

# Barrier Analysis for Giving RUTF or RUSF to people other than the Designated Child

## Melkadida and Kobe refugee camps, Dollo Ado refugee camp corridor, Ethiopia

### International Medical Corps

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#### Executive Summary

In July 2011 the Horn of Africa faced the worst drought in the region in 60 years. Insecurity and famine in Somalia forced many to flee their homes for the neighboring Dollo Ado refugee camp corridor in Ethiopia. Dollo Ado now hosts nearly 200,000 Somali refugees in five camps: Bokolmanyo, Melkadida, Kobe, Hilaweyn and Buramino. International Medical Corps has developed a nutrition intervention of IYCF-E integration into CMAM focusing on the treatment and prevention of acute malnutrition in children 6-59 months and pregnant and lactating women in Kobe and Melkadida camps. Services are decentralized through eight nutrition centers to maximize community outreach. Still, Global Acute Malnutrition (GAM) rates in the Dollo Ado camps have been at or above the World Health Organization's emergency threshold for the past three years.

In March 2011 before the height of the drought the GAM rate of children 6-59 months was 33% in Melkadida. By March 2012 this had dropped to 15.0%, but rose slightly, though insignificantly, to 16.9% in the March 2013 nutrition survey. Following the peak of the drought, a nutrition assessment in Kobe found a GAM prevalence of 47.8% in children 6-59 months. By June 2012 the situation had stabilized. The nutrition assessment at that time indicated that GAM had fallen significantly to 13.1% in Kobe, but then again rose insignificantly to 17.0% during the March 2013 nutrition survey. Another challenge for the nutrition programs in Kobe and Melkadida is keeping average length of stay and weight gain within sphere standards. In addition, in focus group discussions and interviews beneficiaries admit to selling the general food ration as well as the specialized nutritional products for income to purchase other items, or to sharing of the specialized nutritional products meant for children with Severe or Moderate Acute Malnutrition (SAM or MAM) with other children or adults. Shopkeepers in the market agree that people, mainly men or older children, bring the nutritional products to sell to the shops. The combination of these led International Medical Corps to plan a Barrier Analysis focused on the misuse of ready-to-use therapeutic and supplementary foods (RUTF or RUSF, respectively) which are meant for children with SAM or MAM, respectively.

From July 22 to July 27 2013, International Medical Corps conducted a Barrier Analysis across Kobe and Melkadida camps. The purpose of the study was to understand the behavioral determinants which influence whether someone is a "Doer" or a "Nondoer" of the proper use of nutritional products for malnourished children 6-59 months in Kobe and Melkadida camps.

In Kobe, **positive and negative consequence, perceived self- and action-efficacy, perceived social norms, perceived access and cues for action** were the key behavioral determinants which influenced the doers to not sell or share the RUTF or RUSF. In Melkadida, **perceived action-efficacy** was a statistically significant determinant which influenced whether or not to sell or share the RUTF or RUSF. Doers in Melkadida were also more likely to say there are no disadvantages to giving the proper amount of RUTF or RUSF to the child, and there is nothing which makes it difficult for them to do so. In Kobe,

Doers were more likely to report that advantages of giving the proper amount of RUTF or RUSF included that it is used as a medicine and that it helps the child recover. They were also more likely to say there are no disadvantages to providing the child the proper amount of RUTF and RUSF, and that the International Medical Corps' nutrition staff and community nutrition promoters (CNPs) support them or make it easier for them to give the children the full amount of RUTF or RUSF.

The results of this analysis will be used to inform behavior change messaging from both International Medical Corps' nutrition staff and community outreach staff.

## Study Objectives

This study examined the behavioral determinants related to the proper use of nutritional food products of caretakers of children 6-59 months with acute malnutrition. This helped identify the key determinants of why some mothers provide the prescribed amount of RUTF or RUSF to their malnourished children and some mothers do not. The findings described here will be used to design behavior change messaging which addresses the root causes of giving RUTF and RUSF to people other than the designated child in Kobe and Melkadida camps in an effort to decrease acute malnutrition in the Dollo Ado refugee camp corridor.

## Methods

### *Definitions*

For the study, proper use of RUTF or RUSF was defined as a caretaker feeding all of the prescribed RUTF or RUSF only to the malnourished child 6-59 months it was prescribed for. Caretakers were asked to show interviewers their ration cards to see how many sachets of RUTF or RUSF were prescribed. Interviewers then calculated how many full sachets of RUTF or RUSF should still be in the house on the day they visited, and compared the two numbers. If the numbers were the same and the interviewer was able to tell the recommended number of RUTF or RUSF sachets had been given to the designated child a mother might be eligible to be a Doer in the study. If fewer or more remained a mother might be eligible to be a Non Doer.

“Dhuq Dhuq” is a local term used to describe both RUTF and RUSF. Interviewers used this term and the specific child's name receiving Dhuq Dhuq when interviewing the mothers.

### *Study Population*

Kobe and Melkadida are two camps that are part of the Dollo Ado refugee camp corridor in southern Ethiopia, which opened in June 2011 and February 2010, respectively. The current registered populations in the camps are 35,913 and 43,714, with 7,662 and 7,209 children 0-59 months, respectively. In Kobe, 53% of the registered population is from Bay, 30% is from Gedo, 13% is from Bokol, and the rest are from other locations in Somalia. In Melkadida, 66% of the registered population is from Gedo, 19% is from Bay, and the rest are from various other locations in Somalia. The main previous livelihood of people in both camps was pastoralism, though there are some professionals from Mogadishu in Melkadida. Kobe is divided into 36 zones while Melkadida is divided into 20 zones. International Medical Corps provides nutrition programming through four Community Nutrition Centers (CNCs) in both Kobe and Melkadida. A Blanket Supplementary Feeding Program (BSFP) is provided to children 6-59 months and pregnant and lactating women, a Targeted Supplementary Feeding Program (TSFP) to children diagnosed with MAM (Mid Upper Arm Circumference (MUAC) 11.5-12.49 cm or weight-for-height Z-score (WHZ)  $\geq -3$  to  $< -2$ ), and an Outpatient Therapeutic Feeding program (OTP) to children diagnosed with SAM (MUAC  $< 11.5$  or WHZ  $< -3$ ). There is one health facility in Kobe run by the

Government of Ethiopia’s Administration for Refugee and Returnee Affairs (ARRA), and two health facilities in Melkadida, one run by ARRA and one run by Humedica. Stabilization center services are provided to children with SAM with medical complications at the ARRA health facilities.

Caretakers of children aged 6-59 months with one child in International Medical Corps’ outpatient OTP or TSFP programs were included in the study. Caretakers were identified as “Doers” if they provide the child with SAM or MAM with the exact amount of RUTF or RUSF prescribed in the CNCs, respectively. Caretakers of SAM or MAM children in day care as well as with more than one child in OTP and/or TSFP were excluded. A total of 180 caretakers were interviewed: 45 Doers and 45 Non Doers in Kobe, and 44 Doers and 46 Non Doers in Melkadida. These numbers allowed for the determination of whether there are different determinants of the giving of RUTF and RUSF to people other than the designated child in the two different camps.

### *Sampling Methods*

The Barrier Analysis was performed as an unmatched case-control study. Interviewers sought 45 Doers and 45 Non Doers in both Kobe and Melkadida camps. Both camps were divided into four quadrants based on the zones covered by the CNCs. The target number of Doers and Non Doers to find in each quadrant was calculated based on the proportion of SAM and MAM children per CNC, and the number of interviewers assigned to the CNC area was based on the target number of Doers and Non Doers. See Table 1.

**Table 1: Survey Respondents by Survey Type, Supervision Area, and Camp**

CNC Area	Target/ Actual # Doers	Target/ Actual # Nondoers	Total Target/ Actual	# Interviewers
Kobe 1	25/17	25/14	50/31	4
Kobe 2	10/15	10/9	20/24	2
Kobe 3	5/6	5/13	10/19	1
Kobe 4	5/7	5/9	10/16	1
Melkadida 1	12/10	12/13	24/23	2
Melkadida 2	14/16	14/13	28/29	2
Melkadida 3	9/8	9/7	18/16	2
Melkadida 4	10/10	10/13	20/23	2
<b>Total</b>	<b>90/89</b>	<b>90/91</b>	<b>180/180</b>	<b>16</b>

### *Data Collection*

The interviews involved a series of questions aimed at determining the root causes of giving RUTF and RUSF to people other than the designated child through the following behavioral determinants:

- **Perceived Positive and Negative Attributes** associated with providing all of the prescribed sachets of RUTF or RUSF to the malnourished child
- **Perceived Self-efficacy** of what makes it easier or more difficult to feed the malnourished child all of the prescribed sachets
- **Perceived Social Norms** of who provides or doesn’t provide support to the caretaker to feed the malnourished child all of the prescribed sachets
- **Perceived Access** of how difficult it is to feed the malnourished child all of the prescribed sachets
- **Cues for Action** for how difficult it is to remember the number of sachets to feed the child each day

- **Perceived Susceptibility** of how likely it is the caretaker's child will become malnourished in the coming year
- **Perceived Severity** of malnutrition of one child to the family as a whole
- **Perceived Action Efficacy** of feeding all of the prescribed sachets to the malnourished child every day
- **Perception of Divine Will** of whether Allah would accept the caretaker feeding all of the prescribed sachets to the malnourished child per day

### *Ethics and Confidentiality*

Verbal informed consent was obtained from each respondent. A statement of purpose was read by the interviewers at the beginning of each interview. They also explained that participation was voluntary and their responses would be kept confidential. Interviewers were instructed to interview the caretakers alone, within the norms of social acceptability.

### *Analysis*

For the analysis, interviewers sat together to pool answers from the questions into an Excel spreadsheet template developed by Food for the Hungry, USAID, TOPS, and the CORE Group. The template was customized to accommodate the questionnaire developed by International Medical corps. Four supervisors were present for the tallying and numbers were cross-checked.

## **Results**

### *Statistically Significant Findings*

90 interviews were completed in Kobe (45 doers and 45 non doers), and 90 were completed in Melkadida (44 doers and 46 non doers). Several of these findings were deemed significant for developing behavior change communications regarding the giving of RUTF or RUSF to people other than the designated child (see the Annex).

### *Kobe*

Perceived Positive Consequences: In Kobe, Doers were 3.7 times more likely to respond that the advantages of giving all of the prescribed sachets of RUTF or RUSF to the malnourished child include it helps the child recover, improve, it helps make the child healthy, it prevents malnutrition, it increase the blood, increases the weight, it makes the child fat, and is for nourishment. The interviewers agreed that the mothers intend for all of these answers to have the same meaning, thus they were grouped as one. Doers were also 3.3 times more likely to respond that the RUTF or RUSF is a medicine for the child and this is an advantage of feeding the malnourished child all of the prescribed sachets. **Clear communication that RUTF or RUSF is medicine for the malnourished child and has many health benefits for the malnourished child needs to be provided to the caretakers in Kobe.**

Perceived Negative Consequences: Doers were 3.6 times more likely to respond that there are no disadvantages to giving the malnourished child all of the prescribed sachets of RUTF or RUSF. **It should be emphasized in messaging that a disadvantage to not giving all of the sachets of RUTF or RUSF to the malnourished child is that the child's condition will not improve or may worsen. This can put additional strains on the caretaker who has to spend more time caring for the malnourished child, and the family whose primary caretaker has to spend extra time caring for the malnourished child.**

Perceived Self-Efficacy: Doers in Kobe camp were 2.7 times more likely to say International Medical Corps' CNPs (all Zone Leaders in Kobe camp) made it easier for them to give the full amount of RUTF or RUSF prescribed for the malnourished child. Respondents who listed CNPs as making it easier came only from catchment areas of CNC-1 and CNC-2. In addition, more Doers (71%) were found in the catchment

areas of CNC-1 and CNC-2 than Non Doers (51%) and more Non Doers (49%) were found in the catchment areas of CNC-3 and CNC-4 than Doers (29%). Though this was not statistically significant, p-values for both were 0.052. The CNPs are a primary point of contact for nutrition community outreach within the camps. These results could indicate a trend in the quality of nutrition outreach services provided by CNPs in CNC-1 and CNC-2 versus CNC-3 and CNC-4. **The cause of these needs to be examined further, as more training, specifically of CNPs in CNC-3 and CNC-4, or more dedicated staff may be needed in these areas.**

Perceived Social Norms: Doers were 2.7 times more likely to respond that nutrition staff at International Medical Corps (OTP/TSFP nurse, IYCF nurse) supported them to give all of the prescribed sachets of Dhuq Dhuq to the malnourished child. These respondents for both the Doers and the Non Doers groups came from all four catchment areas of the CNCs. This could indicate that some nutrition staff do not spend enough time counseling the caretakers on the proper use of RUTF or RUSF and the dangers of not providing all of the RUTF or RUSF prescribed to the malnourished child. **It is important to ensure staff are consistently advising the caretakers on the importance of the proper use of RUTF and RUSF. Training for the nutrition staff on counseling techniques may be needed.**

Interestingly, Non Doers were 6.8 times more likely to say that their neighbors support them in this regard which confirms that messages on proper use of RUTF/RUSF should be spread among all members of the communaute.

Perceived Access: Respondents who reported that it was somewhat difficult to give the child all of the prescribed sachets of RUTF or RUSF were 2.8 times more likely to be Non Doers than Doers. Those who reported that it was not at all difficult to give the child all of the prescribed sachets of RUTF or RUSF were 3.9 times more likely to be Doers than Non Doers. Seven Non Doers responded that the presence of other children made it difficult to give the malnourished child all of the prescribed sachets of RUTF or RUSF, while none of the Doers gave this response. **In previous home interviews mothers reported feeding the prescribed sachets to the malnourished child only when the other children were at school or when she would send the other children out to play. This provides a lesson for counseling of caretakers who find it difficult to provide the RUTF or RUSF only to the malnourished child when other children are around.** Other reasons it is difficult to feed all of the prescribed sachets only to the malnourished child included the caretakers absence from the house, illness and forgetting. **The importance of consistently feeding all of the prescribed sachets to the malnourished child only must be prominently featured in all messaging both at the nutrition center and on community outreach visits.** The specific reason for not providing all of the prescribed sachets to the malnourished child may vary from caretaker to caretaker. **Therefore, nurses and outreach workers should examine the root causes of why a specific caretaker is not providing all of the prescribed sachets and should counsel the caretaker accordingly. Extra training may be necessary for this. In addition, the hiring of psycho-social workers to provide support to the caretakers of malnourished children will increase the effectiveness of this messaging.**

Cues for Action: Respondents who reported that it was somewhat difficult to remember the number of sachets of RUTF or RUSF to feed the malnourished child were 3.3 times more likely to be Non Doers than Doers. Those who reported that it was not at all difficult to remember the number of sachets of RUTF or RUSF to feed the malnourished child were 9.3 times more likely to be Doers than Non Doers. **A system should be designed to help the caretakers remember the number of sachets to provide the child throughout the day. This is difficult due to the high illiteracy rates in the camps and the lack of items such as pens or pencils. However, nurses and CNPs could use the prayer times as reminder to give the**

**RUTF or RUSF to the child. It is possible to use stickers as a reminder to give the child the RUTF or RUSF.**

Perceived Action Efficacy: Respondents who reported that it was very likely their child would be cured if they gave him/her all of the prescribed sachets of RUTF or RUSF were 4.4 times more likely to be Doers (82%) than Non Doers (51%). Those who reported that it was only somewhat likely their child would be cured if they gave him/her all of the prescribed sachets of RUTF or RUSF were 4.9 times more likely to be Non Doers (38%) than Doers (11%). **Messaging on the efficacy of the RUTF or RUSF to cure the malnourished child if given as prescribed must be strengthened both at the facility and at the community outreach level. This is particularly important for caretakers of children with SAM, as multiple sachets are given per day based on the child's weight and each need to be consumed by the malnourished child.**

Universal Motivator: Doers were 5.4 times more likely to say that good health of their child was the one thing they desired most in life. Other responses to this question included to become rich, to get an education for herself or her children, to become employed and to have a prosperous life with her husband. One reported advantage of providing the all the sachets prescribed for the malnourished child is for growth and mental development. However, this was only reported by 18% Doers and 27% Non Doers in Kobe. **More messaging related to nutrition and mental development may influence caretakers to provide all of the prescribed sachets of RUTF or RUSF only to the malnourished child and strive to prevent the child from relapsing after s/he is cured. Health education messages at the facility and community outreach levels should be adapted to include messages that proper nutrition, particularly for the woman during pregnancy and for the child till s/he turns two, is critical not only for growth, but also for a person's ability to learn and for their earning potential throughout their entire life. This message should also be shared with those who influence the community meetings, including zone leaders, religious leaders and community elders.**

#### Melkadida

There were many fewer responses that were statistically significantly different between Doers and Non Doers in Melkadida. Perceived Action Efficacy: Respondents who reported that it was very likely their child would be cured if they gave him/her all of the prescribed sachets of RUTF or RUSF were 6.4 times more likely to be Doers (91%) than Non Doers (61%). Those who reported that it was only somewhat likely their child would be cured if they gave him/her all of the prescribed sachets of RUTF or RUSF were 6 times more likely to be Non Doers (30%) than Doers (7%). The same was true in Kobe. As in Kobe, messaging on the efficacy of the RUTF or RUSF to cure the malnourished child if given as prescribed must be strengthened both at the facility and at the community outreach level. This is particularly important for caretakers of children with SAM, as multiple sachets are given per day based on the child's weight and each need to be consumed by the malnourished child.

Perceived Negative Consequences: Doers were 2.8 times more likely to respond that there are no disadvantages to giving the malnourished child all of the prescribed sachets of RUTF or RUSF. It should be emphasized in messaging that a disadvantage to not giving all of the sachets of RUTF or RUSF to the malnourished child is that the child's condition will not improve or may worsen. This can put additional strains on the caretaker who has to spend more time caring for the malnourished child, and the family whose primary caretaker has to spend extra time caring for the malnourished child.

Perceived Self-Efficacy: Doers were 6 times more likely to respond that there is nothing that makes it difficult to give the malnourished child all of the prescribed sachets of RUTF or RUSF. Again, it should be

emphasized to Non Doers that providing all of the sachets of RUTF or RUSF to the malnourished child may be difficult at first, but the child will recover faster and become stronger. In addition, if it is not provided as prescribed the child's condition will be static or may get worse, causing more difficulties for the caretaker and the family of the malnourished child.

### *Other Findings*

The behavioral determinants which influences the proper use of RUTF and RUSF or the giving of it to people other than the designated child are those with statistically significant differences between Doers and Non Doers. Other responses did not differ between groups, but are important for demonstrating the misunderstandings of RUTF and RUSF in the community and the challenges faced by the caretakers in the proper use of RUTF and RUSF.

Perceived Negative Consequences: In Kobe, 22% of Doers and 27% of Non Doers reported that child's diarrhea is a disadvantage of giving all of the prescribed sachets of RUTF or RUSF, while 2% and 9%, respectively, in Melkadida did. In addition 7% of both Doers and Non Doers in Kobe and 2% of both in Melkadida reported vomiting as a disadvantage, and 16% of the Non Doers in Kobe reported fever as a disadvantage to giving all of the prescribed sachets of RUTF or RUSF to the malnourished child. This misunderstanding can contribute to caretakers not providing all of the prescribed sachets of RUTF or RUSF for the children. It is important for the OTP/TSFP nurses to discover the root cause of these symptoms in the children and ensure caretakers that the symptoms are not caused by the RUTF or RUSF.

Perceived Self-Efficacy: Non Doers in Kobe identified the caretaker's presence in the house as something that makes it easier to give all of the prescribed sachets of RUTF or RUSF (13%). Both Doers and Non Doers reported the caretaker's absence from the house (i.e. to collect firewood) as something that makes it more difficult to give all of the prescribed sachets (9% and 11%, respectively). In Melkadida, Doers and Non Doers reported the caretaker's presence in the house as something that makes it easier (27% and 13%, respectively), as well as the caretaker's absence as something that makes it more difficult (18% and 7%, respectively). To ensure that children are receiving the full number of prescribed sachets of RUTF or RUSF it will be important to discuss a way for the caretaker's to supply all prescribed sachets even when they are busy, while still minimizing the selling of the sachets or the sharing of them with other children or adults.

### **Limitations**

The key limitation of this study was that it was conducted during Ramadan. All of the interviewers and caretakers were fasting during the day and were very tired because of this. This may have limited the number of responses the caretakers provided to the open ended questions. It may also have affected the outcome of the study. Since adults are fasting they may be less likely to share the RUTF or RUSF with those who it is not prescribed for than they would be during the rest of the year. However, they are probably equally likely to sell the RUTF or RUSF as they would be during the rest of the year.

A second limitation is that it seems that the caretakers and possibly a few of the interviewers did not understand some of the questions, such as "Who are the people that don't support you to give to [name of child] all of the given sachets of Dhuq Dhuq?" This question in particular, was often answered the same way as the question asking who does support the caretaker.

## Conclusions and Recommendations

One unexpected result of the study was that there were very few determinants deemed statistically significant in Melkadida camp. It is possible that larger numbers of Doers and Non Doers or additional questions were needed to find more determinants of the behavior of the proper use of RUTF and RUSF in this population.

In Kobe, positive and negative consequences, perceived self- and action-efficacy, perceived social norms, perceived access and cues for action were the key behavioral determinants which influenced the doers to not sell or share the RUTF or RUSF. Beliefs that the advantages of providing all of the prescribed sachets of RUTF or RUSF to the malnourished child are that it is medicine and it will help the child recover were more associated with Doers than Non Doers. Doers were also associated with reporting that it is very likely their child would be cured if all of the prescribed sachets were given. Non Doers were more likely to respond that it was somewhat difficult to give all or remember to give all of the sachets of RUTF or RUSF, and several people reported the presence of other children made it difficult to give all of the sachets. Teaching the caretakers in Kobe that RUTF and RUSF is medicine which will cure their child if it is given properly needs to be emphasized. Ways to provide RUTF or RUSF in the absence of other children is also an important lesson for caretakers in Kobe. Finally, doers were also more likely to say that CNPs made it easier for them to provide all of the prescribed sachets, and that International Medical Corps' nutrition staff support them in providing all of the prescribed sachets. However, more Doers were found in the catchment areas of CNC-1 and CNC-2 and more Non Doers were found in that of CNC-3 and CNC-4. There is a need to examine the quality of outreach services provided by the CNPs in CNC-3 and CNC-4 catchment areas and take measures to increase the quality of services in order to reduce the giving of RUTF and RUSF to people other than the designated child in these areas.

In Melkadida, perceived action-efficacy was a statistically significant determinant which influenced whether or not to sell or share the RUTF or RUSF. Doers in Melkadida were also statistically more likely to say there are no disadvantages to giving the proper amount of RUTF or RUSF to the child, and there is nothing which makes it difficult for them to do so. Teaching the caretakers in Melkadida that RUTF and RUSF is medicine which will cure their child if it is given properly needs to be emphasized. In addition, messaging should be emphasized that not giving all of the sachets of RUTF or RUSF to the malnourished child is a disadvantage because that the child's condition will not improve or may worsen. This can put additional strains on the caretaker who must spend more time caring for the malnourished child, and the family whose primary caretaker has to spend extra time caring for the malnourished child.

Finally, in both Kobe and Melkadida camps many of caretakers spend significant time away from their homes for different reason (i.e. firewood collection, general food distribution collection). Emphasis should be given by IYCF nurses and community outreach staff to all primary caretakers on how to provide optimal caring practices for children when the primary caretaker is away.