COMMUNITY BASED MANAGEMENT OF ACUTE MALNUTRITION

BY

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

Supervised By

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Lecture
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FACULTY OF ALLIED HEALTH SCIENCE (FAHS)
DAFFODIL INTERNATIONAL UNIVERSITY

DATE: 30TH MARCH 2023

LETTER OF TRANSMITTAL

Date:

To

Dr. Nizam Uddin
Associate Professor and Head In-Charge
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences
Daffodil International University
Daffodil Smart City, Birulia, Savar, Dhaka.

Subject: Submission of Internship Report.

Respected Sir,

I would like to thank you for the guidance and support you have provided me during the course of this report. Without your help, it was really impossible for me to complete the report. It is a great pleasure and honor for me to have the opportunity to submit my project work report on Nutritional Management of diabetic patients. I got the opportunity to work in SARPV and to achieve some practical knowledge about community nutrition. It was not possible to complete this report without your supervision. I have concentrated my best effort to achieve the objectives of the report and hope that my endeavor will serve the purpose. The practical knowledge and experience gathered during report preparation will immeasurably help in my future professional life. I request you to excuse me for any mistake that may occur in the report despite my best effort. I would be really happy if you would go through my report and share your thoughts about it. If there is any mistake regarding this report, please help me to find it and that will be great pleasure for me.

Thank you again for your support and advice.

Yours Sincerely,

RAYHAN

Abu Sayed Rayhan
ID: 182-34-112
Department of NFE
Daffodil International University.

LATTER OF AUTHORIZATION

Date:

To

Dr. Nizam Uddin
Associate Professor and Head In-Charge
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences
Daffodil International University
Daffodil Smart City, Birulia, Savar, Dhaka.

Subject: Declaration regarding the validity of the Internship Report.

Honorable sir,

This is my truthful declaration that the **"Internship Report"** I have prepared is not a copy from anywhere it is my original work experience. Exactly what I understand and saw is formed here. I moreover declare that it will not be submitted to other individuals in future. I also express my honest confirmation in support of the fact that the said Internship report has neither been used before to fulfill my other course related nor will it be submitted to any other person in future it will only be used for my academic purpose.

Sincerely yours,

RAYHAN

Abu Sayed Rayhan
ID: 182-34-112
Department of NFE
Daffodil International University.

APPROVAL CERTIFICATION

On behalf of the university, this is to certify that **Abu Sayed Rayhan** bearing **ID: 182- 34-112**, Program B.Sc. in Nutrition & Food Engineering is a regular student, department of Nutrition & food Engineering, Daffodil International University. She has successfully completed her Intern program of 2 months in SARPV, Ukhiya, Coxs Bazar.

Then he completed this report under my direction. We are aware that **Abu Sayed Rayhan** completed his Intern report by observing our teacher. In addition, I ensure that his report is worthy of fulfilling the partial requirements of NFE program.

Dr. Nizam Uddin
Associate Professor and Head In-Charge
Department of NFE
Faculty of Allied Health Sciences
Daffodil International University
Daffodil Smart City, Birulia, Savar, Dhaka.

Nawal Sarwer

Supervisor
Mr. Nawal Sarwer
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Daffodil Smart City, Birulia, Savar, Dhaka.

APPROVAL CERTIFICATION [SARPV]

This is to certify that **Abu Sayed Rayhan** bearing **ID-182-34-120**, Program B.Sc. in Nutrition & Food Engineering is a regular student department of Nutrition & food Engineering Faculty of Allied health Science, Daffodil international University. He has successfully completed his Internship program of 60 days in SARPV Ukhiya,Cox's Bazar. I have confidence regarding the originality of this data and I express that dissertation is up to my satisfaction.

Abu Ansar Md. Rizwan
Nutrition Advisor, Integrated Malnutrition Treatment & Prevention Program
SARPV, Cox’s Bazar, Bangladesh.

APPROVAL

This Internship titled **"Community Based Management of Acute Malnutrition",** submitted by **Abu Sayed Rayhan** to the Department of Nutrition and Food Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Nutrition and Food Engineering and approved as to its style and contents. The presentation has been held on **04-04-2023.**

EXAMINING COMMITTEE

_____

(Name) **Member**
Designation
Department of NFE
Faculty of Allied Health Sciences
Daffodil International University

_____

Dr. Nizam Uddin **Departemental Head**
Associate Professor & Head In-Charge
Department of NFE
Faculty of Allied Health Sciences
Daffodil International University

DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Mr. Nawal Sarwer, Lecturer**, Department of NFE, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:

Nawal Sarwer

Md. Nawal Sarwer
Lecturer
Department of NFE
Daffodil International University

Submitted by:

RAYHAN

Abu Sayed Rayhan
ID: 182-34-112
Department of NFE
Daffodil International University

ACKNOWLEDGEMENT

First of all, I express my gratitude to almighty Allah, for giving me the ability to complete my internship report about the CMAM.

Then I would like to express my gratitude to Md Nawal Sarwer, my supervisor who helped me to complete the report. A very special thanks to Abu Ansar MD. Rizwan, Nutrition Advisor of SARPV, Coxs Bazar, Bangladesh. He is excellent, knowledgeable, cooperative person. He was my supervisor during my internship. He gave me the guideline about the integrated nutrition center in Rohingya camp and about CMAM management. I hope this internship experience will help me in my future job field.

Finally, I would like to thank all my teachers in the department of Nutrition and Food Engineering for inspiring me in my study and I am also grateful to my parents for their loving support.

ABSTRACT

My internship has been performed under Social Assistance and Rehabilitation for the physically vulnerable (SARPV) for 2 months. I visited the Integrated Nutrition Center of SARPV in Rohingya refugee camp for an internship. The programme under this camp is community-based management of Acute Malnutrition.This programme's target population are the infants 6-59 months and pregnant and lactating women (PLW). They aimed to improve the nutritional status of these people in emergency conditions. I hope I gather practical knowledge about the CMAM programme by visiting these camps and I think it will help me in my future career.

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INTRODUCTION

1.1 Introduction

The Rohingya refugees are known as FDMNs (Forcibly displaced Myanmar Nationals). As of 31st December 2017, 655500 FDMNS are estimated to arrive in Coxs bazar, Bangladesh. All of the FDMNs lived in 34 refugee camps in UKhiya and Teknaf. Organizations like UNICEF, WFP, SARPV along with the Bangladesh Government working to enhance the nutrition programme and provide lifesaving nutrition assistance to Rohingya communities. In camp 8W1,8W2, Camp 20, Camp 5, Camp 10 SARPV implemented the CMAM and CMAMI by the support of UNICEF/UNHCR/WFP at the Integrated Nutrition Center (INC). Apart from that these organizations implement Vitamin A supplementation programme among 5 years children twice in a year and also provide Iron and Folic acid (IFA) supplement among targeted PLWs (Pregnant and Lactating Womens) and also adolescent girls. SARPV gave me the opportunity for internship in Camp 6, Camp 8W1,8W2 and Camp 20.

1.2 SARPV

Social Assistance and Rehabilitation for the Physically Vulnerable (SARPV) was established in 1989 to change the public perception of people with a disability in Bangladesh. SARPV wanted to work with underprivileged and marginalized groups of the society to make them productive human beings. SARPV started their activities in the southern region of the country after the cyclone in 1991.From 2013 SARPV began their programme on health and nutrition and started work in the field of community nutrition, research and health related training in Cox's Bazar. Now they establish their programme in both host communities and also among Rohingya communities in refugee camps.

1.3 Mission

To develop an environment for the vulnerable groups to transform them as efficient and effective human resources through capacity development and to ensure responsive service providers to the people.

1.4 Vision

To envision a barrier free society to enhance sustainable socio-economic empowerment of the vulnerable groups.

CHAPTER 2

CMAM PROGRAMME

2.1 CMAM Programme

Community based management of acute malnutrition is aimed at treating and preventing acute malnutrition among the vulnerable groups. This programme implemented around the worldwide and known for standard management of acute malnutrition. The objective of the programme is to reduce mortality and morbidity from acute malnutrition. This programme is decentralized and reaches every child in the community. The target group of this programme are the children of 6-59 months and pregnant and lactating mothers with infants less than 6 months. The Inpatient treatment of SAM (with complication) is not performed in the integrated nutrition center (INC) of the refugee camp but they referred them to admit nearby stabilization center (SC) as early as possible. This programme provides ready to use food like RUTF, RUSF and Super cereal to the children in every visit according to their nutritional status and also provides super cereal (WSB+) to the PLW beneficiaries.

2.2 Community Outreach Activity

Community outreach activity is directed by community health workers and volunteers. 5 teams conduct the whole outreach activity in the refugee camp. Two volunteers form a team and one team covers 5 sub blocks in one month.They have the information about which households have children(6-59 months) and PLW beneficiaries. The main purpose of these activities is identification of active cases (children with malnutrition, SAM,MAM and acutely malnourished PLW) and referring them to the nutrition center. The other activities are to find follow up beneficiaries who are absent and defaulted and give some message about IYCF practice and other information.

2.3 Principles of CMAM

CMAM is based on 4 main principles.

They are:

- Maximum coverage and access.
- Timeliness
- Appropriate medical care and nutrition rehabilitation.
- Care for as long as it is needed.

Maximum coverage and access: Function to build strong relation between the community members and health workers in the project. The goal is to detect acute malnutrition (SAM and MAM), prevention and referral. These activities should cover the higher number of populations in the community.

Timeliness: Identification and treatment of the beneficiaries before the prevalence of acute malnutrition and timely access to treatment (early action and detection).

Appropriate medical care and nutrition rehabilitation: Provide aid or ready to use supplementary food and other medicines is used to treat in outpatient care and referred to SC (stabilization center) who need inpatient care.

Care for as long as possible: As long as acute malnutrition is present in the population of the community the effective treatment, identification and referral remain accessible to the population.

2.4 Activities of CMAM Programme

Following list are the activities of CMAM programme:

- Screening and detection of 6-59 months boys and girls and refers to the center.
- Screening and detection of the PLWs.
- PLWs admitted to TSFP for acute malnutrition treatment.
- Provide IFA supplementation to PLWs.
- Provide IFA supplementation to adolescent girls and arrange sessions about hygiene and nutrition.
- Enrolled 6–59-month children to the GMP programme.
- Arrange counseling sessions about IYCF, ANC, PNC among PLWs.
- Session of the cooking demonstration among mothers at the INC center
- Arrange sessions among majhi and imams every month.
- Mukhe bhat ceremony among 6 months old children to increase awareness about complementary feeding.
- Nutrition education programme for children above 24 months child.

2.5 Aiding Organization

UNICEF: UNICEF started to provide aids like clean water, health care,food,medicine to the Rohingya refugees from day one in Bangladesh. The CMAM programme in refugee camps is financed by UNICEF. Several health and integrated nutrition centers are funded by them at the camp.

UNHCR: UNHCR provide emergency lifesaving aid in the camp -including blankets, sleeping mats. Family tents, bucket. They also help to build road construction, provide shelter materials, improve the drinking water and sanitation facilities. They also provide financial aid in several INC in the Rohingya refugee camp.

WFP: World Food Programme (WFP) provide nutritious food for children and families over 80 countries. They stated to provide rations among all the Rohingya families at the camp. They

also provide especially formulated foods like RUSF, RUTF, Super cereals among the beneficiaries of the INC.

2.6 Components of INC

Following are the components of INC (Integrated Nutrition Center):

- Registration point- OTP, TSFP, BSFP.
- Anthropometric measurement point - child.
- Medical assessment point.
- GMP point (24-59) months.
- Food distribution point.
- Breast Feeding Corner.
- Registration Point -PLW.
- Anthropometric measurement point-PLW.
- IYCF corner.
- ECCD corner.

2.7 Case Finding and Referral

Community health workers and volunteers are involved in active case finding and referral. They must have the knowledge and training about identification, referral and follow up of acute malnutrition, GMP and IYCF practices. Generally, the screening of children is done by anthropometric measurements. Like MUAC and oedema. So, the volunteers should have the exercise and training on how to use muac tape and how to measure and check oedema. Community health worker and volunteer's job is to encourage the caregivers to follow the rules and also find the cause of why the beneficiaries are defaulted and absent. Children can be screened, enrolled or identified by house-to-house visit, GMP screening, vaccination days and campaigns.

2.8 Identification and referral of children with acute malnutrition and PLW

- If MUAC < 11.5 cm (6-59 months children) is identified the child is identified as SAM and refers to an outpatient site.
- If MUAC < 11.5 cm and oedema is found the child is identified as SAM with complications and refers to inpatient treatment.
- If MUAC 11.5 cm to less than 12.5 (6-59 months children) the child is identified as MAM and refers to OTP.
- If MUAC < 21 cm (pregnant and lactating women) refers to OTP.

2.9 MUAC Measurement Procedure

- Relax the child's left arm.Use the left arm of the child.
- Bind the midpoint of the childs left upper arm by allocating the tip of the child's shoulder with the fingertips. Curve the child's elbow and make a right angle.Place the MUAC tape at zero which is revealed by two arrows on the tip of the shoulder and draw the tape straight down past the tip of the elbow. Read the number at the tip of the elbow. Read the number at the tip of the elbow. Divide this number by two to calculate the midpoint. Mark the midpoint with a pen.
- Straighten the child's arm and cover the tape around the arm at midpoint.
- When the tape is in the right position on the arm, read and call out the measurement to the closest 0.1 cm.
- Record the measurement quickly.

2.10 Weight Measurement Procedure

- First have to remove the child's clothes.
- Settle the scale to zero.
- Put the child gently in the pan.
- Then wait for the child to settle and the weight to adjust.
- Measure the weight to the closest 0.01 kg.
- Record the weight quickly.

2.11 Height Measurement Procedure

- Have to pull out the shoes, hair ornaments that influence the measurement. Take the measurement against a plain surface.
- Confirm that the child's legs are straight, arms and shoulders are at level.
- Take the measurement when the child's head,shoulders,buttocks and heels at contact with the plain surface.
- Use a plain headpiece to make a right angle with the wall and lower the headpiece firmly when it touches the crown of the head.
- Measurers' eyes should be at the same level as the headpiece.
- Mark the bottom of the headpiece when it meets the wall.
- Accurately record the height to the closest to O.1 cm.
- Measure the length of the child who can't stand.

2.12 Oedema checking Procedure

- Slowly compress the child's both feet with thumb.
- Wait for a few seconds. (Count 1001,1002,1003)

- If oedema appears a pit will show. The pit or dimple suggest there is an oedema. It is the sign of severe malnutrition.
- Oedema has 3 grade -mild, moderate and severe.

2.13 OTP-Outpatient Therapeutic Programme

- OTP is the home-based treatment for children 6-59 months with SAM but without complications
- Children who failed the appetite test are not enrolled in OTP; they refer to the stabilization center (SC).
- The purpose of OTP is to attain quick recovery from SAM.Most of the SAM cases are treated in OTP successfully. AS the capacity of the stabilization center is limited OTP includes larger SAM children in the treatment of the community, making it easier to treat. OTP provides RUTF food supplement and other routine medicine.

Admission Criteria

- Children (6-59 months) MUAC < 11 cm or having bilateral pitting oedema.
- Z score <-3.
- The Guardian did not agree to admit in inpatient care (SC) despite advice.
- After treatment in inpatient care, the child is transferred to OTP.
- Return after default if they fulfill the enrollment criteria.

Discharge Criteria

- If MUAC > 11 cm or oedema is cured.
- If the condition gets worse and have to transferred into Inpatient care.
- Defaulted.

2.14 TSFP

The purpose of TSFP (targeted supplementary feeding programme) is to nourish the acutely malnourished child from 6-59 months. Another goal is to reduce child mortality and morbidity. It distributes ready to use food (RUSF), routine medicine (antibiotic and deworming) and impart nutrition education, IYCF counseling to caregivers.

Admission Criteria

- MUAC 11.5cm to less than 12.5 cm.
- Z score -2sd to less than -3sd.

Discharge Criteria

- Cured and Transferred to BSFP.
- Defaulter.
- Non responder.
- Death.
- Severe Malnourished and Transfer to BSFP.

2.15 BSFP

Blanket Supplementary feeding programme's purpose is to prevent decrease in nutritional status of children (6-59 months) and pregnant and lactating women. This programme is for those groups who are not actually malnourished but at risk of affecting malnutrition.

In this programme have to distribute ready to use food like:

- Super cereal plus (WSB + +) for 6-59 months old children.
- Super cereal (WSB +) for pregnant and lactating women.

2.16 PLW-TSFP Enrollment and Discharge Criteria

Enrollment Criteria:

- If MUAC< 21.0 cm.

Discharge Criteria:

- MUAC is 21.0 cm or above and transferred to BSFP
- Absent in two consecutive visits.
- Mistake in admission process.

2.17 PLW-BSFP Enrollment and Discharge Criteria

Enrollment Criteria:

- All pregnant and lactating mothers.
- MUAC is 21.0 cm or higher than 21.

Discharge Criteria:

- Mothers' child becomes 6 months of age.
- Default absents in 2 visits.
- Death.
- Mistake in admission.

2.18 Nurse/Medical Assessment Point

After anthropometric measurement (weight, Height, Length) the child undergoes the medical assessment.

A nurse checkup the following criteria in this point:

- Temperature.
- Appetite.
- Anemia.
- Respiration
- Vomiting.
- Infection (diarrhea, measles).

2.19 Growth Monitoring and Promotion

GMP is a significant action of assessing the nutritional status of a child. It helps to analyze the cause of malnutrition and how to improve nutritional status. It involves regular measurement, recording and interpretation of a child's weight and height from 24-59 months. Every month it is monitored by a health worker. They basically record the growth and mark it to the GMP card.

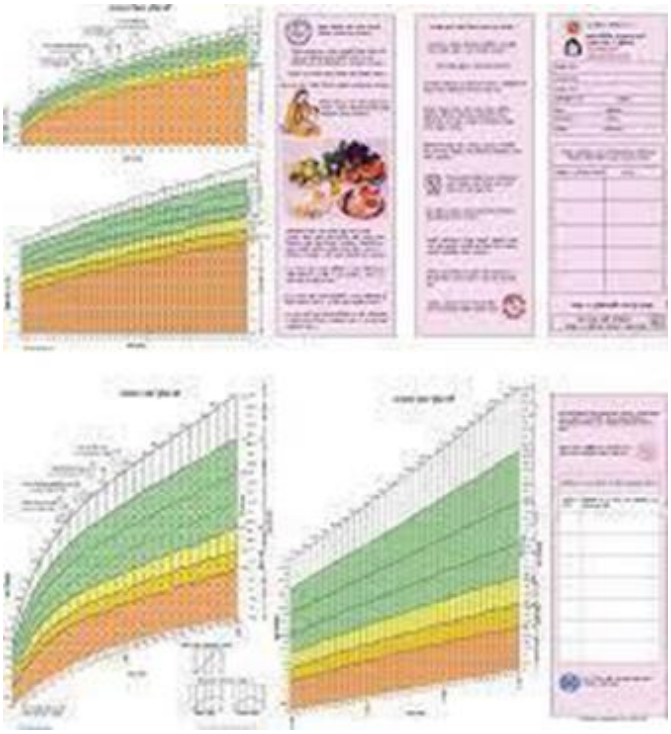

Figure 1: GMP CARD

CHAPTER 3

SUPPLEMENTARY FOOD

3.1 Supplementary Food

Supplementary foods are differently designed foods which are ready to use and energy and nutrient dense and provided to specific populations to meet the extra nutrition. 4 types of supplementary foods are distributed in the CMAM programme.

- RUTF
- RUSF
- Super cereal (+ +)
- Super cereal.

Figure 2: Supplementary Food

3.2 RUTF

- Ready to use therapeutic food (RUTF) is designed for the treatment of malnourished children in OTP.
- It is composed of peanut butter, milk powder, oil, sugar and vitamin and mineral premix.
- Each sachet of RUTF contains 500 kcal and contains the essential amino acid and micronutrients.
- It has a longer shelf life and can be preserved easily without refrigeration. It is easily digestible for the children.
- 7 sachets are distributed to each child in a 7-day interval in OTP.

3.3 RUSF

- Ready to use supplementary food is distributed in TSFP programme to treat MAM for the children of 6-59 months age.
- The ingredients of RUSF are peanuts, milk, soy protein, whey protein, vegetable oil cocoa and vitamin mineral premix.
- Each sachet is 92 g and contains 500 kcal, 13 g protein and 31 g fat and other essential micronutrients.
- 14 sachets are distributed to each child in a 14 days interval in the TSFP programme.

3.4 Super cereal

Super cereal plus is distributed in Blanket Supplementary Feeding Programme for 6-59 months child. It is made of wheat, soya bean, sugar, refined soybean oil, skimmed milk powder and vitamin and mineral premix. It contains 400 kcal energy and 17 gm protein. It is less energy dense than RUTF and RUSF. 28 sachets are distributed to each beneficiary in a 28 days interval in the BSFP programme.

Figure 3: Super Cereal Plus

3.5 Super cereal (WSB+)

Super cereal (WSB+) is distributed to pregnant and lactating women under TSFP and BSFP. The ingredients of super cereal are wheat, soya bean, sugar, refined soybean oil, skimmed milk powder and vitamin mineral premix. 28 sachets are distributed to each plws in a 28 days interval in the TSFP and BSFP programme.

Chapter 4

MEDICINE PROTOCOL

4.1 Routine medication for Children with SAM Without complications

- Vitamin A: Single dose on admission. 100000 iu for 6-to-1-year olds. 200000 iu for children older than 1 year child.
- Amoxicillin: 3 times per day for 5 days on admission.
- Albendazole: Single dose on 2nd visit (if not taken within the last 3 months.
- Measles Vaccination. (If not vaccinated).

4.2 Routine medication for acutely malnourished PLW

- IFA supplement: 60 mg iron plus and 400 mcg folate throughout the pregnancy.
- Multi micronutrient tablets: Once daily until the infant is 6 months old.
- Albendazole: 400 mg single dose between 5–7-month pregnancy period.

Chapter 5

AWARENESS AND NUTRITION EDUCATION

5.1 Majhi and Imam Session

Majhi is the leader of every sub block in the Rohingya refugee camp. In this session majhi and imam the necessity of this emergency nutritional service and they aware the household to come to the center without any doubt.

5.2 Cooking Demonstration Session

In this session the mother is taught how to maintain hygiene, what to cook, how to feed the baby some nutritional tips and what type of ingredients to add to maintain nutritional quality of food.

5.3 Nutrition Education Programme

Nutrition education programme is for children above 24 months to 59 months. In this session they learn about hygiene, hand washing technique, healthy food etc. The child who performs well awarded with a food ration card by which they can buy extra rations from WFP.

5.4 Mother to mother support group

In this programme one trained mother from Rohingya communities teaches a group of women about nutrition, health, IFA supplement, IYCF practices and ANC and PNC. The trained mother took 12 sessions in 6 months. Pregnant, lactating women, adolescent girls, and grandmother formed a 12-member group in one sub block and they were invited to the session.

5.5 Mukhe Bhat Programme

This programme is arranged to encourage mothers about complementary feeding of the child. 10-15 children with their mother attend this programme in the Integrated Nutrition Center.

5.6 ECCD

Early childhood care development (ECCD) is the growth of cognitive, communication, language and social skills of the children. The ECCD center is arranged with toys, pencils, books etc to develop their social skills. In every INC there is an ECCD zone.

Chapter 6

CONCLUSION & LEARNING OUTCOME

6.1 Learning Outcome

In this 2-month internship in SARPV I learned about the different activities, component of CMAM and how it is used and the principle of community-based management of acute malnutrition. This programme is aimed to prevent the deterioration of 6-59 months child and pregnant and lactating women (PLWS) nutritional status. I acquire the knowledge how different component of INC (Integrated Nutrition Center) is linked to each other to prevent and cure acute malnutrition. I hope it will help me in the future in my professional life.

6.2 Conclusions

The Rohingya refugee camp located in kutupalong, Ukhiya, Coxs Bazar. Around 600000 lakh refugee lived in Kutupalong refugee camp. In camp they have inadequate housing facilities, food, drinking water and sanitation facilities. Children and PLWs are the most vulnerable group in the camp and they are highly susceptible of acute malnutrition. By the donation of UNICEF and WFP, SARPV implemented the CMAM and CMAMI in some refugee camp. CMAM programmes reduce the morbidity of acute malnutrition (SAM, MAM) and the rate of death. WFP provides necessary aids like RUSF, RUTF, super cereals for the OTP, TSFP and BSFP programmes. Routine medicine like antibiotics, albendazole and IFA supplement is provided for the treatment. Several awareness and education session are organized to build strong community awareness and dialogue among different groups of the population. I gathered genuine experience about the CMAM programme from this internship.