to tackle

In doing the above activities day to day, I also have faced challenges from the staffs at different departments and sometimes from the patients too. I will try to present some core points about the challenges and the solutions I have tried to solve below.

1. Communication between departments on the health care issues regarding patients
   - Diet orders were not properly sent to the kitchen from the ward. I got this complaint from the kitchen staff while on exploring the reasons why the ordered diets are not being provided to patients.

Therefore, I started attaching a diet order sheet in each chart and notify the nurses and physicians following the specific patient. Additionally, I started posting new diet orders on notice board of the case team office. Then things started to get improved and there weregood progresses.

2. Readiness to provide special meals (from the kitchen)
   - Kitchen staff did not provide ordered meals or ordered amounts. This complaint was coming from almost all of the patients from the first day and I have witnessed that it is true.

I have repeatedly discussed with the concerned staff members alone or with other colleagues in formal and informal meetings. This problem is not solved and it was an issue until the end and the administrative staffs also were involved in correcting this. Until then, some orders were given to families who can afford to provide.

3. Patient compliance with dietary order
   - Some patients do not take the ordered amounts even when provided. They give different reasons as in “we already have from home” or “we didn’t finish the previous one yet etc…”. Related to this, when a supervisor comes from the kitchen and gets this reasons, they will stop providing with a reason of waste management.

For this, I gave advices to patients and discussed how we are ordering the adequate amount and the need to use that. There were changes seen though unsatisfactory.

2.8 Lessons learnt and experiences gained

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. I have also seen that we need to educate health professional on our work as dieticians as most of them are not familiar with our work scope.

I have understood that as dieticians we can have a great impact on restoring a patient’s health as food is one important part of daily living especially in patients admitted to hospitals as they have higher requirements of energy and nutrients as compared to that of a healthy individual.

2.9 Working from home (hypothetical cases)

During the time we discontinued our internship, we tried to practice our job with hypothetical cases which were given by our instructor. We did this until the past academic year was done. By this time I was able to do and present 3 cases via ZOOM®. The hypothetical cases focused on

- Weight gain
- Irritable bowel syndrome and
- Renal disease (renal failure)

Doing this helped us to continue our practice and not to be far from what we had to achieve.

An example of a case study done online is attached as follows

Case Study: Young female with malnutrition

Female 24 years old Referral from other professional for weight gain

Past Med Hx:

Diagnosed with H.Pylori and treated successfully 3 years ago, with Triple Rx, checked again and was free of HP. Continued to have discomfort/ nausea but was eating better after the Rx than before. Student and usually stressed with studies and exam, continued to lose wt (was 45kg – 43 after HPRx). Wt loss got worse in the last year, and continued even after stopping studies. Further GI s/s with bloating and distenstion, obstruction was suspected but was passing stools and gas regularlyDrs Investigation with US/ and CT did not support this..Colonoscopy indicated inflammation, was given prednisolone for 1 month which improved s/s and gained some weight. But prob continued again

Now has small freq meals, but also has freq stools, which may be hard, loose or water. May pass stools from 3/d to 6/d not bulky, yellowish but not foul smelling.

May exclude/include some foods depending on stool consistency.

Meals are about 6/d small (small bowl) and only avoids fresh milk (bloating), chilli powder, and takes limited sugar because this and honey including some fruits cause diarrhoea. Had taken ensure at some point, but stopped when diarrhea started. Takes atmit daily (mixed cereal but no milk). Yoghurts can be taken and has not problem

Has leg oedema now (2 months), and had restarted one serving of Ensure again per day.

Current weight is 30kg, and MUAC is 12.7cm, and height 160cm (reported).

Investigations on Hgb, iron, Alb were all reportedly normal.

Questions- What you would advice to the client and why

- A menu
- Additional information you would like to know

Dietetic Assessment and Advice sheet

Date	Name	Age	Sex	Date of admission	Address
2/4/20	Patient Z	24	F	31/3/20	-

MRN	xxxxxx	Reason for referral	For weight gain	Physical parameters on admission	Wt.	30kg
Bed No.	-				Ht.	160cm
					BMI	11.71
		Route of feeding	Oral		WC	-
Referred from	Other health professional				MUAC	12.7cm
				Other		

V/S	BP	PR	RR	T°	SPO₂	Pain
	-	-	-	-	-	-

Medical diagnosis	? IBS	
Past medical history	H.pylori infection (treated 3 years ago)	
Allergy History	Milk, sugar, honey and some fruits causes diarrhea	
Alcohol/Chat/ Tobacco	No intake history	
Physical activity history	Currently limited, do self care but get tired easily	
Relevant investigation details	Hgb- normal	U/S & CT- revealed no problem
	Iron- normal	Colonoscopy- inflammation
	Alb- normal	
Medications	Predinsolone for 01 month	
Client's main concern	Bloating/ distention/ discomfort, nausea, vomiting, Weight loss- 2kg in 2yrs and 13kg in the past year Leg edema for 2 months	

Nutrition intake (Past 24 hrs) / Fluid

Time	Description	Amount
Remark		

Assessment

Nutritional status	Energy requirement	Protein requirement	Fluid requirement
malnourished	1050kcal/day (current)	33g/day (current)	1050ml/day (current)
Nutritional diagnosis	Severly undernourished		
Remark (estimates)	Energy and protein requirement should be calculated for target weight not current weight since patient wants to gain weight		

Advice given	• Try to eat refined grains and legumes (without bran) • Chew foods well before swallowing, take time while eating • Finely chop vegetables and puree possible foods such as soups • Use a regular meal schedule (keep time) • Avoid late night eating (eat your dinner 2-3hrs before bed) • Drink plenty of fluids (6-8 cups of water) in addition to the other drinks you might take; but

	minimize or avoid intake of caffeine (coffee & tea), alcohol and fizzy drinks such as soft and carbonated drinks • Avoid high fat foods such as deep fried foods • Avoid excessive sugar intake (take < 5tsp) • Limit spices in your food • Peel and deseed vegetables when possible (e.g tomato, cucumber, zucchini etc) • Train your body with regular time for bowel evacuation • Try to do simple exercises at home such as body stretching and relaxation to cope with stresses easy fatigability

Socio demographic status

Social/ Cultural/ Religious circumstances	Lives with parents
Skills/ Educations/ Motivation	She is a student
Environment/ Facilities	Her mom cooks for her

Food diary record

Meal	Description	Frequency (per week)	Amount (best estimate)	Estimated calorie	Estimated protein
Most frequent breakfast	Scrambled egg with Injera	3×	2 eggs, 1pcs (kurt) Injera	442.7 kcal	21.4g
Most frequent snack	Yoghurt, Ensure, Tortilla (qita)	3× or more	1 cup (125ml) , 1 serving, 1 pcs (g)	115.3, 350, 235.4 kcal	8.5, 1.3, 7.1g
Most frequent lunch	Pasta with meat sauce (fried fish)	3×	Pasta (200g), fried fish 100g	316g, 115.8 kcal	11.6, 16.2g
Most frequent dinner	Soup made of carrot, potato, chicken, lentil, oil	3× or more	1 small bowl (50g carrot, 50g potato, 50g chicken, 50g lentil, 15 g oil)	257.1 kcal	14.4g
Total energy & protein	Amounts are not mentioned therefore it is calculated with estimations			1832.3 kcal	80.5 g
Fluid intake	Water, Atmit, Soup, Yoghurt	3× or more	3 cups water, 1 small bowl soup, 1 cup atmit & yoghurt		
Total fluid	~ 1,125ml				
Evaluation Note	Client is taking more than the current requirement which is right to gain weight. Also protein intake is high. The next menu will try to include different food groups with adequate energy and protein supply. The menu and the advices include all the strategies to gain weight in a healthy way therefore its good to follow. The strategies considered are; Energy dense food, regular meals daily, extra snacks, juices and milk products and exercising.				

Nutritional intake history

Nutritional Intake (General evaluation)	She is taking 6 small frequent meals a day (1 portion equals to a small bowl) Takes atmit everyday (amount and consistency is not mentioned) Takes yoghurt sometimes (feels ok) Takes 1 serving of ensure everyday No intake of fresh milk, chili powder, honey and some fruits and sugar intake is limited since these causes diarrhea
Most preferred food?	Fresh chilli
Appetite loss?	No appetite loss but has discomfort and diarrhea after eating
Intake amount changed? (how,why etc)	
Bowel movement/ Urine output	Has frequent stool 3-6 x daily (hard, loose or watery), stool is yellowish, not bulky and not foul smelling

Suggested Menu

Breakfast options

No.	Food	Ingredients	Amount	Energy (kcal)	Protein (g)
1.	Scrambled egg and cucumber salad with bread or tortilla	• Eggs	100g (2pcs)	139.0	11.6
		• Oil	1tsp	44.2	0.0
		• Cucumber	25g (2 tbsp peeled &finely chopped)	3.0	0.2
		• Tomato	25g (2 tbsp peeled &finely chopped)	4.4	0.2
		• Onion	10g (1 tbsp finely chopped)	2.8	0.1
		• Red Pepper (chilli)	10g (1 tsp finely chopped)	3.7	0.1
		• Oil	1tsp	44.2	0.0
		• Tortilla / bread bun	100g (1pcs)	253.3	7.4
	Total	-	-	**494.60**	**19.6**
2.	Meat sandwich (roll) and cucumber salad	• Minced meat (chicken)	50g (1/2 coffee cup finely chopped)	50.9	11.8
		• Onion	10g (1 tbsp finely chopped)	2.8	0.1
		• Oil	1tsp	44.2	0.0
		• Cucumber	25g (1 tbsp peeled &finely chopped)	3.0	0.2
		• Tomato	25g (1 tbsp peeled &finely chopped)	4.4	0.2
		• Onion	10g (1 tbsp finely chopped)	2.8	0.1
		• Oil	1tsp	44.2	0.0
		• Tortilla/bread	100g (1pcs)	253.3	7.4
	Total	-	-	**405.6**	**19.8**
3.	Vegetable sandwich (roll)	• Carrot	50g (1 medium)	12.9	0.5
		• Beets	50g (1/2)	20.9	0.8
		• Spinach/kosta	30g (3pcs/ leafs)	5.2	0.8

		• Oil	1tbsp	88.4	0.0
		• Onion	10g (1tbsp finely chopped)	2.8	0.1
		• Tortilla	100g (1pcs)	253.3	7.4
	Total	-	-	**383.5**	**9.6**
4.	Potato sandwich (mashed potato roll)	• Potato (boiled and peeled)	50g (1/2 small)	34.3	1.0
		• Onion	10g (1tbsp finely chopped)	2.8	0.1
		• Oil	1tbsp	88.4	0.0
		• Tortilla	100g (1pcs)	253.3	7.4
	Total	-		**378.8**	**8.5**
5.	Oat porridge with raisins	• Oat flakes	60g (2 coffee cups)	222.0	7.5
		• Oil	1tsp	44.2	0.0
		• Raisins	20g (2tbsp)	59.6	0.5
	Total	-	-	**325.8**	**8.0**
6.	Pancake	• Wheat flour	30g (2tbsp)	97.7	2.9
		• Egg	2pcs	154.4	12.9
		• Sugar	1tbsp (15gm)	60.8	0.0
		• Oil	1tsp	44.2	0.0
		• Water /Yoghurt (optional)	100ml	-	-
	Total	-	-	**357.1**	**15.8**
7.	Enjera firfir	• Enjera	120g (1kurt)	199.2	5.88
		• Oil	1tbsp	44.2	0.0
		• Onion	20g	5.6	0.2
		• Tomato	50g (1/2 small)	8.7	0.5
		• Tumeric	1tsp	-	-
		• Pepper (chilli)	10g (1 tbsp finely chopped)	3.7	0.1
	Total	-	-	**257.7**	**6.68**
8.	Chechebsa and yoghurt	• Tortilla (soft)	75g (5tbsp)	176.6	5.3
		• Butter	1tbsp	111.2	0.1
		• Pepper (berbere)	1tsp	3.73	0.02
		• Yoghurt	125ml (1/2 glass)	57.7	4.3
	Total	-	-	**349.23**	**9.72**

Snack options

No.	**Food**	**Ingredients**	**Amount**	**Energy (Kcal)**	**Protein (g)**
1.	Smoothies	• Yoghurt	125ml (1/2 glass)	57.7	4.3
		• Papaya/avocado/banana/Strawberry	100g (one of them)	12.9	0.5
		• Dates	24g (4pcs)	71.3	0.5
		• Water	125ml (1/2 glass)	-	-
		• Ground flax seed (only with banana smoothie)	1tbsp (1tbsp)	optional	optional
		• Oat flakes	1tbsp (15g)	55.5	1.9
	Total	-	-	**197.4**	**7.2**
2.	Yoghurt with tortilla	• Yoghurt	250ml (1 glass)	115.4	8.6
		• Tortilla	50g (1/2)	126.65	3.7
	Total	-	-	**242.05**	**12.3**

3.	Tortilla with avocado and cucumber salad	• Tortilla	100g (1pcs)	253.3	7.4
		• Avocado	50g (1/4)	108.6	0.9
		• Cucumber (peeled & finely chopped)	75g ()	9.1	0.5
		• Lettuce	30g (3pcs/ leaf)	3.5	0.4
		• Tomato	70g (1/2 small)	12.2	0.7
		• Cheese (cottage)	20g(2tbsp)	20.5	2.5
		• Red pepper/chili	10g (1tbsp)	3.7	0.1
		• Onion	10g (1tbsp)	2.8	0.1
		• Oil	1tsp	44.2	0.0
	Total	-	-	**457.9**	**12.6**
4.	Boiled sweet potatoes	• Boiled sweet potatoes	150g (1pcs)	167.1	2.4
5.	Mashed sweet potatoes with tortilla	• Boiled sweet potato	100g (1 small pcs)	111.4	1.6
		• Tortilla	100g (1pcs)	253.3	7.4
	Total	-	-	**364.7**	**9.0**
6.	Egg salad	• Boiled egg	50g (1pcs)	74.3	6.2
		• Spinach	20g (2pcs/leaf)	3.5	0.5
		• Carrot (shredded)	25g (1/2 medium)	6.5	0.2
		• Potato	25g (1/2 medium/1small)	17.1	0.5
		• Onion	10g (1tbsp)	2.8	0.1
		• Pepper	10g (1tbsp)	3.7	0.1
		• Oil	1tsp	44.2	0.0
	Total	-	-	**152.1**	**16.6**
7.	Fruit mix	• Avocado/Payaya/Banana/Appl e			
8.	Atmit	• Barley flour	20g (1tbsp + 1tsp)	67.9	1.9
		• Oil	5g (1tsp)	44.2	0.0
		• Ground flaxseed	10g (2tsp)	53.0	1.83
		• Sugar	15g (1tbsp)	60.8	0.0
		• Water	125ml (1glass)	-	-
	Total	-	-	**225.9**	**3.73**
9.	Ensure	• Ensure powder	1 serving	350	13
		• Water			
	Total	-	-	**350**	**13**

Lunch and dinner options

No.	Food	Ingredients	Amount	Energy (Kcal)	Protein (g)
1.	Fried fish with mixed vegetable	• Fish fillet	100g (2medium pcs)	115.8	16.2
		• Oil	1tbsp (for frying)	132.5	0.0
		• Onion	15g (1tbs)	4.2	0.2
		• Beets	50g (1small/ ½ medium)	20.9	0.8
		• Carrot	50g (1medium)	12.9	0.5
		• Oil	1tsp	132.5	0.0
	Total	-	-	**418.8**	**17.7**

2.	Fried chicken with cucumber salad	• Chicken (breast)	100g (1/2)	101.8	23.5
		• Oil	1tbsp (for frying)	132.5	0.0
		• Cucumber (peeled & finely chopped)	75g (1 coffee cup)	9.1	0.5
		• Tomato (peeled & finely chopped)	50g (1/2 small)	8.7	0.5
		• Pepper	10g (1tbsp)	3.7	0.1
		• Onion	10g (1tbsp)	2.8	0.1
		• Oil	1tsp	44.2	0.0
	Total	-	-	**302.8**	**24.7**
3.	Pasta with vegetable and meat sauce	• Spaghetti	200g (1 small bowl)	314.0	11.6
		• Onion	30g (1 small/1/2 medium)	8.4	0.4
		• Tomato	50g (1/2 medium)	8.7	0.5
		• Oil	1tbsp	132.5	0.0
		• Carrot (shredded)	50g (1medium)	12.9	0.5
		• Minced beef	50g (1/2 coffee cup)	56.8	10.7
	Total	-	-	**533.3**	**23.7**
4.	Rice with fried chicken and vegetables	• Rice (boiled)	200g (1 small bowl)	185.9	4.1
		• Chicken	100g (1/2 breast)	101.8	23.5
		• Oil	1tbsp (for frying)	132.5	0.0
		• Onion	25g (1 small)	7.0	0.3
		• Carrot	50g (1medium)	12.9	0.5
		• Potato	50g (1/2 medium)	34.3	1.0
		• Zucchini (peeled & finely chopped)	50g	8.5	0.5
	Total	-	-	**482.9**	**29.9**
5.	Enjera with shiro wot and lettuce salad	• Enjera	120g (1pcs)	199.2	5.88
		• Shiro wot	3tbsp	50.4	2.04
		• Lettuce	20g (2pcs)	2.3	0.3
		• Onion	10g (1tbsp)	2.8	0.1
		• Pepper	10g (1tbsp)	3.7	0.1
		• Tomato	50g (1/2 medium)	8.7	0.5
		• Cheese (cottage)	20g (2tbsp)	20.5	2.5
	Total	-	-	**287.6**	**11.32**
6.	Enjera firfir with meat and boiled egg + bread bun	• Enjera	120 g (1pcs)	199.2	5.88
		• Onion	20g (2tbsp)	5.6	0.2
		• Oil	15g (1tbsp)	132.5	0.0
		• Tomato	50g (1/2 medium)	8.7	0.5
		• Pepper (berebere)	10g (2tsp)	9.33	0.2
		• Meat (minced beef)	50g (1/2 coffee cup)	56.8	10.7
		• Boiled egg	50g (1pcs)	74.3	6.2
		• Bread bun	100g (1pcs)	253.3	7.4
	Total	-	-	**739.73**	**31.08**
7.	Vegetable soup with bread bun or tortilla	• Onion	30g (3tbsp)	8.4	0.4
		• Oil	15g (1tbsp)	132.5	0.0
		• Carrot	50g (1 medium)	12.9	0.5
		• Potato	50g (1/2 medium)	34.3	1.0
		• Spinach/kosta	20g (2pcs/leaf)	3.5	0.5
		• Split lentil	15g (1tbsp)	8.7	0.3

		• Zucchini (peeled & finely chopped)	50g (1/2 coffee cup)	8.5	0.5
	Total	-	-	**208.8**	**3.2**
8.	Chicken soup	• Onion	30g (3tbsp)	8.4	0.4
		• Oil	15g (1tbsp)	132.5	0.0
		• Carrot	50g (1medium)	12.9	0.5
		• Potato	50g (1/2 medium)	34.3	1.0
		• Chicken (finely chopped)	100g (1 coffee cup full)	101.8	23.5
	Total	-	-	**289.9**	**25.4**
9.	Enjera with tibs (chicken or beef)	• Enjera	120g (1pcs)	199.2	5.88
		• Onion	20g (2tbsp)	5.6	0.3
		• Oil	15g (1tbsp)	132.5	0.0
		• Tomato	50g (1/2 medium)	8.7	0.5
		• Chicken / beef (finely chopped)	100g (1 coffee cup full)	101.8	23.5
		• Pepper	10g (1 tbsp)	3.7	0.1
	Total	-	-	**451.5**	**30.28**

2.10 Case scenario

This is a 63YO female patient on her 3rd day of admission at medical ward with a diagnosis of exacerbation of Asthma for the past one week. She lives in AA, gullele area with her children. She was on treatment for Asthma for the past 7 years. Currently, she has a medical diagnosis of exacerbated Asthma and severe community acquired pneumonia. She has no history of other medical or surgical diseases. She has no known history of allergy. She has no history of alcohol, chat or tobacco use. Currently she is on Ceftriaxone 1g IV TID, Vancomycin 1g IV BID, Predinsolone 40mg PO/d and $O_2$11L (with face mask).

A ward nurse gave me a verbal referral to do a nutritional assessment and advice to the patient because she has a poor intake of food.

By the time nutritional assessment was done for her on 9/12/19. She and her family said she had a good intake of food before she got sick in the past week. She used to prefer to eat meat raw or cooked every time she could afford. But lately, due to her exacerbated condition and shortness of breath, her nutritional intake is getting poor. In the past 24hrs, she took soft porridge (3Tbs) and packed juice (1/2 glass) only, with maximum intake of 5tbs and only three times a day. The client's main concern was a feeling of discomfort related to the increasing abdominal distention and no passage of stool and gas for almost a week. Additionally the shortness of breath and the face mask for oxygen is interrupting her appetite and feeding even though she wants.

Physical parameters

Wt- Ht- MUAC- 15cm (low/ underweight)

Vital signs

BP- 110/70mmHg (normal) PR- 164' (very fast) RR- 58'(very fast) T°- 35.8°C (normal)
SPO_2- 89wz O_2(oxygen dependent) Pain- 6/10 (high)

N.B From these all derangements in vital signs, it can be said that the patient has a certain active infection other than the asthma she has been admitted for.

After nutritional assessment was done, I had to discuss with physicians following her in order to know and settle the case of her abdominal distention which was client's main concern and cause of discomfort by the time. I found the physician and asked the plan after telling my concern. Then he told me he will consider and keep her NPO, insert NG tube for decompression and consult surgical side to R/O bowel obstruction.

The next day the patient transferred to ICU and Ex- Lap (Exploratory Laparatomy) was done for her after one day but her prognosis went bad and she died after minutes of the procedure on 03/04/12 E.C. and the cause of death was reported to be refractory shock with multiple organ failure.

2.11Case presentation

Introduction

Acute kidney injury is a disorder explained by abrupt deterioration of normal kidney functions. (*Manual of Dietetic Practice*, n.d.) This deterioration of function can be explained by decreased GFR, accumulation of nitrogenous waste and potassium, fluid retention with without decreased urine output. (Guyton & Hall, 2006; Kasper & Harrison, 2005; *Manual of Dietetic Practice*, n.d.) Kidney mainly filters the blood and forms urine so that it regulates the extracellular fluid volume, osmolarity, electrolyte concentrations, and acid based balance. It also excretes metabolic wastes (creatinine and urea) and drugs and toxins. Additionally the kidney secretes rennin which catalyzes angiotensin, a vasoconstrictor that helps in blood pressure control, erythropetin, that stimulates red blood cell production in the bone marrow and also activates vitamin D which has a major role in calcium regulation and bone formation.(*Sharon Rady Rolfes, Kathryn Pinna, Ellie Whitney - Understanding Normal and Clinical Nutrition, 8th Edition (2008, Brooks Cole).Pdf*, n.d.)Therefore a deterioration of normal kidney function can cause serious health issues to the body.

Causes of acute renal injury can mainly be classified into three;

- Decreased blood supply to the kidneys as a result of dehydration or acute reduction in BP after severe bleeding etc (prerenal)
- Abnormalities within the kidney itself (intrarenal)
- Obstruction of the urinary collecting system due to different reasons (post renal).

Glomerulo nephritis can cause acute renal injury as an intrarenal cause. It is usually caused by an abnormal immune reaction that damages the glomeruli usually after one to three weeks after an infection caused in any part of the body. An inflammation complex due to antigen antibody reaction causes the glomeruli to block or become excessively permeable allowing protein and RBC to leak from the blood of the glomerular capillaries into the glomerular filtrate. In severe cases, either total renal shutdown occurs (which occurs in this very patient). This acute inflammation subsides in about two weeks and in most patients the kidney function goes back to almost normal in months time. But sometimes it will lead to chronic renal failure.(Guyton & Hall, 2006)

In general the dietetic aim to AKI is to maintain nutritional status of a patient while limiting complications of the disease. AKI has no effect on the energy requirement of a patient. Protein requirement will be calculated with 1g/kg/day for patients not on dialysis and 1.2g/kg/day for patients on intermittent dialysis. Fluid and electrolyte intake should be calculated individually by a dietitian based on blood biochemistry and fluid status.

Some dietary restrictions might be needed until kidney functions return to normal and fluid loss should b replaced with adequate fluid intake. Once kidney functions returns to normal, any dietary restrictions can be lifted. (*Manual of Dietetic Practice*, n.d.)

Case presentation

This is a 40YO male patient admitted to medical ward with a diagnosis of nephritic syndrome and known type 1 DM on 31/1/20. He came from Horo Gudru Wollega, western Ethiopia. He lives with his elder sister and has a private business and farm of fruit (banana). He was diagnosed with DM before 12 years and was on Insulin medication of different doses since then and has a history of TB treatment 11 years back. Otherwise he has no history of other medical or surgical illnesses. He has no history of using alcohol, cigarette and chat. He has no history of known allergy. He has no physical activity history other than a normal routine to work.

Before he came to St. Paul's Hospital he was admitted to Shambu hospital with a compliant of generalized body swelling which started from leg and involved the whole body within four days. By the referral time he had,

BP- 130/80mmHg (normal)

PR-58/min (normal)

O_2- 95% with room air (normal)

HbA1C- 8.6% (elevated)

CREA- 2.3mg/dl (elevated)

BUN- 98.4mg/dl (elevated)

Hgb- 12.1mg/dl (normal)

U/A- prot +3

RBS- 102mg/dl (normal)

He was treated with Ceftriaxone 1g IV BID, Plasil 10mg IV PRN, Furosemide 20 mg IV TID, Atrovastatin 20 mg PO/day and RI 36/18 SC BID. Then he was referred for further investigation and treatment by endocrinologist and nephrologists.

By the time he came to St Paul, he had left flank pain, decreased urine output, reddish discoloration of urine, pain on urination, generalized body swelling, easy fatigability, dry intermittent cough, and high grade intermittent fever.

Investigations reveled bilateral pleural effusion (CXR), severe pulmonary hypertension (Echocardiography) and protein +2 and blood +2 on U/A, K^+ 5.5mmol/L, $PO4^-$-1.53mmol/L, CREA 3.51 mg/dl, UREA 207.6mg/dl, serum albumin 2.7g/dl, HbA1C 8.4% and Hgb 12.4g/dl. He started treatment with Lasix 40 mg IV TID, Amilodipine 10mg PO/d, Paracetamol 1gm PO PRN, Tramadol 50 mg IV TID, Ranithidine 50mg IV TID and salt free diet and bed rest with head elevated was recommended.

He was diagnosed with RPGN and started hemodialysis on 6/02/20 for three consecutive days then every three days for 3 cycles, one cycle 5days later and one cycle 2 days later.

In total he had 8 cycles of haemodyalisis. He had very minimal amount (<100ml) of urine output at the beginning and started to have increased amount of urine output (~1500ml without medication and upto 2000mml with furosemide) after his dialysis treatment.

The ward nurse gave us a verbal dietetic referral on 13/02/20 on his 5th cycle. Reason for referral was his renal disease and being on dialysis. He was feeding orally and his main concern was inability of finding foods and drinks (gruel) served without salt and sugar and yet taste good to eat and drink.

Anthropometric, body composition and functional assessments

Wt- 62 (from dialysis chart) Ht- not measured because scale was not available
MUAC- 24.5cm (normal)

He spends the day sleeping and lying down much as he feels easy fatigability but walks to toilet on need.

Biochemical assessments done are mentioned above and the last updated one was on 24/2/20 and revealed, CREA- 2.75mg/dl (0.5-1.2), UREA- 120.1mg/dl (10-45) and k+- 5.24mmol/L (3.5-4.8), Hgb 11.7mg/dl (14-18) after his 8 cycles of dialysis.

Clinical and physical assessment

He has generalized body swelling

Vital signs

BP- 150/100 (high) PR- 63/ min

RR- 22/min (normal) SPO_2- 93% with room air (normal)

Pain score- 2/10 (normal)

Medications

Predinsolone 60mg PO/d Cyclophosphamide 750mg IV

Cotrimoxazole 960mg PO/d Omeprazole 20 mg PO BID

NPH 30/15 (after each meal) Lasix 200 mg IV TID

Methylpredinsolone 500 mg PO/d

Dietary assessment

In general patient's food intake was getting decreased due to loss of appetite, disease conditions and even not knowing of what to eat that goes well with existing condition for past 2 months, otherwise he had good appetite and eats well anything available at home except bread, rice and pasta since his physician told him to avoid to help with a good control of the blood sugar level. He likes pumpkin wot and dislikes banana from fruits.

In the past 24 hrs he took Injera (1/2) with shiro wot for lunch, had no dinner, gruel 300ml as breakfast on the next day, Injera firfir 1/2 serving for lunch and approximately 500 ml of water. Estimated energy, protein and fluid from the 24 hr diet are given below.

Table 7 24-hr nutritional intake registry

Food item	Amount (approximate)	Protein (g)	Energy (Kcal)
Injera	1/2	9.8	338.0
Shiro wot	100g	3.4	84.0
Injera firfir	½ serving	10.4	600.0
Gruel (sugar free)	300ml	3.32	115.0 *according to hospital's standard preparation
Total	-	26.92	1,137

*calculated from Ethiopian food composition table and NutriSurvey

Fluid 300ml (gruel)+500ml (water)= 800ml

Energy requirement

35kcal×62kg= 2170kcal/d

Protein requirement

1.2×62kg= 74.4g/d

Assessment- inadequate energy and protein intake

Nutritional diagnosis- Anemic – (Biochemical)

Energy deprived (past and current food intake history)

Environmental, behavioral and social assessment

He lives with his younger sister who came with him to help in the hospital too. All the shopping and cooking is done by her. He is a merchant and owns fruit farm.

After the nutritional assessment was done, a diet order to meet his daily energy and protein requirement, and helps in control of abnormal biochemical tests (high potassium and low Hgb) was planned and given to the ward nurse.

After discussing with nurses we found it better to give daily orders than giving the whole week plan as his order is unique from the rest of patients and we use to copy a daily meal order one day before serving. The sample menu prepared for the whole week is attached below and also the food items with their respective nutrient supplement are listed.

ለ --------- -------- (1ኛ ምዕራብ) አልጋ ቁጥር- 2

የምግብ ትዕዛዝ ***(ቲማቲም፣ ጨው እና ስኳር በምንም ዓይነት ምግብ ውስጥ አይገባም)***

<u>ቁርስ</u>

ሰኞ፣ ረቡዕ እና አርብ፡- እንቁላል ፍርፍር በዳቦ

(2 እንቁላል፣ አነስተኛ ቀይ ሽንኩርት፣ 1 የሾርባ ማንኪያ ዘይት፣ ቃርያ)

ማክሰኞ፣ እና ቅዳሜ፡- እንጀራ ፍርፍር በተፈጨ ስጋ (በቀይ ወይም በአልጫ)- ስጎ ቲማቲም ያልገባበት

እና የተቀቀለ እንቁላል (ዘይት 2 የሾርባ ማንኪያ)

ሐሙስ እና እሁድ፡- ዳቦ በአትክልት (ቀይ ሽንኩርት፣ ነጭ ሽንኩርት፣ ካሮት እና ጥቅል ጎመን)-

(ዘይት 1 የሾርባ ማንኪያ)

<u>ምሳ</u>

ሰኞ፣ ረቡዕ እና አርብ፡- ጥቅል ጎመን በካሮት እና በተፈጨ ስጋ ከእንጀራ ወይም ከዳቦ ጋር

(ዘይት 1 የሾርባ ማንኪያ)

ማክሰኞ እና እሁድ፡- ምስር ክክ በተፈጨ ስጋ በእንጀራ (በአልጫ ወይም በቀይ)- (ዘይት 2 የሾርባ ማንኪያ)

ቅዳሜ እና ሐሙስ፡- ስጋ ወጥ በቀይ ወይም በአልጫ ከእንጀራ ጋር (ዘይት 2 የሾርባ ማንኪያ)

<u>እራት</u>

ሰኞ፣ ረቡዕ እና አርብ፡- ሩዝ በአትክልት እና በስጋ (ቀይ ሽንኩርት፣ ነጭ ሽንኩርት፣ ካሮት፣ ፎሶሊያ፣

የተፈጨ ስጋ)- (ዘይት 2 የሾርባ ማንኪያ)

ማክሰኞ እና ሃሙስ፡- የሃበሻ ጎመን በስጋ ከእንጀራ ጋር (ዘይት 1 የሾርባ ማንኪያ)

ቅዳሜ እና እሁድ፡- ሽሮ ወጥ በተፈጨ ስጋ ከተቀቀለ እንቁላል ጋር በእንጀራ (ዘይት 2 የሾርባ ማንኪያ)

በተጨማሪም፡-

- በየዕለቱ 1 ኩባያ አጥሚት በወተት (ስኳር የሌለው)

Kebron Senay (Intern dietitian)

Table 8 Foods ordered with their total nutrient supplement

Food item	Amount	Energy (Kcal)	Protein (g)	Potassium (mg)	Phosphorus (mg)	Iron (mg)
Scrambled egg with bread	2 eggs, 1tbs oil, 1 tbs chopped onion, 1tsp pepper, bread bun	323.9	15.8	214.5	268.5	2.7
Cabbage with carrot and minced meat200g	200g cabbage, 75g meat, 50g carrot, 50g onion, 1tbs oil, ½ injera	627.7	23.6	707.7	384.6	6.3
Rice with vegetable sauce and meat	200g cooked rice, 30g onion, 30g oil, 50g carrot, 100g green beans, 50g meat	636.7	18.2	664.8	396.4	5.0
Gruel with milk (without sugar)	1 cup gruel, 100ml milk	117.4	5.4	191.0	134.8	0.5
Daily total	-	1,705.7	58.0	1,778.0	1,184.3	14.5
Injera firfir with meat and boiled egg	1/2 Injera, 100g minced meat, 2tbs oil, 50g onion, 1 boiled egg	822.7	32.2	590.7	456.8	5.4
Lentil wot with minced meat and injera	100g onion, 50g lentil, 100g meat, 2tbs oil, 150g Injera	523.8	22.0	495.3	229.6	2.7
Kale with meat and Injera (hospital's standard)						
Gruel with milk (without sugar)	1 cup gruel, 100ml milk	117.4	5.4	191.0	134.8	0.5
Daily total						
Bread with mixed vegetables	Braed bun, 150g cabbage, 30g onion, 50g carrot, 15g oil	444.0	10.3	625.5	178.1	3.1
Meat wot with Injera	150g onion, 150g meat, 15g oil, 150g Injera	730.7	35.8	816.7	458.1	5.9
Shiro wot with minced meat + boiled egg and Injera	100g shiro wot, 75g meat, 1 boiled egg, 150g injera,	590.0	33.2	689.1	509.5	21.5
Gruel with milk (without sugar)	1 cup gruel, 100ml milk	117.4	5.4	191.0	134.8	0.5
Daily total	-	1,764.7	79.3	2,130.6	1,145.7	30.5

*calculated with Ethiopian food composition table and NutriSurvey.

* daily potassium allowance for renal patients on dialysis having elevated serum potassium level=1,950-2,730mg/d

*daily phosphorus allowance for renal patients on dialysis= 800-1000mg/d(*Manual of Dietetic Practice*, n.d.)*daily iron requirement of an adult male = 8mg/d(*Sharon Rady Rolfes, Kathryn Pinna, Ellie Whitney - Understanding Normal and Clinical Nutrition, 8th Edition (2008, Brooks Cole).Pdf*, n.d.)

Meal orders are sent for four days and meals started to be served without added salt so that the patient become comfortable and improved his food intake. His orders were not fulfilled in whole but partially served according to orders. Patient was happy with improvement and started to eat and drinks well. Since the kidney is recovered from the shut down and started to produce enough amount of urine, patient is ready to be discharged on 28/2/20 and written nutritional advice with contact numbers are given to the patient by hand and appointed after two weeks.

We have discussed with physician and the patient himself to contact us after finishing the medical follow up for possible additional advice and diet improvement based on the updated results. The written advice is attached below.

ለ ------- -------- **ቀን ፡ 18/06/12**

<u>የኩላሊት ህመም ላለባቸው የሚመከር አመጋገብ (በቤት ውስጥ ለመጠቀም)</u>

- የምግብ ፍላጎት ከቀነሰ ትንሽ ትንሽ ቶሎ ቶሎ ይመገቡ፡፡
- ውሃን በበቂ ሁኔታ ይጠጡ፡፡

(በቂ መጠንን ለማወቅ በቀን የሚሸኑትን ሽንት መጠን በመለካት ተመሳሳይ መጠን ውሃ እና በተጨማሪ 2 የውሃ ብርጭቆ ውሃ መጠጣት ይችላሉ)

- **እንደ ስጋ፣ እንቁላል እና ወተት የመሳሰሉ ምግቦችን በተቻለ መጠን በምግብ ውስጥ ይጨምሩ፡፡**
    - ስጋ በቀን 1 የመዳፍዎን መጠን ያህል በአንድ ጊዜ ወይም በተለያየ ምግብ ውስጥ ጨምረው መመገብ ይችላሉ
    - እንቁላል በሳምንት ውስጥ ለ 3 ቀናት ያህል (በ1 ጊዜ 2-3 እንቁላል) ተጠብሶ ወይም ተቀቅሎ ከዳቦ ወይም ከእንጀራ ጋር መመገብ ይችላሉ
    - እርጎ ወይም ወተት በቀን ውስጥ ግማሽ የውሃ ብርጭቆ መጠጣት ይችላሉ
- **አትክልቶችን መመገብ ሲፈልጉ**
    - እንደ ጥቅል ጎመን፣ ካሮት፣ የአበባ ጎመን ተመራጭ ናቸው
    - ድንች መመገብ ሲፈልጉ በመጀመርያ ደቀቅ አድርጎ መክተፍ እና በርከት ባለ ውሃ ውስጥ ዘፍዝፎ ማሳደር ከዚያም የተዘፈዘበትን ውሃ በመድፋት በሌላ በርከት ያለ ውሃ አገንፍሎ ውሃውን ደፍቶ በሚፈለገው መልክ አብስሎ መመገብ ይቻላል
        - ለመዘፍዘፍ ጊዜ ካላገኙ ውሃውን በርከት በማድረግ ከ2-3 ጊዜ ደጋግመው ካገነፈሉ በኋላ ውሃውን ደፍተው ማብሰል ይችላሉ
    - እንደ የሃበሻ ጎመን፣ ቆስጣ ያሉ አረንጓዴ አትክልቶችን መመገብ ሲፈልጉ በተመሳሳይ ዘፍዝፎ በማሳደርና በብዙ ውሃ በማገንፈል ከዚያ በኋላ በማብሰል መመገብ ይችላሉ
    - ዱባ እና አንጮቴን መመገብ ይችላሉ፡፡ (ጉዳት የለውም)
    - የቅጠል ሰላጣ በሚገባ መመገብ ይችላሉ፡፡ (አሰራር፡- ቅጠል ሰላጣ፣ ሽንኩርት፣ ቃርያ በማድረግ ይሰራ፡፡) ቲማቲም አይጨምሩበት ወይም ሩብ ብቻ፡፡
    - ቲማቲምን ማዘውተር አያስፈልግም፡፡ የግድ አስፈላጊ በሚሆንበት ጊዜ ሩብ ያህል ቲማቲም ብቻ ፍሬውን አውጥቶ መጠቀም ይቻላል፡፡
- ሩዝ ፣ ፓስታ ወይም መኮሮኒ መመገብ ቢፈልጉ ከአትክልት ጋር መመገብ ይችላሉ፡፡ በሳምንት 2-3 ቀን

- ገንፎ በሳምንት እስከ 2 ቀን ያህል እንደ ቁርስ አማራጭነት መጠቀም ይችላሉ፡፡ (የእህል ወይም የቡላ ወይም ቅልቅል)
- አጥሚት በየቀኑ 1 ኩባያ ብቻ መጠጣት ይችላሉ፡፡ (የእህል ወይም የቡላ ወይም ቅልቅል) ነገር ግን ገንፎ የተመገቡ እለት አጥሚት አይድገሙ፡፡
- **ፍራፍሬን መመገብ ሲፈልጉ**

- እንደ አናናስ፣ ፖም (አፕል)፣ ወይን፣ እንጆሪ፣ መንደሪን (ብርቱካን አይደለም- ብርቱካን ከሆነ ሩብ ብቻ)፣ ኮክ መመገብ ይችላሉ፡፡ የሚመገቡት መጠን አንዱን መርጠው በቀን 1 እጅ ያህል ነው፡፡

- የባቄላ/ የቦሎቄ ንፍሮ ወይም ቆሎ መመገብ ሲፈልጉ በሳምንት ከ 3 ቀን ያልበለጠ ጊዜ አንድ እጅ ያህል መመገብ ይችላሉ፡፡ ፈንዲሻ የሚወዱ ከሆነ ይችላሉ፡፡
- የአደንጓሬ ወጥ (ሎጂ) መመገብ ከፈለጉ በቅድሚ በብዙ ውሃ ተቀቅሎ ውሃው ከተደፋ በኋላ ቅርፊቱን ልጠው ያብስሉት፡፡ በሳምንት ከ 2 ጊዜ በላይ ኤመገቡት፡፡
- የለስላሳ መጠጦችን አይጠቀሙ፡፡

❖ በተጨማሪም የህክምና ክትትል ሲያደርጉ ሁል ጊዜ የፖታሲየም መጠንዎን ከሃኪምዎ መረዳት ያስፈልጋል፡፡ መጠኑ ከተገቢው ከፍ ወይም ዝቅ ካለ የምግብ ህክምና ባለሙያ ያማክሩ፡፡

Kebron Senay (Intern dietitian)

3. Annex

3.1 Forms

3.1.1Dietetic Assessment and Advice sheet

Date	Name	Age	Sex	Date of admission	Address

MRN		Reason for referral		Physical parameters on admission	Wt.		
Bed No.					Ht.		
		Route of feeding			BMI		
Referred from					WC		
					MUAC		
				Other			

V/S	BP		PR		RR		Tº		SPO_2		Pain	

Medical diagnosis		
Past medical history		
Allergy History		
Alcohol/Chat/ Tobacco		
Physical activity history		
Relevant investigation details		
Medications		
Client's main concern		

Nutrition intake (Past 24 hrs) / Fluid		
Time	Description	Amount
Remark		

Assessment			
Nutritional status	Energy requirement	Protein requirement	Fluid requirement
Remark			
Advice given			

Socio demographic status

Social/ Cultural/ Religious circumstances	
Skills/ Educations/ Motivation	
Environment/ Facilities	

Food diary record

Meal	Description	Frequency (per week)	Amount (best estimate)	Time	Remark (Estimated calorie)
Most frequent breakfast					
Most frequent snack					
Most frequent lunch					
Most frequent snack					
Most frequent dinner					
Evaluation note					

Nutrition intake history

Nutritional Intake (General evaluation)	
Most preferred food?	
Appetite loss?	
Intake amount changed? (how,why etc)	
Bowel movement/ Urine output	

Diet order sheet

Date	Patient Name	Bed no.	Type of diet (Specific)	Amount	Frequency (Per 24hr)	Daily calorie intake	Remark

Nutritional status Progress note

Date	Note

3.1.2 Daily Input/ Output monitoring sheet

Ward _____ Patient name _____ Bed No. _____

Date	Total Input		Output	Remark
	PO	IV		

3.1.3 Dietetic assessment and order sheet (In chart)

Date	Name	Age	Sex	MRN	Allergy history

Referred from		Reason for referral	

Wt.		Ht.		BMI		MUAC		Other	

Physical activity history		Alcohol/ Chat/ Tobacco	
Client's main concern		Relevant investigations	

Nutritional assessment			
Nutritional status	Energy requirement	Protein requirement	Fluid requirement

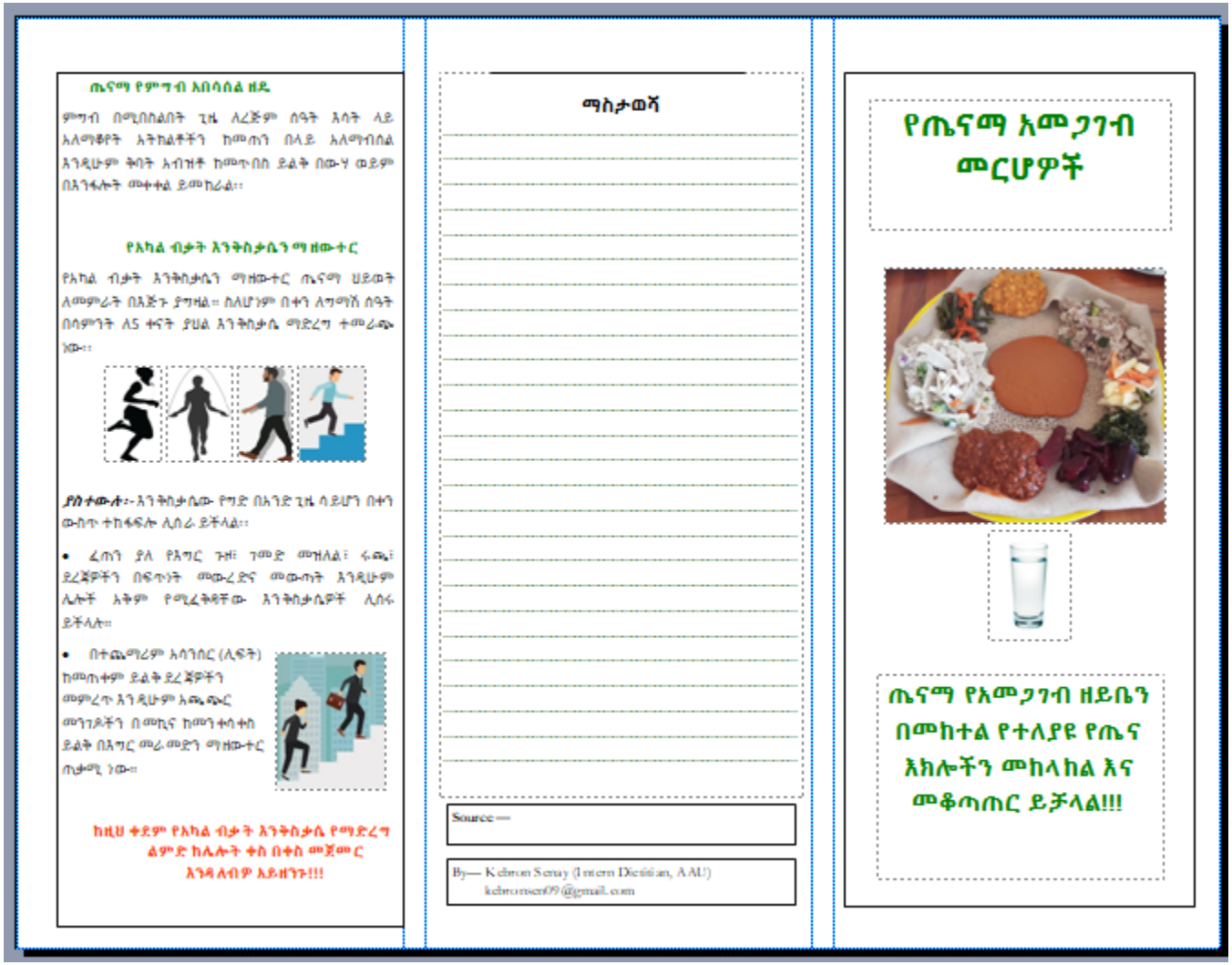
Diet order			
Type of diet (Specific)	Amount (per feeding)	Frequency (per 24hr)	Daily calorie intake (+ fluid)

3.1.4 ለሀመምተኛየሚሰጥምግብ / ፈሳሽመከታተያ

ቀን	የምግብ ዓይነት	ሰዓት እና መጠን												
		12:00	2:00	4:00	6:00	8:00	10:00	12:00	2:00	4:00	6:00	8:00	10:00	
	አጥሚት													የተሰጠው
	ቦምቤ													ምግብ
	ጭማቂ													ወይም
	ሌላ													
	አጥሚት													ፈሳሽ
	ቦምቤ													
	ጭማቂ													የቀረበው
	ሌላ													
	አጥሚት													ከቤት ከሆነ 1 ቁጥር
	ቦምቤ													ከሆስፒታል
	ጭማቂ													ከሆነ 2 ቁጥርን
	ሌላ													
	አጥሚት													መጠኑ
	ቦምቤ													ከተጠቀሰ በኋላ
	ጭማቂ													ይጻፉ
	ሌላ													
	አጥሚት													
	ቦምቤ													
	ጭማቂ													
	ሌላ													**ምሳሌ፡-**
	አጥሚት													
	ቦምቤ													**250/1**
	ጭማቂ													
	ሌላ													**250/2**
	አጥሚት													
	ቦምቤ													
	ጭማቂ													
	ሌላ													

3.2Samples of brochures I prepared during my internship

3.2.1Healthy eating



ጤናማ የምግብ አበሳሰል ዘዴ

ምግብ በሚበስልበት ጊዜ ለረጅም ሰዓት እሳት ላይ አለማቆየት አትክልቶችን ከመጠን በላይ አለማብሰል እንዲሁም ቅባት አብዝቶ ከመጥበስ ይልቅ በውሃ ወይም በእንፋሎት መቀቀል ይመከራል።

የአካል ብቃት እንቅስቃሴን ማዘውተር

የአካል ብቃት እንቅስቃሴን ማዘውተር ጤናማ ህይወት ለመምራት በእጅጉ ያግዛል። ስለሆነም በቀን ለግማሽ ሰዓት በሳምንት ለ5 ቀናት ያህል እንቅስቃሴ ማድረግ ተመራጭ ነው።

ያስተውሉ፡- እንቅስቃሴው የግድ በአንድ ጊዜ ሳይሆን በቀን ውስጥ ተከፋፍሎ ሊሰራ ይችላል።

- ፈጠን ያለ የእግር ጉዞ፣ ገመድ መዝለል፣ ሩጫ፣ ደረጃዎችን በፍጥነት መውረድና መውጣት እንዲሁም ሌሎች አቅም የሚፈትቧቸው እንቅስቃሴዎች ሊሰሩ ይችላሉ።
- በተጨማሪም አሳንሰር (ሊፍት) ከመጠቀም ይልቅ ደረጃዎችን መውረጥ እንዲሁም አጫጭር መንገዶችን በመኪና ከመጓዝ ይልቅ በእግር መሬ መድን ማዘውተር ጠቃሚ ነው።

ከዚህ ቀደም የአካል ብቃት እንቅስቃሴ የማድረግ ልምድ ከሌሎት ቀስ በቀስ መጀመር እንዳለብዎ አይዘንጉ!!!

ማስታወሻ

Source —

By— Kebron Seray (Intern Dietitian, AAU)
kebronseri09@gmail.com

የጤናማ አመጋገብ መርሆዎች

ጤናማ የአመጋገብ ዘይቤን በመከተል የተለያዩ የጤና እክሎችን መከላከል እና መቆጣጠር ይቻላል!!!

3.2.2 Healthy eating for hypertensive patients (DASH diet)

የአካል ብቃት እንቅስቃሴን ማዘውተር

የአካል ብቃት እንቅስቃሴን ማዘውተር ጤናማ ህይወት ለመምራት በእጅጉ ያግዛል። ስለሆነም በቀን ለማሻሽ ሰዓት በስምንት ለ5 ተናት ያህል እንቅስቃሴ ማድረግ ተመራጭ ነው።

ያስተውሉ፦ እንቅስቃሴው የግድ በአንድ ጊዜ ሳይሆን በቀን ውስጥ ተከፋፍሎ ሊሰራ ይችላል።

፦ ፈጠን ያለ የእግር ጉዞ፣ ገመድ መዝለል፣ ሩጫ፣ ደረጃዎችን በፍጥነት ወጭ-ረድና መውጣት እንዲሁም ሌሎች አቅም የሚፈቅቸው እንቅስቃሴዎች ሊሰሩ ይችላሉ።

፦ በተጨማሪም አሳንሰር (ሊፍት) ከማጥቀም ይልቅ ደረጃዎችን መምረጥ እንዲሁም አጫጭር መንገዶችን በመኪና ከመንቀሳቀስ ይልቅ በእግር መሬመድን ማዘውተር ጠቃሚ ነው።

ከዚህ ቀደም የአካል ብቃት እንቅስቃሴ የማድረግ ልምድ ከሌሎት ቀስ በቀስ መጀመር እንዳለብዎ አይዘንጉ!!!

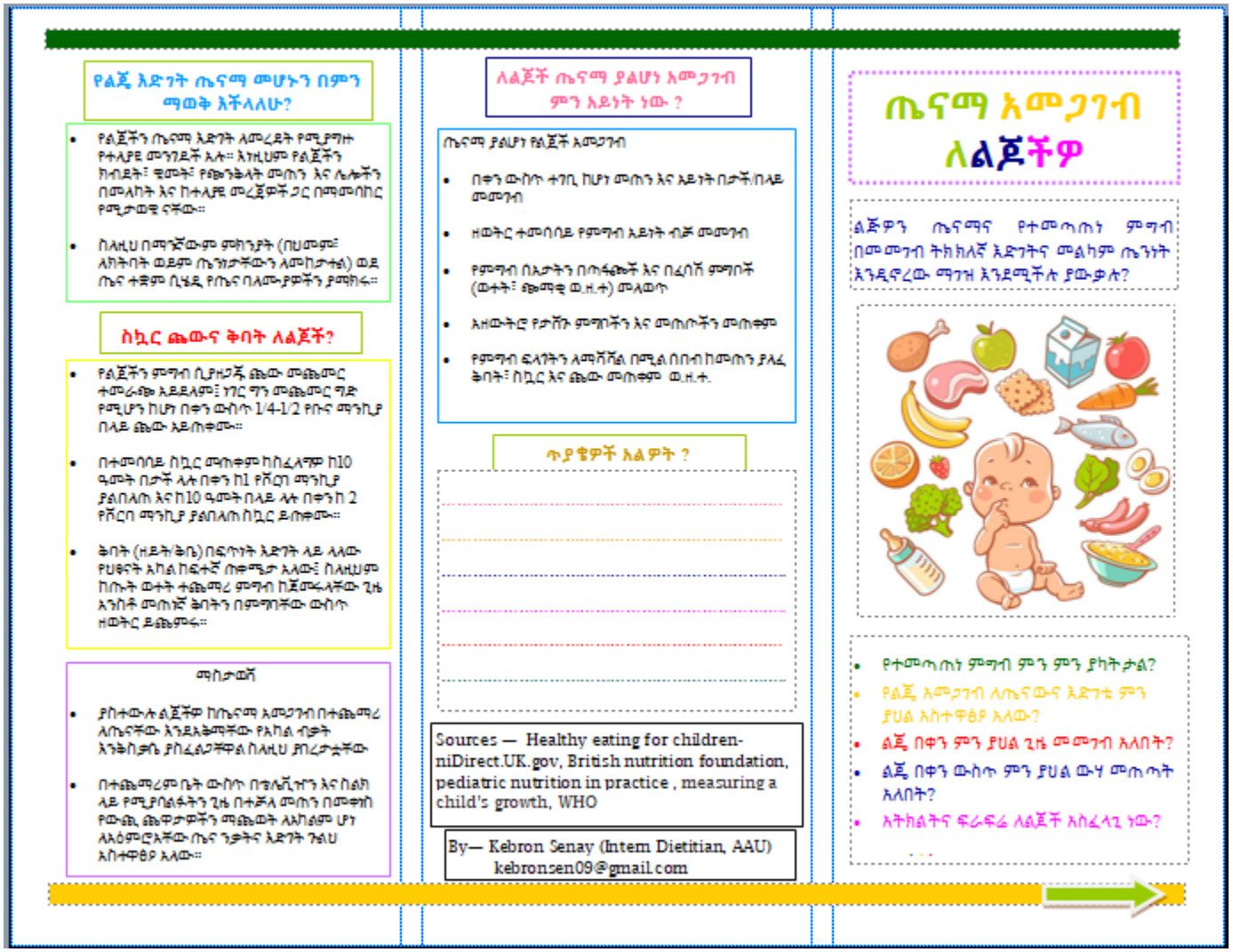
ማስታወሻ

የጤናማ አመጋገብ ለደም ግፊት ህሙማን

ጤናማ የአመጋገብ ዘይቤን በመከተል የደም ግፊትንም ሆነ ሌሎች ተጓዳኝ የጤና እክሎችን መከላከል እና መቆጣጠር ይቻላል!!!

በ ኬብሮን ሣና ይ

3.3.3 Healthy eating for children



ጤናማ አመጋገብ ለልጆችዎ

የልጄ እድገት ጤናማ መሆኑን በምን ማወቅ እችላለሁ?

- የልጆችን ጤናማ እድገት ለመረዳት የሚያግዙ የተለያዩ መንገዶች አሉ። እነዚህም የልጆችን ክብደት፣ ቁመት፣ የጭንቅላት መጠን እና ሌሎችን በመለካት እና ከተለያዩ መረጃዎች ጋር በማመሳከር የሚታወቁ ናቸው።
- ስለዚህ በማንኛውም ምክንያት (በህመም፣ ላለትበት ወይም ጤንነታቸውን ለመከታተል) ወደ ጤና ተቋም ቢሄዱ የጤና ባለሙያዎችን ያማክሩ።

ስኳር ጨውና ቅባት ለልጆች?

- የልጆችን ምግብ ሲያዘጋጁ ጨው መጨመር ተመራጭ አይደለም፤ ነገር ግን መጨመር ግድ የሚሆን ከሆነ በቀን ውስጥ 1/4-1/2 የቡና ማንኪያ በላይ ጨው አይጠቀሙ።
- በተመሰባይ ስኳር መጠቀም ካስፈላግው ከ10 ዓመት በታች ላሉ በቀን ከ1 የሻርባ ማንኪያ ያልበለጠ እና ከ10 ዓመት በላይ ላሉ በቀን ከ 2 የሻርባ ማንኪያ ያልበለጠ ስኳር ይጠቀሙ።
- ቅባት (ዘይት/ቅቤ) በፎጥነት እድገት ላይ ላለው የህፃናት አስፈ ከፍተኛ ጠቀሜታ አለው፤ ስለዚህም ከጡት ወተት ተጨማሪ ምግብ ከጀመሩላቸው ጊዜ አንስቶ መጠነኛ ቅባትን በምግባቸው ውስጥ ዘወትር ይጨምሩ።

ማስታወሻ

- ያስተውሉ ልጆችም ከጤናማ አመጋገብ በተጨማሪ ለጤናቸው እንደአቅማቸው የአካል ብቃት እንቅስቃሴ ያስፈልጋቸዋል ስለዚህ ያዘረታቷቸው
- በተጨማሪም ቤት ውስጥ በቴሌቪዥን እና ስልክ ላይ የሚያባልፉትን ጊዜ በተቻለ መጠን በመቀነስ የውጭ ጨዋታዎችን ማጨመት ለአካልም ሆነ ለአዕምሮአቸው ጤና ንቃትና እድገት ጉልህ አስተዋፅዖ አለው።

ለልጆች ጤናማ ያልሆነ አመጋገብ ምን አይነት ነው ?

ጤናማ ያልሆነ የልጆች አመጋገብ

- በቀን ውስጥ ተገቢ ከሆነ መጠን እና አይነት በታች/በላይ መመገብ
- ዘወትር ተመሰባይ የምግብ አይነት ብቻ መመገብ
- የምግብ ስአታትን በጣፋጮች እና በፈሰሽ ምግቦች (ወተት፣ ጭማቂ ወ.ዘ.ተ) መላወጥ
- አዘውትሮ የታሸጉ ምግቦችን እና መጠጦችን መጠቀም
- የምግብ ፍላጎትን ለማሻሻል በሚል ሰበብ ከመጠን ያለፈ ቅባት፣ ስኳር እና ጨው መጠቀም ወ.ዘ.ተ.

ጥያቄዎች አልዎት ?

Sources — Healthy eating for children- niDirect.UK.gov, British nutrition foundation, pediatric nutrition in practice , measuring a child's growth, WHO

By— Kebron Senay (Intern Dietitian, AAU)
kebronsen09@gmail.com

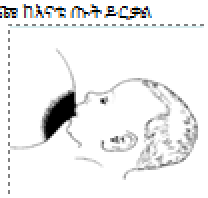
ልጅዎን ጤናማና የተመጣጠነ ምግብ በመመገብ ትክክለኛ እድገትና መልካም ጤንነት እንዲኖረው ማገዝ እንደሚችሉ ያውቃሉ?

- የተመጣጠነ ምግብ ምን ምን ያካትታል?
- የልጄ አመጋገብ ለጤናውና እድገቱ ምን ያህል አስተዋፅዖ አለው?
- ልጄ በቀን ምን ያህል ጊዜ መመገብ አለበት?
- ልጄ በቀን ውስጥ ምን ያህል ውሃ መጠጣት አለበት?
- አትክልትና ፍራፍሬ ለልጆች አስፈላጊ ነው?

3.3.4 Breast feeding brochure

በትክክል እየጠባ አለመሆኑን የሚያሳዩ ምልክቶች

- የጡት ጫፍ ብቻ በህፃኑ አፍ ውስጥ ይሆናል
- የህፃኑ ምላስ አፉ ውስጥ ይሆናል
- ለእናት ምቾት የሌለው ስሜት ወይም ህመም ይኖረዋል
- የጡቱ ጫፍ ጥቁሩ ክፍል ከታች በደንብ ከአፉ ውጪ ሆኖ ይታያል ወይም ጥቁሩ ጫፍ ከላይና ከታች በእኩል ይታያል
- አፉ በአግባቡ አይከፈትም
- የታችኛው ከንፈሩ ወይውጪ ከመታጠፍ ይልቅ ምንም ሳይታጠፍ ወይም በተቃራኒው ወደ ውስጥ ታጥፎ ሊታይ ይችላል
- አገጩ ከእናቱ ጡት ይርቃል



ሕፃኑ በቂ አለመ ጥባቱ በምን ይታወቃል?

- ቶሎ ቶሎ መጥባት መፈለግና ያለመጥገብ ስሜት ያሳያል
- መቁነጥነጥ ወይም እረፍት ማጣት ሊታይበት ይችላል
- በሚጠባበት ወቅት ለረጅም ሰዓት ቶሎ ቶሎ መሳብ ግን ለመዋጥ ፋታ አለመውሰድ ይታይበታል
- በቂ እንቅልፍ አለመተኛት ወይም ቶሎ ቶሎ መንቃት ሊታይበት ይችላል
- የጡት / የጡት ጫፍ እንደተወጠረ መቆየት ይስተዋላል ወ.ዘ.ተ

የሕጻኑ በበቂ ሁኔታ አለመ ጥባት ምን ያስከትላል?

- የእናት ጡት ማበጥ፣ መወጠር፣ የህመም ወይም የቁስለት ስሜት ማስማት
- የጡት ወተት መጠን መቀነስ ከዚህም የተነሳ ሕጻኑ በቂ የሰውነት ክብደት መጨመር አለመቻል
- ሕጻኑ ለጡት ያለውን ፍላጎት እና ትኩረት ከጊዜ ወደ ጊዜ እየቀነሰ ማጤድ እንዲሁም
- ሁልጊዜ ረሃብ ስሜት ማሳየት፣ ቶሎ ቶሎ ለረጅም ሰዓት መጥባት እንዲሁም በቂ አለመተኛትን በማስከተል ምቾትን ይቀንሳል

ሕጻኑ በቂ እንደይጠባ የሚያደርጉ ምክንያቶች ምንድን ናቸው?

- የጡት ወተት ብቻ መመገብ በሚገባው ወቅት በጡጦ መመገብን ማስለመድ
- ወደ ውስጥ የገባ/ ጨፋ በሚገባ ያልወጣ የጡት ጫፍ መኖር
- በጣም ትንሽ ክብደት ያለው እና ደካማ ወይም የጤና መጓደል ያጋጠመው ህጻን
- የእናት እውቀትና ልምድ ማነስ እንዲሁም በቂ ሙያዊ እገዛ አለማግኘት

እነዚህንም ሆነ ሌሎች ችግሮች በሚገጥሙ ጊዜ የህክምና ባለሙያዎችን ምክር ወይም እርዳታ መጠየቅ ያስፈልጋል!

ምንጭ፡- Infant and young child feeding
Model Chapter for textbooks
for medical students and allied health professionals WHO, 2009.

Prepared by-
Kebron Senay (Intern Dietitian, AAU)
Kebronsen09@yahoo.com

የእናት ጡት ወተት

የእናት ጡት ወተት ለጨቅላ ህፃናት አስፈላጊውን የምግብ ይዘት ሁሉ ያከተተ ነው።

ይህም ማለት
- በቂ የሆነ የምግብ ሃይል/ጉልበት መጠን
- ለእድገትና ለጤና ጠቃሚ የሆኑ የተለያዩ ንጥረ ነገሮችና ማእድናት
- ተፈጥሮአዊ ቅመሞች (ሆርሞን)
- ተፈጥሮአዊ ስኳር
- የበሽታ መከላከያ ንጥረ ነገሮች ወዘተ ይይዛል።

ጡት ወተት ከምግብነቱም በተጨማሪ ለእናትም ሆነ ለልጅ ተጨማሪ ጥቅሞች አሉት፤

References

Blaauw, R., Achar, E., Dolman, R. C., Harbron, J., Moens, M., Munyi, F., Nyatefe, D., & Visser, J. (2019). The problem of hospital malnutrition in the African continent. *Nutrients*, *11*(9), 2028.

Guyton, A. C., & Hall, J. E. (2006). *Textbook of medical physiology* (11th ed). Elsevier Saunders.

Haile, A., Hailu, M., & Tesfaye, E. (2015). *Prevalence and associated factors of malnutrition among adult hospitalized patients at Amhara National Regional State Referral Hospitals, Ethiopia*.

Kasper, D. L., & Harrison, T. R. (Eds.). (2005). *Harrison's principles of internal medicine* (16th ed). McGraw-Hill, Medical Pub. Division.

Manual of Dietetic Practice. (n.d.). 1018.

Miyoba, N., Musowoya, J., Mwanza, E., Malama, A., Murambiwa, N., Ogada, I., Njobvu, M., & Liswaniso, D. (2018). Nutritional risk and associated factors of adult in-patients at a teaching hospital in the Copperbelt province in Zambia; A hospital-based cross-sectional study. *BMC Nutrition*, *4*(1), 1–6.

Sharon Rady Rolfes, Kathryn Pinna, Ellie Whitney—Understanding Normal and Clinical Nutrition, 8th Edition (2008, Brooks Cole).pdf. (n.d.).

Tang, A. M., Chung, M., Dong, K. R., Bahwere, P., Bose, K., Chakraborty, R., Charlton, K., Das, P., Ghosh, M., Hossain, M. I., Nguyen, P., Patsche, C. B., Sultana, T., Deitchler, M., & Maalouf-Manasseh, Z. (2020). Determining a global mid-upper arm circumference cut-off to assess underweight in adults (men and non-pregnant women). *Public Health Nutrition*, *23*(17), 3104–3113. https://doi.org/10.1017/S1368980020000397

Van Tonder, E., Gardner, L., Cressey, S., Tydeman-Edwards, R., & Gerber, K. (2019). Adult malnutrition: Prevalence and use of nutrition-related quality indicators in South African public-sector hospitals. *South African Journal of Clinical Nutrition*, *32*(1), 1–7.