Barrier Analysis of Infant & Young Child Feeding and Maternal Nutrition Behaviors Among Adolescent Syrian Refugees in Urban Turkey

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All photographs were taken by Shiromi M. Perera.

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Adolescent Syrian refugee mother being interviewed in Gaziantep

Abbreviations and Acronyms

AFAD	Disaster and Emergency Management Presidency
BA	Barrier Analysis
CHW	Community Health Workers
EBF	Exclusive Breastfeeding
FFP	USAID Office of Food for Peace
FSN	Food Security and Nutrition
INGO	International Non-Governmental Organization
IYCF	Infant and Young Child Feeding
PLW	Pregnant & Lactating Women
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MoH	Ministry of Health
MSC	Multi-Service Center
NFSL	Nutrition, Food Security & Livelihoods
RDA	Recommended Daily Allowance
SBC	Social Behavior Change
UNHCR	United Nations High Commissioner for Refugees
USAID	U.S. Agency for International Development
WASH	Water, Sanitation and Hygiene
WFP	World Food Program

Executive Summary

Barrier Analysis (BA) assessments were conducted in northern and southern Turkey to examine among adolescent girls the determinants of three key infant and young child feeding (IYCF) and maternal nutrition behaviors that have been promoted among displaced Syrians, but have not shown any significant improvement: 1) exclusive breastfeeding, (2) ensuring iron rich food during complementary feeding and (3) eating an extra meal during pregnancy. International Medical Corps engaged local and international partner organizations in Istanbul and Gaziantep to conduct capacity building in the Barrier Analysis methodology and conduct three Barrier Analysis assessments among Syrian adolescent girls to lend evidence to inform program activity design and advocacy. This BA represents one of the few assessments focused on adolescents and it specifically highlights the particular challenges and needs faced by adolescent mothers related to their nutritional status, as well as that of their children. This BA also represents one of the few assessments conducted on IYCF practices in Turkey.

Methodology. We closely followed the Barrier Analysis methodology, as specified in A Practical Guide to Conducting a Barrier Analysis (2013).[1] For each behavior studied, we sampled at least 45 "Doers" and 45 "Non-Doers", and conducted a one-on-one survey interview with each participant. Survey responses for open-ended questions were coded as a group, and all responses were analyzed for statistically significant differences between Doers and Non-Doers. International Medical Corps conducted initial interpretation of findings, and drafted "Bridges to Activities" and recommendations. A workshop was then held with interested implementing partners in Turkey to help inform interpretation and recommendations based on findings.

Results and Recommendations. The BA's identified key factors that explain the differences between adolescent mothers of children (ages 0- 6 months) who exclusively breastfeed (EBF), adolescent mothers of children (ages 6- 23 months) who feed them iron rich food at least 3 times per week, and pregnant adolescent girls who ate an extra meal a day during pregnancy. Specifically, 9 determinants were found to be significant for EBF, 7 determinants for complementary feeding with iron rich food, and 9 determinants for an extra meal during pregnancy. This report details these determinants and provides recommendations on how evidence from these assessments should be used to inform activity planning in International Medical Corps and other agencies' programs in Turkey, as well as contribute to advocacy toward policy changes that may be necessary to support behavior change.

Introduction

The crisis in Syria is heading into its 6th year, making it the biggest humanitarian and refugee crisis of our time. With no clear end in sight to the fighting, millions of Syrians have fled to neighboring countries in search of safety. Turkey has the highest density of refugees since the onset of the crisis, hosting an estimated 2.7 million registered Syrian refugees. Of these, 255,695 refugees are living in camps and

[1] Kittle Bonnie. 2013. A Practical Guide to Conducting a Barrier Analysis. New York, NY: Helen Keller International

2,730,485 are residing in urban areas.[2] Istanbul and Gaziantep in particular, are experiencing the highest concentrations of refugees, with Istanbul hosting approximately 370,450 refugees, and Gaziantep hosting approximately 325,200 refugees. [3] The majority of non-camp refugees live in urban or peri-urban areas, renting and sharing an accommodation with an average of 1-4 other families. Many of these families encounter difficulties in affording the high cost of living as they are provided minimal assistance and face challenges in generating stable income.[4]

The humanitarian context in Turkey is significantly different than neighboring countries that are also accommodating refugees in that 1) Syrians are recognized as guests and not refugees; 2) The Disaster and Emergency Management Presidency of Turkey (AFAD), not UNHCR, is responsible for management and support of refugees, especially those residing in camps; 3) The majority of assistance is provided by the Turkish Red Crescent, with UN agencies providing some support to the Government, particularly in relation to food and technical assistance; and 4) Assessments of Syrians and their needs are undertaken only at the request of the Government.[5] The implications of these differences are the significant gaps in available food security and nutrition data.

Recent assessments conducted by AFAD indicate that early and polygamist marriages are frequently observed among Syrians in Turkey. Girls, especially those living outside of camps, enter into forced marriages to ensure that they will not have to return to Syria and most often significant age differences are seen in these marriages. The mean age of pregnancy is as low as 13-14 years of age.[6] This data is concerning since early childbearing, while a girl is still growing, increases nutritional requirements and can create competition between the mother and fetus for nutrients, leading to increased risk of harmful effects for both mother and child. Malnourished adolescent girls are at an even greater risk for morbidity and mortality during pregnancy.[7] While there is a lack of data on the nutritional status and diet of young mothers, there is global data suggesting that most Syrian refugees in the region, regardless of receiving electronic vouchers for food, are restricting dietary diversity due to high prices. Families are mainly purchasing and consuming cereals/grains, pulses, oil, and limited quantities of cheese, while forgoing meat and other dairy products.[8] Assessments in Turkey indicate that as a result of the high cost of living and employment challenges, refugees almost immediately sacrificed food quality to meet basic needs.[8] Refugees living outside of camps have been shown to have a lower level of basic resources in their homes than those in camps, with 77% stating that food items were insufficient.[4] The majority of these households are eating only 1-2 meals a day.[9] These conditions can impact the frequency and diversity of meals consumed by pregnant adolescents, as well as the children of adolescent mothers.

[2] Migrant Presence Monitoring Situation Report July, 2016 http://data.unhcr.org/syrianrefugees/country.php?id=224
[3] Republic of Turkey Ministry of Interior Directorate General of Migration Management http://www.goc.gov.tr/icerik6/gecici-koruma_363_378_4713_icerik
[4] 48th Edition of Field Exchange: Turkey http://data.unhcr.org/syrianrefugees/country.php?id=224
[5] WFP. (2013) *Syrian Refugees and Food Insecurity in Iraq, Jordan and Turkey.*
[6] AFAD. (2015) Report on *Syrian Women in Turkey.*
[7] Save The Children. (2015) *Adolescent Nutrition- Policy and Programming in SUN+ Countries.*
[8] 48th Edition of Field Exchange: Turkey http://data.unhcr.org/syrianrefugees/country.php?id=224
[9] Concern Worldwide. (2013) *Needs Assessment Report of Syrian Non-Camp Refugees in Sanliurfa, Turkey.*

In terms of infant and young child feeding (IYCF), while there are gaps in data, it is known that before the crisis only about 42% of infants were exclusively breastfed in Syria.[10] An IYCF survey conducted by International Medical Corps in Atmeh, Alkarameh, Bab Al Salameh and Bab Al Nour IDP camps in Northern Syria in April 2015 found that though IYCF practices were showing improvement, many misconceptions persisted. Among the displaced Syrians residing in these 4 camps, 66.5% of women exclusively breastfed their infants under the age of 6 months, and timely complementary feeding was practiced by 74.2% of the caregivers. Especially concerning was the practice of bottle feeding by 21% of caregivers of infants. A recommendation of the survey was to conduct a barrier analysis, to determine the reasons for continued poor practices, and develop activities to address these barriers.

The International Medical Corps IYCF survey found that consumption of iron rich foods by children was very low, at 11.5%. While there are a number of causal factors underlying anemia, this low consumption is concerning, given the prevalence of anemia among the Syrian population prior to the crisis. According to WHO, data on the prevalence of anemia demonstrate that 22.3% of children under five years of age had anemia, and 44% of women of childbearing age and 57.2% of pregnant women suffered from anemia.[11]

IYCF practices are determined by a number of factors including maternal education, socioeconomic status, and knowledge of optimal feeding behaviors.[5] Though the International Medical Corps IYCF survey did not look specifically at adolescents, it is probable that IYCF and maternal nutrition practices among this vulnerable group are even less optimal, due to displacement resulting in disruption of education and forced early marriage. Global evidence suggests that adolescent mothers are substantially less likely to breastfeed than their older counterparts, and can be heavily influenced by negative socioeconomic factors.[5] A review of the few existing studies have found a surprising lack of research into IYCF among adolescent girls, with recommendations for better understanding in order to develop effective programming.[12]

In response to the Syrian refugee crisis in Turkey, International Medical Corps and partner organizations have been promoting key maternal and child health behaviors among displaced Syrians with the aim to improve maternal, neonatal, and child health and nutrition (MNCHN) in this population. Despite this MNCHN programming, these behaviors, however, go largely unchanged. It is clear that adolescent mothers face barriers in practicing recommended IYCF and maternal nutrition behaviors. Among behaviors that are evidenced to have an impact on nutritional status, but are under-investigated among this population, three behaviors stand out: 1) eating an extra meal during pregnancy, 2) exclusive breastfeeding and (3) complementary feeding for consumption of iron rich food.

International Medical Corps was awarded a TOPS Microgrant to lead a Barrier Analysis (BA) training and assessment in Turkey to identify determinants of these key behaviors that have been promoted in the

[10] Joint Statement on Infant and Young Child Feeding. (2015) *Nutrition stakeholders call for appropriate feeding of infants and young children in the Northern Syria*.

[11] Health Situation in Syria and the WHO Response (2012) http://www.who.int/hac/crises/syr/Syria_WCOreport_27Nov2012.pdf

[12] BMC Public Health (2015) *A qualitative study exploring perceived barriers to infant feeding and caregiving among adolescent girls and young women in rural Bangladesh*. 15(1):771.

Syrian refugee population, in particular among adolescents. The results of the BA will enable International Medical Corps to make practical changes in its program design to include more effective approaches directly targeting recognized barriers and facilitators of behavior change. In addition to the specific information needs of International Medical Corps Turkey, the broader humanitarian community responding to the Syrian refugee crisis across multiple countries can benefit from knowledge of this methodology, and from findings on the studied behaviors among displaced adolescent Syrian mothers.

Methodology

A Barrier Analysis is a rapid assessment tool used to identify the factors that are preventing a target group from adopting a preferred behavior, as well as identifying the facilitators or motivators to adopting the behavior. The BA approach is based mostly on the Health Belief Model and the Theory of Reasoned Action, and explores up to 12 recognized behavioral determinants. The approach involves a cross-sectional survey, carried out among a sample of 45 "Doers" (those who practice the behavior) and 45 "Non-Doers" (those who do not), for a total of 90 participants per BA. Individuals are screened and classified according to whether they are Doers or Non-Doers, and then asked questions according to their classification. Adolescent Syrian mothers who should be practicing the behaviors in question were interviewed in order to identify which of the 12 determinants of behavior change are preventing Non-Doers in this population from adopting the behavior, as well as which determinants are facilitating adoption of behaviors among Doers.

Behavior Definition

Three key behaviors were identified to be assessed. These behaviors were selected because they are promoted through International Medical Corps or partner programs among displaced Syrians in Turkey, yet have not seen significant improvement (according to recent assessments and program data):

- **Behavior 1: Adolescent mothers of children (ages 0- 6 months) exclusively breastfeed**

  To assess this behavior, adolescent Syrian mothers with children aged 5-12 months were interviewed. This behavior definition was relaxed to "0-5 months", according to BA methodology, to increase the sampling pool and ensure the ability to meet sample size requirements. UNICEF and WHO recommend that children are given only breastmilk during the first 6 months of life. Exclusive breastfeeding (EBF) is recommended because breast milk is uncontaminated, contains all the necessary nutrients for the first few months of life, and provides immunity to disease through maternal antibodies, among other benefits.

- **Behavior 2: Adolescent mothers of children 6 – 23 months feed an iron-rich food to their children at least 3 times per week**

  To assess this behavior, adolescent Syrian mothers with children age 8-23 months were interviewed. Mothers with children 8 months of age, instead of 6 months, were interviewed in order to ensure a sample size of mothers who had enough time to gain more experience in the recommended practice. Complementary feeding is the period when breastmilk is complemented by the addition of solid or semi-solid food, beginning at the time the child reaches 6 months of

age. Recommended Daily Allowances (RDA) of iron during this period range from 7 to 11 mg/day, and recommended nutrient intakes (RNI) range from 6.9 to 7.8 mg/day, depending on the age of the child.[13,14,15]

- **Behavior 3: Pregnant adolescents consume an additional meal daily during pregnancy**

  To assess this behavior, pregnant Syrian adolescents were interviewed. Mothers who were aware of their pregnancy for at least a month were interviewed in order to ensure a sample size of women who had enough time to gain more experience in the recommended practice. Pregnant women are recommended to consume an additional 200-300 kcal per day. Recommendations are based on pre-pregnancy weight. Individual energy requirements vary, but will increase in special circumstances such as adolescent pregnancy.[16]

To be considered an adolescent for this assessment, the WHO definition was used, where young people between the ages of 10-19 years were defined as being an 'adolescent'. However, to increase the sampling pool and ensure the ability to meet sample size requirements, this definition was relaxed to 10-21 years.

Adolescent Syrian refugee mother being interviewed in Istanbul Health Clinic

BA Questionnaire Development

Three barrier analysis questionnaires were developed in English following the standard BA questionnaire design guidelines and reviewed by a BA expert. These questionnaires were then translated into Arabic by a native Arabic speaking translator in Lebanon, and then back-translated and checked by the data collection team.

Recruitment of Data Collectors and Training

In Istanbul 15 participants and in Gaziantep 14 participants, were invited from International Medical Corps, local and international partner NGOs [Association for Solidarity with Asylum Seekers and Migrants (ASAM), Qatar Red Crescent, Kudra, World Vision International, Physicians Across Continents, Save the Children,

[13] UNICEF & WHO Indicators for assessing infant and young child feeding practices. http://www.unicef.org/nutrition/files/IYCF_Indicators_part_III_country_profiles.pdf

[14] Nutrition Requirements, British Nutrition Foundation https://www.nutrition.org.uk/attachments/article/234/Nutrition%20Requirements_Revised%20Nov%202015.pdf

[15] Dietary Reference Intakes https://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx

[16] Core Group Maternal and Nutrition Dietary Guide http://www.coregroup.org/storage/documents/Workingpapers/MaternalNutritionDietaryGuide_AED.pdf

Kadinlarla Dayanisma Vakfi: Women's Solidarity Foundation (KADAV), Syrian Expatriate Medical Association (SEMA), Shafak, Support to Life] and Istanbul Universities (Istanbul University and Yildiz Technical University) to attend the BA trainings in Istanbul or Gaziantep. Many of the participants that were trained were young Syrian refugees working with Turkish NGOs and INGOs. These young Syrians were helpful in providing insight into the context of the population under study, but also provided critical feedback throughout the various stages of the assessment and development of recommendations. A two-day training was conducted on the fundamentals of the Barrier Analysis technique, with special focus on structure and process of developing questionnaires, the Designing for Behavior Change Framework (including "bridges to activities" and activity development), and developing interviewing skills. The *Practical Guide to Conducting a Barrier Analysis* was used for curriculum development.[17] During the training participants reviewed translated questionnaires and errors were corrected prior to survey practice. Data collectors were divided into groups to practice and familiarize themselves with interviewing and recording data according to the Doer/ Non-Doer method.

Sampling and Recruitment

According to BA methodology, purposive sampling was used based on status as an adolescent Syrian refugee, and criteria related to the behaviors of interest. In Istanbul, teams collected data at health clinics that were providing services to Syrian refugees. In Gaziantep, adolescent girls meeting the criteria for inclusion in the BA were recruited ahead of time by ASAM to gather at one of their Multi-Service Centers (MSC). Additionally, in Gaziantep and Antakya, teams collected data at International Medical Corps and partner Primary Healthcare Centers (PHC) specifically serving Syrian refugees. Prior to assessments International Medical Corps sought approval from clinic and PHC directors to conduct data collection.

Adolescent Syrian refugee mother in Gaziantep

During data collection, data collectors approached each potential participant (either at the clinic or MSC), found a semi-private place to conduct the interview, introduced the study and offered informed consent. Those who met criteria and

[17] Kittle Bonnie. 2013. A Practical Guide to Conducting a Barrier Analysis. New York, NY: Helen Keller International

consented to be part of the study were then screened to determine Doer or Non-Doer status, before proceeding with the survey interview.

Field Data Collection and Coding

Fieldwork lasted 3 days, with data collection for each behavior being conducted in the mornings and coding of the responses for at least one behavior taking place in the evenings. Due to challenges faced in finding enough girls to be interviewed for each behavior, interviews of all 3 behaviors were conducted concurrently each day depending on the availability of target adolescent girls. Normally, it is preferred for one behavior to be assessed and coded per day. Additional field days were required due to difficulties in finding enough adolescent girls in Istanbul, therefore there were additional data collection days in Istanbul and Antakya (due to its contextual similarity to Gaziantep). Coding occurred through an iterative group process to arrive at a word or phrase that best represented the responses given.

Data Analysis

Once data was coded and tabulated, it was then entered into the Barrier Analysis Tabulation Excel Sheet for quantitative analysis in order to establish which determinants were found to be significantly different ($p<0.05$) between Doers and Non-Doers. These significant determinants were analyzed to develop Bridges to Activities and recommendations. Qualitative data from the completed questionnaires was also recorded in order to better understand the context of barriers and facilitators.

Assessment Limitations

One of the major challenges faced was recruitment of adolescent girls to be interviewed. Due to restrictions on how NGOs interact with refugees, advance recruitment of Doers and Non-Doers was mostly not possible, with a few exceptions. This led to difficulty in achieving the desired sample size. For this reason, field teams did most of the interviews with adolescent mothers attending health facilities.

Data collection and coding was planned to occur during the same day. However, interviews for all 3 behaviors took place each day so that sample sizes were reached, while coding for only one behavior took place each afternoon of the field days. This may have resulted in some difficulty among the data collectors to remember interactions with the mothers if there were questions about any of the answers that were coded the following day.

A number of the data collectors lacked previous interviewing experience, though this was addressed with intensive training in interviewing techniques during the 2 training days. Additionally, piloting of the survey tool was not possible among the beneficiary population, therefore it was piloted (in English and Arabic) among the participating data collectors during training. Other sources of potential bias were addressed through rigorous training, close supervision during data collection, and offering assurance to participants that their responses would remain anonymous.

While the BA methodology identifies the most important barriers and enablers, it may not give a full picture of each of the barriers and enablers. Therefore, it will be useful to follow up this BA with focus group discussions on the barriers and enablers identified or further assessments to identify potential solutions.

Results

Sample description

In total, 371 adolescent Syrian refugee girls were interviewed for all three behaviors of interest in three locations: Istanbul, Gaziantep and Antakya. Location was recorded for potential stratification of results.

Demographic data, and in particular, the age of girls interviewed, was noted. Girls ranged from the age of 14 years to 21 years. Specifically, for EBF (n=92), the mean age was 19 years and the minimum age was 15 years. For the Extra Meal behavior (n=114), the mean age was 18 years and the minimum was 14 years. And finally, for Iron rich food (n=111), the mean age was 18 years and the minimum was 14 years.

Source: http://turkeymap.facts.co/

Table 1. Total # of interviews per behavior

	Exclusive Breastfeeding (n=92)		Extra Meal (n=114)		Iron rich food (n=111)	
	Doer	Non-Doer	Doer	Non-Doer	Doer	Non-Doer
# Interviews	45	47	56	58	56	55

Responses from Doers and Non-Doers were analyzed for significance, based upon either a 15 percentage point difference among responses or statistical significance of 0.05 or less as calculated through the Barrier Analysis Tabulation Excel Sheet. The determinants found to be significant for each of the behaviors following data analysis are detailed below. Results in general were similar between the three locations and are not stratified by location; in a few instances where location might have a difference which should be taken into account when programming activities, the location is noted.

Behavior 1: Mothers of children (ages 0- 6 months) who exclusively breastfeed

Nine determinants were found to be significant for this behavior.

Perceived Self- Efficacy

This determinant refers to an individual's belief that he/she can do a particular behavior given his/ her current knowledge and skills. Respondents were asked what makes it (or what would make it) easier or difficult for them to give only breastmilk to their baby for the first 6 months of life.

	Key Findings	Quotes
Doers	**8.1 times** more likely to say baby is satisfied makes EBF **easier** (p=0.024) (Istanbul)	*"For there to be enough milk, then there needs to be more quality food."* –Doer
	3.3 times more likely to say producing enough milk makes EBF **easier** (p=0.036) (Gaziantep)	*"Food for the mother is good, so she can produce enough milk."* –Doer
	More likely to say that mother's good nutrition makes EBF **easier** (18% difference) (Gaziantep)	*"It is healthier and better for my baby."* –Doer
	More likely to say that knowledge that breastfeeding is better makes EBF **easier** (28% difference) (Istanbul)	*"Breastfeeding is free and I don't have money to buy milk."* –Doer
	More likely to say that breastfeeding is cheap/ free makes EBF **easier** (19% difference) (Istanbul)	
Non-Doers	**3.9 times** more likely to say that the baby not being satisfied with only breastmilk would make EBF **difficult** (p=0.057) (All cities) ***Gaziantep Non-Doers 5.8 times more likely to say this (p=0.057), Istanbul Non-Doers also more likely to say this (24% difference)	*"My milk is not enough for the baby."* –Non- Doer *"Sometimes he wasn't getting all he needs from only my breast, that's why I fed him other kinds of milk."* –Non-Doer
	More likely to say that not producing enough milk would make EBF **difficult** (16% difference) (Istanbul)	*"If I would give only breastmilk to my baby, she doesn't feel full, therefore I give her a bottle."* –Non-Doer
	More likely to say that baby not being able to suckle would make EBF **difficult** (17% difference) (Istanbul)	*"Not producing enough breastmilk is the main problem."* –Non-Doer
	More likely to say not fasting would make EBF **easier** (17% difference) (Istanbul)	*"My nutrition is not good."* –Non-Doer
	More likely to say that not being pregnant would make EBF **easier** (17% difference) (Istanbul)	*"[My body] always feels hungry."* –Non-Doer *"The baby does not feed fully and is crying."* –Non-Doer

The findings indicate that the baby's satisfaction with breastmilk is a concern for Doers and Non-Doers alike. While Doers feel that breastmilk alone is sufficient for the baby, and being able to satisfy the baby makes exclusively breastfeeding easier, Non-Doers feel that breastmilk alone is not sufficient for infants. Non-Doers also raised the issue of not producing enough breastmilk and the baby being unable to suckle, this would indicate that the Non-Doers may not be breastfeeding correctly and need assistance with attachment, positioning, frequency of feeding, and other breastfeeding difficulties. They also discussed the difficulty of breastfeeding while fasting or while being pregnant with another child, which reflects a need for correct information regarding breastfeeding.

Perceived Positive or Negative Consequences

This determinant refers to an individual's perception of the good or bad things that would result from performing a behavior. Respondents were asked what are (or what would be) the advantages/ disadvantages of only giving breastmilk to their baby for the first 6 months.

	Key Findings	Quotes
Non-Doers	**5.8 times** more likely to say that improved baby development and cognition is an **advantage** of EBF (p=0.057) (Gaziantep)	"*The baby can have good health and also can gain weight*." –Doer "If I would give only breastmilk for the first 6 months, my baby could be healthier." –Non-Doer "*Mother's milk is most beneficial for the baby*." –Non-Doer "*Sometimes the breastmilk is not enough for the baby*." –Non-Doer
	More likely to say better immunity is an **advantage** of EBF (24% difference) (Istanbul)	
	More likely to say good calcium/ high vitamins is an **advantage** of EBF (16% difference) (Istanbul)	
	More likely to say not enough to satisfy the baby is a **disadvantage** of EBF (15% difference) (Istanbul)	

Overall, the majority of Doers (64%) and Non-Doers (70%) said that a positive consequence of EBF is improved baby health and weight gain. A significant number of overall Doers (51%) and Non-Doers (45%) also said that there are no negative consequences to EBF. The results seem to reflect that mothers in general are aware of the benefits of exclusive breastfeeding, but Non- Doers are still not convinced that breastmilk alone is sufficient for the baby. It is possible part of this perception is due to breastfeeding difficulties.

Perceived Social Norms

This determinant refers to an individual's perception of the approval or disapproval of doing a behavior by people considered to be important in an individual's life. Respondents were asked who approves or disapproves of them giving only breastmilk to their baby for the first 6 months.

	Key Findings
Doers	More likely to say mother-in-law's **approve** of EBF (22% difference) (Istanbul)
Non-Doers	**4.1 times** more likely to say their husbands would **approve** of EBF (p=0.000) (Istanbul)
	More likely to say their mothers would **approve** of EBF (15% difference) (Gaziantep)
	More likely to say doctors **approve** of EBF (22% difference) (Istanbul)

There was no significant difference between the responses of Doers and Non-Doers, with both saying that most people approve of EBF for the first 6 months (Doers: 73%, Non-Doers: 79%), while very few said anyone would disapprove (Doers: 4%, Non-Doers: 15%).

Perceived Access

This determinant refers to a person's perception about access to resources or support needed to do a behavior. Respondents were asked how difficult it is to get the support they need to give only breastmilk to their baby for the first six months.

Overall, there was no significant difference in perceived difficulty and around half of Doers (42%) and Non-Doers (60%) said that it is "not difficult at all" to get the support they need to give only breastmilk to their baby. However, in Gaziantep, Doers were more likely to say it was "somewhat difficult" to get the support they need (19% difference). It is possible that some Non- Doers perceive it is not difficult to get the support they need, as they are not practicing exclusive breastfeeding, and do not know what support they would require to do so.

Perceived Susceptibility/ Risk

This determinant refers to a person's perception of how vulnerable or at risk he/ she feels to a certain problem. Respondents were asked how likely it is that their baby will become malnourished or get diarrhea *in the coming year.*

Overall, Non-Doers were **2.1 times** more likely to state that it is "not likely at all" that their baby will become malnourished in the coming year (p=0.043). Also, Non-Doers were more likely to state that it is "somewhat likely" their baby will get diarrhea in the coming year (15% difference).

In Gaziantep, Doers were more likely to state that it is "somewhat likely" that their baby will become malnourished in the coming year (19% difference). In Istanbul, Non-Doers were more likely to state that is "not likely at all" that their baby will become malnourished in the coming year (22% difference). Additionally, Doers were more likely to say it is 'very likely' (30% difference) their baby will get diarrhea in the coming year, while Non-Doers were more likely to say it is "somewhat likely" (32% difference).

The results of this determinant are unclear, and would require further investigation into the community's understanding of the links between non-exclusive breastfeeding, diarrhea and malnutrition.

Perceived Severity

This determinant refers to a person's belief that the problem is serious. Respondents were asked how serious would it be if their baby became malnourished or got diarrhea.

In Gaziantep, Non-Doers were **4.3 times** more likely to state that it would be "not serious at all" if their baby got diarrhea (p=0.04). Non-Doers were also more likely to state that it would be "not serious at all" if their baby became malnourished (16% difference). In Istanbul, Non-Doers were also more likely to state that it would be "somewhat serious" if their baby became malnourished (16% difference). These results reflect a lack of understanding of the consequences of malnutrition or diarrhea.

Perceived Action Efficacy

This determinant refers to the belief that by practicing the behavior an individual will avoid a certain problem. Respondents were asked how likely is it that their baby will become malnourished or get diarrhea if they only breastfed for the first 6 months.

Overall, Doers were **3.3 times** more likely to state that is "not likely at all" that their baby will get diarrhea if they are fed only breastmilk for the first 6 months (p=0.003).

In Istanbul, Non-Doers were more likely to state that it is "somewhat likely" (24% difference) and Doers more likely to state that it is "not likely at all" (23% difference) that their baby will get malnourished if they are fed only breastmilk for the first 6 months.

This indicates that Non-Doers do not understand the connection between exclusive breastfeeding and malnutrition and diarrhea.

Divine Will

Respondents were asked if they thought God causes diarrhea or malnutrition.

Overall, Non-Doers were 4.3 times more likely to say that "maybe" God causes diarrhea (p=0.006).

Behavior 2: Adolescent mothers of children 6 – 23 months feed an iron-rich food to their children at least 3 times per week

Seven determinants were found to be significant for this behavior.

Perceived Self- Efficacy

Respondents were asked what makes it (or what would make it) easier or difficult to feed their child iron-rich foods three times per week.

	Key Findings	Quotes
Doers	**11.1 times** more likely to say if mother is psychologically well makes feeding **easier** (p=0.014) (All Cities) *Gaziantep Doers more likely to say if mother is psychologically well (15% difference)	*"If my child likes these kinds of food."* –Doer *"Happy family life [makes it easier]."* –Doer
Non-Doers	**12.2 times** more likely to say not knowing what iron rich foods are would make feeding **difficult** (p=0.002) (All Cities) * Antakya Non- Doers more likely to say not knowing what iron rich foods are (69% difference)	*"Having enough money to buy special food for my child."* –Doer *"Lack of money to feed my child iron rich food."* –Doer
	7.2 times more likely to say having a child that is older in age would make feeding **easier** (p=0.028) (All Cities) * Antakya Non- Doers more likely to say having a child that is older in age (31% difference)	*"Lack of money to buy suitable food."* –Non-Doer
	2.7 times more likely to say child is sick would make feeding **difficult** (p=0.019) (All Cities) *Both Istanbul Non-Doers (24% difference) and Antakya Non-Doers more likely to say this (17% difference)	"It is difficult if there is no income." –Non-Doer

Overall, almost half of Doers (39%) and Non-Doers (40%) stated that having no money to buy food or food being too expensive made it difficult to feed their children iron rich food. The results indicate a lack of knowledge among Non-Doers regarding foods and iron content, how to provide optimal complementary foods for children and how to feed sick children. Doers point to the importance of psychological well-being on the ability to feed their child. Both Doers and Non-Doers alike face difficulty in buying foods due to high cost, though Doers are able to overcome this.

Perceived Positive or Negative Consequences

Respondents were asked what are (or what would be) the advantages/ disadvantages of feeding their child iron- rich foods three times per week.

	Key Finding	Quotes
Doers	**2.9 times** more likely to say good health/ nutrition and cognition for the child is an **advantage** of feeding (p=0.008) (All Cities) *Istanbul Doers 9.2 times more likely (p= 0.031) to say this. Both Gaziantep Doers (20% difference) and Antakya Doers (48% difference) more likely to say this	*"His immunity will become better."* –Doer *"Healthy active child."* –Doer *"Leads to good baby health and nutrition."* –Non-Doer *"She will not get anemia or other illnesses that will affect the growth of the child."* –Non -Doer *"His body will become stronger."* –Doer "*Iron rich food is good for his body*." –Non -Doer
	4.9 times more likely to say immunity/ no need for medications is an **advantage** of feeding (p=0.024) (Istanbul)	
	More likely to say protection from anemia is an **advantage** of feeding (18% difference) (Istanbul)	
Non-Doers	**9.2 times** more likely to say increase in calcium is an **advantage** of feeding (p=0.031) (Istanbul)	
	9.2 times more likely to say better bonding with the child is an **advantage** of feeding (p=0.031) (Istanbul)	
	More likely to say good growth and development is an **advantage** of feeding (15% difference) (Istanbul)	

Overall, almost half of Doers (48%) and Non-Doers (40%) said that there are no negative consequences of feeding their child iron rich food. The results indicate that mothers in general understand the importance of iron rich foods for their children; however, this knowledge is insufficient for the Non-Doers to practice the behavior. The fact that "increased calcium intake" was stated as an advantage of feeding iron rich foods, indicate that correct understanding of the nutritional benefits of iron rich food is lacking.

Perceived Social Norms

Respondents were asked who are the people that approve or disapprove of them feeding their child iron-rich foods three times per week.

	Key Findings
Doers	**2.2 times** more likely to say husbands **approve** of feeding (p=0.022) (All Cities)
	10.9 times more likely to say their mother **disapproves** of feeding (p=0.030) (All Cities)
	More likely to say doctor **approves** of feeding (18% difference) (Istanbul)
Non-Doers	**4.8 times** more likely to say mother-in-law's would **approve** of feeding (p=0.015) (Istanbul)
	3 times more likely to say no one would **disapprove** of feeding (p=0.004) (All Cities) *Gaziantep Non-Doers 3.6 times more likely to say no one (p=0.013)

Perceived Access

Respondents were asked how difficult it is to get iron rich foods.

Overall, Doers were **2.6 times** more likely to say it is "somewhat difficult" to get iron rich foods (p=0.005), while Non-Doers were **3.5 times** more likely to say it is "very difficult" (p=0.011). Doers were more likely to say it is "somewhat difficult" to get iron rich food in Istanbul (15% difference), Gaziantep (21% difference) and Antakya (54% difference). The results reflect the difficulties this community faces in

accessing food for their children, though the Doers are finding ways to overcome this barrier. These food security issues merit further investigation to determine the exact barrier and potential solutions.

Perceived Susceptibility/ Risk

Respondents were asked how likely it is that their baby will become anemic in the coming year.

In Istanbul, Doers were **3.5 times** more likely to say it is "not likely at all" for their child to become anemic in the coming year (p=0.049). Also, Non-Doers were more likely to say it is "very likely" for their children to become anemic (20% difference).

Perceived Action Efficacy

Respondents were asked how likely is it that their child will become anemic if they fed their child iron rich foods.

In Istanbul Non-Doers were more likely to say it is "not likely at all" for their child to become anemic (28% difference) if they feed their children iron rich foods. This result, in combination with the results of perceived risk, indicate that Non-Doers are aware their children are at risk of anemia, and can prevent through feeding them iron rich foods, though this knowledge is insufficient for them to be able to practice the behavior.

Divine Will

Respondents were asked if they thought God causes diarrhea or malnutrition.

In Istanbul, Non-Doers were more likely to say that "maybe" God causes children to become anemic (20% difference), and Doers were more likely to say "no" God doesn't cause children to become anemic (25% difference). In Gaziantep, Doers were more likely to say "no" God doesn't cause children to become anemic (21% difference).

Behavior 3: Pregnant adolescents consume an additional meal daily during pregnancy

Nine determinants were found to be significant for this behavior.

Perceived Self- Efficacy

Respondents were asked what makes it (or what would make it) easier or difficult to eat an extra meal each day while pregnant.

	Key Findings	Quotes
Doers	**2.4 times** more likely to say mother is hungry/ has an appetite makes it **easier** to eat an extra meal (p=0.021) (All Cities) *Both Istanbul Doers (27% difference) and Antakya Doers (29% difference) more likely to say this	*"I eat whether I am hungry or not because it helps the baby to grow."* –Doer *"Availability of high quality and quantity of food."* –Doer
	2.1 times more likely to say food always available in the house makes it **easier** to eat an extra meal (p=0.048) (All Cities)	*"I feel tired during the pregnancy, that's why it is difficult."* –Doer

	*Istanbul Doers 5.4 times more likely to say this (p=0.021). Gaziantep Doers more likely to say this (17% difference).	*"The first 4 months it was difficult to eat because of stomach ache."* –Doer
	More likely to say family encouragement and support makes it **easier** to eat an extra meal (16% difference) (Gaziantep)	*"My husband tells me to eat [an extra meal] or encourages me."* – Doer
	More likely to say pregnancy discomfort makes it **difficult** to eat an extra meal (19% difference) (Istanbul)	*"It would be easier if food was cheaper."* –Non-Doer
Non-Doers	**2.5 times** more likely to say having enough money to buy food/ to afford food makes it **easier** to eat an extra meal (p=0.050) (All Cities) *Antakya Non-Doers **18.6 times** more likely to say having enough money to buy food/ to afford food (p=0.017)	*"Healthy food is not available [in the house] because of money."* –Non-Doer *"Having the financial ability to bring food home."* –Non-Doer
	2.5 times more likely to say mother not sick after every meal makes it **easier** to eat an extra meal (p=0.043) (All Cities) *Antakya Non-Doers more likely to say mother not sick after every meal (26% difference)	*"It is difficult because [it causes] vomiting and nausea."* –Non-Doer *"The stress of living in a small house with other [families] makes it difficult."* –Doer
	2 times more likely to say mother sick (nausea, stomach ache, vomiting) after every meal makes it **difficult** to eat an extra meal (p=0.048) (All Cities) *Istanbul Non- Doers more likely to say mother not sick after every meal (16% difference)	*"Bad psychological state, many people in the house [make it difficult]."* –Non-Doer
	5.1 times more likely to say better psychological state/ no stress makes it **easier** to eat an extra meal (p=0.017) (All Cities)	"Less stress from family problems." –Non-Doer
	3.4 times more likely to say mother's bad psychological state/ stressed makes it **difficult** to eat an extra meal (p=0.043) * Gaziantep Non-Doers **4.5 times** more likely to say mother's bad psychological state/ stressed (p=0.035)	"[*It is easier] when I am relaxed and not sick. Anger [from living with several families in a crowded house] makes my stomach sick."* –Non-Doer *"[I am a] refugee living in Turkey with no [financial] stability. My mother is far from me and I have no support."* –Non-Doer

The results indicate that Non-Doer pregnant adolescent girls feeling sick after eating, as well as being in a bad psychological state or stressed, make it difficult to consume additional meals, while Doers state that having an appetite makes it easier to consume the additional meal. Non- Doers also indicate that sufficient money would make it easier to consume an additional meal, while Doers state that having food in the house

makes it easier. In addition, Doers state that family support and encouragement to eat makes it easier. Many of the adolescent girls explained that being separated from family members and their stressful living conditions, such as living with multiple families, resulted in their poor psychological well-being. This finding is critical since several studies have suggested that adolescent mothers, in particular, experience significantly higher rates of depression, both prenatally and postpartum, in comparison to older mothers and girls that are not pregnant. Furthermore, symptoms among these young mothers are more likely to persist well after the birth of their child and has been shown to lead to impaired parenting.[18] It is therefore critical to screen and treat these adolescent girls during the pre- and post- natal period.

Perceived Positive or Negative Consequences

Respondents were asked what are (or what would be) the advantages/ disadvantages of eating an extra meal each day while pregnant.

	Key Finding	Quotes
Doers	More likely to say healthier for the baby/ provides immunity is an **advantage** of eating an extra meal (16% difference) (All Cities)	"*It is good for the mother and child.*" –Doer
	More likely to say mother is not tired after eating/ has more energy/ feels better is an **advantage** of eating an extra meal (27% difference) (Istanbul)	"*I become healthier.*" –Doer
	2 times more likely to say no disadvantages in eating an extra meal (p=0.031) (All Cities) *Istanbul Doers more likely to say no disadvantages (34% difference)	"*I have energy to do daily activities.*" –Doer "I feel more hungry and tired if I don't [eat an extra meal]." –Doer
Non-Doers	**2.6 times** more likely to say healthier for mother/ more vitamins is an **advantage** of eating an extra meal (p=0.010) (All Cities) *Gaziantep Non- Doers **3.7 times** more likely to say healthier for mother/ more vitamins (p=0.013). Istanbul Non- Doers **5.4 times** more likely to say this (p=0.036). Antakya Non- Doers more likely to say this (17% difference).	"I feel better after eating, I am not tired." –Doer "*The advantage would be good baby growth and nutrition.*" –Non-Doer
	2.6 times more likely to say no advantages to eating an extra meal (p=0.014) (All Cities) *Gaziantep Non- Doers more likely to say no advantages (p=0.013)	"*I have stomach pain when I eat extra meals.*" –Doer "*If I eat an extra meal I will vomit.*" –Non-Doer
	4.8 times more likely to say mother becomes sick/ stomach ache is an **disadvantage** to eating an extra meal (p=0.002) (All Cities)	"I can't eat some types of food that I used to eat before."–Non-Doer

[18] Hodgkinson et al. (2014) Addressing the Mental Health Needs of Pregnant and Parenting Adolescents. *Pediatrics* 133:114–122.

	*Istanbul Non- Doers **9.1 times** more likely to say mother becomes sick/ stomach ache (p=0.024). Gaziantep Non- Doers more likely to say this (17% difference).	"I will get sick." –Non-Doer

While some Non-Doers think there are no advantages to consuming an additional meal while pregnant, some do perceive that it is healthier for the mother and provides her with more vitamins. Doers perceive the extra meal provides benefits to the baby's health, as well as provides energy for the mothers. They also believe there are no disadvantages to eating an extra meal, while the Non-Doers perceive that the extra food causes them to feel ill.

Perceived Social Norms

Respondents were asked who are the people that approve or disapprove of them eating an extra meal each day while pregnant.

	Key Findings
Doers	More likely to say mother-in-law's would **approve** (15% difference) (Istanbul)
Non-Doers	More likely to say their mother would **disapprove** (19% difference) (Gaziantep)

Overall, almost all Doers (86%) and Non- Doers (76%) stated that their husbands approve of them eating an extra meal each day during pregnancy. Additionally, the majority of Doers (91%) and (83%) indicated that "no one" would disapprove of them practicing this behavior.

Perceived Access

Respondents were asked how difficult it is to get the things they need to eat an extra meal each day while pregnant.

Overall, Doers are more likely to state that it is "not difficult at all" (16% difference) to get the things they need to eat an extra meal. In Istanbul, while Doers had similar results (21% difference), Non-Doers were more likely to state it is "somewhat difficult" (16% difference). This result highlights the difficulties Non-Doers face in accessing sufficient food, and again merits further investigation into the food security context and most appropriate solutions.

Perceived Susceptibility/ Risk

Respondents were asked how likely it is that their baby will be born too weak and small.

In Gaziantep, Non-Doers were more likely to state that it is "very likely" (16% difference) that their baby will be born too weak and small. On the other hand in Istanbul, Doers were more likely to state it is "very likely" (26% difference) their baby will be born weak and small, while Non-Doers stated it is "somewhat likely" (22% difference). This result reflects the mothers' awareness of risk; however, this awareness is apparently insufficient for Non-Doers to consume additional meals while pregnant.

Perceived Severity

Respondents were asked how serious would it be if their baby will be born too weak and small.

In Gaziantep, Non- Doers were more likely to state that it is "very bad" (21% difference) if their baby will be born too weak and small. Doers in Istanbul were more likely to state that it would be "somewhat bad" (15% difference). Again, this result reflects that both Doers and Non-Doers understand the severity of a child being born weak or small, but Non-Doers remain unable to practice the behavior to prevent this.

Perceived Action Efficacy

Respondents were asked if eating an extra meal will ensure they give birth to a healthy baby.

Overall, Non-Doers were more likely to say "yes" (16% difference) eating an extra meal will ensure a healthy baby. This was also stated by Non-Doers in Gaziantep (15% difference). This result indicates Non-Doer's understand the importance of additional food on healthy birth outcomes, but are not able to practice the behavior due to other barriers.

Divine Will

Respondents were asked if they thought God wants them to eat an extra meal each day during pregnancy.

In Istanbul, Non-Doers were **9.1 times** more likely to say that "maybe" (p= 0.024) God wants them to eat an extra meal each day during pregnancy. This was similar to Antakya, where Non-Doers were **11.4 times** more likely to say "maybe" (p= 0.024).

Recommendations

This BA represents one of the few assessments focused on adolescents and it specifically highlights the particular challenges and needs faced by adolescent mothers related to their nutritional status, as well as that of their children. Currently, programming for Syrian refugees is not tailored to this vulnerable population; it is hoped these recommendations will ensure adolescent-focused services and policies. This BA also represents one of the few assessments conducted on IYCF practices in Turkey. The results highlight that knowledge is not always the main issue, but access to IYCF, as well as access to other sectoral services, are required in order to improve these practices. It is hoped that these results will allow programs to be better tailored to address barriers, as well as focus attention on the need for increased IYCF programming.

To address the significant determinants of each behavior, International Medical Corps supervisors developed Bridges to Activities and recommended activities. A Bridge to Activity is based on the responses given by respondents; they are more-specific descriptions of a change one should make to address the issue revealed by the Barrier Analysis research. Bridges to Activities and recommended activities were presented through a dissemination meeting and then circulated to all participants in Turkey in order to receive feedback, which was then incorporated into the recommendations below. Although these recommendations are specific to adolescent mothers, activities will also likely benefit all mothers among the refugee population.

Two key activities are recommended prior to implementing the activities below. These apply for each of the three behaviors.

1. Conduct an assessment of existing community network structures and key stakeholders to determine the best mechanisms to disseminate information to families and communities and to provide counseling and support to adolescent refugee mothers, especially those that are hardest to reach. Some possible structures and mechanisms include the following:

   - It has been noted by those working with Syrian refugees that the social life of adolescent mothers is extremely limited, and the time they spend outside the house is either related to attending to health care or household needs. As a result, health clinics are the best option to reach these girls. Many of the clinics are established within small associations, which run kindergartens as well. Hence therefore, reaching adolescent mothers through these may be possible.

   - In addition, a number of small Syrian enterprises within Turkey, such as libraries and cafes occasionally organize psychosocial events and gatherings. These can be entry points for education sessions, mass communication, as well as linking adolescent mothers to complementary services.

   - Some NGO's are providing services to the refugees in Turkey through Multi-Service Centers (MSCs), providing a variety of services including health, nutrition, psychosocial and legal services.

   - Home visits provided by trained outreach workers may also be an option for targeting particularly hard to reach adolescent girls

2. Build capacity building among current and potential responders to specifically address adolescent needs.

Behavior 1: Mothers of children (ages 0- 5 months) who exclusively breastfeed

Determinant	Bridges to Activities	Recommended Activity
Perceived Self- Efficacy	Reinforce the perception that good maternal nutrition makes EBF easier	➢ Conduct a community network assessment to determine the best mechanisms for disseminating information and providing services and support (ex: adolescent-friendly IYCF or adolescent mother peer support groups, existing community groups, health facilities, IYCF counselors, ANC/PNC staff, options for home visits, MSC etc.) ➢ Provide adolescent-friendly capacity building of relevant groups working with adolescent refugee girls (health care providers, support group facilitators, NGO staff, IYCF or ANC/PNC/other MCH counselors)
	Increase the perception that all mothers can produce enough breast milk	
	Increase the perception that babies are satisfied and nourished by breastmilk alone	
	Reinforce the perception that EBF is cheap/free!	
	Reinforce the perception that EBF is better for the baby than mixed feeding	
	Increase the perception that babies are able to suckle effectively	

	Increase the perception that mothers can breastfeed while pregnant	➢ Build capacity of organizations to provide support of optimal IYCF practices (counselling, key messages, etc). ➢ Develop educational materials and mass messaging (including mHealth) for behavior change promotion on adolescent maternal nutrition. Highlight specific nutrition requirements for adolescent mothers, such as the higher energy requirement needed for adolescent mothers compared to older mothers ➢ Provide IYCF support through one-on-one counseling and educational sessions. (ex: adolescent-friendly health facilities including ANC/PNC services, MSC) - Discuss benefits of EBF, such as better baby development and cognition - Explain that breast milk is sufficient to meet the nutritional needs and to satisfy the baby and that most adolescent mothers are able to produce sufficient breastmilk - Provide specific information on the dangers of non-EBF and the severity of babies being malnourished or getting diarrhea - Discuss continued breastfeeding during pregnancy - Explain that lactating mothers should not fast - To address perceptions of inadequate milk supply or babies not being satisfied by breastmilk or unable to suckle, one-on-one support should include assessment of the breastfeeding adolescent mother and child, and support for adolescent mothers experiencing difficulties and referral of complications
	Increase the perception that breastfeeding mothers should not be fasting	
Perceived Positive & Negative Consequences	Increase the perception that EBF is good for the babies development and cognition	
	Increase the perception that EBF provides vitamins/minerals	
	Increase the perception that EBF is better for the child's immunity	
Perceived Social Norms	Reinforce the perception that mothers-in-law's approve of EBF	
Perceived Access	Increase the support that is available for mothers to EBF	
Perceived Susceptibility/ Risk	Increase the perception that non exclusively breastfed infants can become malnourished	
	Reinforce the perception that non exclusively breastfed infants can get diarrhea	
Perceived Severity	Increase the perception that malnutrition in infants is serious	
	Increase the perception that diarrhea in infants is serious	
Perceived Action Efficacy	Reinforce the perception that EBF prevents infants from becoming malnourished	
Divine Will	Decrease the perception that God causes diarrhea	

		- Refer adolescent mothers for nutrition assessment, micronutrient supplementation and food security interventions as needed ➢ Provide talking points for all service providers (including religious leaders) to deliver accurate information during counseling or educational sessions, such as: - Malnourished adolescent girls can still breastfeed successfully - EBF babies grow better and stronger; are smarter - EBF babies are the most satisfied - Breast milk is sufficient to meet the nutritional needs and to satisfy the baby - Almost all adolescent mothers are able to produce sufficient breastmilk - Breastmilk is cheap/free - "Remember to give only breastmilk to your baby for the first 6 months" - “Infants can become malnourished if not exclusively breastfed” - “Malnutrition and diarrhea in infants are serious conditions” - Adolescent mothers can continue breastfeeding during pregnancy - All lactating mothers (and in particular lactating adolescent mothers) should not be fasting - Lactating adolescents have additional nutrient requirements ➢ Target family members with the same information so that they can support adolescent mothers in exclusively breastfeeding their children, through mass messaging, home visits or other mechanisms. ➢ Create group discussions with older mothers to discuss the benefits of EBF with adolescent mothers and develop Grandmother support and mentorship for adolescent mother peer groups

Behavior 2: Adolescent mothers of children 6 – 23 months feed an iron-rich food to their children at least 3 times per week

Determinant	Bridges to Activities	Recommended Activity
Perceived Self- Efficacy	Reinforce the perception that mothers who are psychologically well find it easier to EBF	➢ Conduct a community network assessment to determine the best mechanisms (ex: adolescent-friendly IYCF or adolescent mother peer support groups, existing community groups, health facilities, IYCF counsellors or MCH staff, options for home visits, MSC etc.) ➢ Provide adolescent-friendly capacity building of relevant groups working with adolescent refugee girls (health care providers, support group facilitators, NGO staff, IYCF counselors or MCH staff) ➢ Build capacity of organizations to provide support of optimal IYCF practices (counselling, key messages, etc). ➢ Develop educational materials and mass messaging (including mHealth) for behavior change promotion on infant and young child feeding. Highlight "how" iron rich food leads to good health and nutrition in children, and makes them smarter. Disseminate messages through community messaging, peer support groups, IYCF counselors, MSC and health staff. ➢ Provide IYCF support through one-on-one counseling and educational sessions. (ex: health facilities including MCH services, MSC) - Discuss benefits of feeding iron rich foods to children, including good health/nutrition/cognition, protection against anemia - Explain what foods are iron rich - Discuss dangers of not feeding iron rich foods to children - Explain how to feed a sick child
	Increase the mother's knowledge of iron rich foods	
	Increase the perception that young children can eat/digest iron rich foods	
	Increase the mother's knowledge of how to feed a sick child	
Perceived Positive Consequences	Increase the perception that iron rich foods are good for the child's health/nutrition status and growth cognition	
	Increase the perception that iron rich foods protect against anemia	
Perceived Access	Increase access to iron rich foods	
Perceived Social Norms	Reinforce the perception that husbands approve of feeding children iron-rich foods	
	Reinforce the perception that doctors approve of feeding children iron-rich foods	
Perceived Susceptibility/ Risk	Reinforce the perception that children not fed iron rich foods are at higher risk of becoming anemic	
Perceived Action Efficacy		
Divine Will	Decrease the perception that God causes anemia	

		- Explain correct complementary feeding techniques including frequency, amount, texture, variety (according to age of child) ➢ Identify locally available iron rich foods, combine with market visits and development of recipes for cooking demonstrations ➢ Provide talking points for doctors to deliver accurate information on iron rich foods and anemia ➢ Create group discussions with husbands to discuss with adolescent mothers the importance of the purchase of iron rich foods for consumption by infants and young children and develop Men as Partners groups ➢ Conduct a rapid assessment of food security to understand the availability and accessibility of iron rich foods ➢ Mapping of existing complementary services and establishing referral mechanisms for nutrition assessment, micronutrient supplementation and food security interventions

Behavior 3: Pregnant adolescents consume an additional meal daily during pregnancy

Determinant	Bridges to Activities	Recommended Activity
Perceived access	Increase the availability of food in households with pregnant girls	Conduct a Cost of the Diet assessment to understand what foods are available and at what cost. Then develop food security interventions and/or referral pathways to these existing interventions (food vouchers).
Perceived Self Efficacy	Increase the availability of food in households with pregnant girls	
	Increase the perception that families encourage and support	Develop and disseminate information to families. Find the most appropriate community mechanism for this (multi-service centers or

	pregnant girls to eat extra meals	support groups). Educate families about the importance of optimal maternal nutrition and how to support pregnant girls in eating an extra meal.
	Increase the perception that pregnant girls should eat an extra meal even when stressed or upset	➢ Provide mental health screening for pregnant adolescents (ex: at during ANC visits) or referrals to screening services
	Increase access to psychosocial support for pregnant girls	➢ Provide psychosocial support services and stress-relief activities for pregnant adolescents, and develop referral pathways to these services. These can be done through Multi- Service Centers, MHPSS counselors or health facilities, and can be linked to IYCF counselling. ➢ Provide capacity building of mental health service providers and counselors and other health service providers, on adolescent specific approaches to psychosocial support. Topics should include maternal depression, positive coping skills, etc.
	Increase the knowledge and ability of mothers to manage pregnancy-related discomforts and sickness	➢ Conduct a community network assessment to determine the best mechanisms to disseminate information (ex: adolescent peer support groups, existing community groups, ANC counselors, MSCs) ➢ Develop educational materials specific to pregnant adolescents and disseminate through different mechanisms, using various methods (counseling, educational sessions, posters and brochures, community messaging, mHealth messages).
Positive/ Negative Consequences	Decrease the perception that eating an extra meal will cause pregnant girls to get a stomach ache	
	Reinforce the perception that eating an extra meal will help a mother feel less tired and have more energy	➢ Ensure providers deliver accurate information about maternal nutrition during counseling or educational sessions, such as: - an extra meal during pregnancy is healthier for the mother and will lead to optimal birth outcomes
	Increase the perception that eating an extra meal is healthy and will provide more vitamins to the mother	
	Reinforce the perception that an extra meal will help ensure a healthy infant	- pregnant adolescents have additional energy requirements compared to older mothers

Perceived Susceptibility/ Risk	Reinforce the perception that a child is more likely to be born weak or small if the mother does not get extra food	- consuming small meals and spacing meals throughout the day will reduce feelings of sickness - if prescribed by doctor, taking medicine at appropriate times will reduce sickness - "An extra meal will help ensure a healthy infant!" - a baby may be born weak or small if a mother is not getting sufficient during pregnancy and this is a serious problem
Perceived Severity	Reinforce the perception that a weak or small infant is a serious problem	
Perceived Action Efficacy	Reinforce the perception that eating an extra meal while pregnant will help ensure a healthy baby	
Perceived Social Norms	Decrease the perception that mothers disapprove of eating an extra meal while pregnant Reinforce the perception that mothers –in-law approve of eating an extra meal while pregnant	➢ Create group discussions with older mothers to discuss the benefits of optimal maternal nutrition with younger mothers and develop Grandmother support and mentorship for adolescent mother peer groups

All activities are designed to be based on Bridges to Activities and to be actionable, feasible, and relevant given the programming and policy context in Turkey. International Medical Corps is planning for several next steps to help ensure incorporation of activities into program workplans. Steps include wide dissemination of findings among partners, UN agencies, and relevant working groups. Additionally, findings are being disseminated among a wider array of USAID Food for Peace implementing partners in Washington, DC to ensure that findings reach a wider audience. Finally, the report and questionnaires are being shared through a variety of channels, including the Food Security Network's resource library and Behavior Bank and the Emergency Nutrition Network.