Internship Report

On

Proto type testing and application of "Emergency Nutrition Information System" on the information of malnourished children (6-59 month of age) in refugee camp, Ukhiyawith UNICEF Bangladesh.

Supervised by

Fouzia Akter

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Department of Nutrition & Food Engineering

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Submitted By

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ID – 163-34-564

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Daffodil International University

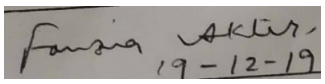
Date of Submission:

19-December-2019

APPROVAL CERTIFICATION

On the behalf of the university, this is to certify that**Md. Sazzadur Rahman**, bearing ID: **163-34-564**, Program B.Sc. in Nutrition & Food Engineering is a regular student, department of Nutrition & food Engineering, Faculty of Allied health Sciences, Daffodil International University. He has successfully completed his Internship program of one month in UNICEF Bangladesh, Cox's Bazar in Ukhiya Rohingya refugee Camp, **on the proto type test and application of Emergency Nutrition Information System on the information of malnourished children (6-59 month of age) in refugee camp, Ukhiya with UNICEF Bangladesh.**

Then he completed this report on under my direction. We aware that **Md. Sazzadur Rahman** completed his internship report by observing our teacher. In addition, I ensure that his report is a worth of fulfilling the partial requirements of NFE program.



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Dr. Md. Bellal Hossain

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LETTER OF TRANSMITTAL

19th December 2019

Dr. Md. Bellal Hossain
Professor& Head
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences
Daffodil International University

Subject: Submission of internship report.

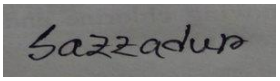
Beloved Sir,

I would like to take this opportunity to thank you for the advice and support you have given to this report. Without your help, it would be impossible to complete this report.

To prepare the report I collected what I believe to be most relevant information to make my report as scientific and reliable as possible. I have intensive 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 of my best effort.

I would really appreciate if you enlighten me with your thoughts and views regarding the report. In addition, if you wish to enquire about an aspect of my report, I would gladly answer your queries.

Thank you again for your support and patience.



Yours Sincerely,
Md. Sazzadur Rahman
ID: 163-34-564

LETTER OF AUTHORIZATION

19th December 2019

Dr. Md. Bellal Hossain
Professor& Head
Department of Nutrition and Food Engineering
Faculty of Allied Health Sciences
Daffodil International University

Subject: An announcement regarding the validity of the Internship Report.

Dear Sir,

This is my truthful declaration that the **"Internship Report"** I have prepared is not a copy of any Internship Report previously made by any other students.

I also express my forthright confirmation in support to the fact that the said Internship report has neither been used before to fulfill my other course related nor it will be submitted to any other person in future.

Yours Sincerely,
Md. Sazzadur Rahman
ID: 163-34-564

ACKNOWLEDGEMENT

All praises and gratitude to almighty, the most beneficent and the merciful who manages each
and everything soundly and enables me to complete in this training.

I would like to thank and acknowledge rendered by **Muhammad Abu Bakr Siddique ,***Nutrition* Officer (IM), Nutrition Sector , UNICEF Bangladesh. I would like to thanks my honorable teacher Prof. **Dr. Md. Bellal Hossain, Head of the Department of Nutrition and Food Engineering**, and Ms**. FouziaAkter** Assistant Professor Department **of Nutrition and Food Engineering, Faculty of Allied Health Sciences,** who had given me the opportunity to attend this training program. This program will help me to build my bright future carrier. It is great pleasure to express my great full thanks *to* **Mr.Murshed Khan,** Nutrition Officer**, UNICEF, and Bangladesh.**

My feelings during this training were great and I enjoyed it very much. This could only be
possible for generous contribution of all UNICEF Bangladesh people. My achievement during this training will definitely help me in my professional field. Thanks to all employee of UNICEF Bangladesh for their friendly co-operation and Helping me during my training period.

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Summary:

UNICEF is trying to implement an online system of CMAM for the improvement of reporting's and evaluation of community's nutritional status of 5-69 months child in world's largest refugee camp, Rohingya refugee camp, Bangladesh.

Whether the other organizations are contributing in CMAM with of paper works.

The facilities are running there programme following some format of reports and treatment card, registration book, outreach CNV etc. In paper works there has a little bit limitations on reporting and evaluation of the current situation of nutrition of a community. To skip this kind of limitations and for the purpose of upgradation of the CMAM system UNICEF is trying hard and soul together. The system will show the graphical presentation of nutritional status of a community, will generate specific QR code for every child, will help to find out the data in online and decision making.

CHAPTER-1

Emergency Nutrition Information System (ENIS)

1.1. Introduction:

Emergency Nutrition Information System is an online base CMAM management. Where the data of the children will be inputted and treatment report of the children will be filled online. Each and every child will have an individual QR code which will be provided automatically by the system after the registration of any child. The system also will generate the government report and other CMAM related reports. The system will show the graphical presentation with the percentage of criteria of every facility. Emergency Nutrition Information System is implementing by UNICEF, Bangladesh. For future data evaluation and decision making help purpose. And also for the global connection to recognize the Nutritional status of Rohingya Refugee Camp, which is world's largest Refugee camp.

In ENIS system child will be treated in three criteria SAM, MAM and Normal.

During the treatment of a child if any child fulfills the other criteria of CMAM the will show a notification for that individual, then the child will be transferred in another facility. The system will provide day by day reports of the facilities. Total admitted child number will be shown by the system and the follow up number of a child will be counted automatically.

1.2. Implementation of ENIS:

Before the implementation of ENIS at first a day long introductory session was held at UNICEF, Cox's Bazaar Office. After that introductory meeting in the second day two team four members for every team were visited to the Rohingya Refugee Camp facilities. Camp 18 and Camp 3 OTP, TSFP and BSFP were under that implementation program.

And on the second day again those two teams were visited to the facilities and collect data of their admitted child and put the data into the system. From that day to 26 days continuous visiting to the facilities and data collection was under progress. Teams were collected June, August, and September month's data and entered the data into the system. Through this proto type testing Nutrition Data Officers were faced a lot of bulk situation like the networking issue on the camp, system bulk during data input, errors of the system on the time of data uploading etc.

From the study of previous article like this ENIS system, some of the organizations were implemented this type of CMAM management system for example Save the children was implemented Mobile Health apps on the basis of CMAM management and on that system they also had faced a lot of bulk situation and after a period of time they minimize the problems and fixed it with proper method of solution. ENIS system implementation included the organization supervisors, Nutrition Officers, Technical Officers, and Co-coordinators. After 26 days data collection and entry into the system a day long presentation and training session was held at UNICEF, Cox's bazaar office. On that session some of the facility supervisor and registrar were present. The introductory presentation, the training and feedback from the facility personnel helped for the improvement of the ENIS system.

CHAPTER-2

CMAM (**Community based Management of Acute Malnutrition)**

2.1. What is CMAM?

In Community based Management of Acute Malnutrition system the outreach supervisors or volunteers refers the SAM (Severe Acute Malnutrition) or MAM (Moderate Acute Malnutrition) child to the facilities and the referred child is treated with the following criteria of Z-Score and MUAC with serving RUTF for SAM child and RUSF for MAM child.

2.2. UNICEF for CMAM:

All over the world 20 million children are facing SAM and some of them are in emergency situation and some of them are in non-emergencies situation. Children who are suffering from SAM are susceptible to death and disease.

Over several decades SAM treatment has a major development. UNICEF works to ensure that women and children have access to services, including through timely provision of essential supplies - especially therapeutic foods for the treatment of SAM.

UNICEF has made significant investments for the treatment of SAM through CMAM. Approximately 32,000 MT of RUTF annually which represents an investment of over 100 million dollars by UNICEF.

CMAM is structured with four components: -community outreach as the basis,- management of moderate acute malnutrition (MAM), - outpatient treatment for children with SAM with a good appetite and without medical complications,-inpatient treatment for children with SAM and medical complications and/or no appetite.

2.3 UNICEF Bangladesh work for woman and child:

A large number of Rohingya people crossed the border into neighboring Bangladesh. Sixty per cent of them are children.

Around 919,000 Rohingya refugees are living in southern Bangladesh. Vast amount of Rohingya are haunted in camps and that have sprung up in Cox's Bazaar district, close to the border with Myanmar. A smaller number are living in the neighboring host communities of Teknaf and Ukhiya.

Since the chaotic early phase of the crisis, basic services provided by UNICEF, a host of NGOs and humanitarian partners have expanded and scaled up massively.

UNICEF's humanitarian response in Bangladesh is aligned with the 2020 Joint Response Plan and the 2019. In 2020, UNICEF will prioritize: 1) providing life-saving health and nutrition services for children and pregnant women; 2) operating water networks and improving sanitation infrastructure and technology; 3) improving access to quality integrated non-formal education, including adolescents; 4) increasing access to protection services, including structured mental health and psychosocial support, and addressing violence, exploitation and abuse, including gender-based and sexual violence; 5) disseminating protection and peace building messages through various media and household visits; and 6) strengthening feedback mechanisms for improved accountability to affected populations.

2.4. UNICEF Bangladesh in nutrition 2019:

	Cluster/ sector total results	UNICEF 2019 targets		Host communities and people affected by floods	UNICEF total results	
			Refugees			
NUTRITION						
Children aged 0 to 59 months treated for severe acute malnutrition	20,652	18,092	17,000		400	11,629
Children aged 6 to 59 months receiving vitamin A (i)	191,074	191,300	148,324		42,750	191,300

Table: Result from 2019 in Nutrition contribution.

2.5. Funding for 2020 (UNICEF Bangladesh):

Sector	2020 Requirement US dollar
Nutrition	16,530,000
Health	15,180,000
Water, sanitation and hygiene	26,000,000
Child protection and gender based violence	17,000,000
Education	42,510,000
Communication for development and accountability to affected population	3,150,000
Emergency preparedness and emergency protection	8,00,000
Total	129,070,000

CHAPTER-3

OTP (Outpatient Therapeutic Programme)

3.1. OTP Treatment:

In OTP treatment here the child is referred from the community by outreach volunteers by evaluating the measure of Z-Score and MUAC of a child. Referred child come to the facility with a referral slip and again the facility personnel measure the Z-Score and MUAC, height, weight. After finishing the measurement, then the child have been categorized by following the Z-Score table. If the child is in the range of SAM with no medical complication and have appetite that child will get the treatment from the OTP center, or the child with medical complication will be transferred to a stabilization center for medical treatment. A follow-up visit within a week for a child and SAM child will get RUTF as therapeutic food by following a standard calculation. Every registered child on OTP center will have a registration card provided by the facility and in facility there will have an OTP treatment card for each and every admitted child.

The admitted child will be registered on the registered book with a unique registration number. After 12 follow-up visit if a child response to the treatment, he/she will be continued to get the treatment as a defaulter or if the child will nor response to the treatment that child will be transferred to a stabilization center for medical treatment. The nourished child of OTP when the child will pass the SAM criteria that child will be transferred to a TSFP or BSFP center. The cure child will be in the observation of the facility after being cured.

3.2. OTP working procedures and tools:

Outreach CNV

Collect the data from the community by divided some groups.

Each and every group cover a sub block in a day with a targeted follow up visit of Childs and also register new born child,0-5 month child in their register book.

Outreach CNV's measure the MUAC and check out Oedema of a child and Refer to the Facility (OTP) by a Referral slip.

Register, Reports and Checklist for CNV:

- Under 5 Screening Register.

  Use to register Under 5 child and 0-5 month child in HH (House Hold) level. Also enter the follow up of registered child.
- Community Nutrition Home Visit form and checklist.

  Use during the registration of a child and follow up into the Screening register in HH.
- ICYF Rapid Assessment Form.

  Use for breast fed child.
- Referral slip.

  Use for refer child to the Facility.
- Community Nutrition Screening Tally Sheet.

  Use to count daily screened child of a block on the basis of MUAC ≥ 12.5cm to <13.5cm, Yellow MUAC ≥11.5cm to <12.5cm, Red MUAC<11.5cm, Child with Edema etc.

- Community Nutrition Screening Weekly Report.

  Use to count weekly screened child of a block on the basis of MUAC ≥ 12.5cm to <13.5cm, Yellow MUAC ≥11.5cm to <12.5cm, Red MUAC<11.5cm, Child with Edema etc.

- Screening Report for All.

  Use for daily, weekly and monthly reporting.

  Identified SAM, Referred SAM, Identified MAM, Referred MAM, Identified At-Risk, Referred At-Risk, 0-5 month New Born listing.

- Screening Report-CNV/Supervisor.

  It's a combine report for all CNV's individually Screened Child of a block on the basis of MUAC ≥ 12.5cm to <13.5cm, Yellow MUAC ≥11.5cm to <12.5cm, Red MUAC<11.5cm, Child with Edema etc.

Measuring Point

In this point Measurer measure the Height, Weight, and MUAC of a child and calculate the Z-Score. If any child's MUAC or Z Score is in the range of SAM then he/she send the child to the medical check-up point. If the child is MAM then suggest transferring in TSFP.

- Tally Sheet on Anthropometric Measurement.

  Use for count the number of child referred by CNV with referral slip, who arrived spontaneously, measured as a part of weekly follow-up, new SAM detected, new MAM detected.

- Measurement Register.

  All children's measurement is inputted into that register.

Medical Check-Up Point

In this point the nurse check out all the medical history, physical examination, like Fever, Cough, Diarrhea, etc. If a child's medical check-up found out with complication that child is transferred to other TSFP but if the child has no medical complication that child is sent for appetite test. After appetite test if it is present, then that child is admitted into the Facility (OTP) but if no appetite then that child is transferred into other TSFP.

Reports and Formats use in Medical Check-Up:

- Treatment Card.

  After admission of a child all the information is inputted into this card, like Registration information, Anthropometric information, Medical history, Physical Examination, Exit information etc. And it's also used for every follow up information.

- Transfer Slip.

  If a child's health condition developed from SAM to MAM, then that child is transferred into other TSFP by using this slip.

- CMAM Report for OTP.

  Daily, Weekly, and Monthly Reporting.

  In this report include the number of daily, weekly and monthly New Enrollment, Transfer in, Transfer out and Discharge child calculation.

Register

Registrar registers the entire admitted child into the register book and gives a registration ID which is followed by the facility serial number and also provides a Beneficiary Card for a child. In the register book the cured information is included.

- Registration Book.

  All Child's registration information is included into this book.

- Beneficiary Card.

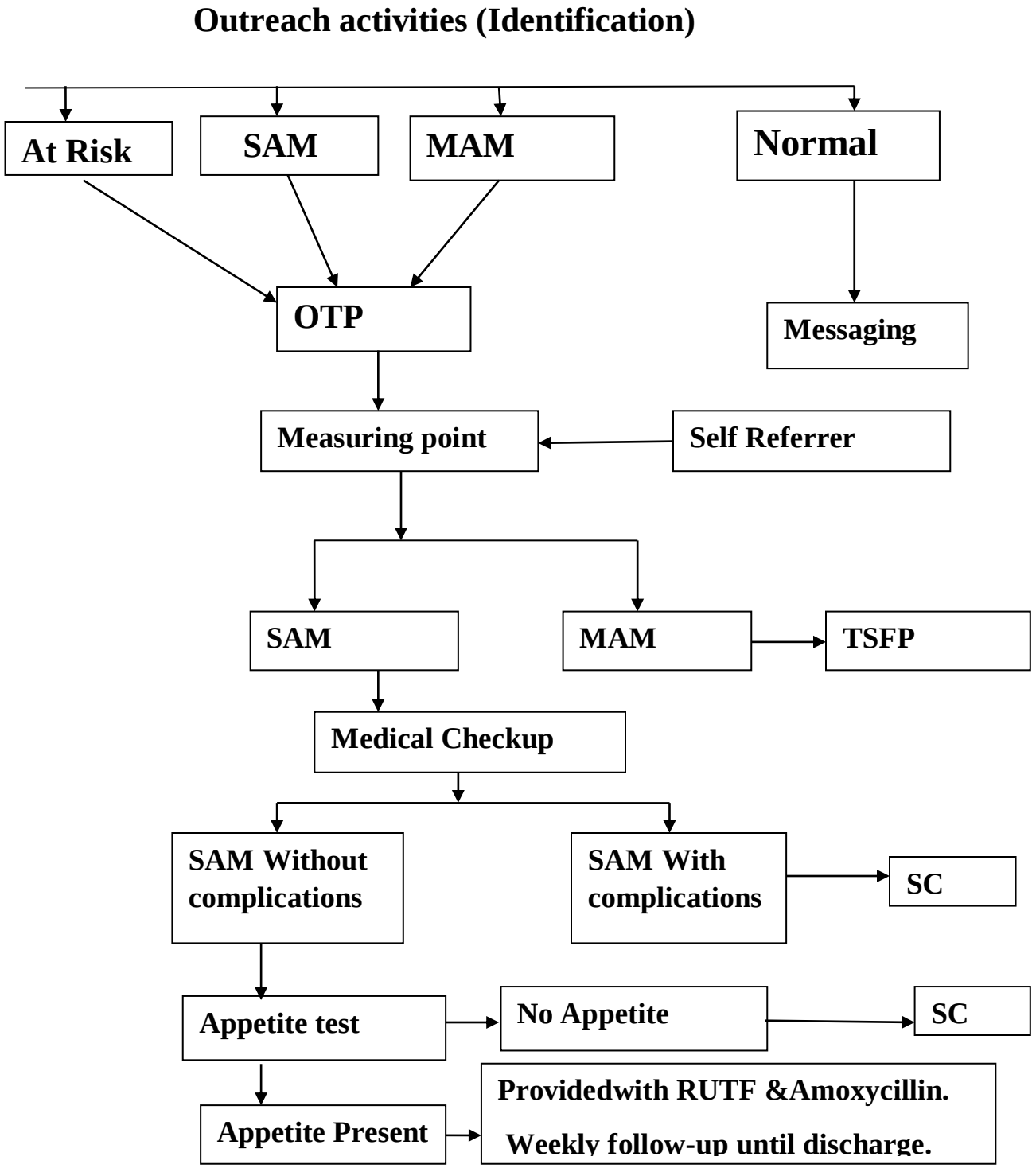
  This card is provided to the child's guardian and here also the follow up of a child is written down.

RUTF Distribution

RUTF distributed by following a standard table.

3.3. OTP framework:

The flow chart of OTP activities:



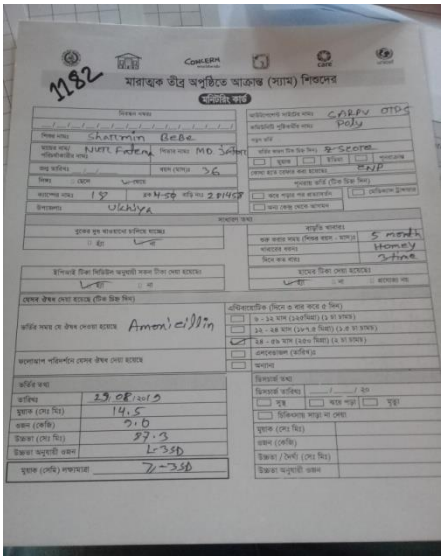
3.4. OTP camp-18 Reported child:

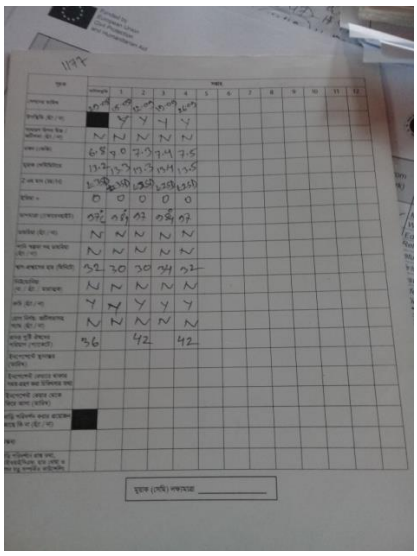
Block-A=19 sub block.

In total <5 child	78,978
In total SAM	1257
In total MAM	3173
MAM referred to TSFP	1819
Discharged	1034

3.5. OTP treatment card:

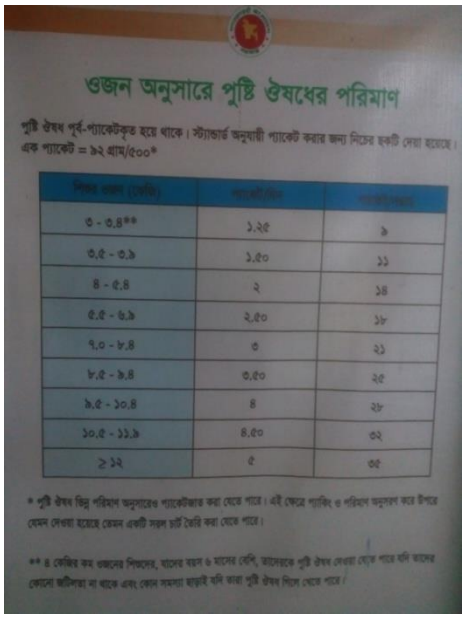
Image of OTP treatment card:





3.6. Table of RUTF distribution:

Image of RUTF distribution:



ওজন অনুসারে পুষ্টি ঔষধের পরিমাণ

পুষ্টি ঔষধ পূর্ব-প্যাকেটকৃত হয়ে থাকে। স্ট্যান্ডার্ড অনুযায়ী প্যাকেট করার জন্য নিচের ছকটি দেয়া হয়েছে।
এক প্যাকেট = ৯২ গ্রাম/৫০০*

৩ - ৩.৪**	১.২৫	৯
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৪ - ৫.৪	২	১৪
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৭.০ - ৮.৪	৩	২১
৮.৫ - ৯.৪	৩.৫০	২৫
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≥ ১২	৫	৩৫

* পুষ্টি ঔষধ ভিন্ন পরিমাণ অনুসারেও প্যাকেটজাত করা যেতে পারে। এই ক্ষেত্রে প্যাকিং ও পরিমাণ অনুসরণ করে উপরে যেমন দেওয়া হয়েছে তেমন একটি সহজ চার্ট তৈরি করা যেতে পারে।

** ৪ কেজির কম ওজনের শিশুদের, যাদের বয়স ৬ মাসের বেশি, তাদেরকে পুষ্টি ঔষধ দেওয়া যেতে পারে যদি তাদের কোনো জটিলতা না থাকে এবং কোন সমস্যা হাড়াই যদি তারা পুষ্টি ঔষধ নিতে যেতে পারে।

3.7. Table of Z-Score:

Image of Z-Score:

Weight – for- Length/Height Reference Card

CHAPTER-4

ENIS feedback and improvement:

4.1. Identified problems and solving of ENIS system:

The temperature was not in decimal number	Solved
After inputting the Albendazol and Measles data the page got broken down	Solved
After entering the discharged criteria the page got broken down	Solved
Firstly the whole system was in a single web page, but it was needed to be spitted in different steps.	Solved
When Readmission after non recovery was entered the page got broke down.	Solved

4.2. Advantages of ENIS:

- It will reduce the paper works.
- It will reduce the work load of the employeers.
- Time saving.
- It will increase the speed of working.
- It will help in decision making of CMAM.
- Graphical presentation.
- Easy reporting.
- No risk of data damage.
- No risk of duplicate registration.
- Globally communicable.
- Easy to evaluate the nutritional status of a community.

4.3. Challenges can be faced in future after implementation:

- The staffs should be monitored properly after developing any option of the system.
- The facilitator can't feel the system is friendly to them; they need proper training on the system.
- The system can results some bugs and the technical partners should provide ongoing support for troubleshooting.
- The system can be impact as difficult for the facilitator; it should be more users friendly.
- Delays in sorting software and programming issues can be negative impacts on users.
- In future new components can be added into the system for the purpose of development and have to conduct a workshop training on the system.
- Lengthy time take can be a challenge for the implementation of the ENIS.
- Unexpected cost, lack of frameworks can affect the implementation of ENIS.
- Regular user observation should be undertaken and project staff should be monitored.
- The majority of technical support is remote rather than on-site. As a result the reporting functionality may not be completed.
- The reporting function should be completed on time, otherwise it will effect doubled the workload of facilitator.
- On the first phase of implementation, the system might seem time consuming to the facility personnel. Hence, it will be adapted by them if they get proper on-site support.
- Lack of framework can be a barrier in future for implementation.

Conclusion:

ENIS system is an online system of CMAM for the purpose of greater result in nutrition sector of a community. Many other organization has implemented online system of CMAM and after a sever period of proto type testing and solution they have succeeded. CMAM works for vulnerable child who are suffering from malnutrition. There are three types of malnutrition in a community can have. 1) SAM (Severe Acute Malnutrition), 2) MAM (Moderate Acute Malnutrition) 3) Normal child. ENIS will automatically generate reports from the inputted data of Childs. The system will show the overall nutritional status of community's child. In this proto type testing the emergency nutrition data officers solved many finding and also collect a lot of feedback on the basis of ENIS improvement.

Overview of ENIS, it will be a great implementation of UNICEF for CMAM.