

Objective Oriented Outcome Evaluation of Outpatient Therapeutics Program for Severe Acute Malnutrition of Children in Soro Woreda, Hadiya Zone, South Nation Nationalities of People Region,2016.

Evaluation Report submitted to Jimma University, College of Health Sciences, Department of Health Economics, Management and Policy, Health Monitoring and Evaluation Program Unit for Partial Fulfillment of the Requirements of the Degree of Master of Science (MSc) in Health Monitoring and Evaluation.

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We, the undersigned members of the Board of Examiners of the final MA open defense by Mishamo Workneh, have read and evaluated his thesis entitled " Objective Oriented Outcome Evaluation of Outpatient Therapeutics Program for Sever Acute Malnourished Children in Soro Woreda, Hadiya Zone, SNNPR by 2016" and examined the candidate. This is therefore to certify that this thesis has been accepted in partial fulfillment of the requirements for the Degree of Master of Health Monitoring and Evaluation

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Declaration Letter

I, Mishamo Workneh confirm by my signature that this thesis is my original work and has not been presented for a degree in any other university, and that all sources of material used for the thesis have been duly acknowledged.

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Executive Summary

Background: *Outpatient Therapeutic feeding Program (OTP) brings the services for management of Severe Acute Malnutrition (SAM) closer to the community. It makes services available at decentralized treatment points within the primary health care settings, through the use of ready-to-use therapeutic foods.*

Evaluation Objective: *To evaluate if the Intended objectives of the outpatient therapeutic program were in line with implemented objectives in Hadiya zone soro woreda in 2016*

Methods and Materials: *Cross sectional study design was carried with a method of both quantitative and qualitative data in Hadiya zone soro woreda at selected health posts. The evaluation dimensions were availability, compliance, and effectiveness. Data collection method were resource inventory, key informants interview, direct observation of severe acute malnutrition management and card reviews which done from March/07/2015 to March 31 /2015 . Qualitative data were collected with structured questionnaire and entered in to epi-enfo and exported to SPSS version-20 for further analysis Bivariate and multivariate logistic regression were used. Quantitative data was analyzed manually by considering thematic area.*

Results:-*Among 15 health posts which were included in this study regarding to availability dimension 100% health posts had trained health extension workers. Ready used therapeutic food was available with no stock out for the last six months about 86.7% and all health posts have functional thermometer, Mid-upper arm circumference tape and outpatient therapeutic program cards. However routine drugs and accessibility of water were critical issue in all HPs. In the case of compliance from those observed 60 cases Mid-upper arm circumference was not measured for 20 (44.5%). Clinical outcome for total 402 reviewed cards were 285(70.9%) for cured, death 7 (1.7%), defaulter 75 (18.7%), non-responder 19(4.7%) and unknown 16 (4%). The average weight gain in gram per kilogram per day of children was 4.26 with standard deviation of 2.72. In most of the health posts routine supportive supervision was not conducted by focusing of program. Some of the available drugs were not distributed timely by considering case load in health posts.*

Conclusion:- *Generally availability of resources were not as the intended of the woreda plan, compliance of health extension workers of the service provision was fair and an effectiveness of the intervention was in good condition as woreda plan, and as well as national OTP guideline.*

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List of Abbreviation and Acronyms

CMAM	Community Management of Acute Malnutrition
EA	Evaluability Assessment
EDHS	Ethiopian Demographic Health Survey
HCPs	Health Care Providers
HAD	Health Development Army
MAM	Moderate Acute Malnutrition
MUAC	Mid Upper Arm Circumference
NCHS	National Center of Health Statistics
NNP	National Nutrition Program
OTP	Outpatient Therapeutic Program
RDT	Rapid Diagnostics Test
RUTF	Ready to Use Therapeutic Foods
SAM	Severe Acute Malnutrition
SC	Stabilization Center
SFP	Supplementary Feeding Program
SNNPR	South Nation Nationalities People Region
TFP	Therapeutic Feeding Programs
UNICEF	United Nations International Child Emergency Fund
WDA	Women Development Army
WHO	World Health Organization
W/H	Weight for Height
W/L	Weight for Length

Operational definitions

Appropriate appetite Test: -One of the activities which has done by health extension worker during providing OTP service by considering of national guideline procedures. It was determining during direct observation while the services undertaken

Availability: The relationship between the volume and type of services (and resources) to the clients volume and type of needs. It was determined during data collection day by observing all required human and material resources through structured observation checklist which was prepared based on the national guideline.

Compliance: Is the way in which activities are performed and services are delivered to clients that meets the standards of the guidelines. This was determined by observing health extension workers during data collection day while they doing every activities regarding selected question

Effectiveness: For this evaluation it is restricted (focused) on operational outcomes (clinical outcomes) of the OTP intervention based on the cure rate, death rate, and defaulter rate, average length of stay and mean weight gain of children

Quick reference book: - a book which was prepared for service providers in Amharic language it contains short notes from the national guideline to get information quickly

In addition to these operational definitions in this evaluation report some of the definitions of terms were included. List of definitions were adopted from protocol for management of severe acute malnutrition of Ethiopia –Federal Ministry of Health March 2007.

Definition of Terms/Standard definition

Admission criteria: - For this program it refers to W/H or W/L < 70%³ or MUAC < 110 mm with a Length > 65 cm or Presence of bilateral pitting edema

Cured: - For children with SAM admitted to OTP based on MUAC who reach a target weight at a minimum stay of 8 weeks in the OTP & for children admitted based on edema cure is absence of pitting edema for two consecutive weighing .

Cure rate: - Number of patient discharged for recovery per total number of exits

Death:-Patient that has died while he was in the program at health post, the death must be confirmed by home visit by health extension workers

Death rate: - Number of patient died in the program per total number of exits

Defaulter: - when severely malnourished children become absent for 2 consecutive weighing (14 days).

Defaulter rate: - Number of true defaulters per total number of exits

Discharge criteria:- Admitted SAM child who have no edema for two weeks or when reaches target weight

Mean length of stay: - The sum of number of days for each recovered patients per number of recovered patients. This is only for the recovered patients for each category.

Medical complication:-The SAM patients who show the complication either of bilateral pitting edema Grade 3 (+++), marasmus-kwashiorkor (W/H<70% with edema or MUAC<11cm with edema), Severe vomiting/ intractable vomiting, Fever > 39°C, fast breathing and like.

Moderate acute malnutrition (MAM):- a weight-for-height measurement of 70% to 80% of the WHO or NCHS median; or $\geq -3SD$ & $< -2SD$ of the mean; or a MUAC of equal to or greater than 110 and less than 120 mm and no pitting edema or both in children age 6 to 59 months

New admission:-Patients that are directly admitted to the program to start the nutritional treatment are new admissions. They are recorded into 3 different columns: either of “Wasted patients”, “Edematous patients” or “Relapses”

Non responder:-Patient that has not reached the discharge criteria after 2 months in the out-patient program

Non responder rate: - Number of non-responder per total number of exits has to be confirmed by a home visit by the health extension worker.

Relapse:-A case is considered to be a relapse if that patient has ever been severely malnourished before and cured

Severe acute malnutrition (SAM) – a weight-for-height measurement of below 70% of the WHO or National Centre for Health Statistics (NCHS) median or $< -3SD$ of the mean; or presence of bilateral pitting edema of nutritional origin (also called kwashiorkor); or a

mid-upper-arm circumference of less than 110 mm (Marasmus) or both in children age 6 to 59 months

Unknown:-Patient that is absent for 3 consecutive weighing in out-patient care (21 days) but the outcome (actual defaulting or death) is not confirmed/ verified by a home visit

Chapter 1: Introduction

1.1: Background

Malnutrition is abnormal physiological condition caused by deficiencies, excesses or imbalances in energy, protein and/or other nutrients. Malnutrition is also defined as “a state in which the physical function of an individual is impaired to the point where he/she can no longer maintain adequate bodily performance processes such as growth, pregnancy, lactation, physical work, and resisting and recovering from disease”. But in the case of under nutrition, this definition does not take into account the cause of unintentional weight loss. Malnutrition is categorized as acute or chronic. It can be either under-nutrition or over-nutrition (1).

Severe acute malnutrition (SAM), is defined as a weight-for-height measurement of less than 70% or weight-for-height ratio of less than 3 standard deviations or more below the mean National Centre for Health Statistics reference values, which is called “wasted”; the presence of bilateral pitting edema of nutritional origin, which is called “edematous malnutrition”; or a mid-upper-arm circumference of less than 110 mm in children age 6 month –5 years(1, 2).

There are two basic nutritional interventions that serve as mechanisms for providing quality food in the quantity needed to feed populations in emergency situations. These two interventions include General Food Distribution and Selective Feeding Programs. General food distributions required is necessary when a population does not have access to sufficient food to meet its nutritional needs. So this helps to ensuring an adequate basic ration for the affected population is of utmost importance at the onset of an emergency. On the other way selective feeding programs target those most nutritionally vulnerable groups through supplementary feeding and those in need of nutritional rehabilitation through therapeutic feeding. supplementary feeding programs can be either targeted :where supplementary food is restricted to only those individuals identified as the most malnourished or most nutritionally vulnerable/at risk during nutritional emergencies, and blanket :where supplementary food is distributed as temporary measure to all vulnerable members of a population at-risk of becoming malnourished without identifying the most

malnourished. The general objective of blanket SFP is to prevent widespread malnutrition and mortality(3).

Therapeutic feeding programs are the last type of selective feeding program. TFPs provide both a rehabilitative diet and medical treatment for diseases and complications associated with the presence of severe acute malnutrition. Reducing mortality among acutely severely malnourished individuals and restore health through rehabilitating them are the main aim of therapeutic feeding program. TFPs may be administered through therapeutic feeding center (TFC), stabilization center (SC) and outpatient therapeutic program (OTP)(3, 4).

The OTP approach treats the majority of the acutely, severely malnourished at home and focuses on outreach and community mobilization to promote participation and behavioral change. Central to the home-based care of the acutely, severely malnourished is the provision of appropriate therapeutic foods containing the right mix of nutrients that will aid in treatment and rehabilitation. Ready to Use Therapeutic Foods (RUTF) have been specially designed for this purpose(2, 4).

1.2: Statement of the problem

Globally, it is estimated that there are nearly 60 million children with Moderate Acute Malnutrition (MAM) and 20 million with Severe Acute Malnutrition (SAM). About 9% of sub-Saharan African and 15% of south Asian children have MAM and about 2% of children in developing countries have SAM(1, 5).According to World Health organization (WHO), children suffering from SAM have a 5-20 times greater risk of death than well-nourished children. SAM can directly cause death or indirectly increase the fatality rate in children suffering from diarrhea and pneumonia. Current estimates suggest that about 1 million children die every year from SAM(2, 6).

In developing world malnutrition still a major public health problem .From10-11 million under 5 years children who die in each year with preventable causes; malnutrition contributes over 50% of the death.(7-9). Acute malnutrition is extremely common

condition, associated with high rates of mortality and morbidity, so it needs specialized treatment and prevention interventions. (10) This is equivalent to almost 60 million children suffering from moderate and 13 million suffering from severe acute malnutrition at any one time. Although data are imprecise, it is known that the risk of mortality in acute malnutrition is directly related to severity, with moderate wasting associated with a mortality of between 30-115/1000/year(11-13) and severe wasting associated with a mortality rate of between 73-187 / 1000 / year(11).

Similar study that was done by united nations International Emergency Fund (UNICEF) in those developing countries estimates that either directly or indirectly malnutrition contributes 53% of deaths and 26 million under five children was suffer from SAM(14). The majority of those affected cases are found in South Asia and Sub Saharan Africa. Approximately 1-2 million children die every year from severe acute malnutrition. It is reported that SAM is the commonest reason for pediatric hospital admission in many poor countries. Twenty five to 30% of children with severe malnutrition die during hospital admissions(1).

Ethiopia is one of the countries with highest under-five child mortality rate, with malnutrition underlying to 57% of all children deaths. According to 2011 Ethiopian Demographic Health Survey (EDHS) report the percentage of children who are stunted (below -2 standards Deviation (SD) is 44 percent; of which 21 percent are severely stunted. In rural areas, 46 percent of children are stunted, versus 32 percent of children in urban areas(1). Additionally Ethiopia remains in an intolerable situation where under nutrition is the main cause to half of its child deaths and wasting contributing to 23 per cent of these deaths (5).

The percentage of stunting, wasting and underweight in South Nation Nationality People Region were 44.1, 7.6 and 28.3 respectively .Malnutrition has severe consequences. Malnutrition reduces functioning of the immune system, wound healing, increases the chance of developing pressure sores, impairs the quality of life and increases mortality. These complications of malnutrition lead to increased length of stay in hospital with

increased use of medication, leading to increased healthcare costs. In children malnutrition not only has direct consequences, but, because a child is developing, it also causes long-term effects such as lower intelligence quotient and retard the growth or development (15).

In Ethiopia to prevent malnutrition problems different interventions have been implemented. Outpatient therapeutic program is one of the interventions which have done in the community level to maximize an access and screening coverage of SAM children. However different studies and reports show that there are challenges or limitations that hinder the program to be meet its objectives. The study conducted on three region of Ethiopia (AdisAbeba, Oromia & SNNPR) show that poor management of supplies, incomplete availability of all supplies according to the OTP protocol and interruption of supply delivery to the HP were the main encountered operational problems .As result of these problems management of cases successfully must be difficult .So availability of supplies as per the OTP national protocol is the most important implementation or process indicator(16).

The evaluation that was done by United Nations International Child Emergency Fund (UNICEF) on community management of acute malnutrition (CMAM) in Ethiopia show that the expansion and decentralization of services have significantly increased .However the service (screening of SAM children) coverage have the main challenges in the country . Regarding to performance of OTP service the study indicated that The CMAM programme in Ethiopia made impressive achievements with regard to the Sphere Standard. But the problem here is that it does not show that each clinical outcomes meet as intended in the program is under question (6, 17). In addition to these inconsistent record keeping and use of monitoring information is the main problem which happens in the program. According to evaluation conducted in Ethiopia important information on admitted children was not recorded as national OTP guidelines. Different protocols reporting and recording materials are not utilized by the woredas, health workers and HEWs for improving the service and decision-making. They mainly use it for reporting purposes and RUTF stock requests(6, 18).

According to 2014/2015 annual report of Hadiya zone health department in OTP program showed that challenges need to be addressed to improve the program. Errors in admissions and discharges is one of challenges which is happen reportedly either inclusion or exclusion in admissions, e.g. children who did not meet the admission requirements were admitted while others who met requirements were not admitted. Some children were not discharged in a timely manner and remained too long on the program, which affects effectiveness as well as efficiency. Another challenge is RUTF miss-use in the community; one of the concerns of CMAM effectiveness is sharing RUTF among non-SAM children, which is likely to reduce the effectiveness of the treatment. Also selling of RUTF in public market is another problem. This may be arising due to lack of confederation of RUTF as a drug. So continuous follow up and supportive supervision must be mandatory at each level of health facility.

According to 2014/2015 annual report of the soro woreda in Hadiya zone, rate of defaulter was accounts 13% of children admitted to the intervention which is high as compared to 10% of total addition in non-emergency situation. This implies that poor follow up of SAM case through home visit conduct. Furthermore average weight gain children admitted to the intervention whose outcome was cured has not yet known properly. Average weight gain has great implication on the success of program implication. Other clinical outcome like average length of stay of children in the program was not addressed. This indicator helps to identify the implementation process regarding to compliance. In this study as type of evaluation which largely focused on empirical method for evaluating clinical outcomes, but not examining the cogency of the rationale behind each objectives. Additionally the evaluation identified different gaps which affect the program to implement as intended.

1.3: Significance of the evaluation

The study will predict to find out if the OTP in soro woreda achieved as they planned by comparing actual coverage of screening SAM children and effectiveness of clinical outcomes.. In addition, the study will envisage finding ways for the improvement of the OTP in the district with similar contexts. It will also serve as a baseline for further large scale studies in the field, and contributes in bridging the information gap. The study

findings could also be used by the local zone and district health offices, NGOs, other service providers, and donor agencies in designing locally appropriate nutrition intervention projects. Finally, the findings of the study will be used by soro woreda health office to inform the health workers in the district to improve the OTP service delivery to the community, which in turn contributes to reduced child morbidity and mortality in the area

Chapter 2: Program Description

The OTP provides treatment and rehabilitation for children with severe malnutrition with no additional serious medical complications. OTP adopts a public health approach to managing acute, severe malnutrition that aims to maximize clinical outcomes and coverage. It facilitates access and coverage by bringing services closer to the household, rather than waiting for caregivers to bring malnourished children to a center. This is in contrast to standard inpatient center-based programs that focus on individual medical care and hence can only manage limited numbers. According to different guidelines OTP has achieved positive outcomes in terms of mortality, cure and default compared to Sphere minimum standards and has been shown to achieve much higher coverage and better access than standard TFC approaches(3).

Patients in the OTP receive routine medicines for severe malnutrition (oral antibiotics, folic acid, anti-helminthes drugs and if appropriate anti-malarias and 200Kcal/kg/day of RUTF to eat at home. They attend the OTP every week to have a medical checkup, receive additional medical treatments if required, and to be given a supply of RUTF sufficient until their next appointment(4). Children of 6- 59 months with MUAC < 110mm and bilateral pitting oedema are eligible for admission in the OTP .Before admission, all patients are assessed by a Health extension workers. The examination includes checking for oedema, appetite, vomiting, temperature, respiration rate, and anemia and hydration status. The appetite test was assessed by giving the child RUTF to eat and examining them whether they eat according to their weight or not. Care should be taken to provide sufficient time and a calm environment to allow the child to eat the RUTF in its own time(4, 10). Also based on the treatment guideline routine medicines are given to all children admitted to the OTP. The most common treatments and prophylaxis offered as part of OTP should include: (3)

- ⇒ Vitamin A and Iron supplementation
- ⇒ Measles immunization
- ⇒ De-worming (Mebendazole/Piperazine treatment)
- ⇒ Malaria testing/treatment/referral

2.1: Program stakeholders

Active involvement of stakeholders will help to ensure the evaluation process goes more smoothly and ensures the evaluation findings to be used effectively. On the other hand lack of active involvement of key program stakeholders results lack of cooperation in evaluation process and ignorance of evaluation findings. During evaluability assessment discussion was conducted with key stakeholders of the program in Hadiya zone Soroworeda from September 18-24/2015/2016. Through discussion agreement reached on program goal, objective and strategies. Further stakeholder's role in the program, perspectives in evaluation, role in evaluation and their level of importance were identified as presented in the table below. Here the level of importance was decided based on the formal power of the program stakeholder.

Table 1:- Stakeholder Identification and Analysis Matrix in soro Woreda by 2016G.C

Stakeholder	Role in the Program	Stakeholder interest in evaluation	Role In The Evaluation	Communication Strategy	Level of Importance
SNNPR health bureau	Delivery of protocol, guidelines supply and equipment's Providing technical support and supervision	Use the evaluation finding as an input for program improvement, Decision making, resource allocation	Source of data, Interpreting findings and disseminating information	Letter	H
Hadiya Zone Health Department	Technical support Resource Allocation and Capacity building (training), ISS, conduct review meeting	Use the evaluation finding as an input for program improvement, Decision making, resource allocation)	Describing program activities and context ,Source of data, Interpreting findings and disseminating information	Face To Face	H
SoroWoredaHealth Office	Plan, implementation, Provide Technical Support and Facilitate Management Activities, Record and report, Monitoring, budget allocation, training of HEWs, ISS conduct review meeting	Use evaluation findings for program improvement and effectiveness	Formulation of Evaluation Question, set judgment criteria Serving as sources of data Interpreting findings ,Describing program activities, context, priorities and goal	Face To Face	H
SoroWoreda administration	Community mobilization, Resource allocation Budget allocation	Use evaluation finding for resource allocation and decision making	Defining the problem	Face to face Letter Tell phone	H
Health center and health care providers	Plan, Program Implementation, monitoring and follow up, community mobilization, ISS, capacity building, Recording and reporting	Use the findings for program implementation & improvement	Source of Information, Formulation of Evaluation Question, set judgment criteria Serving as sources of data Interpreting findings	Face To Face Tell phone Letter	H

Stakeholder	Role in the Program	Stakeholder interest in evaluation	Role In The Evaluation	Communication Strategy	Level of Importance
Health post	Plan, Implementation , monitor , follow up, recording and reporting	Use the findings for program implementation improvement	Source of information, Formulation of Evaluation Question, set judgment criteria Serving as sources of data Interpreting findings	Face to face Tell phone Letter	L
Kebele administration	Community mobilization , Strengthen of HDA ,approval of program plan and achievement	Utilizing the results for Improvement in the provision of service collaboration in program implementation	Serving as sources of data during the evaluation Transferring information Use the findings for client mobilization	Face to face Letter Tell phone	L
Health Development Army(HDA)	Community mobilization Support and facilitate implementation	Utilizing the results for Improvement in the provision of service	Serving as sources of data during the evaluation	Face to face	
NGOs (UNICEFs, IFHP, save the children)	Capacity Building Providing RUTF and Support Resource	Program improvement	Selection of indicator, Formulation of Evaluation Question, set judgment criteria	Face to face Tell phone,	M

2.2: Expected program effects/Goal and objectives

All people should receive appropriate care and assistance for outpatient therapeutic program (OTP) on the basic principle that whose lives are at risk from malnutrition .In practice this principle translates in to a commitment and obligation to provide the largest possible proportion of the acutely malnourished population with access to appropriate care in a timely fashion for as long as necessary. The main and basic guiding principles of OTP are achieve the greatest possible coverage and make service accessible for the planed population (Maximum coverage and access), the program should reach the cases before further medical complications occur (Timeliness) and providing simple, effective outpatient care for those who can treat at health posts (Appropriate care)(4, 10).In addition to this the program is expected to contributes the main role on mortality and morbidity of SAM children with increasing the coverage and maximizing the effectiveness. Improving length of stay improving average weight gain and increasing of cure were the main indicators to effectiveness of the program(4).

Generally OTP Provide a rehabilitative diet together with medical treatment for diseases and complications associated with the presence of severe acute malnutrition. The specific aim of OTPs is to reduce mortality among severely acute malnourished individuals and to restore health through rehabilitating them. During evaluability assessment (EA) in the soro woreda health office there was no separately stated objectives for the OTP program. Although they haven't set a clear objectives, during EA by evaluator and stakeholders the program objectives have clearly stated.

Goal: -To reduce the morbidity and mortality of children due to SAM in the Soro Woreda by 2015

Objectives

- ⇒ To increase the identification of SAM cases from 80%to 95% by 2015
- ⇒ To decrease the prevalence of stunting from 42.1% to 30% by 2015
- ⇒ To decrease the prevalence of wasting from 7.6 % to 3% by 2015
- ⇒ To shorter length of stay to less than 8 weeks
- ⇒ To increase cure rate from 80% to 85% by 2015

- ⇒ To achieve zero death rate by 2015
- ⇒ To decrease defaulter rate from 17% to 15% by 2015
- ⇒ To decrease non responder of admitted children in OTP from 7% to 5% by 2015

2.3: Major strategies

Capacity building

- ✚ Enhanced skill of the staff in screening and treating a severely malnourished child at the health center and health post level
- ✚ Giving responsibility for trained health personnel on management SAM cases
- ✚ Giving orientation on national OTP protocol for new health professionals

Community mobilization

- ✚ Creating awareness among community on SAM cases
- ✚ Giving training or awareness creation for developmental army on how to screen cases of SAM using bilateral oedima and mid upper arm circumference and how to refer
- ✚ Strongly link the OTP with other related health extension programs

Supply acquisition and refilling

- ✚ Ensuring continuous and sustainable availability of the supply
- ✚ Checking of the availability of supplies according to the national OTP protocol in each health facilities
- ✚ Build strong communication in regard to the early acquisition of supplies

Supportive supervision

- ✚ Build continuous supportive supervision at each level
- ✚ Developing standard check list according to health facility activities
- ✚ Make clear supervision findings quickly as much as possible by focusing on weakness side which will improved for the next visit
- ✚ Developing experience sharing among each health facility

2.4: Program components

Input

These are the people, money, and information needed usually from outside the program to mount (fix in position or on a support) program activities effectively(19).The inputs for the implementation of OTP program in the study area includes:

- * Skilled health care provider
- * Finance resource (budget)
- * Infrastructure
 - ✓ health posts
 - ✓ Health center
 - ✓ clean water
 - ✓ Electricity
 - ✓ Clean latrine
- * drugs
 - ✓ antibiotics (Amoxicillin)
 - ✓ anti-malaria with RDT
 - ✓ folic acid
 - ✓ vitamin A
 - ✓ deworming
- * RUTF (plump nut).
- * IEC/BCC materials.
- * OTP national guide line protocol& OTP Quick reference book
- * Recording & reporting tool
 - ✓ OTP card
 - ✓ Registration book
 - ✓ Monthly reporting formats, referral forms and standard supervision checklist.
- * Medical equipment
 - ✓ MUAC measuring tape
 - ✓ Thermometer, weighing scales and height measurement

Activities of the program

These are the actions mounted by the program and its staff to achieve the desired outcomes in the target groups(19, 20). The activities of the ICCM program includes:-

- Training for health providers at health center and health post level
- Budget allocation
- Identification and Measuring of SAM cases with appropriate anthropometric measurements
- Conducting an appetite test for SAM
- Assessing medical complication
- Providing RUTF and appropriate drug in weekly based
- Discharge admitted children according to the guide line and give health information for care takers
- Referring complicated cases to next level
- Conducting review meeting
- Conducting supportive supervision
- Recording and reporting each activity.

Output of the program

Outputs are the direct products of activities, usually some sort of tangible deliverable. Outputs can be viewed as activities redefined intangible or countable terms. They are usually the immediate results of using the program resources(19, 20). The output of the OTP program in the study area includes:

- Number of trained health care providers (HEWs)
- Number of people received health information
- Amount of budget allocated
- Number of children whose anthropometric measurements are taken completely and correctly
- Number of SAM children correctly tested for appetite

- Number of SAM children with different medical complication who are correctly treated
- Number of SAM children with medical complication
- Number of SAM children given RUTF
- Number of SAM children who have medical complication treated with appropriate Rx
- Number children discharged from OTP program
- Number of SAM children with complication who are referred.
- Number of HP conducted review meeting
- Number of HP received ISS
- Number of HPs sent on time reports to next responsible body
- Number of HPs sent complete reports to next responsible body
- Increase identification of SAM case

Outcome of the program

Outcomes are the changes in someone (other than the program and its staff) that you hope will result from your program's activities. It is the effect of the program on the target beneficiaries(19, 20).

The outcome of the program includes:

- The rate of recovered cases improved (increased)
- Improved mean length of stay for cured SAM cases
- Improved acceptable average weight gain
- Service utilization increased by the community.

Impact of the program

Impact of the program is usually long term effect of the program on the whole society rather than the target beneficiaries of the program(19, 20).

The impact of the program includes:

- Reduction morbidity and mortality due to SAM

Goal: - To contribute reduction in morbidity and mortality of children due to SAM in the soro woreda by 2016

Statement of the problem: Ethiopia is one of the countries with highest under-five child mortality rate, with malnutrition underlying to 57% of all children deaths. OTP is one of interventions in the country, however, poor management of supplies, incomplete availability of all supplies according to the OTP protocol and interruption of supply delivery to the HP were the main encountered operational problems.

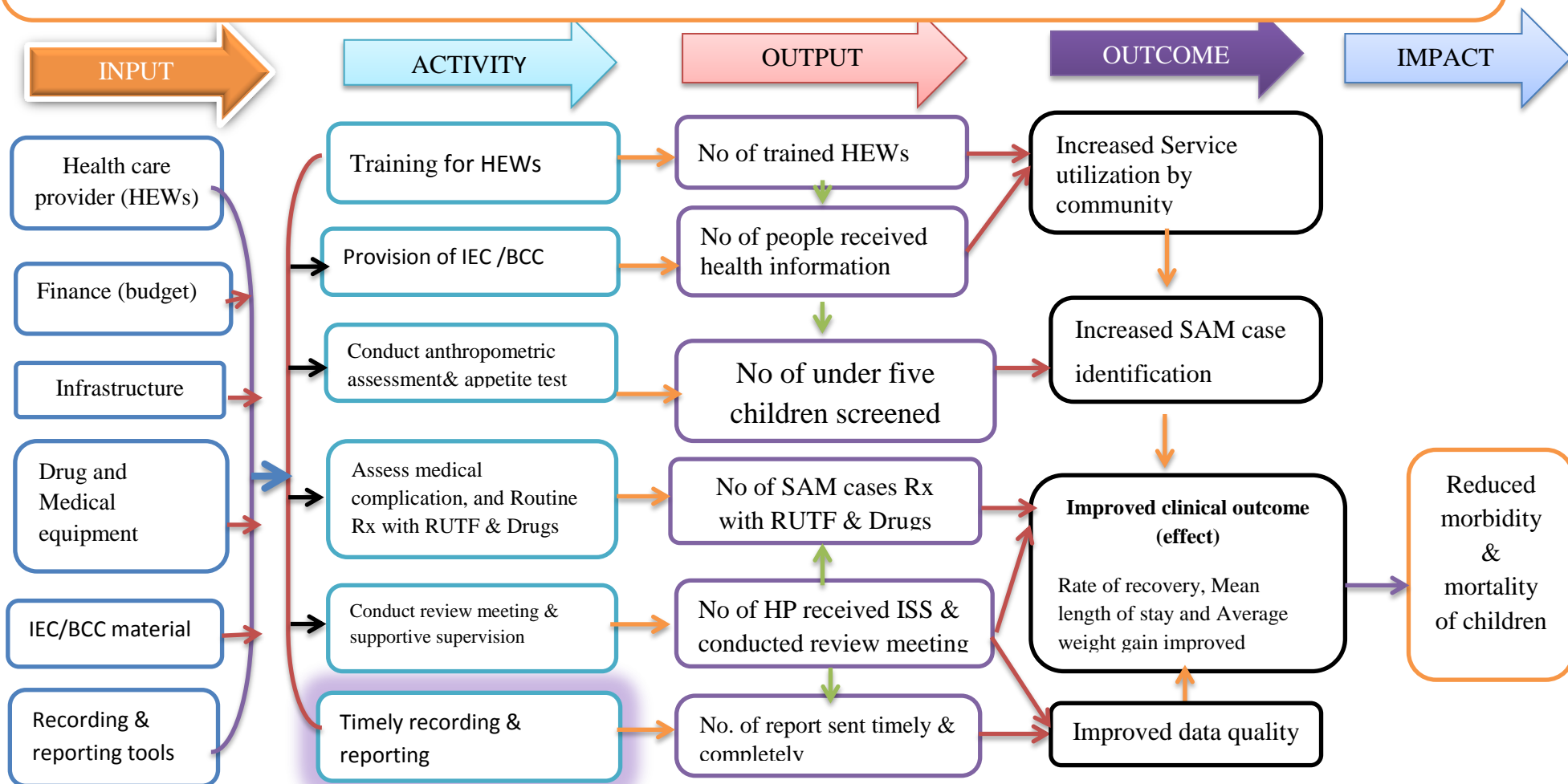


Figure 1 logic model of OTP for treatment of SAM in soro woreda, 2016

2.6: Stage of Program Development

World Health Organization, World Food Program and United Nations International Child Emergency Fund developed a shared Statement on community Management of Acute Malnutrition (CMAM) by acknowledging that “large numbers of children with severe acute malnutrition can be treated in their communities without being admitted to a health facility or a therapeutic feeding center” in March 2007 (21).

During the past 10 years, new community-based management approaches treating over 85% of SAM cases solely as outpatients using nutrient-dense, lipid-based Ready-to-Use Therapeutic Foods have dramatically reduced mortality and increased coverage rates. In 2005, this new model was endorsed by the UN under the name Community-based Management of Acute Malnutrition (CMAM) and has now been adopted by over 25 National governments and all major relief agencies. By 2009, approximately 1 million cases of SAM were being treated annually, with programs expanding by approximately 30% year on year (22).

CMAM is a combination of both stabilization center (SC) or inpatient program and outpatient (OTP) therapeutic feeding for the treatment of severe acute malnutrition. (21). In sub-Saharan Africa, with approximately 3% of under-five children affected by severe Acute Malnutrition (SAM) at any one time, and different efforts to treat these children as inpatients in district hospitals or health centers failed to address the problem before 2008. Due to this, there was poor coverage and mortality rates amongst those undergoing treatment remained extremely high at 20-30%, and unchanged from those seen before 2008 (23).

The Government of Ethiopia has committed to halve child under-five malnutrition (MDG 1) and mortality (MDG 4) by 2015. This has been reflected in the Growth and Transformation Plan. Furthermore, these goals are articulated within the Health Sector Development Plan IV and the National Nutrition Strategy. Importantly, Ethiopia recently launched the revised version of the National Nutrition Programme (NNP), which considers

CMAM an integral aspect, not only of emergency response, but of the overall resilience strategy of the Ministry of Health(24).

A small pilot for CMAM was first conducted in Southern Ethiopia in 2000. A food security crisis due to drought developed across many areas of the country during 2003 to 2004. This crisis was the catalyst for many INGOs to adopt the CMAM approach of treating the majority of cases as outpatients, through establishing the Therapeutic Feeding Centers (TFCs). From 2004 to 2005, the MoH (alongside partners including UNICEF and others), commenced scale-up of SAM treatment services; developing guidelines and establishing more outpatient services across the country. In 2007, following international endorsement of the CMAM approach; the national protocol for SAM treatment was revised to include detailed guidance for the Outpatient Therapeutic Program (OTP) and community mobilization activities(6, 14).

In 2008, a dramatic and rapid increase of SAM cases was seen across Oromia and Southern Nations, Nationalities and People's (SNNP) regions as food security deteriorated due to drought. Responding to this emergency by maximizing access and coverage of these life-saving services, the FMOH reviewed the evidence of CMAM effectiveness when implemented at health center level and made the decision to decentralize CMAM services to primary health care (health post) level; OTP managed by the HEWs(6). Ministry of Health included the management of severe malnutrition into the Health Extension Programme at health post level in 2008 to increase both coverage and access of service for the severely malnourished children (4).

In SNNPR initially 2008–2012 OTP programs were implemented by externally funded non-governmental organizations (NGOs) (25). In 2011/2012, the CMAM and OTP program were scaled up and integrated into the existing government health care system. The scaling up and integration took place in partnership with NGOs for RUTF supply and technical assistance (25). After development of a simplified SAM management protocol cadres of CHWs were trained in its application. Currently, treatment for uncomplicated

SAM cases should be available at all health posts (lowest level of primary health care system) in the region (26).

Hadiya zone is one of the zones in SNNPR the OTP program was started in 2011 in 10 selected health centers. This is because of at that time all health extension workers and health providers in HC have not taken training on the program .This figure indicating that the program is not decentered to the community. However, one of the program coordinator of zone mentioned that during 2012 all health extension workers got the training and the program was implanted as the routine program in all of the HPs in the Zone. As like to the zone in the same year in Soro Woreda the OTP program was implemented in the all rural 46 Health posts of the woreda .

Chapter 3: Literature Review

Malnutrition problem and its intervention

According to the degree of wasting and presence of oadema acute malnutrition is classified in to sever acute malnutrition and moderate acute malnutrition. If the wasting is sever means either W/H < 70% NCHS or MUAC less than 11mm, acute malnutrition is classified as sever acute malnutrition. But when the wasting is less sever means that W/H between 70% and80% NCHS median and MUAC between 11 to 11.99 mm it classify as moderate acute malnutrition(3).

Additionally Severe malnutrition is characterized by oedema, acute wasting, anorexia, metabolic disturbance, multiple infection, micronutrient deficiency, and behavioral and developmental changes. Severely malnourished patients are particularly vulnerable to diseases and medical complications that lead to death. The main causes of mortality during treatment include dehydration, infections, septic shock, hypoglycemia, hypothermia, cardiac failure, congestive heart failure and anemia(3).

Severely malnourished children generally suffer from diseases and other medical complications. As a result, the main objective of OTPs is to reduce mortality by providing intense medical and nutritional therapy(2).

The OTP offers services to severely malnourished children age 6–59 months. According to the protocol for management of SAM, Mid Upper Arm Circumference (MUAC) of less than 110 mms and/or weight-for-height ratio of less than 70% or presence of bilateral pitting edema are the eligibility admission criteria into the OTP. Regardless of these, children presented with medical problems won't be admitted to the OTP. Rather, they need to be referred to health facility which has stabilization center (SC). The SC is operational in selected health center and hospital which treats severely malnourished children with medical comorbidities (the presence of one or more disorders/ diseases) as inpatient at least until their illnesses get stabilized. The medical problems indicated for referral are fever.37.5uC, bloody or persistent diarrhea, persistent vomiting, open skin lesions, loss of appetite with Plumpynut and dehydration .Once admitted to the OTP,

children get a weekly Plumpynut ration. They receive different amount of Plumpynut sachets according to their body weight. They are also supplemented with the routine medications during the course of the treatment such as Vitamin A, Folic acid tabs, antibiotics, de-worming tabs and measles vaccine. Children admitted with marasmus cases get discharged from the OTP when they reach target weight and/or weight-for-height ratio.85%. Unlike the marasmus cases, the Kwashiorkor cases are discharged from the OTP after their edema gets disappeared regardless of their body weight status. These children are declared as ‘recovered’. Nonetheless, the children may have different outcomes such as ‘defaulter’, ‘non-respondent’, ‘medical transfer’ and ‘died’. ‘Defaulter’ is a patient that is absent for two consecutive weeks and confirmed that the patient is not dead by home visit. If the patient is confirmed as dead by home visit, s/he is labeled as ‘died’. A patient that has not reached either of the discharge criteria after staying under OTP intervention is determined to be ‘non-respondent’. A patient is determined as ‘Medial transfer’ when s/he develops any medical complications and referred to hospital for treatment under TFU.(2, 14, 22)

Community mobilization and sensitization

According to the Pakistan National Guidelines for the Management of Acute Malnutrition (2010) the purpose of community outreach is to:

- * Promote understanding and ownership of the program
- * Increase program coverage
- * Strengthen active case finding, referral and follow up
- * Understand reasons why people do not access services and reasons for absence and defaulting so that they can be addressed
- * Link prevention and treatment of malnutrition at the community level

Activities consist of identifying key community decision makers, engaging in dialogue with community members, training community providers in core functions, case finding and referral and follow-up visits to find absent or defaulted children. In the government health system, roles in community outreach are assigned to Lady Health Workers (LHW), Lady Health Visitors (LHV) and community health workers. Community volunteers can also be recruited to assist with case finding and follow up. In the delivery system through

Implementing Partners (IPs), all community outreach activities were accomplished through Social Mobilizers (SMs), Community Outreach Workers (COWs), and Nutrition and Health Educators. All workers were employees of the IPs and their tasks were not integrated with the government system. The COWs were assigned the task of door to door visits within the target community to screen, identify and refer malnourished children to the SFP/OTP center and ensure their compliance through follow-up visits. The Social Mobilizers facilitated COWs access to households(21).

In general the evaluation done on Pakistan showed that Almost 60% of children were referred to the SFP/OTP centers by COWs using a referral slip. A significant number of them, 36%, were also referred by other family members and community members. Only 3% were considered to be self-referred

Availability of resources and intake of routine medication

The study that was done in three region of Ethiopia (AddisAbeba, Oromia and SNNPR) on assessment of outpatient therapeutic feeding programs for severe acute malnutrition indicated that even though the supply for the plumpy nut was good in most district of the study regions, there were interruption in some places due to hoarding of the supplies at the regional stores. Also the study showed that in all the study area of three regions the supply was not available according to the OTP protocol .Supplies like mebendzole, folic acid, tetracycline eye ointment and amoxicillin were lacking in most study area. In Oromia region, the health facilities which run out of OTP cards kept records by improvising locally available papers(16).

According to evaluation of CMAM in Pakistan indicated that there is a large variation in the education and qualification levels of staff responsible for taking anthropometric measurements, registration and issuing of RUTF. It is clear that the effectiveness of training and other forms of capacity development impact programme performance; interviews suggest that well qualified staff were a determining factor in delivering quality services. In addition to this some training was not enough to prepare inexperienced trainees to implement their roles in CMAM. For those who lacked any background in

health and nutrition, much greater sensitivity was required to successfully carry out procedures and address various health and nutritional problems.(3, 21)

Once admitted to the OTP, children get a weekly Plumpynut ration. They receive different amount of Plumpynut sachets according to their body weight. They are also supplemented with the routine medications during the course of the treatment such as Vitamin A, Folic acid tabs, antibiotics, de-worming tabs and measles vaccine (22).

The retrospective cohort study that was shows that 44.3% of the children with at least one medical problem were managed under the OTP. The most frequent medical problem was diarrhea, 33.75%, and least was fever 6.4%. Additionally failure to gain any weight for \geq 3 weeks, vomiting (The medical problems were reported unclassified for their types, magnitude and severities also the same to diarrhea and cough), cough and appetite test failure was 22.77%, 30.72%, 19.26% and 12.89% respectively(14).

Compliance

Programs in which the beneficiary and the provider adhere strictly to the CMAM treatment protocol have a better cure rate than programs in which adherence to the CMAM treatment protocol treatment is compromised. Poor compliance can be a problem with the beneficiary (e.g. selling RUTF or sharing RUTF within the household) or a problem with the provider (e.g. RUTF and drug stock-outs) and both have a negative impact on effectiveness(27).

Under the OTP, according to the standard, children need to be administered routine medicines together with the Plumpynut. However, in retrospective cohort study that was done on OTP in Tigray, all children had taken Plumpynut, but 22.1% of the eligible children did not receive at least one of the routine medications. The rest of the children, 77.9% had received the routine medications partially. The most administered medications were amoxicillin (72.13%) and Vitamin A (59.17%) while the least was Folic acid which was administered to only (5.89%). The denominator for all was total eligible children in the study area. The proportion of each medication administered out of all medications (the denominator is the total medication administered) was 36%, 29.9%, 15.3%, 16.3%

and 2.9% for amoxicillin, vitamin A, de-worming, measles vaccine and folic acid respectively(14). As the study of assessment of outpatient therapeutic feeding programs for severe acute malnutrition on the three region of Ethiopia the supportive supervision and technical assistance, in most health facilities was inadequate and in consistent with the standards(16).

Program effectiveness (clinical outcome) indicators performance

The evaluation that was done on community management of acute malnutrition in Pakistan indicated that for OTP ,all districts performed well in terms of cured, default, and death rate, however all of them did not achieved the recommended average gain and the children spent more time in the program than standard in the study area. The outcome indicators of cured was ,91.5%, defaulter 75%, non-cured 0.8%, death 0.2% length of stay (LOS) 70 days and average weight gain (AWG) was 2g/kg/d(3).

Another retrospective cohort study on outpatient therapeutic feeding program outcomes and determinants in treatment of severe acute malnutrition in Tigray showed that proportion of children who recovered from SAM after treated in OTP (Recovery rate) was 61.78%. Additionally the study showed that proportion of children who died while under OTP intervention (death rate) was 3.02%, proportion of children who defaulted from the OTP (defaulter rate) was 13.853%, the average rate weight gain (rate of weight gain) was 5.23g/kg/d and number of weeks that the children stay under the OTP (average length of stay)was 6.24 weeks(14).

An evaluation that was conducted on OTP in North Darfur, Sudan showed that mortality rate of 2.9%. However, the mortality rate is difficult to interpret since children who may have died after discharge to the SFP are not indicted clearly in the evaluation. The average rate of defaulting was show different figures in different situation of the study area. For example the in the town area children who came from pastoralist families was 34% and in another location (Tina)(36%).Readmission rates were approximately 1.0% of total admissions mean length of stay in the OTP was estimated at 25 days for wasted

children and 35 days for edematous children OTP Mean weight gain was 6.6g/kg/day for wasted children and 1.8g/kg/day for edematous children(28).

A retrospective cohort study in an outpatient therapeutic feeding programme in Ethiopia during 2006 indicated that 144 (85%) patients recovered, seven (4%) died, 11 (6%) were transferred, and eight (5%) defaulted. Median time to discharge was 42 days and Median rate of weight gain was 3.16 g/ kg /day. From clinical records for 170 children aged 6–59 months(29).

The study on treatment Outcome and associated factors among under-five children with Severe Acute Malnutrition Admitted to Therapeutic Feeding Unit in Woldia, North Ethiopia , 2014 show that the mean (\pm SD) weight of severely malnourished children at admission was 6.8(\pm 2.88) kilograms while at discharge was 7.41(\pm 2.89) kilograms respectively. After completing the intervention, children showed 8% and 5% weight and MUAC increase during discharge as compared with their admission Weight and MUAC respectively. The mean (\pm SD) of WHZ-score for recovered children was -0.97(\pm 1.23) .In addition to this among 324 admitted children with SAM, 275(85%), 21(6%), 15(5%) and 13(4%) cases were cured, died, defaulters and transferred out respectively(30).

A retrospective review which was done on Treatment outcome of children with severe acute malnutrition admitted to therapeutic feeding centers in Southern Region of Ethiopia. The variable includes age, treatment centers, type of malnutrition and treatment outcome which were analyzed using descriptive statistics. From the total 11,335 cases of malnutrition, 47% (5447) had severe wasting and 53% (6103) had edematous malnutrition. From the total, 87% (11,191) were cured while 3.6% (468) had died. The average length of stay was 25 and 21 days with an average weight gain of 14 and 13.4 g/kg/d for children with severe wasting and edematous malnutrition, respectively(15).

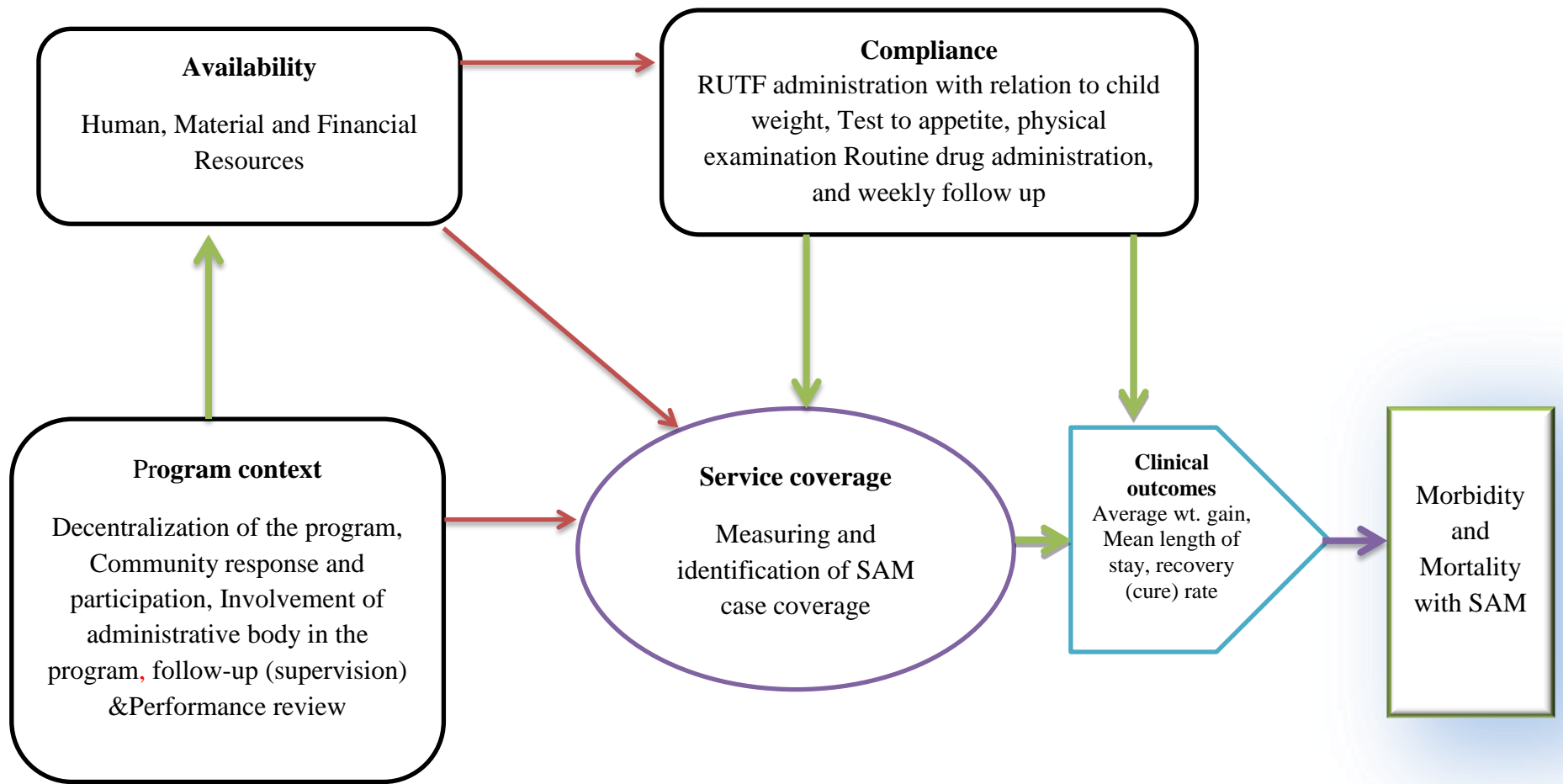


Figure 2 Conceptual frame work of OTP for treatment of SAM in Hadiya Zone Soro Woreda, 2016

Chapter 4: Evaluation Question and objectives

4.1: Evaluation Questions

Specific questions:

- Are resources needed for the implementation of OTP service available? If yes, how? If no why?
- Is the program implemented with congruence to the national nutrition implementation guideline? If yes how? If not why?
- Are the clinical outcomes of the program occurring as intended? If yes how? If not why?

4.2: Objectives

.General Objective

- To assess if the operational objectives of the OTP have been achieved in Hadiya zone, Soro Woreda in 2016.

. Specific objectives

- To assess the availability of resources needed for implementation of OTP service in Soro Woreda by 2015/2016.
- To assess congruence of program implementation to national standards in Soro Woreda by 2015/ 2016.
- To determine the cure rate of SAM cases in Soro Woreda by 2015.
- To determine defaulter rate of SAM cases in Soro Woreda by 2015.
- To determine non response rate of SAM cases in Soro Woreda by 2015.
- To determine death rate of SAM cases in soro woreda by 2015.
- To identify factors associated with clinical outcomes (effectiveness) of the program in Soro Woreda 2015.

Chapter 5: Evaluation Methods

5.1: Study area and period

The study was conducted in Soro woreda Hadiya zone SNNPR from March 07/2016 to March 31/2016. Soro woreda is one of 10 woredas in Hadiya zone, which is located 32 kilometer far from zonal town, Hosaina; 235 kilometer from Addis Ababa, the capital city of Ethiopia; and 194 kilometer from regional city, Hawassa. It is bordered by Lemo woreda in the East, Duna woreda in the North, Gombora woreda in the South and Oromia region & Yem Special Woreda in the west. The woreda is administratively divided in to 45 rural and 3 urban kebeles. 2007 Finance & economy bureau records indicated that the woreda has a total population of 235,894 from which Male 115,588 (49%), Female 120,306(51%) with 48,142 (4.9%) households. The woreda has 10 governmental health centers, and 46 health posts. It also has 1 middle clinic, 5 lower clinics and 3 drug stores which are privately owned. In all HPs OTP service was given by HEWs routinely. According to Soro Woreda health office annual report in 2015 total SAM those admitted and treated in all HP under OTP service were 1672(31).

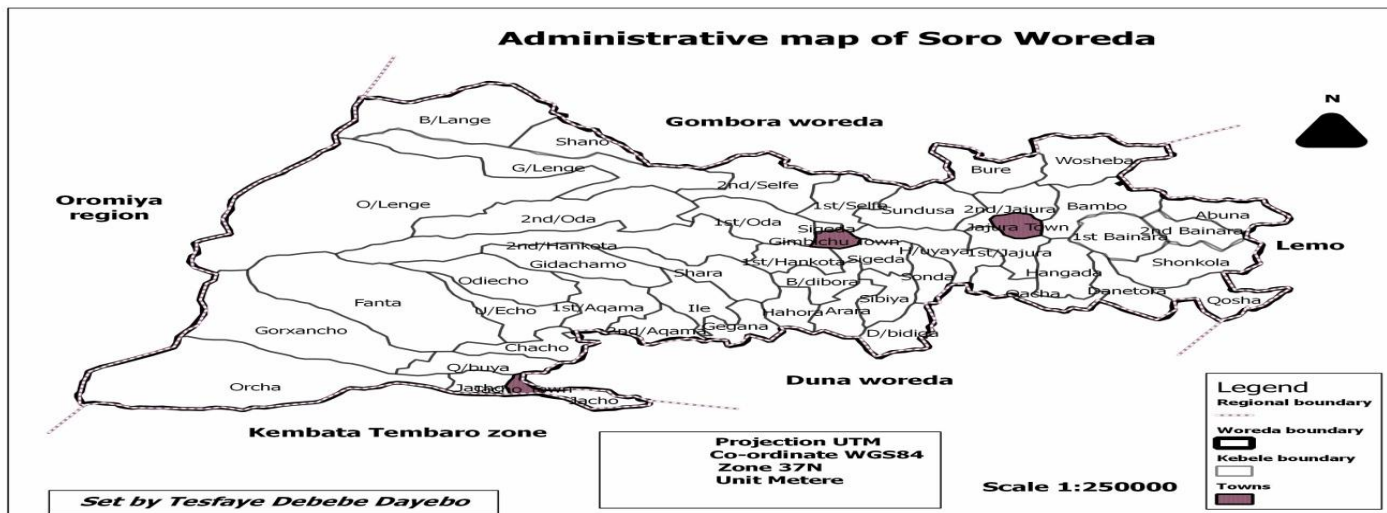


Figure 3-Administrative map of soro woreda

5.2: Evaluation approach

The distinguishing feature of an objective evaluation approach is that the purposes of some activities are specified, and then evaluation focuses on the extent to which those purposes (objectives) are achieved. The primary purpose of this evaluation was providing information to improve the OTP program in the HP. So evaluation approach was formative evaluation which was diagnosis on how the intended objective of a program occurred. It is usually performed to program improvement by providing feedback (information) which were used to identify the merit or worth parts of a program (12).

The information gained from this evaluation will be used to by the woreda to reformulate the purpose of the activity, the activity itself, or the assessment producers and devices used to determine the achievements of the objectives (purposes).

5.3: Evaluation design

Cross-sectional study was used to get a clear picture of study condition of a program at a certain period of time. It also used to demonstrate the extent of risk factors, distribution of variable, an association among variables and trends of risk factors/effectiveness/. This approach also can have descriptive or analytic purpose with a period of one year retrospectively. The descriptive type was carried out to study risk factors, coverage of intervention, health service utilization, attitude and practice of health related programs/events. Analytic type was carried out to assess association between the program/exposure/ and outcomes.(32, 33). So taking into consideration all above advantages of cross-sectional study, the information that got from the study by using both qualitative and quantitative data collection method used to assess the objective of the program. In addition to this helps to evaluate multiple factors which affect an OTP program and clinical outcomes at the point /period of time.

5.4: Focus of evaluation and dimensions

5.4.1: Focus of Evaluation

It is an objective oriented outcome evaluation that focused on if the objective of OTP was addressed in the community by comparing the intended objectives of the woreda.

5.4.2: Evaluation Dimension

This evaluation was assessed by using the availability, compliance and effectiveness dimensions of OTP program. These dimensions were employed to measure (assess) clinical outcome indicators part of the program and the implementation (process) components by including input, activities and output. The external factor that was listed under Program contexts also considered as they have a positive or negative effects on the availability, compliance and effectiveness dimension on the program components.

5.5: Indicators/Variables

5.5.1: Indicators

Indicators are very important to measuring what was the planed, from which how much of it was performed. During evaluability assessment to ensuring that the findings of the evaluation to be used at the end, Key stakeholders were involved on selection of indicators. Indicators were selected by referring 2007 national OTP guideline (4), OTP cards and recording and reporting tools. Finally 30 indicators were selected in each dimension.

- ◆ For availability of program resources=14 indicators
- ◆ For compliance dimension = 9 indicators
- ◆ For effectiveness dimension = 6 indicators

Indicators related to availability

- Number of health post with trained health extension worker on OTP services
- Number of HP with amoxicillin no stock out in the last six month
- Number of HP with no stock out antimalarial drug with RDT in the last six month
- Number of HP with no stock out folic acid in the last six month
- Number of HP with no stock out deworming in the last six month
- Number of HP with no stock out RUTF in the last six month
- Number of HP with clean water supply
- Number of HP with an appropriate anthropometric measurements(MUAC)
- Number of HP with functional thermometer

- Number of HP with no stock out of OTP card for the last 6 months
- Number of HP having standard OTP registration book
- Number of HP with OTP quick reference book (for HEWs)
- Number of HP with monthly reporting format
- Number of HP with Updated posters and leaflets materials related to malnutrition services

Indicator related to compliance

- Proportion of 6-59 month children Screened according to appropriate /recommended anthropometric measurement
- Proportion of SAM cases conducted for an appetite test with RUTF
- Proportion of SAM cases treated with an appropriate amount of RUTF as according to OTP implementation guide line
- Proportion of SAM cases treated with necessary drug according to OTP implementation guide line
- Proportion of complicated cases referred to SC according to OTP implementation guide line
- Proportion of discharged SAM cases according to discharge criteria
- Proportion of HP supervised by WoHO in last quarter with standard check list
- Number of HP got feedback for complete report
- Number of HP sent report during reporting period

Indicator related to Effectiveness

- Proportion of children who Recovered (cured) from total admission
- Mean length of stay of recover SAM cases
- Average weight gain of recovered SAM cases
- Proportion of defaulter rate from total admission
- Proportion of non-response rate from total admission
- Proportion of death rate from total admission

5.5.2: Variables

Dependent Variable

- ❖ cure case/cure rate

Independent Variable

- ➔ age of children
- ➔ sex of children
- ➔ Walking hour from home to health facility
- ➔ SAM children Referred by (WDA, Community, self)
- ➔ Admission criteria (MUAC or eodema)
- ➔ History of vomiting in admission
- ➔ History of breast feeding
- ➔ History of cough in admission
- ➔ History of diarrhea in admission
- ➔ intake of routine medication,
- ➔ appetite test on admission with Plumpynut
- ➔ Admission status (new, readmission or return after default)

5.6: Population and sampling

5.6.1: Target population

All 6- 59 month children living in Hadiya zone Soro Woreda , all HP in the woreda ,all health extension workers in the woreda, all program focal person in each HC and program coordinator in the woreda

5.6.2: Source population

All children under 6- 59 months which have developed sever acute malnourished and treated ,all HP providing OTP service, HEWs who provide the service ,all program focal person in each HC and program coordinator in the woreda.

5.6.3: Study population

Selected SAM cases and, selected health post providing the service, health extension workers in selected HP, selected program focal person and program coordinators.

5.6.4: Study unit and sampling unit

OTP cards in the selected health post, and purposively selected health extension workers, Program Focal person at HC and Program coordinator at woreda level.

5.6.5: Sample Size

WHO suggested to selecting health facility for the assessment mainly depends on the number of health facility that the statistical arguments for the determination of the sample size, the available funds and human resources should also be taken into consideration. For example for total number of health facility of 9 or less, 10-19, 20-39,40-59 and 60-99 the proposed sample fraction will be all the HF, 50%,40%,30% and 20% selected respectively(34).For this evaluation from total 46 HP 30% of total HP or 15 HP were selected by simple random sampling of lottery method .

5.6.5.1. Sample size for document review

Single population proportion formula was used to determine the sample size of SAM OTP card review that was done during January /1/2015 to December 30/2015 by taking prevalence of recovery rate of OTP service. The retrospective cohort study on outpatient therapeutic feeding program outcomes and determinants in treatment of severe acute malnutrition in Tigray showed that recovery rate of 61.78%(14). For this evaluation study prevalence of 61.78% was used. Because prevalence in different literature recommended that; if we have a range of P, for instance, 20% to 30%, we should use 30% as it will give a larger sample size .If the range is 60% to 80%, we should use 60% as it will give a larger sample size. If the range is 40% to 60%, 50% will give a larger sample size. (35). The main objective of this chart review used as to answer the compliance and effectiveness of indicators. Also it was used to identify different factors that affect the program positively or negatively. To draw a sample size from all OTP cards in the time period of January 1/ 2015 to December /30/2015 from randomly selected HP, the following standards method were used.

$$n = (Z\alpha/2)^2 p (1-p)/d^2$$

Where, n = Sample size derived from estimation formula

$Z\alpha/2$ = is a confidence interval i.e. 1.96 to be 95% confident

P = is recovery rates of children for SAM under OTP =61.78%

(1-P) (q)=non recovery rate of SAM children =100%-61.78%=38.22%

d= is margin of error to be tolerated (precision) =5%

So –The sample size was $n = (Z\alpha/2)^2 p (1-p)/d^2$

$$n = (1.96)^2 0.61 (.39)/(0.05)^2$$

$$n = 3.84 * 0.61 * 0.39 / 0.0025 = 0.914 / 0.0025 = 365$$

By adding document in-completeness due to different reason used 10% $n = 365 + 37$

$n = 402$

5.6.5.2. Sample size determination for direct observation

All of SAM cases were observed in selected HP because the service was given weekly based in specified day. This method helped to assess compliance indicator of the program and support that of chart review findings.

5.6.5.3. Sample size determination for key informant interview

Respondents were selected purposively from Woreda health office, each selected health center and each selected health posts who were assigned as program officer, program focal person and coordinator of health extension workers respectively.

5.6.6: Sampling Procedure/technique

Sampling procedure for OTP card review

Four hundred two sample size of OTP card were distributed based on cases in those HP which are included in a sample. In each HP systematic random sampling technique was used to get the total sample. The first OTP card was selected by using lottery method; between one (1) and the K value then every K^{th} card included until sample size reach. K was getting from dividing total OTP cards in the HP during January/1/ 2015 to December /30/2015 to total sample size.

® K for each HP was = Total OTP card in the HP during time period/total sample size based on HP case

The kth value for each HP were calculated and listed on table 2 by considering the proportion of available cards during study period.

Table 2:- Tabular presentation of sampling frame for OTP card review

s. no	Health Post	Total population	6-59 month children (13.9%)	Total SAM cases treated in HP from January1/2015-december30/2015	Allocated sample size	K-value
1	Sigeda	4070	566	72	30	2
2	1 st Hankota	3842	534	48	20	2
3	Harche	6232	866	84	35	2
4	Jacho P/A	3933	547	54	23	2
5	Jocho town	2461	342	42	18	2
6	1 st Banara	4542	631	44	19	2
7	Bambo	4447	618	58	24	2
8	Wosheba	6894	958	76	32	2
9	Kosha	6179	859	52	22	2
10	Danatora	6729	935	79	33	2
11	Kecha	8275	1150	96	40	2
12	1 st Jajura	4390	610	66	28	2
13	2 nd Jajura	3470	482	62	26	2
14	Sundusa	7887	1096	88	37	2
15	Odeicho	6390	888	36	15	2
Total		79741	11084	956	402	

Key informant interview

program coordinators in woreda health office and each selected HC ,and HEWs who assigned as coordinator of HPs were selected purposively to collect sufficient and relevant information which is related to OTP program, such as resources sustainability, monitoring strategy and the strength and weakness of the implementing the program.

Sampling procedure for direct observation

An observation was undertaken by BSc nurses who work in other catchment to assess the compliance of HEWs during management of SAM cases in HPs. The program was given once per week in all selected HPs. All SAM children were observed during study period.

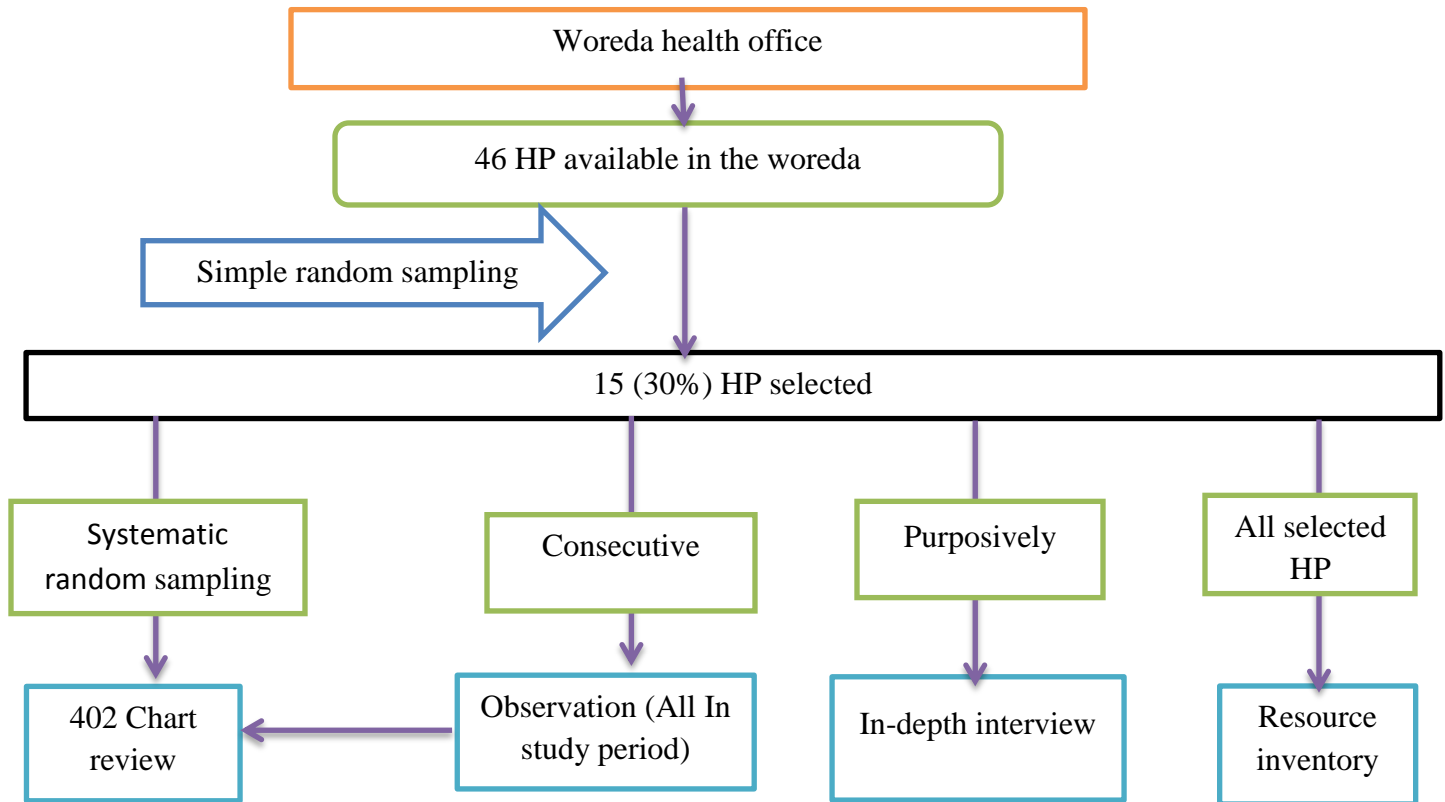


Figure 4:- Diagrammatic representation of sampling procedures

5.6.7: Inclusion and Exclusion criteria

Inclusion criteria

- * Documented OTP card in the study period of January /1/2015 - December 30/2015
- * Key informants who worked in the program at least one year, to get sufficient information about the program

Exclusion criteria

- * OTP cards without information on the age of the children, children admission weight and weekly follow up weight.(difficult to calculate average wt. gain)
- * Those transferred-in and transferred-out children during the treatment

5.7: Data collection

5.7.1: Development of data collection tools

A structured and semi- structured questionnaire were developed by reviewing national guideline of OTP, OTP cards and check lists; it was comprises of the following components:

Facility document review template: - structured checklist was developed by referring OTP cards and different national guidelines. The template comprised of components such as general information, information during admission, information on health history, physical examination, routine medication and information during discharge.

Resource inventory checklist: - standard resource inventory checklist was developed by referring the resources that was listed in national OTP guideline. It composed of four parts which were Infrastructure, human resource, OTP drugs and supplies and tools (guidelines, recording and reporting). This was help to assess the availability of program resources for the delivery of OTP services.

An observation checklist:-structured and semi-structured tool used to assess the compliance of health extension worker while delivering OTP service. The check list was developed by referring from standardized tools and national OTP guideline

Informant interview: -an unstructured interview guide was developed by considering the deamination of the evaluation to support quantitative findings. It was use to get information regarding to coverage of OTP program, context of program (monitoring and supervision system of the organization and community involvement) and availability.

5.7.2: Data collectors

Data collectors were selected from health professionals who have trained on OTP program and with previous experience in data collection. For document review a total of 5BSc nurses and health officers and for direct observation five BSc nurses were participated. Key informant interview conducted by two MPH in health education professionals. Resource inventory in all HP were done by principal evaluator. Finally for overall supervision one M.Sc. in epidemiology was participated. To minimize systematic error or bias the data collectors were from HC those were not included in study.

5.7.3: Data collection field work

Data was collected from each selected health posts, HCs and woreda health office through document review, direct observation, resource inventory and key informant's interview of program in the period of March 07/2016 to March 31/2016 in Hadiya zone Soro woreda. To get complete information about the program convergent mixed method was used and finally the methods analyzed separately then combine to one form (merged).

Document Review: - In the data collection period of March 07/2016 to March 31/2016 data collectors review the OTP cards as WHO standards until to reach expected sample size. Supervision was conducted by the evaluator to assess data collection method in each HP. Daily meeting was arranged after data collection to remove or decrease errors and incompletes of data.

Resource inventory:-This was conducted by principal evaluators by communicating the convenient time to HEWs. During inventory standards of listed resources was crosschecked with the developed checklist for the period of six months.

Direct observation:-The observations were conducted during health extension workers deliver OTP services at OTP days. Before conducting the observation the data collectors were receive consent from both the health extension worker and care providers.

Key informant interview:-Each data collectors were communicating the convenient time to the respondents. When the respondents were agreeing on recording the speech; each data collectors were record the sound in addition to note writing.

5.7.4: Data quality control

Quality assurance techniques for quantitative data

Quality control prior to data collection

To avoiding random errors training was given to the data collectors. This also included holding discussion about different sections of the questionnaire, using question by question description of the questionnaire. Data was collected by data collectors after reaching the same understanding on the questionnaire. OTP card review and observation checklist were used to collect data .For document review part 5% of sample size were

used for pretest in outside the study area (health post of the woreda). Testing (pre-testing) the instrument prior to this actual evaluation used to prevent bias of respondent's during an actual data collection, due to familiarity with the questions.

Quality control during data collection

During data collection filled questionnaires was checked for completeness and consistency of information by the supervisor on daily basis and typing errors was manually edited. The information formats were crosschecked with the source card on HP when incompleteness, errors, and ambiguities of recording appeared.

Quality control after data collection

After data collection each crosschecked questioner were entered in to Ep-info with double entry method to avoid errors.

Data quality control techniques for qualitative data

Before data collection training was given to the data collectors .During data collection data collectors were take an oral consent, tells them the purpose of interview and getting permission to tape recorder. After data collection confidentiality issues were discussed with all interviewers

5.8: Data management and analysis

All the data that obtain through both qualitative and quantitative data collection method were managed properly

5.8.1: Data entry

The questionnaires were checked for consistency and completeness after data collection by principal evaluator together with data collectors and supervisors; consequently, any problems encountered discussed among the evaluation team and solved immediately. Quantitative data were entered every day night with Epi-info version 3.1 and finally export to SPSS version 20 for analysis.

5.8.2: Data cleaning

The data cleaning was done by principal investigator at field level and after entry to check for coding error and missing values .Some errors which occurred during data collection was removed and the completeness of data checked daily. Additionally the data was cleaned by visualizing, calculating frequencies and sorting.. The questionnaires and the soft copy of the data with multiple backups were kept in proper places.

5.8.3: Data analysis

Descriptive statistics (univariate analysis) was used to determine frequency, mean and proportions of variables. Bivariate logistic regression was used to identify candidate variable for multivariate analysis and those variables which showed statistical significant value ($P\text{-value}<0.25$) was taken to multivariate analysis. Multivariate analysis was employed to identify predictors of outcome of interest for the program. In all cases statistical significant value was considered at cut-off point of 0.05.

Qualitative response were written as field notes and then prepared as fair notes. It was analyzed manually. The responses that obtained from key informants through interviews were thematizing to major themes after analyzing each response in different categorization and codes, and then content analysis was implemented. The overall findings qualitative data were planned to supplement the quantitative findings during interpretation.

Finally findings of quantitative data were presented using tables and diagrams, whereas qualitative data was described in narrative form.

5.9: Ethical Consideration

Ethical approval was obtained from the Ethical review board of Jimma University College of health science. Permission letter received from Hadiya zone health department to the woreda and from soro woreda health office to HP by introducing the importance of evaluation to the woreda. Finally the objective of the evaluation was discussed with health extension workers including, data collectors, and time of data collection and period of data collection. Confidentiality of participant information was considered during OTP card review by writing registration number rather using children name. Oral consent obtained from interviewee at data collection time regarding to willingness to answer the questions.

5.10: Evaluation Information Dissemination

Dissemination of findings is important step in the evaluation process because stakeholders should use the evaluation findings timely to take corrective action. The final evaluation report will be presented to Jimma University. The evaluation findings will be communicated with program managers, health extension worker and different stakeholders. In addition, hard and electronic copies of the final report will be disseminated to stakeholders. Finally effort will be made to present in various seminars and workshops and for publication in national or international journals

Chapter 6: Result

6.1: Availability of OTP program resource

6.1.1: Human resource

In all Health posts except 1st Hankota health post there were two health extension workers available, but at the time of study in Bambo, 1st Banara, odeicho and 2nd Jajura health posts only one health extensions were on the working area other were on the school because of upgrading to diploma level. From those health extension workers, which have in working area 3 of them, were upgraded their education level to diploma and the rest of 22 health extensions were at certificate level. All health extension workers got OTP management training at least three times by government and non-governmental organization in different times during the last five years.

Woreda health office program coordinator mentioned that

...Regarding to human resource we haven't any problem because by now we have almost two health extension workers in all kebele. But we have a plan to upgrade some of the HEWs in coming year at that time we may face challenges but we Plane to cover their place by catchment HC health professionals.

6.1.2: Guideline, Reporting and Recording Tool

From observed 15 health posts 5 of them have an OTP guideline in the rest 10 HP there were no OTP guidelines and 93.3% (14) HPs have an OTP quick reference. All 15 (100%) HPs have Registration book, OTP card and Monthly reporting format with not stock out for six months. Updated IEC/BCC materials was posted in 14 HPs. (Figure 5)

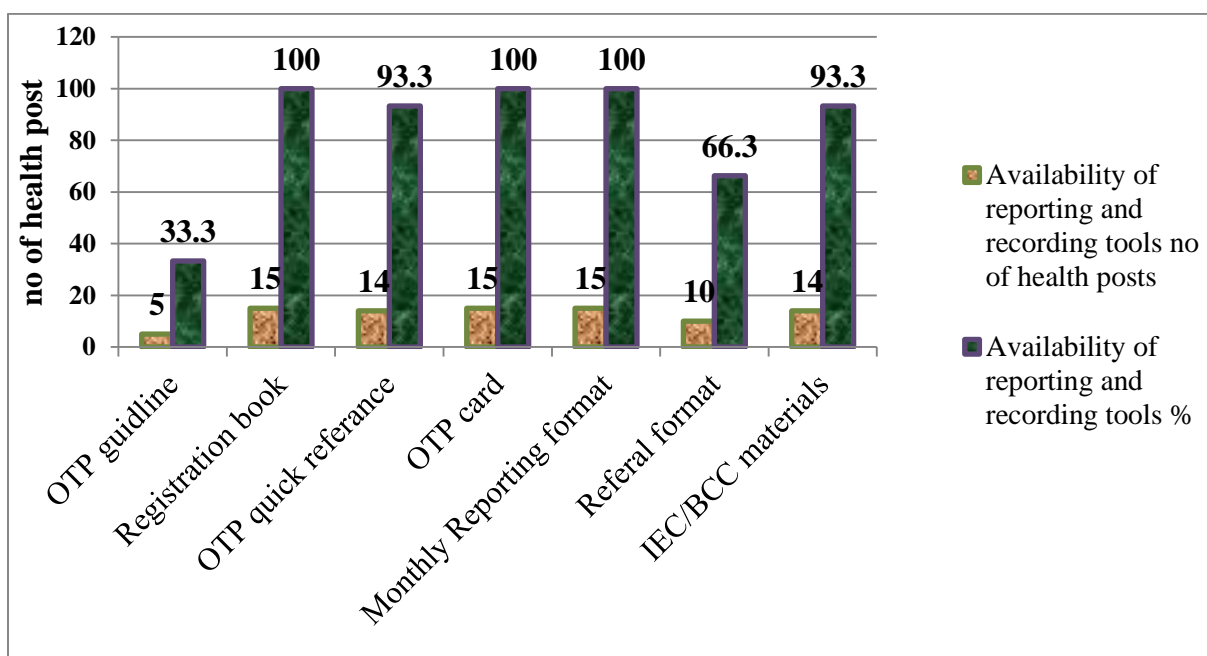


Figure 5:-Availability of OTP guideline, reporting and recording tools in the HPs during evaluation OTP program in soro woreda 2016 (n=15)

6.1.3: Availability of medical equipment's and infrastructure

Among observed Health Post all (15) have height measurements (measuring height of children), MUAC (measure mid arm of the children), weighing scale with basin (measuring weight of children) and functional thermometer. Among 15 HPs only 2 of them have with clean water supply in their compound but the rest have no. Also from those observed HPs 6 of them had scissor for cutting vitamin A capsule, 3 of them had soap for OTP children to hand washing, and 14 of them had water pitcher with lid.

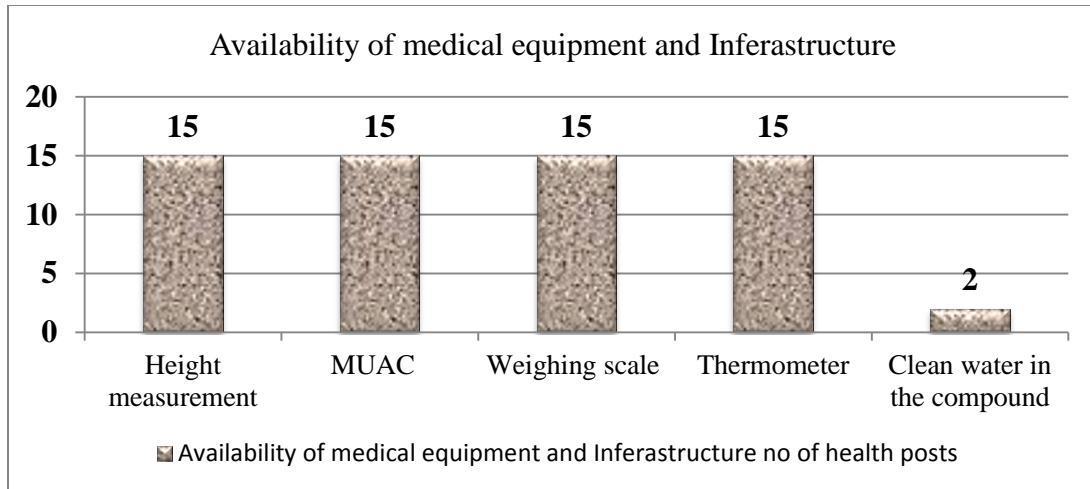


Figure 6:-Availability of medical equipment and infrastructure in the HPs during evaluation OTP program in soro woreda 2016 (n=15)

6.1.4: Availability of Essential drugs

Figure 7 presented below showed that 3 HPs have no stock out albendazole for six months. in addition to this anti-malaria drug with RDT, vitamin A capsule and RUTF had no stock out for six months in 14 HPs, 13 HPs and 13 HPs respectively. (Figure 7)

Regarding to Routine drug shortage, one of the Health extension workers mentioned that

...during initial phase of the program all of the necessary drugs were available adequately but through the time the amount of provision was slow and slow .Now a days sometimes we got albendazole and vitamin A capsule other routine drugs almost stop to be administered for us. In my opinion this major problems to be solved by different concerned body otherwise effective OTP program may not be expected.

Another health extension worker in other health post who is 29 years old said that “...the drugs like amoxicillin and folic acid were never resupplied until 3 years; due to this we faced a problem during administration of routine drugs.”

Another health center program focal person from other health center whose age is 27 said that,

...we were frequently request the woreda health office for OTP drugs, however, the health posts were not regularly supplied with OTP drugs on time and with enough amount considering of case load, even if, most of the time they provided OTP drugs which near to expiry date. So that, most OTP drugs were expired before use. On other hands the reason for unavailability of OTP drugs were the weak linkage between health posts and health centers, lack of supportive supervision, our weak drugs balance management and weak requesting, resupplying and reporting system.

The Woreda disease prevention and health promotion officer mentioned that

“...shortage of routine OTP drugs had steel our main problem in the program .Previously RUTF and routine drugs were dispatched together from national level to regional, Zonal and woreda level but now only RUTF has been supplied from different organization without other routine OTP drugs. However at this time we try to avail the drugs in all HPs as national OTP protocol with in woreda budget.

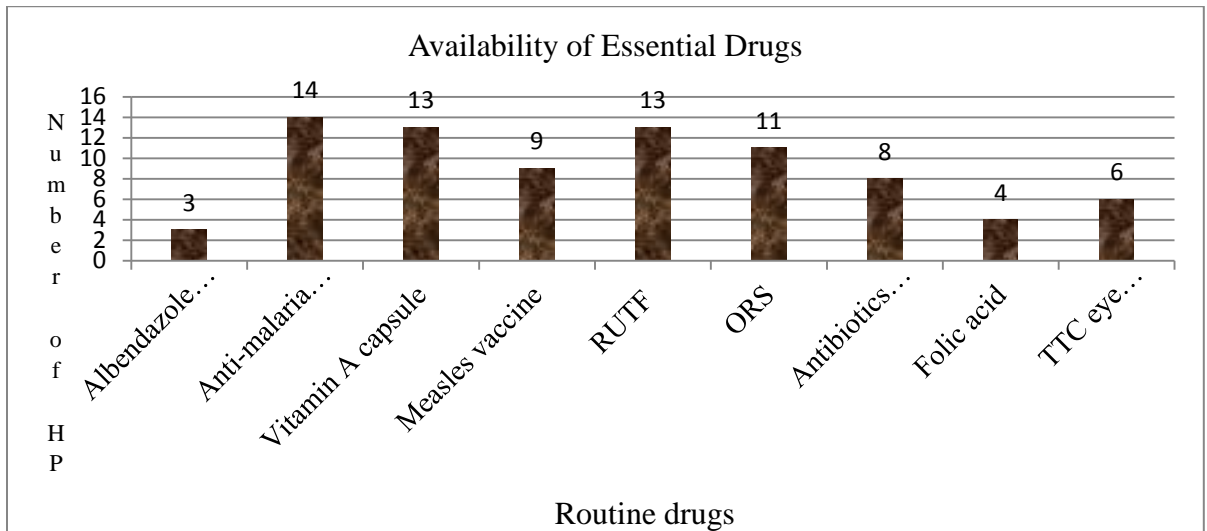


Figure 7:-Availability of Essential drugs in the HPs during evaluation OTP program in soro woreda 2016 (n=15)

Table 3:-Judgment matrix for availability dimension to evaluate OTP program in Hadiya Zone, soro woreda 2016.

Indicators	Weight given	Observed value	Score	Agreed criteria	Parameter	Judgment criteria
Number of health post with trained health extension worker on OTP services	7	100	7	$\geq 90\%$ 80-89% 60 – 79 < 59%	V. good	V. good
					Good	
					Fair	
					Poor	
Number of HP with amoxicillin no stock out in last six months	7	53.3	3.7		V. good	Poor
					Good	
					Fair	
					Poor	
Number of HP with no stock out antimalarial drug with RDT in last six month	8	93.3	7		V. good	V. good
					Good	
					Fair	
					Poor	
Number of HP with no stock out folic acid in last six month	5	26.7	1		V. good	Poor
					Good	
					Fair	
					Poor	
Number of HP with no stock out deworming in last six month	7	20	1.4	V. good	Poor	
				Good		
				Fair		
				Poor		
Number of HP with no stock out RUTF in last six month	10	86.7	9	V. good	Good	
				Good		
				Fair		
				Poor		
Number of HP with pipe water supply	5	13.3	1	V. good	Poor	
				Good		
				Fair		
				Poor		

Indicators	Weight given	Observed value	Score	Agreed criteria	Parameter	Findings
Number of HP with an appropriate anthropometric measurements (MUAC)	7	100	7	≥ 90% 80-89% 60 – 79 < 59%	V. good	V. good
					Good	
					Fair	
					Poor	
Number of HP with functional thermometer	7	100	7		V. good	V. good
					Good	
					Fair	
					Poor	
Number of HP with no stock out of OTP card for the last 6 months	9	100	9		V. good	V. good
					Good	
					Fair	
					Poor	
Number of HP having standard OTP registration book	7	100	7	V. good	V. good	
				Good		
				Fair		
				Poor		
Number of HP with OTP quick reference book (for HEWs)	7	93.3	6.5	V. good	V. good	
				Good		
				Fair		
				Poor		
Number of health post with monthly reporting format	7	100	7	V. good	V. good	
				Good		
				Fair		
				Poor		
Number of HP with posters and leaflets materials related to malnutrition services	7	93.3	6.5	V. good	V. good	
				Good		
				Fair		
				Poor		
Over all availability dimension	100		80.1 %	≥ 90%	v. good	Good
				80-89%	good	
				60 – 79	Fair	
				< 59%	Poor	

6.2: Health Extension workers compliance to the OTP program

6.2.1: Socio demographic characteristics and admission information of admitted children during study period)

The mean age of 402 reviewed children were 2.18year with standard deviation of SD= 0.82. From total (402) children with age group 25-59 months was highest frequency of 179 (44.5%), 13-24 months age group was 117 (29.1%) and 6-12 months age group was 106 (26.4%) frequency. On other hands from those reviewed children 316 (76.6%) were admitted with MUAC and 86(21.4%) were admitted with edema. The interviewed children who came the HP to get the service were referred by WDA with frequency of 246 (61.2%), by self 82 (20.4 %) and with community 74 (18.4%).

Table 4:- Socio demographic characteristics during OTP program evaluation in soro woreda in selected HPs, 2016

Characteristics of children (402)	Frequency	Percent
Age (N=402)		
6-11 Months	106	26.4
12-23 Months	117	29.1
24-59 Months	179	44.5
Sex (N=402)		
Male	179	44.5
Female	223	55.5
Admitted with (N=402)		
MUAC	316	78.6
Oedema	86	21.4
Referred by (N=402)		
Women development army	246	61.2
Community other than WDA	74	18.4
Self	82	20.4

Recording procedure of HEWs during admission, follow up and discharge

Out of 402 reviewed OTP cards, total length of stay were not calculated and recorded for 5 children. Also 7 of them were not known about how they admitted in to the program or not known either the children admitted with MUAC or oedaema. Additionally HEWs not recorded a history of diarrhea, vomiting, breast feeding and cough for 7, 8, 1, and 15 children respectively. Figure 8 also showed that by HEWs 4 children were not recorded their temperature as 31 children were not recorded for respiratory rate. (Figure 8)

Key informant interview also showed that poor compliance of HEWs for the program mainly due to weak supportive supervision system of managerial and technical stuffs.

One of the health extension workers whose age 28 mentioned that

...the last supervision day from any external body is 3 months ago. Before 3 month one of the health center health professional contact us about the program .I have not known the regular supervision day of woreda health office and health center but they came sometimes as they likes.

Another health extension worker whose age is 26 mentioned that

...supportive supervision team was come to our health post in different time from health center woreda health office Zonal health department and different non-governmental organizations. However the problem is that we do not know when they come and their schedule properly. In addition to this the supervision was conducted for all program not only focused on OTP.

Health center program focal person said that

...we conducted supportive supervision at different time to improve the effectiveness of the program but sometimes due to additional or immediate activities the supervision is not regular. Most of the time we were used standard format during supportive supervision, but this is not always true.

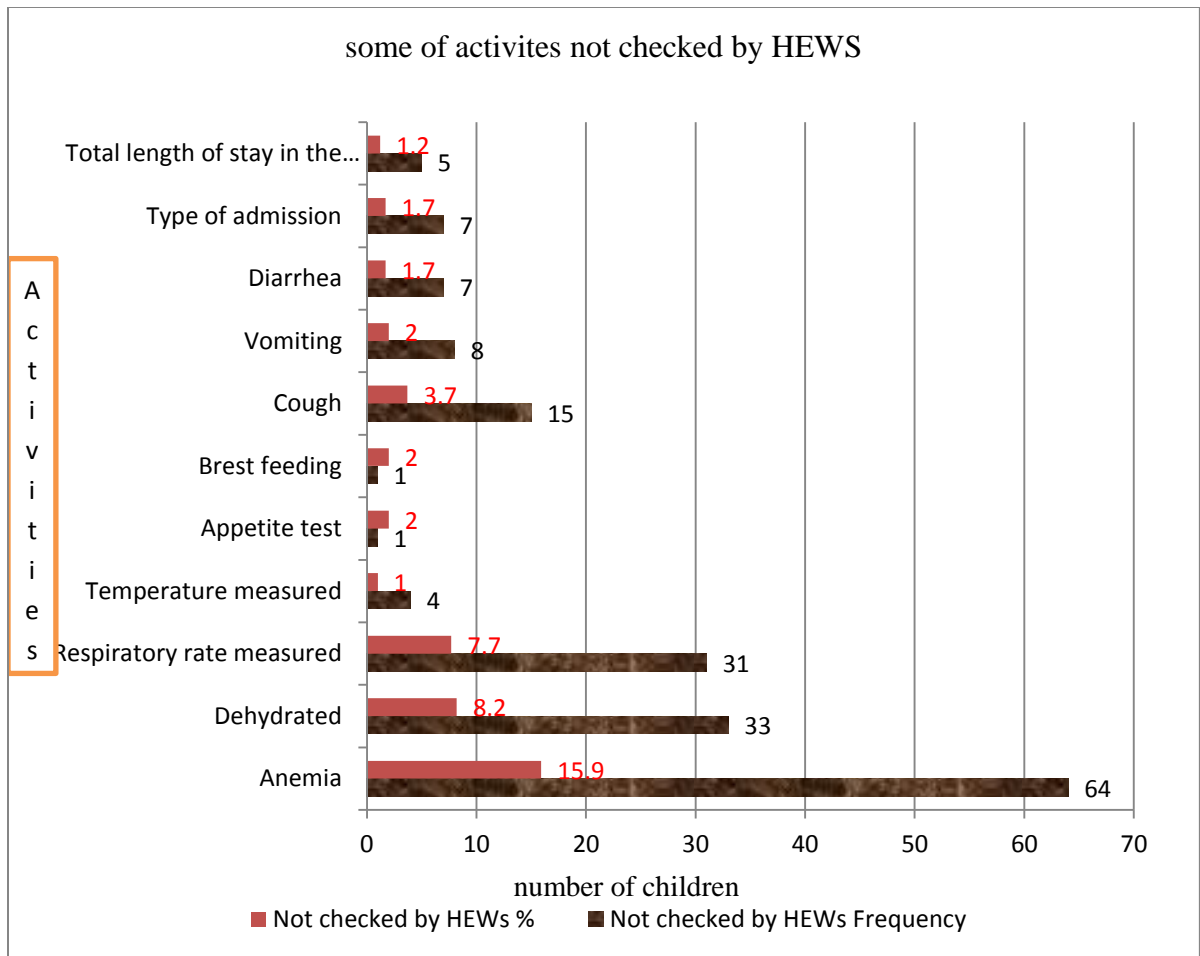


Figure 8:-Some of the activities not checked by HPs during admission of SAM children (n=402)

Routine Drug Administration

Of the total 402 children admitted to OTP 59(14.7%) children were treated with amoxicillin, 144(35.8%) were vaccinated with measles, 67(16.7%) were treated with deworming and 5(1.2%) children were treated with folic acid (Table 5).

Table 5:- Children who took routine drugs during the OTP program in soro woreda, 2016
(n=402)

Routine drugs		Frequency	
Name	Category	Number	%
Amoxicillin	Yes	59	14.7
	No	347	85.3
Measles vaccine	Yes	144	35.8
	No	257	63.9
deworming	Yes	67	16.7
	No	334	83.1
Folic acid	Yes	5	1.2
	No	397	98.8

Direct observation of HEWs while delivering the service

During Health extension OTP service delivery the evaluation assessed compliance of the workers to support the findings that obtained from chart review. Direct observation was conducted in 15 HP on 60 children.

Out of 60 observed OTP cases 6(10%) of them were not checked their weight to know weekly weight change and to take an appropriate measure. Also from those observed 60 OTP cases 20 (44.5%) of them were not measured their MUAC an appropriately rather simply take an arm and measure means that they were not try to got middle of a children arm.

Regarding to assessment of oedema 33(55%) children were held their thumb for 3 second by counting “101” “102”, “103” to assess the presence of bilateral pitting edema but the rest 45% of children were not held their thumb for same procedure, but health extension had done for this simply by seeing absence and presence of edema.

Out of 60 observed SAM children 5 (8.3%) of care takers were not asked about dehydration history during the previous week and 4 (6.7%) children were not asked about

history of vomiting. History of fever and history of cough also not checked or asked for 4 (8.3%) and 3(5%) of children by health extension workers respectively.

Regarding to physical examination and routine medication only 12(20%) of SAM cases got an appropriate appetite test during follow up but the rest 48(80%) not taken as national guideline. During conducting of appetite test HEWs were not choose private places for care takers and children, not providing water for them and/or not checked amount of RUTF eaten by children with their age to say pass or fail. Out of observed 60 children in 15 health posts 58 (96.7%), 60(100%) and 5(8.3) children were examined for temperature, respiratory rate and child dehydrated or not respectively. An appropriate routine medication were not given for 46 (76.7%) of observed children but RUTF given appropriately with considering weight of children for all 60 (100%) children.(Table 6)

Table 6:-Direct observation result during implementation of HEWs in evaluation of OTP program in soro wored, 201615 HP

Observed Variables	Category	Frequency	Percentage	No of observed children
Do HEW check weight change	Yes	54	90	60
	No	6	10	
Do HEWs take MUAC measurements appropriately	Yes	25	55.5	45
	No	20	44.5	
Do HEWs check oedema appropriately	Yes	10	66.6	15
	No	5	33.4	
Do HEWs ask a history of diarrhea in a child	Yes	55	91.7	60
	No	5	8.3	
Do HEWs ask a history of Vomiting in a child	Yes	56	93.3	60
	No	4	6.7	
Do HEWs ask a history of fever in a child	Yes	55	91.7	60
	No	5	8.3	
Do HEWs ask a history of cough in a child	Yes	57	95	60
	No	3	5	
Do HEWs an appetite test in private place with considering weight of the child	Yes	12	20	60
	No	48	80	
Does HEWs examine temperature of child	Yes	58	96.7	60
	No	2	3.3	
Does HEWs examine Respiratory rate of child	Yes	60	100	60
	No	0	0	
Does HEWs examine a child dehydrated or not	Yes	55	91.7	60
	No	5	8.3	
Does HEWs give appropriate routine medication as a standard	Yes	14	23.3	60
	No	46	76.7	
Does HEW give RUTF for chilled by considering weight	Yes	60	100	60
	No	0	0	

Table 7:- Judgment Matrix for compliance dimension to evaluate OTP program in Hadiya Zone, 2016

Indicators	Weight given	Observed value	score	Agreed criteria	Parameter	Judgment criteria	
Proportion of 6-59 month children Screened appropriately according to as national OTP guide line	13	58.3%	7.6		V. good	Fair	
					Good		
					Fair		
					Poor		
Proportion of SAM cases conducted for an appetite test as children weight and amount of RUTF	14	20%	2.8		V. good	Poor	
					Good		
					Fair		
					Poor		
Proportion of SAM cases treated with an appropriate RUTF as OTP guide Line	12	100%	12		> 85%	V. good	V. Good
					70-84%	Good	
					55 – 69	Fair	
					< 55%	Poor	
Proportion of SAM cases treated with necessary drug according to OTP implementation guide line	13	23.3%	3	V. good	Poor		
				Good			
				Fair			
				Poor			
Proportion of complicated cases referred to SC according to OTP implementation guide line	12	100%	12	V. good	V.good		
				Good			
				Fair			
				Poor			
Proportion of discharged SAM cases according to discharge criteria	12	100%	12	V. good	v. good		
				Good			
				Fair			
				Poor			

Indicators	Weight given	Observed value	score	Agreed criteria	Parameter	Judgment criteria
Proportion of HP supervised by WoHO in last quarter with standard check list	12	53.3%	6.4		V. good	Poor
					Good	
					Fair	
					Poor	
Number of HP with feedback of complete report	6	27%	1.6	> 85% 70-84% 55 – 69 < 55%	V. good	Poor
					Good	
					Fair	
					Poor	
Number of HP sent report during reporting period	6	100%	6		V. good	V. good
					Good	
					Fair	
					Poor	
Over all compliance dimension	100		63.4%	> 85% 70-84% 55 – 69 < 55%	v. good	Fair
					Good	
					Fair	
					Poor	

6.3: Effectiveness dimension of the program

From 402 reviewed children who were admitted in the program their clinical outcome showed that cure rate from SAM was 285(70.9%). Whereas death 7 (1.7%), defaulter 75 (18.7%), non-responder 19(4.7%) and unknown was 16 (4%) children. (Figure-9)

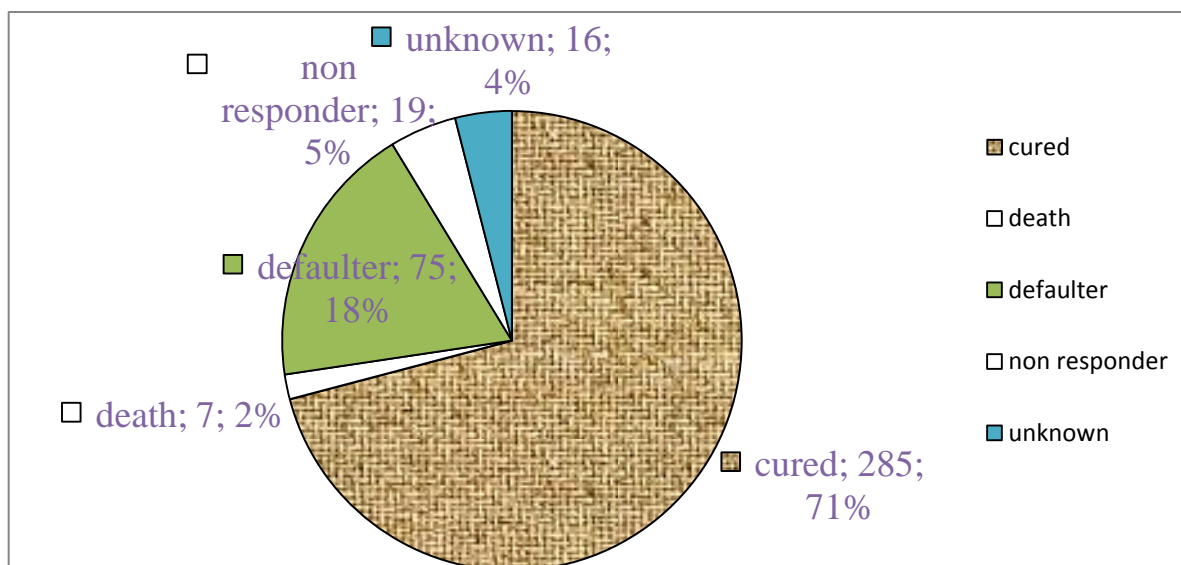


Figure 9:-Clinical outcomes results of OTP program evaluation during study period in soro woreda. 2016 n=402

The men average weight gains in gram per kilogram per day of children were 4.26 g/kg/day with standard deviation of 2.72 at 95% CI (3.98, 4.56). The minimum average weight gain was 0.2 g/kg/day and the maximum was 16.5g/kg/day. Over all the mean recovery time was 7.78 weeks with 95 % CI of (7.4, 8.17).

6.4: Factor associated with effectiveness of the program cure rate

6.4.1: Bivariate analysis result

In the bivariate analysis independent variables like type of admission, referred by, admission criteria, Age of the child, History of breast feeding, Amoxicillin and Deworming were taken as candidate variables for multivariate analysis at P-value of 0.25. Others like, Sex of the child, history of diarrhea, history of vomiting and distance to HP were not selected as candidate for multivariate analysis.

Table 8:-Bivariate analysis of candidate variables for cure rate of an outcome variable in evaluation of OTP program in soro woreda.2016 (n=402)

Variables		SAM children		Total frequency of SAM children	p-value	COR	CI
Name	Category	Not cured	Cured				
		Number (%)	Number (%)				
Referred by	HAD	65(26.4%)	181(73.6%)	246	0.475	1.221	0.705, 2.12
	Community	27(36.5%)	47(63.5%)	74	0.428	0.76	0.39, 1.49
	Self	25(30.5%)	57(69.5%)	82	0.239		
Type of admission	New	105(29.5%)	251(70.5%)	356	0.113	0.416	0.14, 1.23
	return after default	8(42.1%)	11(57.9%)	19	.045	0.24	0.059, 0.97
	Readmission	4(14.8%)	23(85.2%)	27	0.133		
age	6-24monthes	46(20.4%)	179(79.6%)	225	<0.001	2.606	1.675, 4.055
	25-59monthes	71(40.1%)	106(59.9%)	177			
history of breast feeding	Yes	39(21.8%)	140(78.2%)	179	0.002	2.024	1.286, 3.187
	No	75(36.1%)	133(63.9%)	208			
Amoxicillin given?	Yes	21(35.6%)	38(64.4%)	59	0.24	0.7	0.34, 1.26
	No	96(28.0%)	247(72.0%)	343			
Deworming given?	Yes	26(38.8%)	41(61.2%)	67	0.059	0.59	1.1, 2.79
	No	91(27.2%)	243(72.8%)	334			
admitted with	MUAC	46(14.6%)	270(85.4%)	316	<0.001	24.34	14.11, 41.99
	Edema	71(82.6%)	15(17.4%)	86			

6.4.2: Multivariate analysis of candidate variables associated with OTP program cure rate

During backward multivariate analysis two variables; age of the children and admission criteria (MUAC or oedema) were found to be associated with cure rate of the program whose p-value is less than 0.05 and at 95 % CI.

Children who admitted with MUAC were about 24.5 times more likely to be cured than those children admitted with oedema in the study population AOR =24.3, 95% CI (12.6, 46.68), $P < 0.001$. The C.I also showed that cure rate is as little as 12 times or much as 46 times more likely among those children who admitted with MUAC than those children admitted with oedema in the study population at the 95 % level of confidence

Children whose age between 6-24 months were about 1.8 times more likely cured than those children with age between 25- 59 months in the study population and study period at P-value 0.026, and also CI indicates that cure rate of children were as little as 1.04 times or much as 3.3 times more likely among the children whose age 6-24 months than those children whose age 25-59 months in the study population at 95% C.I.AOR=1.7,95% CI(1.06, 2.7), $P < 0.05$ (Table-9).

Table 9:-Multivariate analysis of candidate variables for cure rate of an outcome variable in evaluation of OTP program in soro woreda.2016 (n=402)

Variables		SAM children		Total frequency of SAM children	Variable coefficient(beta B)	p-value	AOR(exp. B)	CI
Name	Category	Not cured	Cured					
		Number (%)	Number (%)					
age	6-24monthes	46(20.4%)	181(79.6%)	225	0.56	0.026	1.88	1.078,3.303
	25-59monthes	71(40.1%)	104(59.9%)	177				
admitted with	MUAC	46(14.6%)	270(85.4%)	316	3.19	<0.001	24.29	12.69,46.48
	Edema	71(82.6%)	15(17.4%)	86				
Constant					-1.75			

Table 10:- Judgment Matrix for effectiveness dimension to evaluate objective oriented evaluation of OTP program Hadiya Zone soro woreda, 2016

Indicators	Weight given	Observed value	score	Agreed criteria	Parameter	Judgment criteria
Proportion of children who Recovered (cured) from total discharged	20	70.9	14.2	≥85% 70-85% 50 – 70% < 50%	V. good	Good
					Good	
					Fair	
					Poor	
Mean length of stay for cured SAM cases	15	54day (7.7week) 100%	15		V. good	v. good
					Good	
					Fair	
					Poor	
Average weight gain for cured SAM cases	15	4.26g/kg/day (53.3%)	8.0		V. good	Fair
					Good	
					Fair	
					Poor	
Proportion of defaulter rate from total admission.	15	80.2%	12	V. good	Good	
				Good		
				Fair		
				Poor		
Proportion of non-response rate from total admission	15	100%	15	V. good	v. good	
				Good		
				Fair		
				Poor		
Proportion of death rate from total admission	20	58.8%	11.8	V. good	Fair	
				Good		
				Fair		
				Poor		
Overall effectiveness dimension	100		76%	≥85%	v. good	Good
				70-85%	Good	
				50 – 70%	Fair	
				< 50%	Poor	

Judgment matrix for objective oriented evaluation of OTP Program

Average value of an overall evaluation of objective oriented of OTP program dimensions was recorded as 73.43% as shown in the table below.

Table 11:-An overall judgment matrix used for evaluation of objective oriented of OTP program in Hadiya zone 2016

Dimensions	Weight given	Value obtained	Score	Values	Implementation level	Findings
Over all availability of OTP program resources as per to the national guideline	30	80.1%	24.03	≥ 90%	v. good	Fair
				80-89%	Good	
				60 – 79	Fair	
				< 59%	Poor	
Over all compliance of HEWs to OTP program as per to the national guideline	30	63.4%	19	> 85%	v. good	Fair
				70-84%	Good	
				55 – 69	Fair	
				< 55%	Poor	
Overall effectiveness of OTP program	40	76%	30.4	≥85%	v. good	Good
				70-85%	Good	
				50 – 70%	Fair	
				< 50%	Poor	
Overall objective oriented evaluation of OTP program	100	73.43%	73.43	85-100 %	v. good	Good
				70-85 %	Good	
				60-70 %	Fair	
				<60%	Poor	

Chapter 7: Discussion

7.1: Availability Dimension

To be met the intended objective of the OTP intervention availability of resources as national guide line was very important. In the study area an availability of resource was evaluated in different perspectives. Evaluating of trained human resources was one of the perspectives; it is required to implement planned activities and to achieve intended objectives of the program. In the study area the result showed that in all observed HPs all health extension workers were trained in the program at least three times during the last five years .This was in line with the standard of national OTP guideline which recommended that all service provider either in health center or health post must train at least one times in the program(4).This might be due to good communication strategy of the woreda with different governmental organization and non-governmental organization to given the training and update them in different times.

Recording and reporting tools are others very important resources during an implementation of the program to meet the objectives of the intervention. In all HPs registration book, OTP cards and monthly reporting format were found as per national guideline recommended .However OTP guideline, referral format and OTP quick reference were not presented as national guideline .The result obtained from key-informant interview showed that OTP guideline, referral format and OTP quick reference were given to HPs 5 years ago, but due to different reason become unable to find it. Also the responsible body was not replacing these things again. These finding is not comparable with the national OTP guideline as well as woreda intended plan.

The national OTP guideline recommended that all sever acute malnutrition children who admitted in the program need to take appropriate routine drug in a specified time and age. In the study area the findings of the evaluation showed that availability of routine drugs were not comparable with the standard treatment guide line. Albendazole (deworming) was available at 20% health posts, Amoxicillin was available only at 53.3% health posts, TTC eye ointment, was available in 40% HPs and folic acid was available at 26.7%health posts. The result was comparable with the evaluation conducted on assessment of OTP

for SAM in three region of Ethiopia (Oromia,SNNPR and AdissAbeba) by T.Belachew et.al in which study the result showed that in all three region , the supply like anti-helminthic, folic acid, TTC eye ointments and amoxicillin were lacking in most OTP sites. This because of the result of study suggests that there were interruption in same places due to hoard (store away) of the supplies at the regional stores, due to this the supply was not available according to the OTP protocol (16).

The result of key –informant interview with HEWs indicated that, this condition might be happen due to giving of low attention and irregular supply of routine OTP drugs at zonal health department, woreda health offices and health centers level. In addition to this the result of the availability of routine drugs in HPs showed that it is not in line with the woreda plan. The woreda’s plan showed that each HP have all routine drug in their store without any stock out.

Clean water supply was important to deliver an OTP services, but the study indicated that only (13.3%) have clean water supply. This finding comparable with the study conducted on treatment outcome of children with severe acute malnutrition admitted to therapeutic feeding centers in Southern Region of Ethiopia indicated that 15% of health posts had clean and safe water (15).This might be due poor coverage of functional pipe water in the kebeles and the installation was not set at the beginning of health post construction as reported from one of the woreda coordinators of OTP program coordinator

7.2: Compliance Dimension

According to judgment matrix of compliance dimension over all compliance of health extension workers with national OTP guide line was fair with scoring of 63%. Direct Observation findings indicated that 90 % observed SAM children were checked their weight change during follow-up and also health extension workers asked history of diarrhea for 91.7%, history of vomiting for 93.3%, history of fever for 91.7% and history of cough for 95 % this is comparable to national OTP guideline and as well as woreda` plan. However MUAC and Oedema measurement were not appropriate as per national guideline. The result showed that health extension workers measure MUAC appropriately

for 55.5% and oedema for 66.6% .as one of the HC program focal person this problem s might be happen because of due to irregular supportive supervision from the HC and interruption of meeting with HEWs weekly to discuss about an activities.

According to national SAM guide line Children who admitted to the OTP program had taken routine drug with in recommended period. For instance Vitamin “A” 1 dose on the 4th week (visit), Folic acid 1 dose at admission if signs of anemia, Amoxicillin 1 dose at admission + give treatment for 7 days and Deworming 1 dose on the 2nd week (visit)(4).However, the result obtained in this evaluation was lower than the protocol because Amoxicillin, Deworming, Measles vaccine and Folic acid were 14.7%, 16.7%, 35.8% and 1.2% respectively. The finding of the evaluation was lower than the study conducted on Outpatient Therapeutic Feeding Program Outcomes and Determinants in Treatment of Severe Acute Malnutrition in Tigray, Northern Ethiopia, by HG.Yebyo et.al which was recorded for Amoxicillin, Deworming, Measles vaccine and Folic acid were 72.13%, 54.51%, 41.6% and 5.8% respectively(14). This might be due to inappropriate management of health extension workers due to weak integrated supportive supervision, unavailability of drugs, and weak supply management of drug from woreda to health post.

7.3: Effectiveness dimension

In this study, the result showed that death rate of SAM children was 1.7% which is higher than that of the woreda plan to be achieve zero death rates. However, (1.7%) death rate is in acceptable range compare to OTP protocol standards because it is less than 10%;similarly it is lower than similar studies conducted in Outpatient Therapeutic Feeding Program Outcomes and Determinants in Treatment of Severe Acute Malnutrition in Tigray, Northern Ethiopia which was 3.02%(14). This result might be an availability of RUTF throughout the year in all HP, even if an availability of different routine drugs were under question.

On other hands 18.7% (75) of defaulter rate was not acceptable when compared to as national guideline. Acceptable range of defaulter was less than 15% of the respondents

(4). However, the result of defaulter rate was slightly low when comparing with the study conducted on Recovery Rate and Determinants in Treatment of Children with Severe Acute Malnutrition using Outpatient Therapeutic Feeding Program in Kamba District, South West Ethiopia which was 22.7%(1). On other hand it was higher as compared to similar study conducted on Outpatient therapeutic programme (OTP): an evaluation of a new SC UK venture in North Darfur, Sudan for which defaulter rate was 10.9% (28). This might be because of the therapeutic feeding program in Darfur was introduced in response to emergency situation and might got especial attention from different stakeholders. For example children who admitted in the program were visited daily by the community nutrition workers who checked the child for appetite, diarrheal history, routine drug administration and other. During key informant interview one of the HEW mentioned that poor house hold visiting was the main reason for increasing of defaulter rate.

The average length of stay under the OTP intervention was 7.7 weeks or 55 days. This is by far outside of the acceptable minimum international standards (<28days) (36), but according to national OTP standards for management of sever acute malnutrition and as soro woreda intended plan it was within the standards position , because in terms of the individual patients under the program the protocol allows SAM children to stay under treatment to utmost 8 weeks (60days)(4). This length of stay was comparable to other similar study of Recovery Rate and Determinants in Treatment of Children with Severe Acute Malnutrition using Outpatient Therapeutic Feeding Program in Kamba District, South West Ethiopia 7.14weeks(50 days)(1). On other hand according to a retrospective cohort study in an outpatient therapeutic feeding programme in Ethiopia during 2006 this length of stay was high because for the mentioned study the mean length of stay was 42 days (29). Too much length of stay is an indication of poor management with in the program and increases the cost of the program in terms of staff time and consumption of RUTF considerably.

In this study cure rate was estimated for all children under the program was 70.9% and it is lower than the international standard which bares the lower threshold at 75%(36).

However when compared to similar study it was higher ; which studies in Recovery Rate and Determinants in Treatment of Children with Severe Acute Malnutrition using Outpatient Therapeutic Feeding Program in Kamba District, South West Ethiopia which was (67.7%) (1). In this study, it was found that children who admitted with edema (17.4%) were less recovered than those children who admitted with MUAC (83.4%). So the lower result of the cure rate when compare to the above study might be due to high number of edematous children (21.3% or 86/402) admission in this evaluation because in both study children who admitted with MUAC were more cured than that of children who admitted with eodema.

The average weight gain was significantly less than the intended objective of the wored as well as the national OTP guideline standard which was found in alarming by 4.26g/kg/day but woreda intended objective and OTP guideline showed that ≥ 8 g/kg/day. One of the HEWS said that SAM children weight was not increase per national guide line this might be sharing of RUTF in home to others children and Selling of RUTF. This result was mostly comparable with the study done on outpatient therapeutic feeding program outcomes and determinants in treatment of severe acute malnutrition in Tigray for which the average weight gain was 5.23g/kg/d(14). But the result was higher when comparing to the evaluation which done on community management of acute malnutrition in Pakistan of 2g/kg/d(5)

Possible limitation of evaluation

As we know that the study was mostly based on secondary data, so incomplete registration was observed in some predictor variables

Hawthorn effect may be happen during observation because an observed children were in average 5 in HPs due to this it was difficult or create no change when drop out the first 1 or 2 children from the study.

The finding of the study cannot tell us about causal relationships or inference due to type of the study.

Chapter 8: Conclusion and Recommendation

8.1: Conclusion

An overall dimension of the this evaluation leads to reach on the following conclusion .Based on the sated judgment criteria which was developed with involvement of different stakeholders refers that availability of trained health extension workers, availability of medical equipment (MUAC and thermometer), availability of OTP cards, availability of monthly reporting formats and availability of BCC/ICC materials in each health post with in sufficient amount were very important to accomplish the intended objectives of the program in the woreda. However inaccessibility of water supply almost in all health posts and unavailability of routine OTP drugs were very serious problem to tackle the intended objectives of the woreda.

Compliance of the health extension workers with the national OTP guideline in providing the service was not as better during implementation reporting and recording of the program. In most HPs there were poor reporting and recording systems and using of available feedbacks which was given by different supervisors was very low. The main issue in this point was that either by negligence of HEWs or not knowing conducting of an appropriate appetite test, measuring of oedema and measuring of MUAC as national guideline was poor. However treating of SAM children by giving an appropriate RUTF, referring complicated cases to SC site and discharging of children based on the discharging criteria were very good to achieve the intended objectives.

Overall effectiveness of the OTP program in the study year was good according to judgment criteria. As national OTP guideline and the woreda intended annual plan the cure rate and mean length of stay, proportion of defaulter rate and death rate of children under the program in study period was in good condition. But some of the indicators have not meet the objectives of the woreda example average weight gain of the children .Generally an overall objective oriented evaluation of OTP program was in good condition based on pre sated judgment criteria.

8.2: Recommendation

Based on the major results or findings of this evaluation the following recommendation were forward to Hadiya zone health department, soro woreda health office, soro woreda health centers and health extension workers in the woreda.

For Hadiya zone health department

Attention have to be paid for early distribution of OTP routine drugs timely by considering amount of SAM children in OTP program to the woreda health office before stock out.

Continues monitoring and regular supervision as well as periodic evaluation of the program was needed for improve performance of the program with different standard check list.

For Woreda administrative Office

An availability of water is very sensitive issue for OTP program, so by coordinating different governmental and non-governmental organization solving this problem is very important.

For Woreda health office

Close follow-up and regular supervision and fair distributions and timely allocation of available routine drugs for each health center before stock out the drugs in health posts needed to meet an intended plan of the woreda. In addition to this Program specific review meeting ought to be conducted at woreda level

For health center

- Early distribution of available RUTF and routine drugs as children load in health post
- Continues supervision is very important in each health posts around the catchment
- Ask woreda health office by letter for different shortages immediately

For HEWs

- In each producer during admission and follow-up giving of attention and conducting as per national guideline is very important
- Checking of all lists in OTP card is very important so ask and check each and every thing in OTP cards during follow-up and admission.
- Documentation of discharged cards must place in separated place for different proposes

Chapter 9: Meta –evaluation

Meta-evaluation can be used to assess the quality of a single study or a set of studies in different ways. Literature identifies two types of meta-evaluations. First, formative meta-evaluations assist evaluators to plan, conduct, improve, interpret, and report their evaluation studies. Second, summative meta-evaluations – conducted following an evaluation – help audiences see an evaluation’s strengths and weaknesses, and judge its value.

This paper is focus on formative meta evaluation on evaluation of Objective based outcome evaluation of OTP in SNNPR, Hadiya zone of SORO Wereda by considering program Evaluation standard ,guiding principles of evaluators and Fundamental ethical principles .

The main purpose of formative meta-evaluation is to reveal deficiencies in the primary evaluation at a time when they can still be addressed, thus preventing the determination and dissemination of invalid conclusions and increasing the primary evaluation’s utility and cost-effectiveness. It takes place while an evaluation is underway in order to provide guidance for improvement .It assesses the quality of a completed evaluation, increasing the appropriateness of evaluation processes

9.1: Utility Standards

The utility standard was used to ensure that an evaluation was serving the information need of intended users. In doing so stakeholders of the program were made to be participate in problem identification; indicator selection and assigning weights for each indicator during an Evaluability assessment. The evaluation questions were the needs of stake holders and the finding at the end also will be disseminated timely according to their interest on evaluation

9.2: Feasibility

Feasibility Is intended to ensure that an evaluation is designed and conducted in a manner that is prudent, practical, diplomatic, and cost effective. These standards acknowledge the social and political context in which social programs and institutions reside; they stipulate that evaluations be conducted in politically viable ways. The

evaluation was anticipated to produce usable information because the designs used, the stake holder's interest, and resources were nearly sound to accomplish the evaluation. And the political context of the evaluation was taken in to consideration so that their interests on the evaluation were addressed and accordingly the result will be used for program improvement only.

9.3: Propriety

This standard is intended to ensure that an evaluation was conducted legally, ethical and with due regard for the welfare of those involved in the evaluation as well as those affected by its results. The data collection tools were designed by considering the ethical issues to the rights and welfare of human subjects. Ethical clearance planned to be taken and consent of the study subjects was given due emphasis. There was no procedure that affects privacy, dignity, confidentiality, and rights of participants. The data collection was complete and optimal in evaluating the objective of OTP program. With Stakeholders, consensus reached to do this Objective oriented evaluation before starting the evaluation and conflict of interest was dealt with openly and honestly.

9.4: Accuracy

The accuracy standards ensure that an evaluation produces and disseminate valid and usable information. The program was described in clear and understandable manner and the context in which the program was being implemented addressed. The sources of information were cited by following the scientific format of Jimma University (Vancouver style of citation) and the reliability and validity of the information produced were clearly described in method part. In order to address the evaluation questions in the evaluation, respective quantitative and qualitative analysis method was chosen

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Annex I:-Information matrix and judgment matrix

Table 12 Information matrix for indicators used for objective oriented evaluation of OTP, 2016

Evaluation Questions	Indicators	Sources of Information	Data Collection Method	Data collection tools
Are resources needed for the implementation of OTP service available? If yes, how, if no why?	Number of health post with trained health extension worker Number of HP with amoxicillin no stock out in last six month Number of HP with no stock out antimalarial drug with RDT in last six month Number of HP with no stock out folic acid in last six month Number of HP with no stock out deworming in last six month Number of HP with no stock out RUTF in last six month Number of HP with pipe water supply Number of HP with an appropriate anthropometric measurements (MUAC) Number of HP with functional thermometer Number of HP with no stock out of OTP card for the last 6 months Number of HP having standard OTP registration book Number of HP with OTP quick reference book (for HEWs) Number of HP with monthly reporting format Number of HP with posters and leaflets materials related to malnutrition services	Facility Records Health extension worker Health post	Resource audit	Resource audit checklist

<p>Are the program implemented in congruence to the guideline? If yes how? If not why?</p>	<p>Proportion of 6-59 month children Screened according to appropriate /recommended anthropometric measurement</p> <p>Proportion of SAM cases conducted for an appetite test as children weight and amount of RUTF</p> <p>Proportion of SAM cases treated with an appropriate amount of RUTF as according to OTP implementation guide line</p> <p>Proportion of SAM cases treated with necessary drug according to OTP implementation guide line</p> <p>Proportion of complicated cases referred to SC according to OTP implementation guide line</p> <p>Proportion of discharged SAM cases according to discharge criteria</p> <p>Proportion of HP supervised by WoHO in last quarter with standard check list</p> <p>Number of HP with feedback of complete report</p> <p>Number of HP sent report during reporting period</p>	<p>Health post records</p> <p>Health extension worker</p>	<p>Document review</p> <p>Key informant interview</p>	<p>Guiding question for Interview, structured question for document review</p>
<p>Was the effect of the program as the intended? If yes how? If no why?</p>	<p>Proportion of children who Recovered (cured) from total discharged</p> <p>Mean length of stay of cured SAM cases</p> <p>Average weight gain of cured SAM cases</p> <p>Proportion of cure rate from total admission</p> <p>Proportion of defaulter rate from total admission</p> <p>Proportion of non-response rate from total admission</p> <p>Proportion of death rate from total admission</p>	<p>Health post records</p>	<p>Document Review</p>	<p>Document review template or patient data abstraction tool</p>

Overall Judgment Matrixes and Analysis of Dimensions

Table 13 an overall Judgment matrix and Analysis for Objective oriented evaluation of OTP, 2016

Dimension	weight given	Percentage achieved	Agreed criteria	Judgment criteria	Implementation level (Result)
Availability (Summery of indicators)	30		≥ 90%	v. good	
			80-89%	good	
			60 – 79	Fair	
			< 59%	Poor	
Compliance (Summery of indicators)	30		> 85%	v. good	
			70-84%	Good	
			55 – 69	Fair	
			< 55%	Poor	
Effectiveness (Summery six of indicators)	40		≥85%	v. good	
			70-85%	Good	
			50 – 70%	Fair	
			< 50%	Poor	
Total	100				

Annex II -Analysis of Indicators for Availability, compliance and Effectiveness

Table 14:- Matrix of Analysis of indicators for availability dimension of OTP intervention, SNNPR, Hadiya zone, Soro woreda , 2016

S. No	Indicators	Value (weight) given	Numerator	Denominator	Observed value(% achieved)	Score (% achieved converted wt. given)
1	Number of health post with trained health extension worker on OTP services	7	30	30	100	7
2	Number of HP with amoxicillin no stock out in the last six month	7	8	15	53.3	3.7
3	Number of HP with no stock out antimalarial drug with RDT in the last six month	8	14	15	93.3	7.5
4	Number of HP with no stock out folic acid in the last six month	5	4	15	26.7	1.3
5	Number of HP with no stock out deworming in the last six month	7	3	15	20	1.4
6	Number of HP with no stock out RUTF in the last six month	10	13	15	86.7	8.7
7	Number of HP with clean water supply	5	2	15	13.3	1
8	Number of HP with an appropriate anthropometric measurements(MUAC)	7	15	15	100	7
9	Number of HP with functional thermometer	7	15	15	100	7
10	Number of HP with no stock out of OTP card for the last 6 months	9	15	15	100	9
11	Number of HP having standard OTP registration book	7	15	15	100	7
12	Number of HP with OTP quick reference book (for HEWs)	7	14	15	93.3	6.5
13	Number of HP with monthly reporting format	7	15	15	100	7
14	Number of HP with Updated posters and leaflets materials related to malnutrition services	7	14	15	93.3	6.5
	Total availability	100				80.3

Table 15:-Matrix of Analysis of indicators for compliance dimension of OTP intervention, SNNPR, Hadiya zone, Soro woreda , 2016

S. No	Indicators	Value (weight) given	% of wt. given	Numerator	Denominator	Observed value(% achieved)	Score (% achieved converted wt. given)
1	Proportion of 6-59 month children Screened according to appropriate (recommended) anthropometric measurement	13		35	60	58.3	7.6
2	Proportion of SAM cases conducted for an appetite test as children weight and amount of RUTF	14		12	60	20.0	2.8
3	Proportion of SAM cases treated with an appropriate amount of RUTF as according to OTP implementation guide line	12		60	60	100.0	12.0
4	Proportion of SAM cases treated with necessary drug according to OTP implementation guide line	13		14	60	23.3	3.0
5	Proportion of complicated cases referred to SC according to OTP implementation guide line	12		3	3	100.0	12.0
6	Proportion of discharged SAM cases according to discharge criteria	12		10	10	100.0	12.0
7	Proportion of HP supervised by WoHO in last quarter with standard check list	12		8	15	53.3	6.4
8	Number of HP with feedback of complete report	6		4	15	26.7	1.6
9	Number of HP sent report during reporting period	6		15	15	100.0	6.0
	Over all compliance	100	30			#DIV/0!	63.4

Table 16: Matrix of Analysis of indicators for effectiveness dimension of OTP intervention, SNNPR, Hadiya zone, Soro woreda , 2016

S. No	Indicators	Value (weight) given	% of wt. given	Numerator	Denominator	Observed value(% achieved)	Score (% achieved converted wt. given)
1	Proportion of children who Recovered (cured) from total admission	20		285	402	70.9	14.2
2	Mean length of stay of recover SAM cases	15		60	54	111.1	15 (16.7)
3	Average weight gain of recovered SAM cases	15		4.26	8	53.3	8.0
4	Proportion of defaulter rate from total admission	15		15	18.7	80.2	12.0
5	Proportion of non-response rate from total admission	15		5	4.7	106.4	15(16.0)
6	Proportion of death rate from total admission	20		1	1.7	58.8	11.8

Annex III: - Meta Evaluation Conducted Checklist

9-10 = Excellent	7-8 = Very Good	5-6 = Good	3-4 = Fair	0-2 = Poor
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s.no	Utility Standards	Yes	No
1.1	Stakeholder Identification Very Good	8	2
	Clearly identify the evaluation client	✓	
	Engage leadership figures to identify other stakeholders	✓	
	Consult potential stakeholders to identify their information needs	✓	
	Use stakeholders to identify other stakeholders	✓	
	With the client, rank stakeholders for relative importance		✓
	Arrange to involve stakeholders throughout the evaluation	✓	
	Keep the evaluation open to serve newly identified stakeholders		✓
	Address stakeholders' evaluation needs	✓	
	Serve an appropriate range of individual stakeholders	✓	
	Serve an appropriate range of stakeholder organizations	✓	
1.2	Evaluator Credibility Very Good	7	3
	Engage competent evaluators	✓	
	Engage evaluators whom the stakeholders trust	✓	
	Engage evaluators who can address stakeholders' concerns	✓	
	Engage evaluators who are appropriately responsive to issues of gender, socioeconomic status, race, and language and cultural differences	✓	
	Assure that the evaluation plan responds to key stakeholders' concerns	✓	
	Help stakeholders understand the evaluation plan	✓	
	Give stakeholders information on the evaluation plan's technical quality and practicality		✓
	Attend appropriately to stakeholders' criticisms and suggestions		✓
	Stay abreast (side by side) of social and political forces		✓
	Keep interested parties informed about the evaluation's progress	✓	
1.3	Information Scope and Selection Very Good	8	2
	Understand the client's most important evaluation requirements		✓
	Interview stakeholders to determine their different perspectives	✓	
	Assure that evaluator and client negotiate pertinent (relevant) audiences, questions, and required information	✓	
	Assign priority to the most important stakeholders	✓	
	Assign priority to the most important questions	✓	
	Allow flexibility for adding questions during the evaluation		✓
	Obtain sufficient information to address the stakeholders' most important evaluation questions	✓	
	Obtain sufficient information to assess the program's merit	✓	
	Obtain sufficient information to assess the program's worth	✓	
	Allocate the evaluation effort in accordance with the priorities assigned to the needed information	✓	
1.4	Values Identification Excellent	9	1

	Consider alternative sources of values for interpreting evaluation findings		✓
	Provide a clear, defensible basis for value judgments	✓	
	Determine the appropriate party(s) to make the valuation interpretations	✓	
	Identify pertinent societal needs	✓	
	Identify pertinent customer needs	✓	
	Reference pertinent laws	✓	
	Reference, as appropriate, the relevant institutional mission	✓	
	Reference the program's goals	✓	
	Take into account the stakeholders' values	✓	
	As appropriate, present alternative interpretations based on conflicting but credible value bases	✓	
1.5	Report Clarity	Excellent	9 1
	Clearly report the essential information	✓	
	Issue brief, simple, and direct reports	✓	
	Focus reports on contracted questions	✓	
	Describe the program and its context	✓	
	Describe the evaluation's purposes, procedures, and findings	✓	
	Support conclusions and recommendations	✓	
	Avoid reporting technical jargon	✓	
	Report in the language(s) of stakeholders	✓	
	Provide an executive summary	✓	
	Provide a technical report		✓
1.6	Report Timeliness and Dissemination	Good	5 5
	Make timely interim reports to intended users	✓	
	Deliver the final report when it is needed	✓	
	Have timely exchanges with the program's policy board		✓
	Have timely exchanges with the program's staff	✓	
	Have timely exchanges with the program's customers	✓	
	Have timely exchanges with the public media		✓
	Have timely exchanges with the full range of right-to-know audiences		✓
	Employ effective media for reaching and informing the different audiences		✓
	Keep the presentations appropriately brief	✓	
	Use examples to help audiences relate the findings to practical situations		✓
1.7	Evaluation Impact	Very Good	8 2
	Maintain contact with audience	✓	
	Involve stakeholders throughout the evaluation	✓	
	Encourage and support stakeholders' use of the findings	✓	
	Show stakeholders how they might use the findings in their work	✓	
	Forecast and address potential uses of findings	✓	
	Provide interim reports	✓	
	Make sure that reports are open, frank (honest), and concrete	✓	
	Supplement written reports with ongoing oral communication	✓	
	Conduct feedback workshops to go over and apply findings		✓
	Make arrangements to provide follow-up assistance in interpreting the findings		✓

SCORING THE EVALUATION FOR UTILITY				
Add the following:				
Number of Excellent ratings (0-7)	2	x 4 =	8	
Number of Very Good ratings (0-7)	4	x 3 =	12	
Number of Good ratings (0-7)	1	x 2 =	2	
Number of Fair ratings (0-7)	0	x 1 =	0	
Total Score		=	= 22 =	Very Good

26 (93%) - 28 <i>Excellent</i>	19 (68%) - 25 <i>Very Good</i>	14 (50%) - 18 <i>Good</i>	7 (25%) - 13 <i>Fair</i>	0 (0%) - 6 <i>Poor</i>
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s.no	Feasibility Standards	Yes	No
2.1	Practical Procedures Excellent	9	1
	Tailor methods and instruments to information requirements		✓
	Minimize disruption (disturb)	✓	
	Minimize the data burden	✓	
	Appoint competent staff	✓	
	Train staff	✓	
	Choose procedures that the staff are qualified to carry out	✓	
	Choose procedures in light of known constraints	✓	
	Make a realistic schedule	✓	
	Engage locals to help conduct the evaluation	✓	
	As appropriate, make evaluation procedures a part of routine events	✓	
2.2	Political Viability Excellent	10	0
	Anticipate different positions of different interest groups	✓	
	Avert or counteract attempts to bias or misapply the findings	✓	
	Foster cooperation	✓	
	Involve stakeholders throughout the evaluation	✓	
	Agree on editorial and dissemination authority	✓	
	Issue interim reports	✓	
	Report divergent views	✓	
	Report to right-to-know audiences	✓	
	Employ a firm (team work) public contract	✓	
	Terminate any corrupted evaluation	✓	
2.3	Cost Effectiveness Very Good	8	2
	Be efficient	✓	
	Make use of in-kind services	✓	
	Produce information worth the investment		✓
	Inform decisions	✓	
	Foster program improvement	✓	
	Provide accountability information	✓	

	Generate new insights	✓	
	Help spread effective practices	✓	
	Minimize disruptions	✓	
	Minimize time demands on program personnel		✓

SCORING THE EVALUATION FOR FEASIBILITY				
Add the following:				
Number of Excellent ratings (0-3)	2	x 4 =	8	
Number of Very Good ratings (0-3)	1	x 3 =	3	
Number of Good ratings (0-3)	0	x 2 =	0	
Number of Fair ratings (0-3)	0	x 1 =	0	
Total Score		=	=11= Excellent	

11 (93%) - 12 <i>Excellent</i>	8 (68%) - 10 <i>Very Good</i>	6 (50%) - 7 <i>Good</i>	3 (25%) - 5 <i>Fair</i>	0 (0%) - 2 <i>Poor</i>
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s.no	Propriety Standards	Yes	No
3.1	Service Orientation Very Good	8	2
	Assess needs of the program's customers	✓	
	Assess program outcomes against targeted customers' assessed needs	✓	
	Help assure that the full range of rightful program beneficiaries are served	✓	
	Promote excellent service	✓	
	Make the evaluation's service orientation clear to stakeholders	✓	
	Identify program strengths to build on	✓	
	Identify program weaknesses to correct	✓	
	Give interim feedback for program improvement		✓
	Expose harmful practices		✓
	Inform all right-to-know audiences of the program's positive and negative outcomes	✓	
3.2	Formal Agreements Excellent	10	0
	Evaluation purpose and questions	✓	
	Audiences	✓	
	Evaluation reports	✓	
	Editing	✓	
	Release of reports	✓	
	Evaluation procedures and schedule	✓	
	Confidentiality/anonymity of data	✓	
	Evaluation staff	✓	
	Metaevaluation	✓	
	Evaluation resources	✓	
3.3	Rights of Human Subjects Excellent	10	0
	Make clear to stakeholders that the evaluation will respect and protect the rights of human subjects	✓	

	Clarify intended uses of the evaluation		✓	
	Keep stakeholders informed		✓	
	Follow due process		✓	
	Uphold civil rights		✓	
	Understand participant values		✓	
	Respect diversity		✓	
	Follow protocol		✓	
	Honor confidentiality/anonymity agreements		✓	
	Do no harm		✓	
3.4	Human Interactions	Excellent	10	0
	Consistently relate to all stakeholders in a professional manner		✓	
	Maintain effective communication with stakeholders		✓	
	Follow the institution's protocol		✓	
	Minimize disruption		✓	
	Honor participants' privacy rights		✓	
	Honor time commitments		✓	
	Be alert to and address participants' concerns about the evaluation		✓	
	Be sensitive to participants' diversity of values and cultural differences		✓	
	Be even-handed in addressing different stakeholders		✓	
	Do not ignore or help cover up any participants incompetence, unethical behavior, fraud, waste, or abuse		✓	
3.5	Complete and Fair Assessment	Good	6	4
	Assess and report the program's strengths		✓	
	Assess and report the program's weaknesses		✓	
	Report on intended outcomes		✓	
	Report on unintended outcomes			✓
	Give a thorough account of the evaluation's process		✓	
	As appropriate, show how the program's strengths could be used to overcome its weaknesses			✓
	Have the draft report reviewed			✓
	Appropriately address criticisms of the draft report			✓
	Acknowledge the final report's limitations		✓	
	Estimate and report the effects of the evaluation's limitations on the overall judgment of the program		✓	
3.6	Disclosure of Findings	Very Good	7	3
	Define the right-to-know audiences		✓	
	Establish a contractual basis for complying with right-to-know requirements		✓	
	Inform the audiences of the evaluation's purposes and projected reports		✓	
	Report all findings in writing			✓
	Report relevant points of view of both supporters and critics of the program			✓
	Report balanced, informed conclusions and recommendations		✓	
	Show the basis for the conclusions and recommendations		✓	
	Disclose the evaluation's limitations		✓	
	In reporting, adhere strictly to a code of directness, openness, and completeness		✓	
	Assure that reports reach their audiences			✓

3.7	Conflict of Interest	Very Good	7	3
	Identify potential conflicts of interest early in the evaluation		✓	
	Provide written, contractual safeguards against identified conflicts of interest		✓	
	Engage multiple evaluators			✓
	Maintain evaluation records for independent review		✓	
	As appropriate, engage independent parties to assess the evaluation for its susceptibility or corruption by conflicts of interest			✓
	When appropriate, release evaluation procedures, data, and reports for public review			✓
	Contract with the funding authority rather than the funded program		✓	
	Have internal evaluators report directly to the chief executive officer		✓	
	Report equitably to all right-to-know audiences		✓	
	Engage uniquely qualified persons to participate in the evaluation, even if they have a potential conflict of interest; but take steps to counteract the conflict		✓	
3.8	Fiscal Responsibility	Very Good	8	2
	Specify and budget for expense items in advance		✓	
	Keep the budget sufficiently flexible to permit appropriate reallocations to strengthen the evaluation		✓	
	Obtain appropriate approval for needed budgetary modifications		✓	
	Assign responsibility for managing the evaluation finances		✓	
	Maintain accurate records of sources of funding and expenditures		✓	
	Maintain adequate personnel records concerning job allocations and time spent on the job		✓	
	Employ comparison shopping for evaluation materials			✓
	Employ comparison contract bidding			✓
	Be frugal (economical) in expending evaluation resources		✓	
	As appropriate, include an expenditure summary as part of the public evaluation report		✓	

SCORING THE EVALUATION FOR PROPERIETY				
Add the following:				
Number of Excellent ratings (0-8)	3	x 4 =	12	
Number of Very Good ratings (0-8)	4	x 3 =	12	
Number of Good ratings (0-8)	1	x 2 =	2	
Number of Fair ratings (0-8)	0	x 1 =	0	
Total Score		=	= 26 = Very Good	

30 (93%) - 32	22 (68%) - 29	16 (50%) - 21	8 (25%) - 15	0 (0%) - 7
Excellent	Very Good	Good	Fair	Poor

s.no	Propriety Standards	Yes	No
4.1	Program Documentation Excellent	10	0
	Collect descriptions of the intended program from various written sources	✓	
	Collect descriptions of the intended program from the client and various stakeholders	✓	
	Describe how the program was intended to function	✓	
	Maintain records from various sources of how the program operated	✓	
	As feasible, engage independent observers to describe the program's actual operations	✓	
	Describe how the program actually functioned	✓	
	Analyze discrepancies between the various descriptions of how the program was intended to function	✓	
	Analyze discrepancies between how the program was intended to operate and how it actually operated	✓	
	Ask the client and various stakeholders to assess the accuracy of recorded descriptions of both the intended and the actual program	✓	
	Produce a technical report that documents the program's operations	✓	
4.2	Context Analysis Very Good	8	2
	Use multiple sources of information to describe the program's context	✓	
	Describe the context's technical, social, political, organizational, and economic features	✓	
	Maintain a log of unusual circumstances		✓
	Record instances in which individuals or groups intentionally or otherwise interfered with the program	✓	
	Record instances in which individuals or groups intentionally or otherwise gave special assistance to the program	✓	
	Analyze how the program's context is similar to or different from contexts where the program might be adopted	✓	
	Report those contextual influences that appeared to significantly influence the program and that might be of interest to potential adopters		✓
	Estimate effects of context on program outcomes	✓	
	Identify and describe any critical competitors to this program that functioned at the same time and in the program's environment	✓	
	Describe how people in the program's general area perceived the program's existence, importance, and quality	✓	
4.3	Described Purposes and Procedures Very Good	8	2
	At the evaluation's outset, record the client's purposes for the evaluation		✓
	Monitor and describe stakeholders' intended uses of evaluation findings	✓	
	Monitor and describe how the evaluation's purposes stay the same or change over time	✓	
	Identify and assess points of agreement and disagreement among stakeholders regarding the evaluation's purposes	✓	
	As appropriate, update evaluation procedures to accommodate changes in the evaluation's purposes		✓
	Record the actual evaluation procedures, as implemented	✓	

	When interpreting findings, take into account the different stakeholders' intended uses of the evaluation	✓	
	When interpreting findings, take into account the extent to which the intended procedures were effectively executed	✓	
	Describe the evaluation's purposes and procedures in the summary and full-length evaluation reports	✓	
	As feasible, engage independent evaluators to monitor and evaluate the evaluation's purposes and procedures	✓	
4.4	Defensible Information Sources	Excellent	10 0
	Obtain information from a variety of sources	✓	
	Use pertinent, previously collected information once validated	✓	
	As appropriate, employ a variety of data collection methods	✓	
	Document and report information sources	✓	
	Document, justify, and report the criteria and methods used to select information sources	✓	
	For each source, define the population	✓	
	For each population, as appropriate, define any employed sample	✓	
	Document, justify, and report the means used to obtain information from each source	✓	
	Include data collection instruments in a technical appendix to the evaluation report	✓	
	Document and report any biasing features in the obtained information	✓	
4.5	Valid Information	Excellent	10 0
	Focus the evaluation on key questions	✓	
	As appropriate, employ multiple measures to address each question	✓	
	Provide a detailed description of the constructs and behaviors about which information will be acquired	✓	
	Assess and report what type of information each employed procedure acquires	✓	
	Train and calibrate the data collectors	✓	
	Document and report the data collection conditions and process	✓	
	Document how information from each procedure was scored, analyzed, and interpreted	✓	
	Report and justify inferences singly and in combination	✓	
	Assess and report the comprehensiveness of the information provided by the procedures as a set in relation to the information needed to answer the set of evaluation questions	✓	
	Establish meaningful categories of information by identifying regular and recurrent themes in information collected using qualitative assessment procedures	✓	
4.6	Reliable Information	Very Good	7 3
	Identify and justify the type(s) and extent of reliability claimed	✓	
	For each employed data collection device, specify the unit of analysis	✓	
	As feasible, choose measuring devices that in the past have shown acceptable levels of reliability for their intended uses	✓	
	In reporting reliability of an instrument, assess and report the factors that influenced the reliability, including the characteristics of the examinees, the data collection conditions, and the evaluator's biases	✓	

	Check and report the consistency of scoring, categorization, and coding	✓	
	Train and calibrate scorers and analysts to produce consistent results	✓	
	Pilot test new instruments in order to identify and control sources of error	✓	
	As appropriate, engage and check the consistency between multiple observers		✓
	Acknowledge reliability problems in the final report		✓
	Estimate and report the effects of unreliability in the data on the overall judgment of the program		✓
4.7	Systematic Information	Excellent	9 1
	Establish protocols for quality control of the evaluation information	✓	
	Train the evaluation staff to adhere to the data protocols	✓	
	Systematically check the accuracy of scoring and coding	✓	
	When feasible, use multiple evaluators and check the consistency of their work		✓
	Verify data entry	✓	
	Proofread and verify data tables generated from computer output or other means	✓	
	Systematize and control storage of the evaluation information	✓	
	Define who will have access to the evaluation information	✓	
	Strictly control access to the evaluation information according to established protocols	✓	
	Have data providers verify the data they submitted	✓	
4.8	Analysis of Quantitative Information	Excellent	9 1
	Begin by conducting preliminary exploratory analyses to assure the data's correctness and to gain a greater understanding of the data	✓	
	Choose procedures appropriate for the evaluation questions and nature of the data	✓	
	For each procedure specify how its key assumptions are being met	✓	
	Report limitations of each analytic procedure, including failure to meet assumptions	✓	
	Employ multiple analytic procedures to check on consistency and reliability of findings	✓	
	Examine variability as well as central tendencies	✓	
	Identify and examine outliers and verify their correctness		✓
	Identify and analyze statistical interactions	✓	
	Assess statistical significance and practical significance	✓	
	Use visual displays to clarify the presentation and interpretation of statistical results	✓	
4.9	Analysis of Qualitative Information	Very Good	8 2
	Focus on key questions	✓	
	Define the boundaries of information to be used	✓	
	Obtain information keyed to the important evaluation questions	✓	
	Verify the accuracy of findings by obtaining confirmatory evidence from multiple sources, including stakeholders	✓	
	Choose analytic procedures and methods of summarization that are appropriate to the evaluation questions and employed qualitative information	✓	
	Derive a set of categories that is sufficient to document, illuminate, and respond to the evaluation questions	✓	
	Test the derived categories for reliability and validity		✓
	Classify the obtained information into the validated analysis categories	✓	
	Derive conclusions and recommendations and demonstrate their meaningfulness	✓	

	Report limitations of the referenced information, analyses, and inferences		✓
4.10	Justified Conclusions Very Good	7	3
	Focus conclusions directly on the evaluation questions	✓	
	Accurately reflect the evaluation procedures and findings	✓	
	Limit conclusions to the applicable time periods, contexts, purposes, and activities	✓	
	Cite the information that supports each conclusion	✓	
	Identify and report the program's side effects	✓	
	Report plausible alternative explanations of the findings	✓	
	Explain why rival explanations were rejected		✓
	Warn against making common misinterpretations		✓
	Obtain and address the results of a prerelease review of the draft evaluation report		✓
	Report the evaluation's limitations	✓	
4.11	Impartial Reporting Very Good	7	3
	Engage the client to determine steps to ensure fair, impartial reports	✓	
	Establish appropriate editorial authority	✓	
	Determine right-to-know audiences	✓	
	Establish and follow appropriate plans for releasing findings to all right-to-know audiences	✓	
	Safeguard reports from deliberate or inadvertent distortions	✓	
	Report perspectives of all stakeholder groups		✓
	Report alternative plausible conclusions		✓
	Obtain outside audits of reports	✓	
	Describe steps taken to control bias	✓	
	Participate in public presentations of the findings to help guard against and correct distortions by other interested parties		✓
4.12	Meta evaluation Very Good	7	3
	Designate or define the standards to be used in judging the evaluation	✓	
	Assign someone responsibility for documenting and assessing the evaluation process and products	✓	
	Employ both formative and summative meta evaluation		✓
	Budget appropriately and sufficiently for conducting the meta evaluation		✓
	Record the full range of information needed to judge the evaluation against the stipulated standards	✓	
	As feasible, contract for an independent meta evaluation	✓	
	Determine and record which audiences will receive the meta evaluation report		✓
	Evaluate the instrumentation, data collection, data handling, coding, and analysis against the relevant standards	✓	
	Evaluate the evaluation's involvement of and communication of findings to stakeholders against the relevant standards	✓	
	Maintain a record of all meta evaluation steps, information, and analyses	✓	

SCORING THE EVALUATION FOR ACCURACY				
Add the following:				
Number of Excellent ratings (0-12)	5	x 4 =	20	
Number of Very Good ratings (0-12)	7	x 3 =	18	
Number of Good ratings (0-12)	0	x 2 =	0	
Number of Fair ratings (0-12)	0	x 1 =	0	
Total Score		=	=38 = Very Good	

45 (93%) - 48 Excellent	33 (68%) - 44 Very Good	24 (50%) - 32 Good	12 (25%) - 23 Fair	0 (0%) - 11 Poor
-----------------------------------	--	------------------------------	------------------------------	----------------------------

Over all Meta evaluation result showed that in the following table

Utility = 22 = Very Good

Feasibility 11= Excellent

Prosperity = 26 = Very Good

Accuracy= 38 = Very Good

Scoring the Evaluation for Utility, Feasibility, Prosperity and Accuracy				
Add the following:				
Number of Excellent ratings (0-4)	1	x 4 =	4	
Number of Very Good ratings (0-4)	3	x 3 =	9	
Number of Good ratings (0-4)	0	x 2 =	0	
Number of Fair ratings (0-4)	0	x 1 =	0	
Total Score		=	=13 = Very Good	

14 (93%) - 16 Excellent	10 (68%) - 13 Very Good	8(50%) - 9 Good	4 (25%) - 7 Fair	0 (0%) - 3 Poor
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The minimum standards that were listed in national management of severe acute malnutrition and emergency nutrition intervention guideline in Ethiopia show that for each clinical outcomes and coverage its own acceptable and alarming stage (4).

Annex IV:-Minimum standards to Different Clinical Outcomes of OTP Services

Table 17:-The minimum standards listed on national OTP guideline

	Acceptable	Alarming
Recovery rate	> 75%	< 50%
Death rate	< 10%	> 15%
Defaulter rate	< 15%	> 25%
Weight gain	≥ 8 g/kg/day	< 8 g/kg/day
Length of stay	< 4 weeks	> 6 weeks
Coverage	> 50-70%	< 40%

Annex V. Data collection Tools for OTP program

Jimma University College of Health sciences Department of Health Economics, Management and Policy; Health Monitoring and Evaluation Program unit

Title: A data collection tool developed for Objective oriented evaluation of outpatient therapeutics program (OTP) of malnourished children in selected health posts of Hadiya zone soroworeda2016.

Questionnaire I: Tool for collection of data from OTP card in order to evaluate congruence of service implementation to national standards and effectiveness of the program (health post document review)

Letter of permission from Health facility

I am _____, BSc/MSc student from Jimma University and I am one of the research team working as a research assistant entitled as: Objective Oriented Evaluation of OTP program for malnourished children in Soro Woreda, Hadiya zone, SNNPR.

The purpose of the evaluation will be to evaluate the Intended objective of the outpatient therapeutic program in line with implemented objectives in Hadiya zone Soroworeda in 2015. The information that will be generating from this study will be used to understand the compliance and effectiveness of the program. The research approach involves collecting data from information in the health post registers book and patient's OTP follow up card while the client was under the care of health post during the time period of January/1 2015 to December 30//2015. I have already submitted a request for clearance from University of Jimma and will not undertake any part of this research until such clearance is received. I promise that if granted such permission.

May I continue to review the OTP cards & registration book? 1. Yes 2. No

Thanking you for the anticipated favorable response. Yours faithfully,

Signature of Evaluator

Instruction: This questionnaire will be used to conduct document review in order to assess the OTP cards of SAM children during the study period of January 1/2015 to December 30/2015 from selected health posts in the woreda.

Data capture sheet

Registration number		Write 9 for other than listed category						Remark
Code	Questions that will be obtained from OTP card	category						
		1	2	3	4	5	9	
General Information								
001	Name of HP _____							
002	Age of child (month) _____							
003	Sex of child 1= male , 2= Female							
004	Distance to home(min.) _____							
Information during admission								
005	Date of admission _____							
006	Referred by 1=HAD 2=community other than HAD 3=self							
006	Type of admission 1= new 2=Return after default 3=Readmission 4= refer from SC site 5= other							
007	Admitted with 1= W/H >70% 2=MUAC 3= oedema							
008	Weight _____							
009	Grade of oedema 1= +, 2= ++ ,3= +++ 4= no + = grade 1, ++= grade 2 & +++ = grade 3							
010	MUAC (cm) _____							
Information on health history								
011	Diarrhea 1= yes 2= No							
012	Vomiting 1= yes 2= No							
013	Cough 1= yes 2= No							
014	Was the child on Breast Feeding 1= yes 2= No							

Code	Questions that will be obtained from OTP card	category						Remark
		1	2	3	4	5	NA	
Physical Examination								
015	Is appetite test done 1=yes 2= No							
016	If yes for Q. 015 Appetite test 1=pass 2= Fail							
017	Was temperature measured? 1= yes 2= No							
018	If yes for Q. 017 Temperature (⁰ c) _____							
019	Was Respiratory rate measured appropriately 1= yes 2= No							
020	If yes for Q. 018 Respiratory rate (#/min.) _____							
021	Dehydrated 1= yes 2= No 3= Not checked							
022	Anemia 1= yes 2= No 3= Not checked							
023	Skin Infection 1= yes 2= No 3= Not checked							
Routine Medication								
024	Was Amoxicillin given? 1= yes 2= No							
025	Was Malaria Drug given? 1= yes 2= No							
026	Was Deworming tab. Given? 1= yes 2= No							
027	Measles vaccine 1= yes 2= No							
029	Folic acid 1= yes 2= No							
030	Was RUTF given? 1= yes 2= No							
031	If yes for Q. 030 No of RUTF Was 1=much with child Weight 2= Not much With child Weight							

Code	Questions that will be obtained from OTP card	category						Remark
		1	2	3	4	5	NA	
Information During Discharge								
032	Day of discharge _____ Total length of stay in the program _____							
033	Target Weight (kg) _____							
034	Weight (kg) during discharge _____							
035	Oedema 1=Yes 2=No							
036	MUAC _____							
038	Average weight gain _____							
039	Clinical outcome 1= cured 2= dead 3= defaulter 4= non-responder 5= other							
Home Visit								
040	Was home visit conducted for clinical outcome other than cured cases 1= yes 2= No							
041	Reason for home visit (to check which clinical outcome) 1= dead 2=defaulter 3= non-responder 4 = other							

Questionnaire II: Direct observation check-list (Guide)

An observation checklist used to assess the compliance of health extension worker in OTP service delivery at health post

Instruction: This checklist will be used to conduct direct observation of health extension worker at health post while assessing, checking, testing (appetite test), classifying, treating and counseling services and providing follow-up.

Consent form between health extension worker and data collector

I want to thank you for taking time to meet with me today. My name is _____ from Jimma University and I am hereby to observe the OTP service at this unit. This is part of the overall program evaluation and it will help to improve the implementation of outpatient therapeutic program services delivered at this health post. The observation will be conducted during you provide the services and all findings of the observation will be kept confidential. Further we will ensure that any information we include in our report does not identify you as the respondent. Remember, everything will be undertaken with your agreement and your willingness will be respected.

Are you willing to participate in this interview?

Interviewee observer Date

Consent form between health care provider and care givers

Thank you for visiting our health post for receiving services. Today I will provide you services in collaboration with my colleagues. He is hereby to observe the clinical process and provide additional support which will help me to provide you better services. During the overall process your information will be kept confidential as previous and no one will identify you as part of the observation or respondent. Remember, everything will be undertaken based on your will.

Are there any questions about what I have just explained?

Are you willing to participate in this interview?

Interviewee observer Date

Identification and respondents background:

Name of the health post _____

Date of observation _____

The first component will be completed once and the others per each sessions. Before starting the observation make sure that you took consent from the health care provider and client. Moreover you are expected to complete the table if you observed the session only (tick below after you do so).

s.no	Activity	Yes (1)	No (2)	NA (3)	Remark
For new admitted children					
1	Do the HEWs show respect for the client (Greeting and offer seat)?				
2	Do the HEWs ask the age of the sick child				
3	Do HEWs check edema of the child				
4	Do the HEWs measure the weight of the sick child				
5	Do the HEWs measure MUAC of child as guideline				
6	Do HEWs check any medical complication to refer or admit in OTP				
7	Do HEWs an appetite test in private place with considering weight of the child				
8	Do HEWs check Respiratory rate of child (#min)				
9	Do HEWs check temperature of child (⁰ c)				
10	Do HEWs check dehydration stage rate of child (no dhdration., some and sever)				
11	Do HEWs ask history of diarrhea				
12	Do HEWs ask history of vomiting				
13	Do HEWs ask history of cough				
14	Do HEWs ask history of breast feeding				
15	Do HEWs calculate target weight for child				
For existing clients (during weekly follow up)					

16	Do HEWs check weight change				
17	Do HEWs take measurement of MUAC				
18	Do HEWs check oedema				
19	Do HEWs ask a history of diarrhea in a child				
20	Do HEWs ask a history of vomiting in a child				
21	Do HEWs ask a history of fever in a child				
22	Do HEWs ask a history of cough in a child				
23	Do HEWs examine an appetite test				
24	Do HEWs examine temperature of child				
25	Do HEWs examine respiratory rate of child				
26	Do HEWs examine a child dehydrated or not				
27	Do HEWs give appropriate routine medication as a standard				
28	Do HEWs give RUTF for child by considering weight				

Closing: Thanks the HEWs as well as the client parents and then finish your observation!!

Observer's name _____ Observation Date:

_____ Signature: _____

Checked by/supervisors name: _____ Checked date:

_____ Signature: _____

Questionnaire III: - ICCM Resource Inventer check-list

Instruction: This checklist will be used to conduct Resource audit (inventory) in order to assess Infrastructure, human resource, OTP drugs and supplies in al selected HP.

Name of Health post-----

Total population -----

Total number of 6-59 month children-----

Number of HEWs -----

Expected (planed) number of SAM cases to identify -----

Code	Items	Standard on OTP guideline	Available and use it		If the item was stock out		Remark
			Yes	No	Day of stock out	Reason of stock out	
Recording & Reporting Tool							
1	OTP guide line						
2	Registration Book						
3	OTP quick reference						
4	OTP card						
5	Monthly Reporting Format						
6	Referral formats						
7	IEC/BCC materials						
medical equipment and Infrastructure							
Code	Items	Standard on OTP guideline	Available and functional		If not available and functional Reason for it	Remark	
			Yes	No			
8	Height measurement						
9	MUAC measuring tape						
10	Weighing scale - Baby lying or Salter scale with bowel						
11	Thermometer						
12	Clean water in the compound						

Essential Drugs							
Code	Items	Standard on OTP guideline	Available and use it		If the item was stock out		Remark
			Yes	No	Day of stock out	Reason of stock out	
13	Albendazole (deworming)						
14	Anti-malaria with RDT						
15	Vitamin A capsule						
16	Measles vaccine						
17	RUTF						
18	ORS						
19	Antibiotics (Amoxicillin)						
20	Folic acid						
21	TTC eye ointment tubes						

Thank you!!

Data collector name-----supervisor's name: -----

Date of data collection: -----

Checked date-----

Signature: -----Signature: -----

Questionnaire IV :- Interview Guide for Key Informants

Instruction: This questionnaire/tool will be used to assess the OTP program service delivery , program context ,resources sustainability, monitoring strategy and the strength and weakness of the implementing the program..

Consent form

I want to thank you for taking time to meet with me today. My name is _____from Jimma University and I would like to talk to you about your experiences participating in the OTP program.

Specifically, as one components of our overall program evaluation we are assessing program implementation in order to capture lessons that can be used in future to improve the program. The interview should take 30 -45 minutes. All responses will be kept confidential. This means that your interview responses will only be shared with research team members and we will ensure that any information we include in our report does not identify you as the respondent. Remember, you don't have to talk about anything you don't want to and you may end the interview at any time.

Are there any questions about what I have just explained?

Are you willing to participate in this interview?

The information about the proposed research study and consent has been explained by

Name of data collector _____ signature _____

Statement of consent

I have fully understood the nature of this study, so I am agree to participate.

Signature of participant _____ date _____

I. Guiding question to Health Extension Workers

Identification of HEW:

Name of HP _____

Name of Cluster HC _____

Qualification of HEW:

- 10+1
- Level IV

Training status: Trained _____ Untrained _____

Service year (Year started): _____

1. Could you please briefly describe community involvement on OTP service?

Probes:-administrative body participation

2. In your opinion what are some of the prominent problems or factors that affect management of SAM in OTP services at health post?

3. Did you ever receive supportive supervision related to OTP service? Yes, No

Probes:-From woreda health office? , HC? , NGOs?

4. If yes; when did last supervision received? (dd/mm/yy) ____/____/____

5. How often the support provided? _____

6. Did they give feedback (see the feedback provided)? Yes/ No

Thank you!!

Data collector

Name _____ Date of data collection _____ Signature _____

Checked by/supervisors

Name _____ Checked date _____ Signature _____

II. Guiding question for Health center program officer or program coordinator in the woreda

Identification of health care provider:

Name of HC _____

Qualification of HCP:

- Diploma in -----
- BSc in -----
- Master in -----

Training status: Trained _____ Untrained _____

Service year (Year started): _____

1. Could you tell me OTP follow up mechanism in the health post?

Probes: - frequency of supervision conducted? Do you use ISS format?

2. What is the challenges and opportunity regarding to the program?

3. How is the community involved in the program particularly?

Thank you!!

Data collector

Name _____ Date of data collection _____ Signature _____

Checked by/supervisors

Name _____ Checked date _____ Signature _____

ከፕሮግራሙ ወሳኝ አካላት ጋር የሚደረግ የቃለ ምልልስ

መመሪያ፡-

ከዚህ በታች የሚጠቀሱት ጥያቄዎች በአጠቃላይ የፕሮግራሙን አገልገሎት አሰጣጥ፣ አከባቢያዊ ነባራዊ ሁኔታ፣ የግብአት አቅርቦትና ቀጣይነት ፣የክትትል ሁኔታ እና የፕሮግራሙን ጠንካራና ደከማ ጎኖችን ለመዳሰስ ታስቦ የተዘጋጀ ነው።

የስምምነት መግለጫ

በመጀመሪያ ከእኔ ጋር ለማወራረት ፈቃደኛ በመሆኔዎ በጣም አመሰግናለሁ ። ስሜ -----

ስሆን የጅምር ዩኒቨርሲቲ ዩህ-ላተኛ ድግሪዬን በጤና ክትትልና ግምገማ ላይ በመስራት እገኛለሁ።

ከእርሶ የሚፈልገው ነገር በዉሎ ገብ የህፃናት ሥነ-ምግብ መርሃ ግብር ላይ ያሉትን የተወሰኑ ጥያቄዎችን እንድንመልሱልኝ ስሆን አለማዉ ደግሞ ከጥናቱ የሚገኘውን ግብአት በመጠቀም ወደፊት ፕሮግራሙን የበለጠ አሻሽሎ ለማስቀጠል ነዉ ። ምን አልባት ከ 30 እስከ 45 ደቅቃ ልወስድቦት እችላለዉ የምላሾቹ ምስጢራዊነት ግን በጣም የተጠበቀ ነዉ።

በመጨረሻም ምን አልባት በየመሃሉ ለመመለስ የማይፈልጉት ጥያቄ ብያጋጥሞት የለመመለስ መብቶ የተጠበቀ ነዉ።

ከላይ ከዘረዘርኩሎት መነሻ ማንኛውም ጥያቄ ካሎት?

ለቃለ ምልልሱ ፈቃደኛ ኖት ? አዎ። አይደለዉም።

ከላይ የተገለፀውን የስምምነት መግለጫ ያብራራዉ መረጃ ሰብሳቢ

ስም----- ፊርማ----- ቀን-----/-----/-----

የስምምነት ማረጋገጫ

ከላይ የዘረዘርኩልኝን የጥናቱን ሀሳብ በምገባ የተገነዘብኩ ስለሆነ የቻልኩትን ለመመለስ ፈቃደኛ ነኝ።

መረጃዉን የሰጠዉ/ችዉ ግለሰብ ፊርማ----- ቀን -----/-----/-----

ለጤና ኤክስቴንሽን በለሙዎቻችሁ የተዘጋጀ የጥያቄ መነሻ ሃሳብ

የጤና ኬላው ስም-----

የጠሪናፊ ጤና ጣቢያ ስም-----

የትምህርት ደረጃን በሚመለከት

10+1

ደረጃ 4

የስልጠና ሁኔታ :- የሰለጠኑትን በቁጥር----- ያልሰለጠኑትን በቁጥር-----

የአገልግሎት ዘመን (ሥራ የጀመሩበት ዓመት) -----

ፕሮግራሙን በተመለከተ

በዉሎ ገብ የህፃናት ሥነ-ምግብ መርሃ ግብር ላይ የህብረተሰቡ ተሳትፎን ብያብራሩልኝ ?

የአስተዳደር አካላት ምናል (የቀበሌ፣የወረዳ ሌሎችም) ?

ቀልጣፋ አገልግሎት ከመስጠት አንጻር በእርሶ እይታ በአጠቃላይ በፕሮግራሙ ዙሪያ ምን ዓይነት ተግዳሮቶች አለብላዉ የሰባሉ ?

በቅርቡ ፕሮግራሙን አስመልክቶ ድጋፋዊ ክትትል ተደርጎ ነበር? አይ አለተደረገም ተደርጎ ከሆነ መቼ?

ያደረገዉስ አካል ከየትነዉ? ጤናጣቢያ? ወረዳ? ሌላ ካሌ ይጠቀስ?

የመጨረሻ ድጋፋዊ ክትትል የተደረገበት ጊዜ (ቀን/ወር/ዓም)-----/-----/-----

በየሰንት ጊዜ ነዉ ለድጋፍ የሚመጡት?

ከወረዳጤናጽ/ቤት-----

ከጤና ጣቢያ -----

ግብራ መልስ የሰጣችዎል? (ተመልከት) አዎ አይሰጥም

አመሰግናለዉ

የመረጃ ሰቢሳቢ ስም-----መረጃዉ የተሰበሰበበት ቀን-----ፊርማ-----

የረጋገጠዉ አስተባባሪ ስም -----የተረጋገጠበት ቀን -----ፊርማ-----