

Emotional Stimulation in the Context of Emergency Food Interventions



Final Report

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Play Therapy Africa

The Society for Protection and Therapeutic Aid in Africa



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Summary

Management of severe acute malnutrition through the provision of Ready-to-Use Therapeutic Food¹ is the mainstay of Nutrition Interventions in Emergencies together with Food Aid and Supplementary Feeding. RUTF have been equated to a silver bullet able to drastically reduce the problems of treatment of severely malnourished children. In some villages, RUTF is called ‘the magic food’ such is their perceived role in responding to severe acute malnutrition.

However, a growing body of research suggests that the long term benefits of these interventions are vastly increased when combined with interventions to strengthen psychosocial bonding between caregiver (usually the mother) and child.² This is because the effects of hunger and food insecurity are not only physical; they also cause psychosocial stress on the entire population.³ This in turn impairs the care-giving capabilities of adults, frequently resulting in parental emotional detachment, withdrawal and neglect. This can give rise to a vicious cycle involving reduced appetite in the child, and ever greater parental despair and detachment. This severely diminishes the overall survival rate of children, even when given adequate food.⁴ Even if a child survives, the combination of nutritional deprivation and lack of social/emotional stimulation frequently causes long term mental and cognitive disabilities as well as stunting and poor growth.

The introduction of emotional stimulation is of paramount importance not only for responding but also for allegedly preventing severe malnutrition. It also allows re-positioning the discourse of treatment of malnutrition within the realm of family relationships and bonding not just supply of sachets: a child needs attention, affection and love, not just RUTF.

In addition to the above, the Sphere Handbook for Food Security, Nutrition and Food Aid in Emergencies and the Inter-Agency Standing Committee’s (IASC) Guidelines on Mental Health and Psychosocial Support in Emergency Settings provide very clear standards for the provision of complementary mental and physical stimulations for children and caretakers in situation of food crisis.⁵ IASC’s standards regulate that a minimum response on Nutrition Emergency Interventions *must* be coupled with a specific set of complementary psychosocial and emotional relief interventions to greatly enhance a positive outcome of emergency interventions such as supplementary feeding and micronutrients distributions. Such twin-track approach aims at

¹ RTUFs are foods designed for specific, usually nutritional, therapeutic purposes. Plumpy’nut and BP-100 are examples of RUTF. They don’t require additional water for their preparation, eliminating the need for clean water source for proper dilution. Neither they require cooking or other preparation.

² Patrice L Engle et al.: **Strategies to avoid the loss of developmental potential in more than 200 million children in the developing world.** *The Lancet* 2007, Volume 369, Issue 9557, Pages 229 – 242.

³ Susan P Walker et al.: **Child development: risk factors for adverse outcomes in developing countries.** *The Lancet* 2007, Volume 369, Issue 9556, Pages 145 – 157.

⁴ Sally Grantham-McGregor et al.: **Developmental potential in the first 5 years for children in developing countries.** *The Lancet* 2007. Volume 369, Issue 9555, Pages 60 - 70.

⁵ Sphere Project. *Humanitarian Charter and Minimum Standards in Disaster Response.* Geneva: Sphere Project, 2004. Website:http://www.sphereproject.org/handbook/hdbkpdf/hdbk_c3.pdf

minimizing the long lasting physical, mental and emotional negative outcomes of food crisis on children over their life span, as well as increasing the survival rate of malnourished children.⁶

A strong maternal-infant (or caregiver-infant) bond provided through psychosocial stimulation is essential for positive child survival and development. The formation of this bond at the beginning of life is an essential step that sets the stage for cognitive, emotional, and social development later in life. Feeding and other care practices provide opportunities for psychosocial stimulation and help to establish a positive attachment between caregiver and child. This becomes particularly important during emergency situations, where the survival of children critically depends on their inner resilience and mental health as much as relief interventions. Many caregivers are unavailable or unable to provide psychosocial stimulation to their children during food crises due to their own poor physical or mental health. A lack of psychosocial stimulation has adverse consequences for children's survival, development (cognitive, motor, language) and mental health.

During the 1980s, studies involving severely malnourished children in Jamaica and Bangladesh showed that compared to food alone, combined nutritional and psychosocial interventions resulted in improved long term physical and cognitive outcomes⁷. Yet these results were based on sophisticated tools for psychosocial stimulation, elaborated indicators for measuring impact, and advanced skills by health professionals. The combination of these factors made the above results very difficult to be replicated on the field and at scale, in contexts where human resources have very low level of training. Therefore, nutrition protocols of most countries have not included emotional stimulation as a complement for therapeutic food treatment.

Play Therapy Africa embarked in the mission of designing an effective methodology for the delivery of emotional stimulation easy to be adopted during emergency food crisis, allowing the intervention to be brought to scale, to remain easy and cheap in nature, and to be administered by professionals with a limited level of training. Play Therapy Africa recently tested and adopted these interventions to Ethiopia, where seasonal malnutrition is a chronic problem. The government of Ethiopia and selected NGOs were already providing emergency therapeutic feeding around the country, using the structures and resources of the Health Extension Programme (HEP). The HEP delivers primary health and nutrition services at a sub-district level using the skills of two basically trained health extension workers –both female-, based in health extension posts. Currently, there is a Health Post per sub-district to cover an average of 5,000 people.

Play Therapy Africa joined this intervention with a brief, intense psychosocial bonding exercise known as Filial Play Coaching. During four weekly 40 minute group sessions, a Health Extension Worker⁸ helped mothers reconnect with their malnourished children using the four

⁶ Inter-Agency Standing Committee (IASC). Guidelines for Mental Health and Psychosocial Support in Emergency Settings. Geneva: IASC.

⁷ See for instance the groundbreaking work of Grantham-McGregor S, Schofield W, and Harris L.: **Effect of psychosocial stimulation on mental development of severely malnourished children: an interim report.** *Pediatrics*. 1983;72:239-43.

⁸

principles of 1) focusing complete attention on the child, 2) boundary setting, 3) imitation and 4) play using toys that could be easily constructed from local materials such as cloth and wood.

During the 2008 food crisis in Ethiopia, Play Therapy Africa tracked records in 34 Outreach Therapeutic Sites and 1 hospital in the severely affected Southern Nations, Nationalities and People's Region (SNNPR). Play Therapy Africa has compared their innovative combined intervention of emergency therapeutic feeding and psychosocial stimulation with the standard therapeutic feeding intervention. The findings were as follows:

- 1- **Reduced Mortality rates** : the mortality rate of children admitted to the hospital with severe malnutrition was reduced from 28.6 % over 1 month, to 20.6 % over 3 months;
- 2- **Increased Speed of Recovery**: In the intervention sites, 31.2% of children who received the psychosocial stimulation were discharged at the end of the 4th treatment week, and 40.7% were discharged at the end of the 5th treatment week. In the control sites, no children were discharged before the end of the 6th week (when the project ended).
- 3- **Prevention of emotional, development and intellectual loss/damage**: Using the internationally recognized "Ages and Stages Questionnaire" (ASQ), we assessed the cognitive, emotional and development capacities of children in the intervention and control groups. Control group children who only received therapeutic feeding showed a severe loss of cognitive, emotional and development potential, whereas the children in the intervention group showed similar ASQ scores to those who had not experienced severe acute malnutrition⁹.

We predict that this intervention might result in increased resilience to future severe acute malnutrition. While this prediction has not yet been fully documented, initial qualitative data suggest changes in caregiving patterns that could prevent future episodes of malnutrition, even during seasonal food shortages. Verification of this will obviously require further investigation.

We also saw evidence that the effect of filial play coaching on the behavior of children was so striking that it improved gender relations and communication within the family and community, and increased women's empowerment and decision making. This qualitative finding will also be better studied in October 2009.

The combination of emergency therapeutic feeding for children coupled with emotional stimulation has a leveraging effect not just on short term survival and physical and emotional outcomes for children, but also on the prevention of long term deficits, including death.¹⁰

During a Nutriset mission to Ethiopia in August 2009, the company also expressed interest in the findings of the study to guide their current design of a social marketing strategy for some of their products.

We believe that the findings have provided the ground for a renewed discussion for complementing in-country protocols for treatment of severe acute malnutrition, as well as

⁹ Therapeutic feeding addresses severe acute malnutrition (SAM) condition. A SAM condition is defined as an insufficient weight-for-height (WFH) or edema, as opposed to stunting defined by an insufficient height-for-age (HFA), and underweight –weight-for-age (WFA).

¹⁰ See also Grantham-McGregor et al. Development of Severely Malnourished Children who Received Psychosocial Stimulation: Six Years Follow-Up. Pediatrics 1987. Vol.

providing evidence based policy orientation for the scaling out of the programme. This will account also for IASC and Sphere standards that contain already an often neglected component of psychological support for both the child and the caring mother.

Introduction

As many studies have nowadays shown, the survival rate of malnourished children during emergency food crisis critically depends not just on the availability of appropriate therapeutic food, but also on the emotional and physical stimulations available for both the child and the caretaker (usually the mother). Studies have also shown that the combined use of emergency nutrition and emotional stimulation techniques provide for:

- 1- lower malnutrition rates,
- 2- a higher rate of child survival,
- 3- a quicker physical recovery from malnutrition, and
- 4- a limited long term brain damage to the malnourished child.¹¹

Nutritional deficiencies and a lack of stimulation create a vicious cycle in which deprivation in one can result in further deprivation in the other. For example, a malnourished infant may show reduced psychomotor activity (e.g., the child is less likely to crawl and engage in creative play). As the child becomes more apathetic and less demanding, parents often provide less stimulation. The interaction between parent and child becomes less mutually rewarding, and ultimately their bond is threatened, opening the door for premature death that cannot be prevented with just therapeutic feeding interventions.

When a child is malnourished, the mother (or caretaker) starts an unconscious process of detachment to reduce the grief for the expected loss of the child. It's a natural mental coping mechanism that allows the mother (or caretaker) to focus on the children with higher chance of survival. This automatically translates into attitudes of discrimination and neglect that quicken the pace of malnutrition leading to child death. On the other side, the malnourished child does not receive the emotional and physical stimulations that allow him to intake necessary macro and micro-nutrients. The inner resilience of the child results diminished, and his survival chances drastically reduced.¹²

As a consequence, combined psychosocial support, and nutritional interventions must be instituted in situations of severe food shortages to facilitate caregiver-child relations and prevent developmental delays and mental disorders. With appropriate intervention, these problems are largely preventable and can greatly enhance the survival rate of children.

Similarly to results from a multi year project in Jamaica, preliminary data from Ethiopia gathered through the following programme show how the implementation of emotional stimulation interventions in the context of Therapeutic Feeding Programmes (OTP) has a positive effect on increasing the speed of recovery for severely and acutely malnourished children, and reducing the emotional impact of malnutrition on child's intellectual and development abilities. In the context of Ethiopia, Therapeutic Feeding Programmes are composed by both Outreach Therapeutic Programmes and Therapeutic Feeding Units.

¹¹ See for instance the groundbreaking work of Grantham-McGregor S, Schofield W, and Harris L.: Effect of psychosocial stimulation on mental development of severely malnourished children: an interim report. *Pediatrics*. 1983;72:239-43.

¹² Grantham-McGregor S, Powell C, Walker S, Chang Fletcher P. The long-term follow-up of severely malnourished children who participated in an intervention program. *Child Dev*. 1994;65(2 Spec No):428-39.

Objectives of the Programme

Using Early Stimulation, Filial Coaching and Psychosocial Rehabilitation techniques, to increase the survival rate and recovery pace of malnourished children admitted within Therapeutic Feeding Programmes through complementing emergency nutrition interventions with emotional and physical stimulations for children and their caretakers.

Implemented Activities

- Gathering Support and Mobilizing Key Actors

PTA's team had extensive meetings with Federal and Regional authorities to introduce the project, and to share objectives and responsibilities. The most important role of the project coordinator has been to educate authorities and decision makers on the scientific evidences linking lack of emotional stimulation, child malnutrition, and child mortality. In doing so, the Team has gathered evidences from a number studies around the world to support a new approach to be used within therapeutic feeding units and OTP in Ethiopia.

We have been requesting this sort of training for long, but nobody cared about giving malnourished children more than just therapeutic food. People thought that food is enough to keep these children alive. They are wrong.

(Quote from a training participant)

The project was presented to Federal authorities and the Head of the National Nutritional Programme has been extremely supportive of the innovative intervention and he has mobilized a wide network of national professionals to review the methodology proposed for the intervention. The Head of the National Nutrition Programme also provided all necessary institutional and political contacts to allow the project to take place in the Southern Nation and Nationalities People Region (SNNPR).

The Bureau of Health was contacted and involved in the selection of the sites for the intervention. The Bureau of health has requested PTA to start with the selection of 5 woredas, different kebeles in each woreda, and 1 hospital. The involvement of hospitals seemed important due to the willingness of the Government to test the interventions beyond out-patient therapeutic sites.

Once sites were selected, PTA has traveled to the different woredas to sensitize the communities and to make sure that community leaders, local authorities, and professionals working there understand the benefits of applying early stimulation techniques to therapeutic feeding interventions to increase the survival rate of children. Communities were gathered together and an open discussion was held with each community to ensure the largest possible community support and contribution to the programme. Most of the selected woredas are placed in hard to reach areas, only a minority of communities is of easy access, posing additional logistical constraints to the project.

PTA has also involved the Bureau of Youth for the selection and screening of youth that will be trained and will take part to the project. With this intention, PTA has traveled to the different sites to assess which youth clubs were active in the selected woredas, and which youth could be involved in the project. While the initial idea was to only train youth to be deployed in therapeutic feeding sites and hospitals (2 youth per site), the government has proposed having 1 youth and 1 health extension worker trained and deployed per site. PTA has accepted this proposition since the presence of a health extension worker besides the youth will strengthen the way the intervention is managed, and will

increase the adherence of mothers to the treatment. The idea was also to compare the feasibility of having this done by Youth versus HEW.

In this regard, PTA has developed a competency-based-framework of skills and capabilities that will guide the selection of youth and health extension workers into the programme, and the application of the skills that youth will acquire through training.

The SNNPR's regional health authorities, in collaboration with PTA, also organized a participatory regional workshop in Awassa (SNNPR's regional capital) to present the project to NGOs operating in the region and to allow for more explanations on the contents and objectives of the interventions, modalities, and expected outputs.

- **Developing a Scientifically Grounded Methodology**

Once this first round of extensive consultation was finalized, PTA has started to work on the finalization of the methodology of intervention taking into account the feedbacks provided by partners and beneficiaries (See attached Annex I).

- **Creating an Ethical Framework for Intervention**

The ethical considerations involved in the present proposed methodology and research tools are substantially two:

1-Ethical considerations related to children and mothers involved in the project as beneficiaries.

2-Ethical considerations for youth involved in the project as coach and employed professionals.

Ethical considerations related to the involvement of children and mothers gear around the safe practice of filial play in emergency contexts, safe interactions between the mother and the child with emergency nutrition contexts, the safe interaction between the mother and the health extension worker or youth at the therapeutic feeding units and OTP, and the safe interaction between the health extension worker or youth and the malnourished child.



Health Extension Workers and Community Volunteers learning how to coach mothers of severely acutely malnourished children in the use of different sensorial toys

*I felt totally apart from my child, he was still there but to me he was already dead. He was crying but I only heard my own cry. The simple idea of watching my sick child made me mad. I couldn't stand him, I was angry with God
(Quote from a parent)*

- **Advanced Training on Filial Play Coaching, Emotional Stimulation and Nutritional Recovery for Supervisors**

PTA has organized an initial training for child practitioners at the beginning of December 2008 to create specialized capacities in Ethiopia on emotional stimulation in emergency nutritional contexts. 30 professionals were selected among different NGOs, Universities, medical institutes and child care institutes to attend the training. The overall goal of the training was to build specialized skills in the area of emotional stimulation, baby massages, and emotional recovery for

children that are severely acutely or chronically malnourished.

The participants were selected on the ground of their performance and practice's results from previous training and child care work that PTA had monitored over the past months. This group of participants was selected based on their proved experience, positive commitment and practice, and track record of positive results with abused children. The skills that the professionals had previously applied in the context of abused children and children victims of HIV/AIDS, were now adapted to the context of severely acutely malnourished children. A special attention was paid in creating the necessary skills for this group of participants for becoming supervisors in emotional stimulation for malnourished children. In fact, the role of this group of professionals is not the one of directly delivery services to malnourished children, but rather periodically clinically supervise the services delivered on the ground by selected youth and health extension workers to malnourished children.

*Yesterday, after the morning session, I called my children and I told them that I love them. They were surprised and they couldn't understand why I was crying while telling them how much I love them.
(Quote from a training participant)*

This group successfully went through a number of supervisory exercises of motivational training, clinical measurement of intervention, positive supervision, and good parenting before terminating the training. The training has been designed to be 75% experiential, with regular yet limited theoretical inputs, to promote as much as possible an 'how to do' agenda grounded on practical experience as opposed to theoretical one. This allowed participants with low degrees of education to fully understand the theoretical basis of intervention, without necessarily provide for an excessive burden of psychological theories upon which emotional stimulation is based.

The adaptation of the training to the Ethiopian context, the development of the specialized curricula, and the training itself has been delivered by a team of senior trainers and clinical therapists. The adaptation of training curricula by PTA proved difficult and will require additional attention for future interventions. In particular, standard exercises proposed in 'european cultures' needed further adaptation to the Southern Nations traditional believes, culture, and practices.

- **Emotional Stimulation, Baby Massage and early recovery for severely acutely malnourished children's training**

After the training of supervisors, PTA has organized the proper training of health extension workers and youth working in selected sites of Southern Nations with severely acutely malnourished children. The complete list of selected sites is the following:

Woreda	Sites	Case-load every 3 weeks (Dec. 2008)	Responsible Body	Participants requested to Attend the first training	Total
Dale	1 OTP 2 Integrated ¹³ OTP 1 Hospital	180 children	ACF (NGO)	1 health extension worker and 1 youth per site	4 Health extension Workers 4 Youth
Wonsho	2 OTP 1 Integrated OTP	103 children	ACF (NGO)	1 health extension worker and 1 youth per site	3 Health extension Workers 3 Youth
Aletha Wondo	2 OTP 3 Integrated OTP	165 children	ACF (NGO)	1 health extension worker and 1 youth per site	5 Health extension Workers 5 Youth 5 NGO workers
Domot Woyide	4 Integrated OTP	144 children	Concern (NGO)	1 health extension worker and 1 youth per site	4 Health extension Workers 4 Youth 5 NGO workers
Maskan	7 integrated OTP	92 children	Government	1 health extension worker and 1 youth per site	7 Health extension Workers 7 Youth

The training for the health extension workers, the health extension workers, and the youth was organized in the Southern Region of Ethiopia, Awassa Town. This second training of 8 days was delivered by the same trainers and institutions that provided the training for supervisors. The focus for this second training was to provide specialized skills to health extension workers and youth workers to increase the survival rate of severely acutely malnourished children. The training was also designed to clinically assess the impact of intervention over 4 months period.

The training presented specific techniques to increase child emotional recovery in the following areas:

Bahavioural Area	Definition
Self-Regulation	The child's ability or willingness to calm or settle down or adjust to physiological or environmental conditions or stimulation.
Compliance	The child ability or willingness to conform to the direction of others and follow rules.
Communication	The child ability or willingness to respond to or initiate verbal or non-verbal signals to indicate feelings, affective or internal states.
Adaptive functioning	The child success or ability to cope with physiological needs (i.e. sleeping, eating, safety).
Autonomy	The child's ability or willingness to self-initiative

¹³ 'Integrated Sites' are sites where NGOs and the Government work together to bear the logistics and functionality of the Center.

	or respond without guidance (i.e. moving to independence).
Affect	The child's ability or willingness to demonstrate his or her own feelings and empathy for others.
Interaction with people	The child's ability or willingness to respond to or initiate social responses to parents, other adults and peers.

The presented areas of child development are negatively affected every time the child is subjected to a shock such as malnutrition, depression or maternal detachment.

Participants to the training were explained the ways severe acute malnutrition affect the different areas of child's brain and the functional areas of child development. Subsequently, the participants undertook a series of exercise to stimulate the malnourished child with a focus on the different behavioural areas.



Four youth making toys and puppets during the training and exercising emotional stimulation techniques on dolls.

Participants learned how to detect maternal depression, how to assess parents-child interaction, how to assess child play and how to clinically measure child's emotional development status. They then learned how to link the initial assessment outcomes to specific interventions to stimulate the child and the caretaker. They learned how to develop a specific emotional stimulation programme for individual children or for group therapy, always making sure to link emotional stimulation with therapeutic feeding. Participants learned how to coach the mother in the use of filial play, also using scrap material as toys or emotional stimulation's objects. Participants also learned how to assess the child's emotional status at the end of intervention to clinically measure impacts of the programme.

Quantitative and qualitative tools were also presented to the training participants as a part of a scientific research that will allow to measure the

impact of the programme on child survival, speed of emotional and physical recovery, and prevention of future severe acute malnutrition. This is an extremely important component of the project since it will allow to present the programme's outcomes in a scientific and sound manner to demonstrate the extent and nature of positive programme's outcomes for malnourished children.

As for the training presented to supervisors, the training for health extension and health extension workers was 75% experiential, with constant practical exercises, concrete case studies and application of what presented in plenary. Participants were invited to adapt different intervention models to their specific context of work (therapeutic feeding units in hospital and health centres, outreach therapeutic programmes in hospitals, health centres and health posts, etc.).

- **Supervision and Clinical Monitoring**

The implementation of the project has been strictly and systematically supervised. The trained supervisors from CIAI have been deployed regularly on the field once every 20 days. They have undertaken the task of monitoring the smooth implementation of the project, reviewing the practice of health extension workers, collecting data from the health posts, talking to reached beneficiaries, and finally sharing ideas and solutions with youth practitioners.

All data generated were inserted into a specially designed database which helped in keeping track and analyze the data regularly received.

We have run emotional stimulation for only two weeks but you can already see the impact on the survival and recovery of the child. I tell you, you don't need to wait for the end of the project for seeing an impact here.
(Quote from a health extension worker)

PTA also regularly deployed its professional on the field to ensure the quality of data gathering, the consistency of interventions, and the clinical follow-up of filial play coaching. PTA's professional also involved local authorities every time they were going to the field to ground the intervention within local acceptance of the work promoted. Local authorities accompanied PTA's member in joint field visits and grasped a firsthand understanding of the project's philosophy and outcomes directly from the ultimate beneficiaries.

Local and regional authorities were also presented the clinical results of the project.

- **Dissemination of project findings and Trainings of Trainers**

Besides the dissemination of project findings, methodologies and approaches, PTA also implemented a broad sensitization campaign on the importance of emotional stimulation in conjunction with RTUF in several countries that have nutrition interventions allowing for this new approach to be tested such as : Central African Republic, Tanzania, Zanzibar, Madagascar, Yemen, Mauritania. For these countries, field visits of different length of time were conducted to discuss with UNICEF country offices and government on the possibility to insert emotional stimulation programmes within national protocols.

A major conference in Morocco is also being organized to disseminate the findings of the project.

In addition, professional staff of Play Therapy Africa also participated to two training of trainers in emotional play stimulation organized in France.

The impact of the project

The following part of the current report has the purpose of providing information on the clinical results of the project implemented

The study intended to test the following assumption:

- 1- Adding Emotional Stimulation to Therapeutic Feeding reduces Mortality.
- 2- Adding Emotional Stimulation to Therapeutic Feeding increases the speed of recovery from Malnutrition.
- 3- Adding Emotional Stimulation to Therapeutic Feeding minimizes (or prevent) the loss of development potential ('capacity to learn') of the child.

The following terminology is used in the following pages:

'Malnourished Not Treated' : these are children that were screened positive for severe malnutrition. These children received therapeutic feeding, but they DID NOT receive emotional stimulation (Not Treated). For these children the study monitored at the same time the evolution of their Emotional Status over 3 months, and the evolution of their body weight over 3 months.

'Malnourished Treated' : these are children that were screened positive for severe malnutrition and they received at the same time therapeutic feeding AND emotional stimulation (Treated). For these children the study monitored at the same time the evolution of their Emotional Status over 3 months, and the evolution of their body weight over 3 months.

'Non Malnourished Not Treated' : these are children from semi-rural and peri-urban areas of SNNPR that were NOT screened positive for malnutrition (Non-Malnourished) and that were NOT emotionally stimulated (Not-Treated). For these children the study monitored the evolution of their emotional status over 3 months.

'Non Malnourished Treated' : these children from semi-rural and peri-urban areas of SNNPR were NOT screened positive for malnutrition (Non-Malnourished) and they were stimulated emotionally (Treated). For these children the study monitored the evolution of their emotional status over 3 months.

What children need the most it's only us, the parents, that can give it to them. It is inside us and not in the emergency food they take (Quote from a health extension worker)

'Hospital' : these are children that were screened positive for malnutrition and that were admitted to hospital due to complications in the treatment of malnutrition. These children were provided with therapeutic feeding and emotional stimulation at the same time. For these children the study monitored at the same time the evolution of their Emotional Status and the evolution of their body weight until dismissal (or expiration).

RESULTS

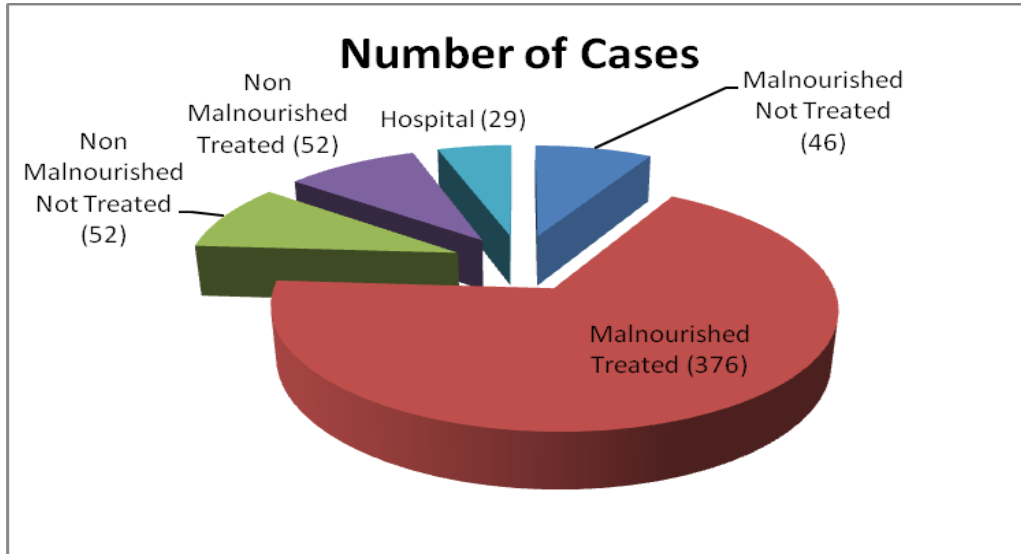
Number of Children Reached for whom data collection/recording has been generated*

	Number of Sites	Number of Cases	Boys/Girls	Girls %
Malnourished Not Treated	3	46	20/26	G=56.5%
Malnourished Treated	20	376	185/191	G=50.84%
Non Malnourished Not Treated	5	52	28/24	G=46.1%
Non Malnourished Treated	5	52	28/24	G=46.1%
Hospital	1	29	17/12	G=41.4%
Total	34	555	278/277	G=49,9%
<i>Source: Authors</i>				

*many more children were reached during the intervention period, but data presented here are only the data generated for the children enrolled in the initial months of intervention to allow to have an overview of their evolution over 3 months.

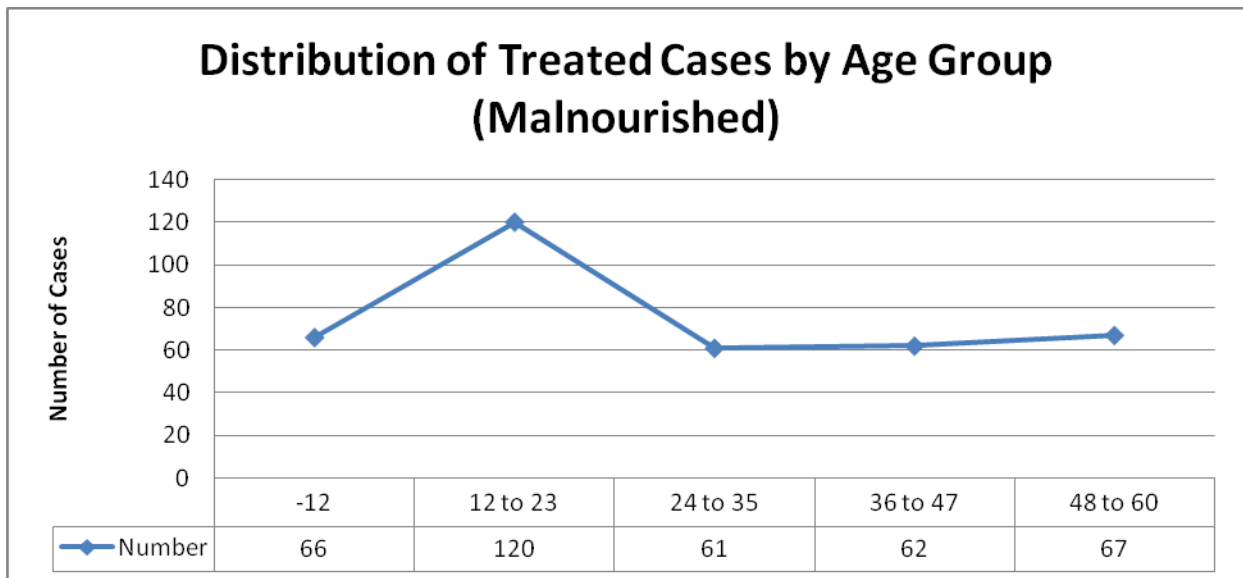
The above Table tells us that 555 children in 34 different Therapeutic Feeding Programmes (TFU and OTP) of Southern Nations of Ethiopia were reached and systematically traced for a period of at least 3 months over an overall intervention that lasted 6 months. More sites and children were reached during these 6 months interventions, but for the purpose of this study and clinical monitoring of the intervention, only 555 were systematically traced and from whom the present data was generated.

The above table also tells us that the gender ratio of the study was extremely balanced (50,1% boys and 49,9% girls), so that the results are gender neutral and are equally valid for boys and girls.

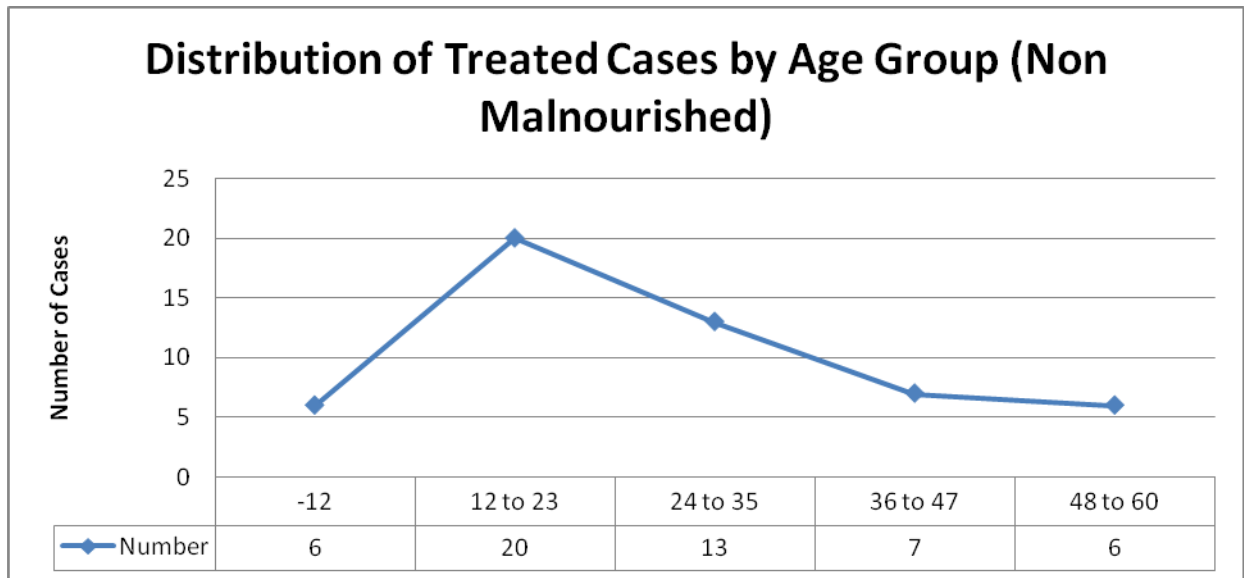


Source: Authors

- **Age Distribution of treated children**



Source: Authors



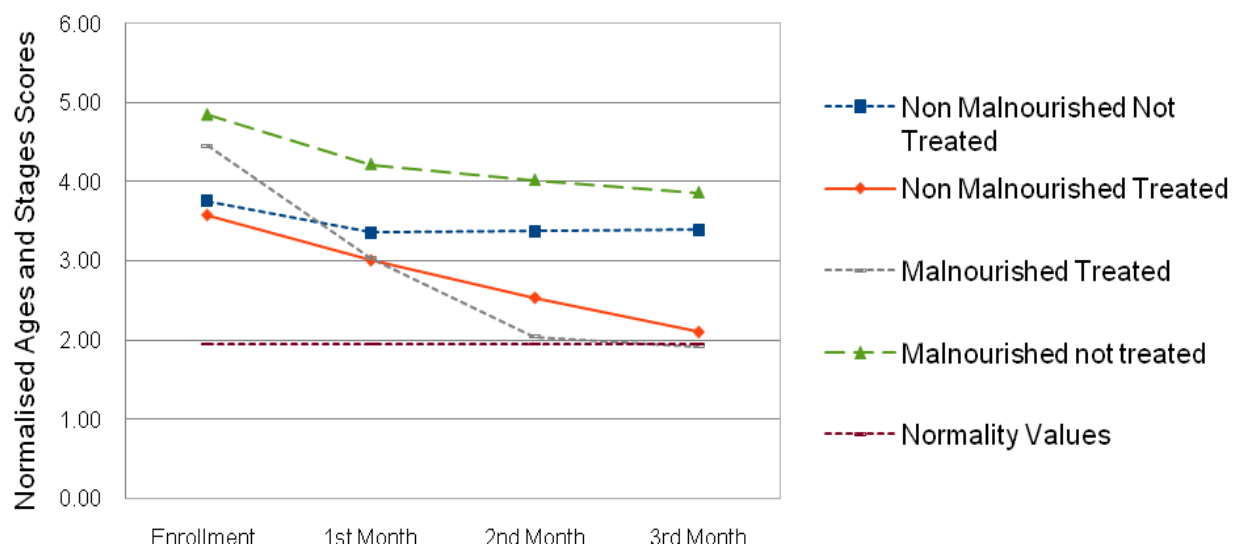
Source: Authors

The above figures tell us that the vast majority of children suffering of severe acute malnutrition and being admitted in Outreach Therapeutic Programme have an age between 6 to 60 months, with a pick in the second year of life (12 to 23 months) –this is when they are more at risk and vulnerable to malnutrition.

- **Effects of Emotional Stimulation on Ages and Stages Scores**

The following figure is very important. The results have been obtained using the Ages and Stages Questionnaire tested and validated for acceptability and consistency in the context of Ethiopia.

Effects of Emotional Stimulation on Ages and Stages Scores



Source: Authors

The horizontal line named 'Normality Values' is the benchmark for emotional stability and normal behavioral attitudes. Below this line, children have a 'normal' development status for their age and stage. Below this line, they don't need any form of emotional support or stimulation because their brain is developing normally. They therefore have all their cognitive potential intact. ABOVE the line, the emotional and cognitive status of the child is troubled. The higher the score on the vertical axis, the more traumatic and troubled is the emotional and cognitive status of the child. A child with a 'Normalised Ages and Stages Score' between 4 and 5 is a child that can have symptoms such as frequent nightmares, bedwetting, is not responsive to external interactions, is depressed, is not speaking/listening/focussing, is troubled, is extremely anxious or extremely withdrawn, etc. The severity or recurrence of these and similar symptoms is of a very high scale.

After two days training I felt the heavy weight of responsibility not just for the children I support in my daily work, but also for my own children. It was like if suddenly I realized that what these children are and will become, crucially depends on my ways to stay with them. I never felt like this before: proud for the work I do, and worry for the consequences that my work can bear on these children.
(Quote from a training participant)

The data clearly shows that the group of malnourished children started with a significant higher cognitive and emotional instability compared with the non-malnourished control group.

Youth that were trained were sent to the communities to identify severely and acutely malnourished children. Yesterday for instance, nine children were admitted at the OTP site thanks to the scouting and screening work done by the trained youth. You could argue that those nine children would have died in the coming 10 days if this project hadn't started.
(Quote from a health extension worker)

As we see from the figure, in only two months, malnourished children that were at the same time provided with therapeutic feeding and emotional stimulation are able to gain a level of cognitive and emotional stability nearly 'normal'. Between the second and third month we still have an improvement but it is minimal vis-à-vis the gain of the first two months. It is important to stress that at the end of intervention, malnourished or not, the treated groups reached the same normal level of cognitive and behavioural level.

Similarly, for Non-Malnourished Children that were emotionally stimulated, the intervention managed to bring them to nearly normality levels in just 3 months interventions.

On the contrary, the two control groups of Malnourished Not Treated, and Non-Malnourished Not-Treated remain with emotional levels that are very high, entailing a substantial loss of development potential. In the case of children 'malnourished not treated', the relative improvement of their emotional level is the sole outcome of the effects of RUTF on their brains' development.

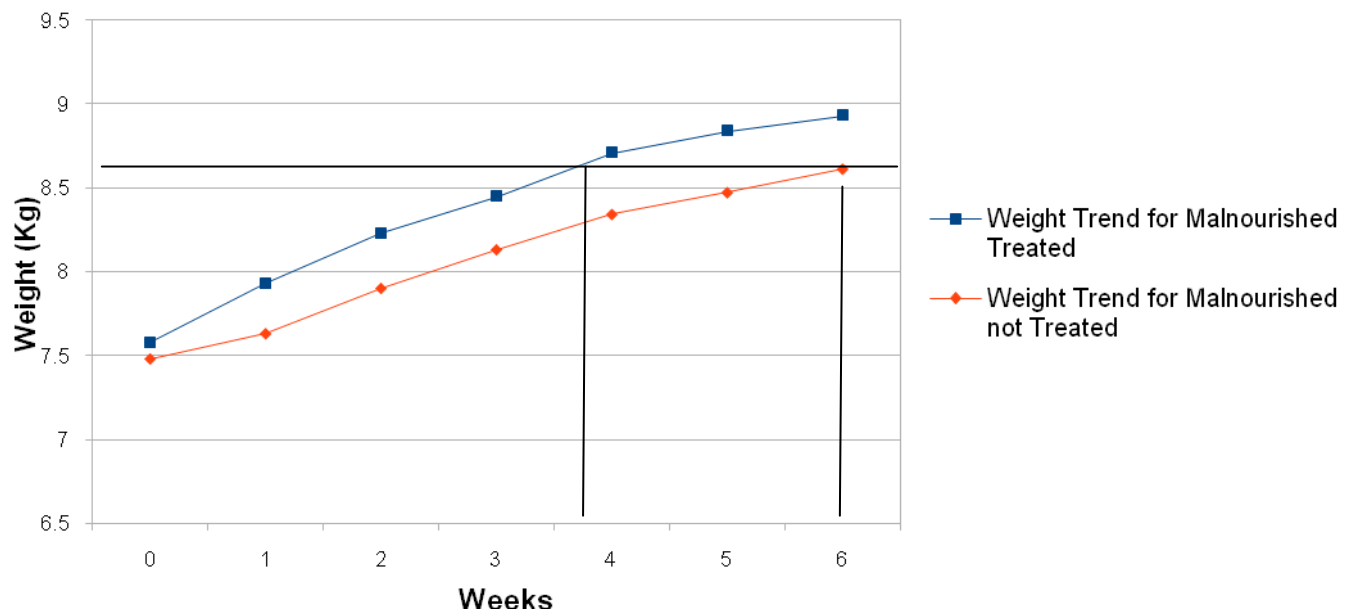
For these two last groups, this translates into an important loss of development potential for malnourished children : keeping them alive through therapeutic food will not have an impact in their capacity of learning and developing. From a cognitive point of view. These are children that if they go to school will not be able to learn as their peers, and will not be able to recreate a significant attachment with their prime caretaker.

The above results clearly shows that doubling Emotional Stimulation with Therapeutic Feeding prevents the loss of development potential, with an intervention of just 2 months.

- **Effects of Emotional Stimulation on Body Weight Gains**

The following figure investigates the effects of emotional stimulation on the speed of recovery of Malnourished Treated against Malnourished Not-Treated children.

Weight Gains for Acutely and Severely Malnourished Children



Source: Authors

From the presented results, we can clearly see that children that were provided with a combination of Emotional Stimulation together with therapeutic feeding have the tendency of gaining weight at a higher speed than children that were only provided with therapeutic feeding. After 6 weeks, the Malnourished Not-Treated have a body weight which is equivalent of the body weight that the Malnourished Treated had 2 and half weeks before.

This has important implications for both the financing of the project, as well as the capacity of existing OTPs to manage cases. In fact, a short recovery period per child will entail a massive saving in the unit cost of each treated child, allowing for the intervention to be fully self sustainable. At the same time, the increased speed of recovery will also allow for a quicker case management of each admitted child, resulting in more children being reached with the same logistic arrangements already in place, an important factor that could reduce the overcrowding of OTP during emergency periods.

- **Discharge Rates**

The increased speed of recovery presented above, was also confirmed looking at the discharge rates of treated children compared to control groups. The following table shows that malnourished children that were emotionally stimulated are discharged much quickly than children that are only supported through therapeutic feeding. Again, this is an important finding since the cost of therapeutic food and logistics decreases considerably if children stay in therapeutic feedings for shorter periods.

A detailed calculation on costing has not been conducted, however, the intervention seems to be a cost saving investment since the per-child-cost of intervention of emotional stimulation only consists of the initial training and logistics material, while the intervention is per se free of cost. On the contrary the costs of RUTF is a recurrent cost which also entails a cumbersome and expensive logistics.

It is to be noted that after the 5th week it has not been possible to make a comparison on discharge rates because some sites adopt a protocol of discharge based on enrollment time and not on body weight gain, thus not providing scientific evidences t verifying the initial assumptions.

	At the end of 4 weeks	At the End of 5 weeks
Malnourished treated	31.2% Discharged	40.7% Discharged
Malnourished not treated	0% Discharged	0% Discharged

Source: Authors

- **Results from the System for Evaluating Filial Play Coaching Clinical Outcomes (Qualitative Survey Pre and Post Intervention)**

The improvements registered for children that were at the same time stimulated and treated for severe malnutrition have also been cross checked with qualitative questions asked to parents before and after the stimulation was conducted.

In particular, the perception of the prime caregiver (usually the mother) on her malnourished child, critically depends also on the quality and strength of her emotional bond towards the infant. The way her mother sees and perceived her child is at the same time an indication of her capacity to observe her infants, but can also provide indications on her depression status, not just on the depression status of the child.

Pre-Intervention Questionnaire:

Over the last week in stress situation, the child (%):	Not at All	Only Occasionally	Sometimes	Often	Most or All of the Time
has been lethargic	11.1	30	28.6	13.1	18.25
has been inattentive	8.7	24.6	34.1	17.9	14.7
displayed irritability	9.5	19	37.7	15.5	18.2
has been intolerant	9.1	22.2	29	21.4	18.2

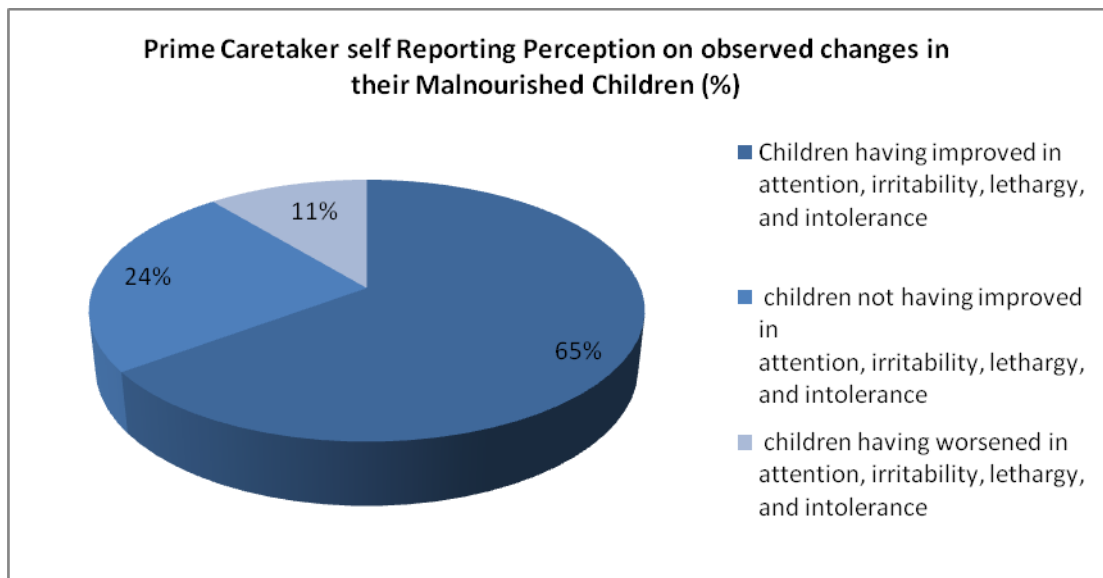
Source: Authors

Post-Intervention Questionnaire:

Over the last week in stress situation, the child (%):	Not at All	Only Occasionally	Sometimes	Often	Most or All of the Time
has been lethargic	50.4	28.2	17.5	2	2
has been inattentive	26.6	36.1	29.8	4	3.6
displayed irritability	39.7	26.6	28.6	4.8	0.4
has been intolerant	25.8	37.3	28.6	4.8	3.6

Source: Authors

The above tables are the result of a questionnaire we did with caretakers before and after emotional stimulation interventions to gain qualitative data that could confirm or deny the results we obtained through the Ages and Stages measurement of emotional and behavioral improvements of treated children.



As we observe, in the vast majority of the cases, the caretakers confirmed that their children had very severe emotional and behavioral issues ‘Often’ or ‘Most of the Times’. On the contrary, after intervention, the majority of respondents observed that the same emotional and behavioral problems were ‘Not at All’ or ‘Occasionally’ experienced by their children. An aggregate percentage of 65% of the prime caretakers have reported having observed an improvement in their children over the stimulation period.

This confirms that the clinical changes recorded through the Ages and Stages data collection tools, were also changes clearly observed in the child by the main caretaker. It also confirms a potentially corrected

level of maternal depression vis-à-vis the child, even if a proper tool to assess maternal depression pre and post intervention will need to be inserted to be conclusive on the impact of the stimulation on the mental wellbeing of the caretaker.

From the table below, we can observe how the majority of caretakers reported a decrease in depressive child behaviors pre and post therapy.

MALNOURISHED			
Over the last week in stress situation, the child:	Improved	Identical	Worsened
has been lethargic	170	53	17
has been inattentive	152	59	39
displayed irritability	169	59	22
has been intollerant	148	67	31
NON MALNOURISHED			
Over the last week in stress situation, the child:	Improved	Identical	Worsened
has been lethargic	17	18	6
has been inattentive	28	10	3
displayed irritability	25	11	5
has been intollerant	27	9	5

Source : Authors

Recommendations and Conclusions

Psychosocial support and emotional stimulation should be provided to caregivers and children as a part of the usually applicable protocol of treatment for severely malnourished children. Caregivers with physical or mental health problems may need extra support to ensure that they are able to give care to their children. Improving maternal mental health (e.g., reducing maternal depression) may be one of the most important life saving interventions in situations of severe food shortages for both the mother and child.¹⁴

Children who are severely malnourished should be referred for combination of nutrition/stimulation programmes that emphasize appropriate feeding practices and responsive parenting (e.g., proactive stimulation and appropriate responses). This combination has a greater impact than either intervention alone. Indeed, nutrition programmes that contain a psychosocial component are more effective in promoting survival, growth and positive child development than nutritional programmes without a psychosocial component. They may also help to decrease maternal depression.

To this extent, emergency nutrition interventions should encourage the caregiver to stimulate, feed, hold, and play with the child as much as possible. This set of emotional stimulation techniques ranges from filial play to filial coaching, physical stimulation techniques including baby massage,s and developmental touch.

¹⁴ UNICEF/UNHCR/WFP/WHO. *Food And Nutrition In Emergencies*. World Food Programme, Rome, 2002.

As observed during implementation of the programme, other members of the community might express the interest in taking part in the same coaching sessions that were originally presented only to caretakers whose children were admitted in OTP programmes. As we observed, many mothers and fathers from the communities gathered around the health extension workers while they were coaching mothers on how to stimulate their children. This shows a clear demand for these services beyond the context of emergency response.

Overall, the programme has indicated that introducing emotional stimulation within already existing practices and protocols will bring a return on investment much higher than the investment itself. This return can be measured in terms of reduced recovery time, prevention of loss of development potential, and reduced mortality rates.

The costs of the programme were fully compensated by the shorter period of treatment per child and the possible reduction of future relapsing of reached children in future nutrition shocks. Additionally, as observed in the programme, the skills provided to health extension workers and caretakers were used and applied beyond the length of the programme and supervision time, suggesting an immediate institutionalization of what learnt within existing and applied skills.

The above, makes a compelling case to:

- Scale out the intervention to further regions to allow for an increased service delivery, improve the tools initially developed, and allow for more data to be generated and analysed.
- To advocate for an expansion of existing protocols in line with international minimum standards of case management for malnourished children,
- Foreseen further research able to shed light on the impact of emotional stimulation on the resilience of reached children to future malnutrition shock and diseases.
- Foreseen a system of in service support for the health extension workers already trained that continue to apply the techniques at the moment without any sort of ongoing coaching or continuous education.



*Toys made using scrap material
by training's participants*