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## ASSESSMENT OF OUTPATIENT THERAPEUTIC PROGRAMME FOR SEVERE ACUTE MALNUTRITION IN THREE REGIONS OF ETHIOPIA

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## ASSESSMENT OF OUTPATIENT THERAPEUTIC PROGRAMME FOR SEVERE ACUTE MALNUTRITION IN THREE REGIONS OF ETHIOPIA

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### ABSTRACT

**Objective:** To document the experiences and lessons for rolling out of the OTP service at the wider scale with the aim of assessing the strengths and weaknesses of the project and suggest recommendations for future programming.

**Design:** Qualitative methods of data collection including focus group discussion, observation and in-depth interview of key informants were employed to get relevant data. Review of health facility, reports and programme documents were done to capture further- information.

**Setting:** Out Patient Programme (OTP) pilot programme implemented by CONCERN/VALID in three administrative regions of Ethiopia namely: South Nations and Nationalities Peoples Regions (SPNNR), Addis Ababa and Oromia regions. A total of thirteen health centres which had started OTP service from the three regions were included in the study.

**Subjects:** Thirty six key informants and 30 focus group discussants were involved in the study conducted from 16<sup>th</sup> to 25<sup>th</sup> November 2006.

**Results:** Out Patient Programme (OTP) has enhanced community's understanding of malnutrition as a health problem through an excellent entry point it created for behaviour change communication (BCC) on optimal Infant and young child feeding (IYCF). It has also enhanced utilisation of the existing equipments of the respective health services to promote nutrition and increased mental satisfaction of the providers who observed rapid recovery of malnourished children taking the plumpy nut. It also resulted in increased awareness of the community about malnutrition and its treatment, which resulted in increased need-based demand for the OTP and self-referral of children to health facilities. Shift in the thinking of the providers on the fact that malnutrition can be treated without admitting the child and reduction in the burden of malnutrition and associated mortality are other positive findings of the study.

**Conclusion:** While it was observed that the programme was very effective in treating case of severe acute malnutrition and is highly acceptable by planners, health care providers and beneficiaries, there were different operational issues that needed to be strengthened. The irregularity and incompleteness of supply availability, high attrition of trained human power, inadequate supportive supervision especially from local ministry of health, inadequate community mobilisations are some of the shortcomings identified. Based of these findings recommendations were forwarded.

### INTRODUCTION

Ethiopia has a long history of food insecurity and nutritional problems affecting large proportion of the population caused by the successive drought. Even during a relatively good non-drought year,

levels of malnutrition in children and women in Ethiopia were extremely high putting the survival of these groups of the population at a great peril. An estimated 38% of Ethiopia's under-five children are underweight contributing to an under five-mortality rate of 123/1000 live births (1). Evidence show that

Ethiopia is the sixth-highest country in the world in the number of under-five deaths, with more than 472,000 under-fives dying each year (2). Analyses show that malnutrition, even in its milder forms, account directly or indirectly for 53% of all under-five deaths in Ethiopia (3). Reducing under-five mortality will require concerted efforts to improve nutrition status in the early years of life.

Improvements in child survival are strongly associated with decreases in malnutrition in countries characterised by high rates of general malnutrition such as Ethiopia (5-8). The conventional intervention to large-scale malnutrition in Ethiopia has been direct food aid and various food security interventions and all emergency actors in Ethiopia has been carried away with the "food-first biased approach". Most importantly, insufficient attention has been given to "non food" issues like caring, health and hygiene. Nutrition is not only food issue, as malnutrition exists even when food is available in market place or plentiful in households (9).

The National Nutrition Strategy of Ethiopia presents a generalised understanding of how malnutrition is the outcome of a multifaceted development problem that can be analysed in terms of immediate, underlying, and basic causes (10).

Although it is critical address the underlying and basic causes of malnutrition for achieving for long term and basic positive development goals, it is equally important to address the immediate life threatening condition of severe acute malnutrition that is presently affecting hundreds of thousands of Ethiopian children. Severe malnutrition has traditionally been managed in inpatient facilities. It was evidenced that the traditional therapeutic feeding centre (TFC) model of inpatient care was unable to provide an effective response to large-scale humanitarian crises as poor access was a considerable obstacle leading to limited coverage (11-13). In addition, the traditional model of inpatient treatment of SAM does not consider the social aspects of management of malnutrition and hence has high opportunistic costs to mothers/care givers. Out patient therapeutic care is a malnutrition intervention designed with the capacity to address severe acute malnourished in both emergency and development contexts. Its underlying aims are to maximise coverage and access. In practice, this means giving priority to provision of care for acutely malnourished majority than focusing on inpatient care for a few extreme cases.

Community mobilisation techniques are used to engage the affected population and maximise coverage. Community or self-referral identifies

acutely malnourished children through screening of the affected population. Three forms of treatment are provided according to the severity of the child's condition. Those with moderate acute malnutrition and no medical complications are supported in a supplementary feeding programme (SFP) which provides dry take-home rations and simple medicines, while children with severe acute malnutrition (SAM) with no medical complications are treated in an outpatient therapeutic programme (OTP), which provides ready-to-use therapeutic food (RUTF) and routine medicines to treat simple medical conditions. These are taken at home, and the child attends an OTP site weekly for check ups and more supplies of RUTF (14-17). Those who are acutely malnourished and have medical complications are treated in an inpatient stabilisation centre (SC) until they are well enough to continue with outpatient care.

The first pilot OTP was implemented out of necessity during the famine in Ethiopia in 2000 (11). Both the first pilot programme in Ethiopia and larger programme in Darfur, Sudan were clinically as effective and even better than the inpatient TFC (12-13). OTP is gaining attention as a viable alternative to the traditional therapeutic feeding centres (TFCs) and there are efforts to integrate the approach into national protocols for treating severely malnourished people.

In view of the widely acknowledged need for a longer-term management of severe acute malnutrition that is both sustainable and effective, with the complementary nature of both the therapeutic Feeding unit (TFU) and OTP approach, it is justified to establish both services in an integrated manner for effective management of SAM. With this understanding, CONCERN/VALID held several advocacy meetings with other partners and MoH at different levels for initiating OTP services to respond to increased demand created for the service due to enhanced outreach strategy. As a result of such advocacy efforts different regional health bureaus requested for support to initiate OTP services. Consequently, from November 2005 up to October 2006, OTP service was initiated in five health centres of Oromia region, in five health centres, in SNNPR, Gurage zone and in three health centres in Addis Ababa region.

These centres closely worked with Valid International on a pilot project with the aim of institutionalising outpatient therapeutic programme (OTP). The goal of the programme is to support the Ministry of Health to continue to provide a response to severe acute malnutrition at community level and

to build their capacity to routinely treat acute malnutrition on a sustainable basis. These undertakings were considered as initial phase to have a time to learn how the approach is working and use the learning for further scaling up of the services in the other parts of the country. Hence, this study was carried out to document the experiences and lessons for rolling out of the OTP at the wider scale with the aim of assessing the strengths and weaknesses of the project and suggest recommendations for future programming.

## MATERIALS AND METHODS

This study was done on the districts where OTP was being implemented by CONCERN/VALID on pilot basis in three administrative regions of Ethiopia. A total of thirteen health centres in which the OTP services were initiated in the three regions were included in the study. Out of these, five health centres were in three districts of South Nations Nationalities Peoples Region (SNNPR), three health centres were in three sub-cities of Addis Ababa region and five health centres were from the five districts of Jimma zone of Oromia region.

In the study regions, community surveillance workers and health extension workers render community level preventive, promotive and curative services at the outreach sites within the catchment areas of the health centres and mobilise the community for static services to be delivered at the health centre. The community volunteers and surveillance workers screen children using bilateral edema and mid-upper arm circumference of <11 cm and send children to health facilities for further screening using weight for height. Children with weight for height less than 85% were admitted to OTP for a minimum of five weeks to a maximum of 13 weeks and were given a weekly ration of plumpy nut and other drugs like amoxicillin, antihelminths, folic acid, tetracycline (TTC) eye ointment. The Programme started in SNNPR and in Oromia first followed by Addis Ababa region few months before the study.

The study was conducted from November 16-25, 2006. A total of 36 key informants and 30 focus group discussants were involved. Different documents were critically reviewed for generating relevant data. Semi-structured interview checklist was used for key informant interview. A topic guide with probes customised to the community level health workers and health professionals were used to facilitate the focus group discussion (FGD). A checklist was also used for the case study. Detailed

field notes were taken during all kinds of data collection. The study employed various data collection methods depending on the context and the situation faced during the field visit, different qualitative and quantitative methods were employed. The key informants included heads of regional health bureaus, zonal health departments, district health offices and respective health centres. Additionally, OTP focal persons from the region to facility level were interviewed.

The beneficiary of the OTP service was interviewed for a case study. During visits to see set-ups, supplies and the recording and reporting systems were observed. Participants of the focus group discussion were the community volunteers, health extension package workers and health professionals involved in providing OTP services. Different documents including the programme proposal, reports, training manuals, consultants' reports and national guidelines related to treatment of SAM were reviewed. Qualitative data analysis techniques were employed to pull out different issues and observations under the different thematic areas. Triangulation of data obtained from different sources was applied to ensure the validity of the findings.

## RESULTS

For the sake of clarity, the results were summarised under the following thematic areas: Programme initiation and implementation process, community mobilisation, programme effectiveness and acceptance, outcomes of the programme, strengths and weaknesses, problems encountered and solutions sought and sustainability of the programme.

*Programme initiation and implementation process:* It was observed that the initiation process was not very clear and diffused in terms of creating an understanding of the implementation process. For example: the districts and operation level health facilities were not clear about their role and what is expected of CONCERN/VALID in some places. There was no written document to refer to in all the three regions. This resulted in the diffusion of responsibility between the zones and districts in some places. Supplies were interrupted due to role confusion between the zonal health department and the district health offices. In addition, the districts and zones were not involved in supervisory activities because they did not have the technical capacity to do so as they were not trained, secondly, they were not clear about their roles. This clearly showed that the advocacy and communication effort to facilitate the

buy-in of the programme into the routine health service system was inadequate.

*Community mobilisation:* Though it varied from one health centre to another, community volunteers were used to mobilise the community for the OTP service. While strategies for mobilising the community using community level health workers was exemplary in SPNNR, this was not the case in Addis Ababa region and in Jimma zone of Oromia region.

In PNNR, training was given to community volunteers including community health agents, health extension workers, and frontline workers and surveillance workers on community mobilisation for the OTP, how to screen cases of SAM using bilateral edema and mid upper arm circumference and how to refer. However, this was not done in Addis Ababa region and it was partly applied in Jimma zone of the Oromia region. In the case of Addis Ababa region, either CBRHA agents were trained and not supervised by the health centre, or there was no such a training given to community health workers at all.

In Oromia region, though training was given to community level health workers, the community mobilisation work did not go well due to inadequate mobilisation efforts. In some of the health centres, there was no such a training except that it is being considered in the future. The other community mobilisation strategy observed was using enhanced outreach strategy as a contact for referring cases of SAM to the OTP. In SPNNR, there was a strong link between the OTP and enhanced out reach strategy (EOS) such that children screened by the EOS programme and found to have severe acute malnutrition without complications were referred for admission to OTP. But, in Oromia region, there was no such a link between the two programmes. In Addis Ababa region, there was no EOS programme at all. Though efforts to integrate the OTP with the other routine outreach services were being tried they were inadequate especially in Addis Ababa and Oromia regions.

As a result, the turn out of the malnourished children for admission in to the OTP service was very much variable among the different regions visited during the evaluation depending upon the community mobilisation efforts in place. This was also reflected very much on the outcomes of the programme.

*Supply acquisition and refilling:* Continuous and sustainable availability of the supplies for the OTP service are the soft-under-belly of the programme as

interruption of a supply would lead to poor quality service and ends up in defaulting of cases, lack of trust in the programme etc. Though the supply for the plumpy nut was good in most districts of the study regions, there were interruptions in some places due to hoarding of the supplies at the regional stores. For example: it was a common practice to come back without plumpy nut after long hours of drive from the district to the regional capitals due to administrative problems at the regional stores.

In all the three regions, the supply was not available according to the OTP protocol in most OTP health centres. Supplies for the co-morbid conditions like anti-helminthic, folic acid, tetracycline (TTC) eye ointment and at times amoxicillin were lacking in most health centres of the three regions. Amoxicillin was supplied in the form of tablets, which was not convenient for managing children. As the OTP service was meant for children, this was one of the supply problems observed. In Oromia region, the health centres which run out of OTP cards kept records by improvising locally available papers or cards.

In all the three regions, there was lack of understanding about where the supply was coming from in most operation level facilities. There was also role confusion between the zone and the health centre in regard to acquisition of supplies in SPNNR, which emanated from lack of clear communication and memorandum of understanding.

*Reporting:* In most places where OTP was started, the health facilities reported to the next higher level of ministry of health (district health office) using the reporting format that was provided by CONCERN/VALID. However, in some cases, the report was not done regularly. In Oromia region, some health centres were observed to use the tally sheet for reporting due to lack of the reporting format. From all the three study regions, it was reflected that the reporting format was cumbersome and there are a lot of things to write on it. The need for making it simplified and user friendly for integration into the health management information system (HMIS) was indicated by facility level workers.

*Supportive supervision:* With regard to supportive supervision and technical assistance, in most health centres of the three regions, the follow up from CONCERN/VALID was adequate, especially in Addis Ababa region and SPNNR. In Oromia region, there were few visits to the OTP sites. However, supervision from the districts and zones was reported to be inadequate in all the three regions. The need for

involvement of the local district and zonal level ministry of health in supportive supervisory activities was strongly suggested to make the programme part of the routine service.

*Programme effectiveness and acceptance:* From the discussion held with various stakeholders including programme managers, providers and beneficiaries, it came out clearly that the OTP was so effective in treating SAM in children. Observations made in all places indicated that OTP was so efficacious in reversing the malnutrition dramatically. As a result, there was a strong acceptance by all stakeholders including providers, programme managers and beneficiaries (case study). During a focus group discussion with the community health agents in SNNPR, one of the participants stated:

*"I have seen six children who were almost corpse... when they took the plumpy nut for two to three weeks, they became so lively. I can say the OTP has resurrected them from a grave."*

Almost all the participants agreed that the programme had an excellent outcome and it should continue. Another participant also added:

*"Malnutrition was the most common problem which most children in our community suffer from. God has given us this plumpy nut, which has a dramatic effect in reversing the situation"*.

In Oromia region, the OTP focal person stated that parents of malnourished children admitted to the OTP liked the plumpy nut very much. He added that *"Some parents asked us to pay for the nut as it has improved their children's situations considerably"*.

In Shebe health centre of Oromia region, the nurse in charge of the health centre stated,

*"Children are very eager to eat the plumpy nut to the extent that we had to give them one sachet to eat on the spot before starting to count their weekly ration when they came for a follow up visit"*. This is an indicator that the plumpy nut is highly accepted by children.

*Outcome of the programme process:* Measuring an outcome of a programme was the most difficult task as there are no programme specific indicators for the purpose. As quantitative data cannot be generated in the way that it can reflect the real outcomes due to logistical and other reasons. This study was based mostly on qualitative indicators of the outcome of the programme. The following are outcomes of the

programme that came out of the discussions with various stakeholders, observation and review of documents:

- **Attitude change:** the community used to believe that malnutrition is not a health problem. This approach enabled the community to learn the fact that children are suffering from malnutrition and the fact feeding can treat them. This had given an excellent entry point to make behaviour change communication (BCC) on optimal infant and young child feeding (IYCF).
- **Enhanced utilisation of the existing equipments** of the respective health services to promote nutrition by the providers.
- **Mental satisfaction of the providers** by observing the recovery of malnourished children over a very short period of time.
- **Increased awareness of the community** about malnutrition and its treatment, which resulted in need-based demand for the OTP and self-referral of children to the facilities.
- **Shift in the thinking of the providers** to the fact that malnutrition can be treated without admitting the child.
- **Reduction in the burden of malnutrition** and associated mortality. Most key informants and focus group discussants agreed that the OTP reduced malnutrition related mortality and the malnutrition itself.

In general, due to better community mobilisation strategies in the SPNNR, malnourished cases that stayed in the programme till they got cured was higher, 436/719 (66.4%) and the default rate was smaller 94/719(13.1%). As non-responders (cases who were admitted to the programme from a minimum of five weeks to a maximum of 13 weeks and did not respond to the treatment) were very small, 21/719(2.92%), the programme proved to be very effective.

In Oromia region, there were more defaulters 159/355(44.8%) compared to those who stayed in the programme until they get cured 118/355(33.2%) because of interruption of the service due to lack of supplies, attrition of trained staff and poor community mobilisation.

In Addis Ababa region, due to the initiation of OTP few months before the study, the full spectrum of outcomes of the programme could not be observed (Table 1).

**Table 1**

*Outcomes of management of cases of severe acute malnutrition using outpatient therapeutic programme (OTP) in three regions of Ethiopia*

Region	District	Health Centre	Cured	Defaulted	Transferred (referred)	On follow-up	Died	Non-responder	Total Cases	
SPNNR	Meskan	Enseno	268	30	16	12	0	19	345	
		Hams-Gebeya	33	6	16	3	1	0	68	
	Butajera Admin	Butajera	49	27	3	36	0	2	117	
		Sodo	Buyi		21	11	0	0	0	88
			Kella	86	10	1	4	0	0	101
			<b>Total</b>	<b>436</b>	<b>94</b>	<b>47</b>	<b>55</b>	<b>1</b>	<b>21</b>	<b>719</b>
Addis Ababa	Gullele Sub-City	Shiromeda	0	2	4	5	0	0	11	
		Free Methodist Mission	0	0	0	2	0	0	2	
	Addis Ketema Sub-City	Addis Ketema	0	0	0	1	0	0	1	
		<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>14</b>	
Oromia	Nada Kesa	Assendabo	21	30	6	2	0	0	59	
		Serbo	40	36	6	14	3	0	99	
	Jimma-Town Admin.	Jimma	25	15	4	4	0	0	57	
		Jimma Higher MCH Clinic	5	18	0	0	0	0	23	
	Shebe-Sombo	Shebe	27	60	0	30	0	0	117	
		<b>Total</b>	<b>118</b>	<b>159</b>	<b>16</b>	<b>50</b>	<b>3</b>	<b>0</b>	<b>355</b>	

Admin. = Administration

*Problems encountered and measures taken during the implementation:* Different challenges encountered and relevant solutions sought by the implementing facility level health staffs were identified through various

data collection methods (Table 2). Though the challenges varied from one context to the other, the solutions sought by the respective OTP centres will give experiences to draw from.

**Table 2**

*Operational problems encountered and solutions sought by facility level health workers during the pilot phase OTP*

Problem encountered	Solution sought	Number of OTP centres
Shortage of supplies (plumpy nut, antibiotics, cards).	Borrowing from neighbouring district. Using the ordinary card and improvising it to record the relevant data until the card is available.	Three
High defaulter rate due to mothers coming for follow up from a far distance.	Giving the plumpy nut for two weeks rather than only for one week, reminding mothers to come for follow up during counselling.	One
Sharing of the plumpy nut to other children at home.	Giving health education emphasizing the fact that the plumpy nut is a medicine helpful only to malnourished child and it should not be shared with others.	Thirteen
Inadequate community mobilisation regardless of the trained community level health workers	Using other mobilisation strategies such as school youth as mobilisers by giving orientation on the OTP programme to school youth and using mothers to mobilise other mothers (mother-mother). Integrating the community mobilisations for OTP with other routine community based services and planned community sensitization.	Three
Lack of knowledge and skill of other staff (untrained staff about OTP).	Giving orientation to untrained staff by those trained.	One
Inappropriate selection of community volunteers (mobilisers)	Adequate consultation with the community for broader representation of community groups.	Two
Cumbersome recording and reporting procedures	Assigning staffs to the OTP service on rotation basis to spread the burden of recording and reporting.	Twelve

**Strengths and weaknesses of the programme:** From focus group discussions and in-depth interview of various key informants, it was observed that the OTP programme as it stands during the study, had many strengths and weaknesses that deserve consideration in the future endeavours of the programme design, implementation, monitoring and evaluation. In order to use

experiences gained from the implementation process of the pilot phase for the appropriate modification and re-designing of the future longer-term programme, the strengths and weaknesses observed during the evaluation are documented and summarised in Table 3 under three thematic areas i.e. technical, operational and institutional/organizational.

**Table 3**  
*Strengths and weaknesses of the pilot OTP, in three regions of Ethiopia*

Strength	Weakness
Technical	
<ul style="list-style-type: none"> <li>• Enhanced skill of the staff in screening and treating a severely malnourished child at the health centre level.</li> <li>• Mental satisfaction of the staff when they see malnourished children coming out of the syndrome, and created a feeling in the health workers that they are capable of treating cases of malnutrition at health centre level.</li> <li>• Revitalised the awareness of the professionals on nutrition and gave them insight to strengthen the already existing growth monitoring and promotion activity.</li> <li>• Staff started using equipments that were not initially being used (eg. Weighing scales, etc.).</li> <li>• Plumpy nut can be given any time and is ready to use.</li> </ul>	<ul style="list-style-type: none"> <li>• Inadequate/no training was given to the majority of the staff even in the OTP health centres; it is just an orientation and not a proper training. In addition, trained staff were not those at the operation level but at the administration level.</li> <li>• Cards were not filled properly due to inadequate training given to staff.</li> <li>• Trained staff leave the health facility without giving any service.</li> <li>• Failure of the trained staff to orient the rest of staff or failure to share the handouts training.</li> <li>• Training was always given to senior nurses, but the junior nurses handle cases.</li> <li>• Majority of the staff had not taken training on essential nutrition actions to make appropriate behaviour change communication (BCC) on infant and young child feeding (IYCF).</li> </ul>
Operational	
<ul style="list-style-type: none"> <li>• Efficacy in treating children with SAM - all the key informants agreed that it has brought a dramatic recovery of children from malnutrition.</li> <li>• Reduced burden of malnutrition associated co-morbid conditions and child mortality and reduced patient load.</li> <li>• It is direct intervention to children as it addresses the real problem. Even the food is directly targeted to children.</li> <li>• The idea of using the out patient therapeutic care by itself is a strength.</li> <li>• Increased awareness of the community about malnutrition in their children and the OTP. Increased self-referral of case has started to be observed.</li> <li>• Parents of children like it very much and they were happy even to pay for the plumpy nut.</li> <li>• Strong acceptance from the providers, clients and planners at the district and zonal levels.</li> <li>• It gave an opportunity for health education on optimal infant and young child feeding (IYCF).</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainability of the supply was a challenge.</li> <li>• No teaching aids (counselling cards) for behaviour change communication (BCC) on IYCF.</li> <li>• Increased workload on the staff due to screening and filling the cards compounded with staff shortage in all health centres.</li> <li>• Some sharing of the plumpy nut with other children at home.</li> <li>• Lack of supplies like plumpy nut and free drugs for co-morbid conditions such as antimalarials, amoxicillin, folic acid, TTC ointment and antihelmentics that are in the OTP protocol. Even drugs that came in the tablet form were not convenient to manage cases (children).</li> <li>• Low community mobilisation.</li> <li>• Limited participation of health professionals who were not trained on OTP.</li> <li>• Inappropriate selection of community mobilisers.</li> </ul>



## Organisational/institutional

- Helped orphan children and the poor to get nutrition and medication, as it was given to them freely.
- Referral system from the EOS to the OTP and vice-versa. The link created with enhanced outreach strategy (EOS) and community level health workers was good.
- Easy to make it part of the routine health system and make it sustainable.
- Good feedback from the referral hospitals and the presence of referral forms and systems back and forth.
- Reduced referral burden of the cases of malnutrition on hospitals.
- OTP sites created an opportunity for learning of medical interns, health officers and nurses)
- OTP does not involve children > 5 years.
- Mother had to travel a long distance to get the plumpy nut, as it was not available at the health post level. Decentralisation of the programme to the health post level was suggested.
- The programme was not in the action plan of the zone, district and health centres (was not being made part of the system).
- Diffusion of responsibility of getting the supplies between the zone and region in getting the supplies in some cases in SNNPR.
- There was no supportive supervision from the zone and districts.
- Lack of ownership of the OTP programme due to lack of clear memorandum of understanding and enhanced communication at all levels.

*Case study:* A one year and four months old female infant who lived with her mother in Gurage zone, Sodo District Buyi Town, Zone 01 was assessed for the progress she showed after being admitted in the OTP.

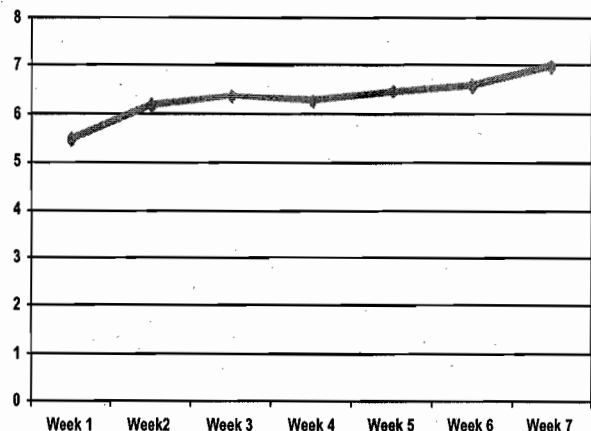
Her mother said that she was emaciated and refused to eat food. She also added that "She was not crawling; she was irritable and wanted me to carry her all the time. She had also itching in the skin. However I did not know what the cause of her problem was. One day a surveillance worker (community volunteer) came to our home and examined the baby and told me that she has severe malnutrition and there is an effective treatment for this kind of problem in the health centre. He also told me to take the baby to the health centre on the same day". The mother took her to a health centre and she was examined by a nurse and had the following findings:

From her records in the HC at admission to OTP, she was nine months old, and had weight of 5.5 kg and a height of 67 C. Her weight for height was <75%. She also had scabies. She was admitted to the OTP service as she fulfilled the criteria for admission and was given plumpy nut, amoxicillin, vitamin A, bezen benzoate lotion (BBL). Additionally, she was instructed to come for follow up every week, to give the drugs and the plumpy nut only to this baby and not to share it with other children in the house as it is medicine for the malnourished.

The mother said, "I was following all the appointments as per the instructions given to me. I was also giving the drugs and the plumpy nut as per the order of the health professional. My little girl is now happy smiling and she is able to stand and walk thanks to God and the health professionals".

She was on follow up for seven consecutive weeks and her weight gain was incremental as shown in (Figure 1). The mother of the infant appreciates the effectiveness of the OTP service very much.

**Figure 1**  
Weight gain of an infant on the OTP service for seven weeks, SNNPR,



## DISCUSSION

Severe malnutrition has traditionally been managed in inpatient facilities. Given the situation of health service system in Ethiopia, admission of all cases of severe acute malnutrition (SAM) for an inpatient treatment is not justifiable and feasible both from the point of view of the health care facility's capacity and from the time involvement of the mothers/care givers that will be admitted with a malnourished child. Community-based therapeutic programme (OTP) is complementary to traditional therapeutic feeding centers and supplementary feeding programmes (14,16,20), but at the same time aims to address some of the challenges that traditional centre-based approaches face.

*Programme initiation and implementation process:* While the TFU strategy can offer in-patient care to the severest cases of malnutrition, which both the traditional centre-based approach and the OTP approach agree is vital, OTP can not only help to reduce the pressure that a TFU would face as the sole source of treatment but can also help to tailor the nutrition service towards an approach that is more favourable to the communities (14,17,20).

The idea of initiating OTP in the study areas with the view to integrating the service into the routine service of the MOH and scaling up the programme by drawing lesson from the experience of this pilot phase was one of the strong points. The communication efforts most particularly to operation level facilities, the capacity building and supportive supervision from CONCERN/VALID staff were appreciable. However, inadequate support from the regions and districts emanating from inadequate communication and lack of clear memorandum of understanding about the operation level issues was one of the factors that had limited the implementation of the programme as intended.

For the OTP services to run smoothly, training and continuous capacity building is essential until the training is more formalised and is made part of the pre-service training of professionals (13,16,17). However, the study indicated that the capacity building did not consider the high rate of staff turnover on the one hand and the necessity of exposing facility level staff to OTP services to ensure sustainability on the other. In addition, quality and adequacy of training did not much the expected level of service performance.

*Community mobilisation:* While community mobilisation is a key component of OTP (14,16,19),

the actual mechanism used for community mobilisation interventions did not match Ministry of Health's modalities of providing services. The modalities for community mobilisation should not be in a campaign form, but be part and parcel of the routine activities of the community level workers. The other critical issue was that community mobilisation efforts were not uniform across all sites. Other modalities of mobilisation need to be explored (mother to mother, provider to client, schools etc.).

*Supply acquisition and refilling:* Availability of supplies as per the OTP protocol is the most important process indicator for the successful management of cases (14,16). Some of the operational problems encountered included interruption of supply delivery to the health facilities and hoarding them at the zonal or regional levels, poor management of supplies including locking them up in the store and unavailability of store man leading to poor access when the supplies were needed, incomplete availability of all supplies according to the OTP protocol.

For the OTP approach to be sustainable, a primary health care system needs to be in place, with adequate, accessible structures and staffing capacity able to provide basic health services. It is through these facilities that OTP activities should be provided (16,17). The original RUTF recipe contains five ingredients: peanut butter, vegetable oil, powdered sugar, dry skimmed milk and a mineral vitamin mix. RUTF production in Ethiopia has been challenged with difficulty importing ingredients not available locally, particularly dry skimmed milk and the mineral vitamin mix, highlighting the need to produce a RUTF from locally available ingredients (22).

*Supportive supervision and reporting:* Strong monitoring of the programme by the relevant stakeholders is a key success factor for the programme (14,16,17). This study demonstrated that in most places, involvement of the local MoH in supportive supervision is very low reflecting low commitment in strengthening the service. The supervisory activities of SAM management are not part and parcel of the integrated supervision checklist. It was also indicated that too much information and cumbersome reporting format is competing with delivery of quality services for case of SAM as the care givers were overwhelmed in filling the format rather than spending time to give proper counselling on IYCF. Separate reporting format had created a feeling among health staff that OTP is an extra burden, which is not in the routine service.

*Outcome of the process:* The study showed that the programme was acceptable and very effective in terms of attitudinal changes on the community and on the providers about the treatment of SAM. Though there was variability across the study regions in terms of the duration the programme had been in operation, there were encouraging results. There was a low defaulter rate in SNNPR compared to Oromia (Table 1); where there was high rate of defaulting from the programme due to inadequate community mobilisation.

Through outreach and community mobilisation with a focus on decentralising distributions, OTP improves access to services, case finding and follow up while providing a rapid effective assistance with minimal social disruption (14,17). The approach maximises impact and coverage by bringing services closer to the household, reducing opportunity costs on caregivers and by reducing pressure on in-patient facilities (14,16,18).

The current study also identified the need for decentralisation of the programme to the community level health services (health posts) during focus group discussion with the providers and beneficiaries. This will enable to minimise the number of defaulters from the programme as it reduces the opportunity costs. However, this demands strong supervision and monitoring by the next higher-level primary health care unit and commitment of the staff.

In conclusion, the programme is highly acceptable by the different stakeholders including planners, providers and beneficiaries from observation made in all the three regions visited. It was also indicated that OTP is doing well in treating children with SAM, and the programme is extremely relevant to the situation of the regions.

The fact that it is a community-based programme had brought about change in the attitude of the community in terms of making them believe that malnutrition is a health problem that needs medical attention. The community had learned that feeding can treat children suffering from malnutrition. This had given an excellent entry point to make behaviour change communication (BCC) on optimal infant and young child feeding (IYCF) for prevention of malnutrition in the long term.

However, there were some gaps observed in the process of implementing that need to be addressed in order for the OTP to be further effective. From the various forms of data collected during the study, it had vividly come out that the following strategic issues need to be considered in the re-programming or scaling up of OTP.

## RECOMMENDATIONS

- For further consolidation and expansion of OTP services in Ethiopia the links between different stakeholders should be formalised to avoid confusion of roles and responsibilities.
- Supplies should always be made available as per the protocol in a sustainable way.
- The minimal initiation support from the project should focus on strengthening regional capacity to effect cascading of the programme to operational level through zonal and district level capacities.
- OTP should be integrated into the pre-service and in-service trainings of health professionals both at public and private training institutions and in the training and refresher training of community health extension workers.
- OTP should be integrated into all curative, preventive and promotive child survival initiatives such as integrated management of neonatal and childhood illness (IMNCI), essential nutrition actions (ENA) and other outreach services like EPI to reduce missed opportunities.
- The link of OTP with the routine growth monitoring and promotion need to be strengthened for continuous community level screening and treatment of severe acute malnutrition to fill the gap between the enhanced outreach strategy (EOS) rounds.
- Community mobilisation should be strengthened using different modalities depending on the local context and opportunities that exist.
- OTP should be integrated into the health management information systems (HMIS).
- To take OTP to scale in Ethiopia, it is recommended that it should be integrated in: defining of essential health care services, revision of the health management information system (HMIS), standardisation of supportive supervision guidelines, logistic management system and health care financing.
- Decentralisation of OTP to all other health facilities and to the health posts should be considered.

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