



Camp-based Barrier Analysis of Early Initiation of Breastfeeding, Iron-rich Food Consumption, and Early Antenatal Care Seeking Behaviors of Syrian Refugees in Azraq Camp, Jordan



September 2016

Acknowledgments

This “Camp-based Barrier Analysis of Early Initiation of Breastfeeding, Iron-rich Food Consumption, and Early Antenatal Care Seeking Behaviors of Syrian Refugees in Azraq Camp, Jordan” was made possible by a grant from the USAID Technical and Operational Performance Support (TOPS) Program. The TOPS Micro Grants Program is made possible by the generous support and contribution of the American people through the United States Agency for International Development (USAID). The contents of the materials produced under this grant do not necessarily reflect the views of TOPS, USAID or the United States Government.

Authors:

Amelia Reese Masterson, Research Advisor
Nutrition, Food Security & Livelihoods – International Medical Corps
1313 L Street NW, Suite 220
Washington, DC 20005 USA
areese@internationalmedicalcorps.org

Shiromi M. Perera, Technical Officer
Nutrition, Food Security & Livelihoods – International Medical Corps
1313 L Street NW, Suite 220
Washington, DC 20005 USA
sperera@internationalmedicalcorps.org

Patricia Moghames, Consultant
International Medical Corps
patriciamoghames@gmail.com

This Barrier Analysis assessment and training was led by Amelia Reese-Masterson (Research Advisor, NFSL, International Medical Corps) and Patricia Moghames (Consultant, International Medical Corps), with support from Shiromi Perera (Technical Officer, International Medical Corps), Caroline Abla (Director, NFSL, International Medical Corps), Esther Busquet (Nutrition Technical Advisor, International Medical Corps), and Bonnie Kittle (Social Behavior Change Consultant, International Medical Corps).

International Medical Corps would like to acknowledge the support provided by Azraq Camp Community Volunteers and International Medical Corps staff in Azraq Camp, as well as the participation of the following organizations in this Barrier Analysis assessment: Terre des Hommes (TDH), Save the Children, International Orthodox Christian Charities (IOCC), Jordan Health Aid Society (JHAS), World Food Program (WFP), Medair, Agency for Technical Cooperation and Development (ACTED), Jordan University, and United Nations Children’s Fund (UNICEF), as well as staff from International Medical Corps Jordan.

All photographs were taken by Amelia Reese-Masterson, Patricia Moghames or Shiromi Perera.

Cover photo credit: Amelia Reese-Masterson

Contents

Abbreviations and Acronyms.....	1
Executive Summary.....	2
Introduction.....	2
Methods.....	5
Results.....	9
Recommendations.....	15



Azraq Camp. Credit: Shiromi Perera

Abbreviations and Acronyms

ACTED	Agency for Technical Cooperation and Development
ANC	Antenatal Care
BA	Barrier Analysis
EBF	Exclusive breastfeeding
FFP	USAID Office of Food for Peace
FSN	Food Security and Nutrition
IYCF	Infant and young child feeding
IOCC	International Orthodox Christian Charities
JHAS	Jordan Health Aid Society
MNCHN	Maternal, newborn, child health and nutrition
MoH	Ministry of Health
NFSL	Nutrition, Food Security & Livelihoods
NGO	Non-governmental organization
RDA	Recommended Daily Allowance
RNI	Recommended Nutrient Intakes
TDH	Terre des Hommes
TOPS	Technical and Operational Performance Support (as in The TOPS Program)
U.S.	United States
UN	United Nations
UNICEF	United Nations Children’s Fund
UNHCR	United Nations High Commissioner for Refugees
USAID	U.S. Agency for International Development
USD	United States dollar(s)
U2	Under two years of age
WFP	World Food Program

Executive Summary

Large numbers of Syrians have migrated to Jordan, in search of refuge from the deteriorating security situation in Syria. Azraq refugee camp, situated 90 kilometers from the Jordan-Syrian border, has registered 54,442 of these refugees (with 36,278 currently residing in the camp).¹ International Medical Corps, along with partner organizations, have been working in Azraq camp to deliver messaging, support and provision of services to strengthen health and nutrition among refugees. Despite these ongoing efforts, several key maternal and child nutrition behaviors remain low.

Methodology. In response to the poor behavioral indicators, and in recognition of the need for evidence-based behavior change programming in Azraq camp, International Medical Corps conducted a Barrier Analysis training of partner organizations (such as Save the Children, WFP, University of Jordan, and others) and three assessments in Azraq camp on 1) early initiation of breastfeeding, 2) iron-rich food consumption among children under two, and 3) early antenatal care seeking behaviors. Following the Barrier Analysis (BA) methodology², 45 “Doers” and 45 “Non-Doers” were purposively sampled and interviewed in Village 3 and Village 6 of the camp. 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.” A workshop was then held with interested implementing partners in Amman to help inform interpretation, activities, and recommendations based on findings.

Results and Recommendations. The BA’s identified key determinants that explain the differences between mothers of children (ages 0- 6 months) who initiated breastfeeding within one hour of delivery, mothers of children (ages 6 – 23 months) who feed them iron-rich foods 3 times per week, and pregnant women who attended 1 antenatal care visit during their first trimester. Specifically, 4 determinants were found to be significant for early initiation of breastfeeding, 4 determinants for iron-rich foods, and 3 determinants for antenatal care (ANC). 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 Azraq camp, as well as contribute to advocacy toward policy changes that may be necessary to support behavior change.

Introduction

As the crisis in Syria has escalated since 2011, Syrians have fled to neighboring countries seeking refuge, namely to: Jordan, Lebanon, Turkey, Iraq, and Egypt. Because Jordan’s shared border with Syria has remained open, and the two countries share cultural, linguistic and socio-economic features, large numbers of Syrians have fled to Jordan from the deteriorating security situation in Syria.

As of August 2016, 4,799,677 Syrians had registered with UNHCR (United Nations High Commissioner for Refugees) in Jordan, the agency entrusted with reviewing and registering cases as refugees.⁴ While there are five refugee camps in Jordan, the majority of displaced Syrians living in Jordan are not camp-based

¹ UNHCR, Jordan Azraq Camp Fact Sheet, September 2016:
<http://data.unhcr.org/syrianrefugees/country.php?id=107>

² Kittle Bonnie. 2013. A Practical Guide to Conducting a Barrier Analysis. New York, NY: Helen Keller International

(83%), and access healthcare and other services through a mix of government, NGO, and private facilities.³ Camp-based Syrian refugees in Jordan, on the other hand, access healthcare, food, and other services through UN and NGO-supported facilities and routes free of charge. Jordan's Zaatari camp was the first official refugee camp in Jordan, opening in July 2012 and hosting around 79,000 Syrian refugees currently. On April 30th, 2014, UNHCR in conjunction with the Government of Jordan opened a new camp, Azraq refugee camp.⁴

As of September 2016, there were 36,278 Syrian refugees located in Azraq camp (out of 54,442 total persons of concern registered)¹, mainly fleeing from Aleppo, Homs, Dara'a, and Ar-raqqa. Around 58% of refugees in Azraq camp are children and 3 out of 10 households are headed by women. Services provided in Azraq camp include education (kindergarten; primary and secondary schools), food security services (electronic voucher of 20 JOD= 28 USD per person per month; 240 grams of bread per person per day), health services (4 primary health centers and a field hospital, nutrition and mental health services, reproductive health services), water supply network and a waste water treatment plants, as well as community centers and multipurpose sports-grounds. In addition, an energy plan to connect electricity in every household is ongoing, but there was no household electricity at the time of this study.¹

Azraq camp was more carefully planned and designed than Zaatari camp, with the aim to intensify security measures implemented. The camp is situated in the Zarqa Governorate in central-eastern Jordan area, a barren desert 90 kilometers from the Jordan-Syrian border. Azraq camp is highly decentralized, designed with steel white caravans instead of tents, a camp supermarket, two market areas where a strict number of Jordanian and Syrian sellers can sell goods, and an extremely organized system of villages and streets, stretching over 15 kilometers⁵. Refugees residing in Azraq camp have limited or no ability to come and go from the camp, and all services they receive are provided within the camp unless special referral is needed for medical care outside the camp.⁶ Residents access food using vouchers at a single, central supermarket called 'Sameh Mall' (in addition to the daily bread supply at no charge). Some residents have started small-scale gardening outside their caravans, producing some vegetables, herbs and aromatic plants, and flowers for the household. Less than 10% of families have a family member who receives any type of income – some working for a stipend as community volunteers or in other positions, and some working and selling goods in the camp-based market.

In response to the Syrian refugee crisis in Jordan, International Medical Corps has been working in Azraq camp (among other locations) to provide support, counseling, and messaging to strengthen breastfeeding; promote optimal nutrition during pregnancy and Infant and young child feeding (IYCF) practices for children under two; lead the outpatient therapeutic program treating severely acutely malnourished children without complications in the camp; and prevent micronutrient deficiencies through counseling, supplementation, and promotion of a diverse diet. Additionally, International Medical Corps is involved in medical service provision, including support for the maternity ward in Azraq camp started in 2015.

³ ORSAM. Center for Middle Eastern Strategic Studies. The Situation of Syrian Refugees in Neighboring Countries: Findings, Conclusions and Recommendations. 2014.

⁴ UNHCR, Syria Regional Refugee Response, Inter-Agency Information-Sharing Portal, 2016: <http://data.unhcr.org/syrianrefugees/regional.php>

⁵ BBC News, Azraq: How a refugee camp is built from scratch, 2014.

⁶ UNHCR. Azraq Health Information System Midyear Report 2015.

International Medical Corps and partner organizations have noted – based on surveys, monitoring data, and anecdotal evidence – that several key maternal and child nutrition behaviors promoted by International Medical Corps and partners in Jordan’s camp-based Syrian populations remain low. Among Syrian refugees living in Zaatari camp, the rate of early initiation of breastfeeding is at 57%.⁷ While early initiation has not been tracked in Azraq camp due to the rapid increase in population and changes in service delivery over time, anecdotal evidence from staff working in the camp points to the need for increased promotion of early initiation of breastfeeding. Additionally, consumption of iron-rich or iron-fortified foods among children under two was at just 29% in Zaatari camp,⁷ while a recent Cost of the Diet Study conducted by International Medical Corps in Azraq camp showed barriers to access of iron-rich foods among the camp population. Finally, only 45% of pregnant women seeking antenatal care (ANC) in Azraq camp accessed ANC during their first trimester.⁸

In response to these poor behavioral indicators, and in recognition of the need for evidence-based behavior change programming in Azraq camp, International Medical Corps was awarded a TOPS micro-grant to conduct a Barrier Analysis training and three assessments in Azraq camp on early initiation of breastfeeding, iron-rich food consumption among children under two, and early antenatal care seeking behaviors. Azraq camp was selected for several reasons. First, International Medical Corps recognizes that behavior change communication through awareness raising is just one step toward behavior change, and acknowledges the need for context-specific information on factors that prevent or facilitate displaced Syrians to practice each of the targeted behaviors. Such evidence can be used to inform activity planning in International Medical Corps and other agencies’ programs in Azraq camp, as well as contributing to advocacy toward any policy changes that may be necessary to support behavior change. Second, International Medical Corps is operational in Azraq camp and can act to incorporate findings directly into programming there. Third, the nature of this closed-camp setting means that refugees rely completely on services provided internally, further necessitating context-specific programming to ensure refugee needs are met. Finally, through this Barrier Analysis initiative, International Medical Corps contributes to TOPS strategic objectives by conducting capacity building for Barrier Analysis among USAID Office of Food for Peace (FFP) implementing partners.



Mother participant in Azraq Camp. Credit: Shiromi Perera

The Barrier Analysis training and assessments were in line with TOPS objectives to identify, establish, share, adapt and adopt highest quality information and best practices for improved methodologies. The Barrier Analysis methodology (which has been promoted by TOPS) is a useful tool for public health practitioners, researchers and policy-makers in planning more and informed effective behavior change

⁷ Jordan Interagency Nutrition Survey, 2014.

⁸ UNHCR, Azraq Health Information System, Mid-year Report, 2015.

approaches. The TOPS Small Grants Program seeks to ensure that FFP-funded partners and other collaborating agencies benefit from training on and participation in effective approaches. International Medical Corps, therefore, invited a range of Non-governmental organization (NGO), government, academic and UN partners to participate in the Barrier Analysis training, which took place in Jordan from the 24th to the 28th of July 2016. All invited organizations were selected because of their involvement in maternal and child nutrition programming among Syrian refugees in Jordan, with an aim to prioritize inclusion of any relevant FFP-funded implementing partner.

Second, this initiative has contributed to TOPS strategic objectives by contributing Barrier Analysis findings to inform improved programming to address the needs of beneficiaries, in this case Syrian refugees in Azraq Camp, Jordan. The findings from these Barrier Analysis assessments can additionally contribute to a broader understanding of barriers to nutrition-related behaviors in closed refugee camp settings, and will be shared widely throughout the food security, nutrition, and international humanitarian community.

Methods

The overall aims of this Barrier Analysis project in Jordan were to gain needed information on three important maternal, newborn, child health and nutrition (MNCHN) behaviors to inform behavior change programming, while at the same time building capacity in Barrier Analysis among the wider humanitarian community responding to the Syrian refugee crisis in Jordan.

The specific objectives of this initiative were, therefore, to:

1. identify the most important context-specific determinants of key IYCF & ANC behaviors among Syrian refugees in Azraq camp;
2. draft evidence-informed activities and advocacy tools based on findings;
3. incorporate these activities into programming to improve IYCF and ANC behaviors in Azraq camp and similar camp settings; and
4. build capacity of key partners in Barrier Analysis methodology

A Barrier Analysis (BA) is a rapid assessment tool used to identify the factors that are preventing a target group from adopting a preferred behavior, as well as to identify the facilitators or motivators to adopting the behavior. The BA approach is based on the Health Belief Model, and explores up to 12 recognized common determinants of behavior adoption. 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 practice the behavior), for a total of 90 participants per BA. Individuals are first screened and classified according to whether they are Doers or Non-Doers, and then asked questions according to their classification. As such, interviews were conducted with Syrian mothers in Azraq camp, aiming to identify which of the 12 determinants of behavior change are preventing Non-Doers in this particular population from adopting the targeted behaviors, as well as which determinants are facilitating adoption of behaviors among Doers.

Behavior Definition

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

- **Behavior 1: Targeted mothers put the newborn to the breast within one hour of delivery**

To assess this behavior, we recruited Syrian mothers of infants 1 day to 6 months of age. It is recommended that mothers put newborn infants to their breast within 1 hour of delivery, known as “early initiation of breastfeeding.” Early initiation of breastfeeding has been shown to benefit both the mother and the infant by ensuring the infant receives the first milk, or colostrum, which has protective factors; by initiating skin-to-skin contact between mother and baby, which helps initiate early breastfeeding and increases the likelihood of exclusive breastfeeding (EBF) and longer duration of breastfeeding going forward; by initiating infant suckling which triggers hormones that can facilitate uterine contraction and placenta delivery, as well as reduce bleeding.⁹
- **Behavior 2: Pregnant women attend 1 ANC visit during their 1st trimester**

To assess this behavior, we recruited Syrian mothers in their second or third trimester (months 4-9) of pregnancy, as well as mothers with infants 0-6 months. The WHO ANC guidelines¹⁰ recommend all pregnant women receive at least 4 ANC visits by or under the supervision of a skilled attendant. It is recommended that the first visit occurs during the first trimester. The aim of these visits is to prevent, alleviate or treat/manage health problems, including those directly related to the pregnancy. These services also provide appropriate information and advice for healthy pregnancy, childbirth and postnatal outcomes, which includes newborn care, breastfeeding promotion and healthy timing and spacing of subsequent pregnancies.
- **Behavior 3: Mothers of children 6 – 23 months feed an iron-rich food to their children at least 3 times per week**

To assess this behavior, we recruited Syrian mothers with children age 9-23 months. Although the programming targets mothers of children 6-23 months, we chose to interview those with children 9-23 months to help ensure we reached our needed sample of Doers, as those in the early months of this period are more likely to be Non-Doers. Complementary feeding is the transition from EBF to solid or semi-solid food, recommended to occur during the 6-24 months-period. 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.^{11,12,13}

Barrier Analysis 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 back-translated and checked by the data collection team during training (who were all bi-lingual, Arabic- and English-speakers).

⁹ WHO, e-Library of Evidence for Nutrition Actions (eLENA): Early initiation of breastfeeding
http://www.who.int/elena/titles/early_breastfeeding/en/

¹⁰ WHO Standards for Maternal and Neonatal Care: Provision of effective antenatal care
http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/effective_antenatal_care.pdf

¹¹ UNICEF & WHO Indicators for assessing infant and young child feeding practices.
http://www.unicef.org/nutrition/files/IYCF_Indicators_part_III_country_profiles.pdf

¹² Nutrition Requirements, British Nutrition Foundation
https://www.nutrition.org.uk/attachments/article/234/Nutrition%20Requirements_Revised%20Nov%202015.pdf

¹³ Dietary Reference Intakes https://ods.od.nih.gov/Health_Information/Dietary_Reference_Intakes.aspx

Recruitment of Data Collectors and Training

Given that one of the aims of this Barrier Analysis exercise was capacity building in this methodology among local and international partners, International Medical Corps actively recruited staff from international NGOs (Terre des Hommes, Save the Children, International Orthodox Christian Charities, Medair, Agency for Technical Cooperation and Development, and International Medical Corps staff), local NGOs (Jordan Health Aid Society), UN agencies [World Food Program (WFP) and United Nations Children's Fund (UNICEF)] and the University of Jordan to be trained on the Barrier Analysis approach and to participate in the Barrier Analyses in Azraq camp as data collectors. Sixteen staff members were recruited from 10 organizations active in the response to the Syrian refugee crisis in Jordan or active in relevant research (in the case of the University of Jordan). Of these, Save the Children and International Medical Corps are FFP-implementing partners. International Medical Corps HQ staff from the Nutrition, Food Security & Livelihoods (NFSL) Unit, along with a trained consultant, facilitated the BA training and assessment. A two-day training was conducted on the fundamentals of the Barrier Analysis approach, with special focus on structure and process of developing questionnaires, interviewing skills, and coding and data interpretation/use. The *Practical Guide to Conducting a Barrier Analysis* was used for curriculum development.¹⁴



IMC Community Volunteers help with recruitment. Credit: Amelia Reese-Masterson

Sampling and Recruitment

According to BA methodology, purposive sampling was used based on status as a Syrian refugee, residence in either Village 3 or Village 6 of Azraq camp (villages were selected due to security concerns), and criteria related to the behaviors of interest. In both villages, teams collected data either at a central gathering point (e.g. a Women's Community Center, clinic, or IYCF caravan) or door-to-door.

Prior to data collection, Community Volunteers in Azraq camp recruited women fitting the selection criteria to come to the Women's Community Center in the mornings of data collection dates, in order to be interviewed. If the sample size was not reached during the morning period, the data collection teams then proceeded to go to other locations or door-to-door. For the BA on accessing ANC during the first trimester, all interviews were conducted door-to-door or in clinic waiting areas, in order to ensure that pregnant women did not have to walk long distances in the heat to reach a central gathering point.

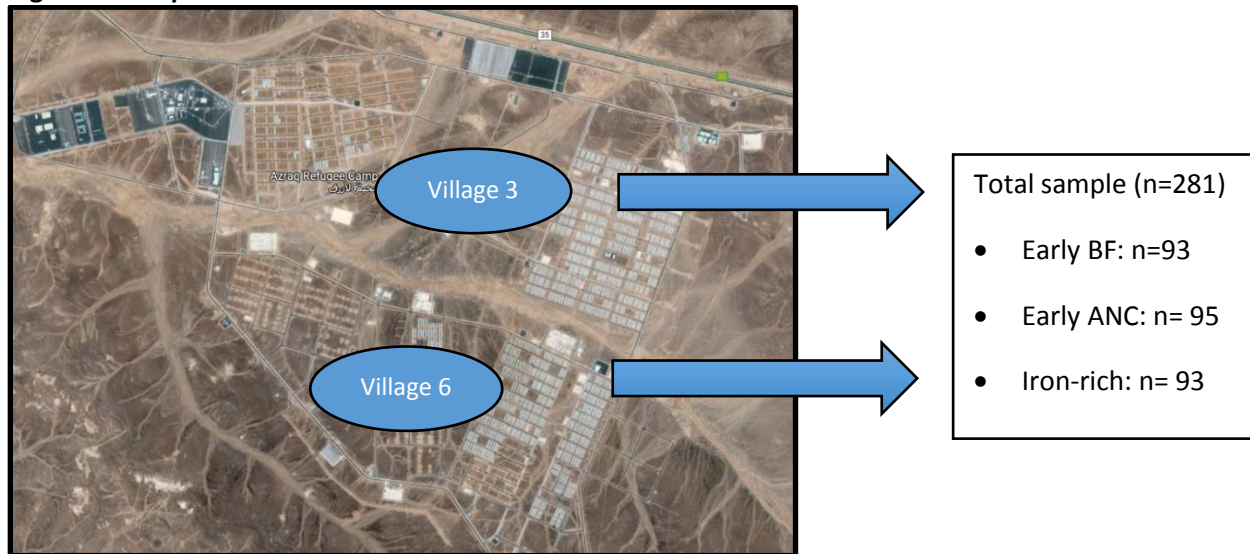
Field Data Collection and Coding

Fieldwork spanned three days, with one day of data collection per behavior. During data collection, data collectors approached each potential participant (at the location that was previously decided per behavior: either at her home or in the central location), found a semi-private location to conduct the interview, introduced the study and offered (and obtained) informed consent. Mothers who consented

¹⁴ Kittle Bonnie. 2013. *A Practical Guide to Conducting a Barrier Analysis*. New York, NY: Helen Keller International

to be part of the study were then screened to determine their Doer or Non-Doer status, before proceeding with the survey interview. Coding and tabulation of data occurred at the end of the each day through an iterative group process to arrive at a word or phrase that best represented the responses given.

Figure 1. Sampled locations and totals



Source: Google Earth

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 identify which determinants were identified as significant differences between Doers and Non-Doers. In Barrier Analysis, significance is determined by p-value for difference in odds ratio of less than 0.05, or a percentage point difference greater than 15. Significant determinants were analyzed to develop Bridges to Activities, Activities, and Recommendations. Qualitative data from the completed questionnaires was also recorded in order to better understand and describe the context of significant barriers and facilitators.

Assessment Limitations

One of the major challenges faced was recruitment of women to be interviewed. In order to ensure we could conduct all 90 interviews needed for each behavior within the allotted time (1 day per behavior), the team chose to recruit women through inviting them to come to a central location in the camp, and then follow up with door-to-door interviews if the sample size was not reached. Despite recruitment, we faced difficulties in achieving desired sample size, particularly for the Barrier Analysis on ANC access during the first trimester. Community Volunteers played a key role in calling all women on their list who fit criteria for the behavior, however, they did not identify whether the women were Doers or Non-Doers ahead of time, as it was presumed this could bias responses. In the future, it is recommended that Community Volunteers (or similar) identify potential respondents, and then data collectors can do phone screening to determine Doer/Non-Doer status before making a door-to-door visit in the event that time is limited for data collection. Additionally, 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 and their answers would not affect their access to services. Some participants voiced concerns that they could be 'kicked out of the camp for complaining' about services, highlighting the need to clarify for camp residents routes for beneficiary feedback or complaints.

Results

Sample description

In total, 281 Syrian refugee women were interviewed across all three behaviors of interest (Table 1). Demographic information on age, whether the family was receiving any income, and location (Village 3 or Village 6) was collected for the potential purpose of stratification. Due to the similarity in populations and services between the two villages, the results were not stratified by location. Additionally, the majority of respondents were over the age of 18 years, making it unnecessary to stratify by age. Finally, with regard to income, results were stratified for the BA on iron-rich food consumption by whether the respondent's family received any income in the past 3 months (31% of respondents) as this was thought to be correlated with ability to procure iron-rich foods. Income status in the camp was unlikely to be correlated with the choice to seek ANC during the first trimester or early initiation of breastfeeding, as both behaviors are free of charge.

Table 1. Total number of surveys completed per behavior

	Early Initiation of Breastfeeding (n=93)		Antenatal Care in the 1 st Trimester (n=95)		Iron-rich Food Consumption (n=93)		TOTAL
	Doer	Non-Doer	Doer	Non-Doer	Doer	Non-Doer	
# Surveys	46	47	52	43	48	45	281

The determinants found to be significant for each of the behaviors following data analysis are detailed below.

Behavior 1: Targeted mothers put the newborn to the breast within one hour of delivery

Four determinants were found to be significant for this behavior.

1. 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 more difficult for them to put their newborn to the breast within one hour of delivery.

	Key Findings	Related Quotes
Doers	1.8 times more likely to say that medical staff giving the baby to the mother after birth made it easier for them to practice early initiation (p=0.000)	<i>"The hospital has placed pictures about breastfeeding all over the after-delivery room and talked about breastfeeding within one hour of delivery. They also gave me the baby directly after birth, which made it easier to breastfeed immediately."</i>
	1.5 times more likely to say mother's desire/emotional trigger made it easier for them to practice early initiation (p=0.026)	<i>"The nurse directly gave me the child within 10 minutes of birth and kept my child with me the</i>

	1.8 times more likely to say previous experience allowing them to know the benefits made it easier for them to practice early initiation (p=0.012)	<i>entire time. All staff in the hospital cooperated with me to breastfeed my child, which made it easier.”</i>
	1.7 times more likely to say breast pain made it difficult for them to practice early initiation (p=0.006)	<i>“If my health was better and the cramps didn’t take long to settle, I would have breastfed my child immediately.”</i>
	1.7 times more likely to say breast pain made it difficult for them to practice early initiation (p=0.006)	<i>“Natural birth makes it easier for the mother to breastfeed in the first hour after birth; whereas C-section makes it much more difficult to sit due to the pain.”</i>
Non-Doers	2.6 times more likely to say that if the mother is healthy it would make it easier for her to practice early initiation (p=0.027)	<i>“My desire and compassion to my daughter made it easier for me to directly breastfeed.”</i>
	4.2 times more likely to say lack of support from medical staff made it difficult for them to practice early initiation (p=0.016)	<i>“My culture, knowledge of the benefits and my mother’s support all helped me to breastfeed directly to help in more milk production and let down.”</i>
	2.7 times more likely to say C-section/anesthesia made it difficult to practice early initiation (p=0.007)	<i>“Pain in my breast makes it the first difficulty for timely initiation of breastfeeding.”</i>
	7.4 times more likely to say having a natural birth would make it easier for them to practice early initiation (p=0.000)	<i>“Cracked nipples and cramps made it hard to breastfeed the first hour, but I forced myself through the pain.”</i> <i>“I had ‘weak/thin/low’ milk when I started breastfeeding.”</i> <i>“If I wasn’t in a private hospital outside the camp, I would have taken my baby immediately after birth and I would have breastfed him. However, he was placed far from me so I could not take him during the first hour. Private hospitals forbid you to take your child within the first hour of delivery.”</i>

Non-Doer mothers tended to report that if their health had been better, it would have made it easier for them to practice early initiation of breastfeeding, reporting sickness and poor maternal health as the reason they chose not to breastfeed within the first hour. Some even indicated that they were waiting for the cramps to settle before initiating breastfeeding, indicating lack of knowledge about the benefits of early initiation for the mother in terms of reducing pain and bleeding.

Additionally, Non-Doer mothers were more likely to report Caesarean section and/or anesthesia as a barrier to early initiation, indicating that if they had delivered by natural birth it would have been easier to practice this behavior.

Further, Non-Doers described how some hospital staff did not give the baby to the mother, or in some cases even let the mother see her baby, within the first hour of birth. In the case of C-section deliveries,

mothers reported barriers related to both the anesthesia and to the medical staff, who did not give the baby to the mother directly after the C-section. Some women associated this type of practice more with private hospitals outside the camp, while others reported this happening within the camp as well.

2. 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 putting their newborn to the breast within 1 hour of birth.

	Key Findings	Related Quotes
Doers	1.5 times more likely to say that Save the Children/other NGO approved of this behavior (p=0.026)	<i>"The girls from Save the Children always mentioned direct initiation of breastfeeding."</i>
Non-Doers	1.6 times more likely to say their mother approves of this behavior (p=0.008)	<i>"I already know from before about the importance of putting the child to your breast immediately, through Save the Children – Jordan."</i>
	1.6 times more likely to say their mother-in-law approves of this behavior (p=0.039)	<i>"My mother always told me about this [early initiation of breastfeeding] before she died."</i> <i>"My mother always told me and my sisters to breastfeed from the first hour so that the baby gets used to us."</i>

Save the Children has been operating a comprehensive IYCF counseling program in Azraq camp, and women attributed much of the information they have on breastfeeding to these counseling sessions. While it is encouraging that Doers were significantly more likely to cite Save the Children and other NGOs when asked who approved of this behavior, what is more important for activity planning for sustainable behavior change is identifying family and community members who may have an influence on whether a woman practices early initiation of breastfeeding.

Overall, over half of respondents said their husbands approve of this behavior, but there was no significant difference between Doers and Non-Doers. Non-Doers were more likely to say their mother or mother-in-law would approve of this behavior compared to Doers. In some cases, women said that their mother approved or would have approved, but that she was not present in Azraq camp with them. The approval of these key family members, however, does not appear to have been enough for respondents to practice the behavior, possibly due to other barriers. Across both Doers and Non-Doers, many women reported that it is "part of our culture" to breastfeed, and acknowledged a general approval for breastfeeding. Though not significant, a few Non-Doers mentioned that their neighbors told them that colostrum will cause jaundice.

3. Perceived Access

Respondents were asked how difficult it was/would be to put their newborn to the breast within 1 hour of birth. The assessment found that Non-Doers are 2.9 times more likely to say that **accessing** the resources they need to do this behavior is **very difficult** (p=0.015). Many Non-Doers reported that the medical staff in the hospital where they delivered did not give them the baby within one hour of delivery,

which kept them from initiating breastfeeding early. Others cited C-section and/or being under anesthesia as a barrier. The C-section rate in Azraq camp was reported at 19%.¹⁵

One respondent said, “They waited to move me to another room [after delivery] and to clean the baby so I didn’t get to see my baby because the staff didn’t give her to me.” Another reported that she was “too shy” to ask for the baby after the birth to initiate breastfeeding. While some of these deliveries occurred in Syria before coming to Azraq, others occurred either in a referral hospital outside Azraq or most recently in a camp-based delivery ward.

4. Cues for Action

Respondents were asked how difficult it is/would be to remember to do the behavior. Non-Doers were 2.4 times more likely to say **remembering** to do the behavior is **very difficult** (p=0.049), indicating that a cue for action or a reminder of some type could be useful among this group.

Universal Motivators

At the end of the each interview, data collectors asked respondents, “What is the one thing you desire most in life?” (regardless of the behavior under study) to uncover universal motivators in this community. Over half of respondents answered with “return to Syria”, followed by “family stability, togetherness, and protection” as the most important themes. Common responses given, in descending order, include: desire for the family to be in good health; to be happy and live in peace; protection/safety for the family; returning to their family in Syria; and keeping the family together.

Behavior 2: Pregnant women attend 1 ANC visit during their 1st trimester

Three determinants were found to be significant for this behavior.

1. Perceived Self- Efficacy

Respondents were asked what makes it (or what would make it) easier or more difficult for them to attend ANC during their first trimester of pregnancy.

	Key Findings	Related Quotes
Doers	5.2 times more likely to say that knowing that the medications I need will be available at the ANC visit makes it easier to seek ANC during the first trimester (p=0.045)	<p>“The medical team gives me the medications I need.”</p> <p>“Having a gynecologist at the border would have made things easier.”</p>
Non-Doers	12.2 times more likely to say that having doctors available at the border camp would make it easier to seek ANC during the first trimester (p=0.017)	<p>“There are no doctors at the border (Al-Sater); I entered the camp during my 4th month of pregnancy.”</p>

¹⁵ UNHCR. Azraq Detailed Indicator Report Midyear Report 2015 27 December 2014 - 26 June 2015. 2015.

	<p><i>"It would have been easier if I was in the camp; I was at the border at that time and there are no doctors on the border."</i></p>
--	--

While many Syrian women interviewed for this Barrier Analysis were in Azraq camp during their first trimester, some were stranded at the border (known as "the berm") between Syria and Jordan during this early period of their pregnancy. At the berm, services are severely limited, and Non-Doers who were pregnant in these conditions reported that a lack of gynecologists (and doctors more generally) at the border prevented them from seeking ANC during the first trimester.

Within Azraq camp, Doer mothers were more likely to report that having confidence that they will get the medications they need during the ANC visit makes it easier to go during the first trimester. More broadly, women emphasized confidence in the doctors, the medical team, and the medical services as a factor that contributes to their decision to seek care.

2. Perceived Positive Consequences

Respondents were asked what are (or what would be) the advantages of attending ANC during the first 3 months of pregnancy. Doers are 3.7 times more likely to say that **confirming the pregnancy** is an advantage of attending ANC during the first trimester ($p=0.031$). One respondent reported, *"I lost my first baby after 3.5 months because I didn't check on my pregnancy, so I wanted to check and confirm this one."* Others simply wanted to be sure that they were pregnant, and saw this as an important reason to seek ANC early. On the other hand, some women reported that they did not attend ANC during the first trimester simply because they did not know they were pregnant at the time.

3. Perceived Access

Non-Doers are 3.7 times more likely to say accessing ANC during the 1st trimester was **very difficult** ($p=0.006$). Related to access, participants spoke of a number of difficulties. Some mentioned the distance and the need to walk to the clinic as a limiting factor, particularly in the summer heat. Others mentioned long lines and crowding at the clinic resulting in long wait times. And related, respondents spoke of a lack of case prioritization at the clinic. Some mothers were sick or tired, which prevented them from seeking ANC during the first trimester, while many said they had no childcare or needed to attend to household chores. Finally, for others, the lack of the presence of a female doctor at the clinics kept them from seeking ANC.

Universal Motivators

Similar to the other BAs, the most common response given to the question, *"What is the one thing you desire most in life?"*, was *"return to Syria"*, followed by *"safety/protection for family"*, *"family good health/happiness/living in peace"*, and *"leaving the camp"*.

Behavior 3: Mothers of children 6-23 months feed iron-rich foods to their children at least 3 times/week

Four determinants were found to be significant for this behavior.

1. Perceived Self- Efficacy

Respondents were asked what makes it (or what would make it) easier or more difficult for them to feed their under-two-year-old child iron rich foods at least three times per week.

	Key Findings	Related Quotes
Non-Doers	Non-Doers more likely to say food voucher is not enough makes it more difficult for them to do the behavior (17% point difference)	<i>“Although my husband works, the visa isn’t enough. I try to save so that there is enough money at the end of the month.”</i>
	7.8 times more likely to say lack of iron-rich foods in the market makes it more difficult for them to do the behavior (p=0.024)	<i>“The unavailability of fresh vegetables in the camp makes it difficult.”</i>
	10.7 times more likely to say poor quality or dirty food in the market makes it more difficult for them to do the behavior (p=0.024)	<i>“Because of bad hygiene in the camp she refuses the food, and is breastfeeding on hot days instead.”</i>

For this determinant, all significant findings were related to what makes it more difficult for Non-Doers to feed their children under two iron-rich/iron-fortified foods at least three times per week. The food voucher provided to Syrian refugees in Azraq camp include 20 JOD (approximately 28 USD) per month per person, and is redeemable at a single, central supermarket within the camp. There was much concern among participants about the voucher, and many told us that the voucher runs out before the month ends, causing them to resort to negative coping strategies.

2. Perceived Positive Consequences

Respondents were asked what are (or what would be) the advantages of feeding their under-two-year-old child iron-rich foods at least three times per week.

	Key Findings	Related Quotes
Doers	17.5 times more likely to say improving the baby’s growth and development (p=0.000)	<i>“My child will gain weight and improve his growth.”</i>
Non-Doers	2.4 times more likely to say improving the baby’s health (p=0.018)	<i>“The advantage is the child with gain weight; especially the milk will help with this.”</i> <i>“To get better (she has anemia already).”</i> <i>“To enhance iron status and protect him from iron-deficiency anemia.”</i>

Doer mothers were much more likely to report that consuming iron-rich foods will improve the baby’s growth and development, citing a number of specific perceived improvements, including: height gain, weight gain, walking, talking, and playing, as well as hemoglobin in the blood. Non-Doer mothers were less specific about the benefits, and were more likely than Doers to say that consuming iron-rich foods

would generally “improve the baby’s health.” This could indicate a less precise understanding of benefits among the Non-Doers compared with the Doers.

2. Perceived Social Norms

When asked who approves of them feeding their child under-two iron-rich foods at least three times per week, Doer mothers were more likely to say their **husband** (17% point difference), and were 3 times more likely to say their **mother** (p=0.046), as compared with Non-Doer mothers. This indicates better support for this behavior from these immediate family members which likely facilitates mothers to practice the behavior.

3. Perceived Severity

Syrian mothers who are not giving their child iron-rich foods regularly are more likely to say it would be **very serious** if their child became anemic compared to Doers (significant with an 18% point difference). This perception of the severity of anemia, however, is not enough to cause them to feed their children under two iron-rich foods, likely due to other barriers.

Universal Motivators

When asked about the one thing they want most in life, as before, the most common responses given were, in order: “*return to Syria*” or “*return to family in Syria*”, followed by “*family good health/happiness/living in peace*”, “*safety/protection for the family*”, and “*leaving the camp*”.

Recommendations

Because the overall aim of this Barrier Analysis exercise is to inform behavior change programming in Azraq camp surrounding these key behaviors, we have taken steps to draft feasible and relevant activities based on these findings that can address barriers identified. According to Barrier Analysis methodology, the next step after analyzing results is to draft “Bridges to Activities” – or the changes one should make in order to address the barriers revealed by the Barrier Analysis assessment. Based on these Bridges to Activities, activities can then be designed or selected and easily plugged into a “Designing for Behavior Change Framework”. The International Medical Corps training/supervisors drafted initial Bridges to Activities based on findings, and then circulated to all participants in Jordan, who suggested relevant activities based on their knowledge of what is practically and culturally appropriate in Azraq camp. The tables below reflect the output of this process.

Behavior 1: Targeted mothers of newborns put the newborn to the breast within one hour of delivery

Determinant	Bridges to Activities	Recommended Activities
Perceived Self- Efficacy	1a. Increase the perception that all mothers are able to breastfeed in the first hour after delivery	<ul style="list-style-type: none"> • Establish Care Groups of pregnant women to provide, in addition to all key maternal health behaviors, the following: <ul style="list-style-type: none"> – the importance and benefits of early initiation of breastfeeding (to be emphasized among pregnant women in their 3rd trimester)
	1b. Increase the perception that mothers who want to practice breastfeeding can do so more easily by beginning within the first hour	

	1c. Increase knowledge among first-time mothers about the benefits of breastfeeding within the first hour	<ul style="list-style-type: none"> - practical skills for initiating breastfeeding within the first hour of birth - how to overcome difficulties associated with early initiation, with a focus on pain reduction techniques - the importance of breastfeeding within the first hour, even for C-section deliveries where possible - bring in mothers or mother-in-law's to share their successful experiences with immediate breastfeeding - include stories that address all of the bridges to activities (e.g. a story on a C-section birth where immediate breastfeeding was possible)
	1d. Increase the perception that there is some discomfort when starting to breastfeed, it is normal, but there are things a mother can do to reduce the discomfort	
	1e. Increase the perception that one of the big benefits of immediate breastfeeding is causing the uterus to contract to deliver the placenta and that her milk will come in eventually (even if not a lot at first)	
	1g. Increase ability of mothers to breastfeed within the first hour, even if they delivered by C-section	
	1h. Increase the perception that attending medical staff will help new mothers to breastfeed within the first hour after delivery	
Perceived Access	2a. Increase the availability of support for immediate breastfeeding from medical staff	<ul style="list-style-type: none"> • Increase coverage of IYCF counseling activities currently provided by Save the Children and partners for <i>all</i> mothers • Disseminate existing standard materials on key maternal health behaviors – including early initiation of breastfeeding – to all medical staff involved in ANC in Azraq camp to ensure all providers are giving the same message • Advocate with camp management and field hospital management for Baby Friendly Hospital Initiative uptake and adoption in the field hospital delivery ward, including: <ul style="list-style-type: none"> - an assessment of current BFH practices, one of which is early initiation of breastfeeding - training for midwives/medical staff on: 1) directly giving the child to the mother for immediate initiation of breastfeeding and how to counsel mothers who are reluctant/hesitant, 2) proper breastfeeding techniques to assist with early initiation, 3) counseling mothers on how to avoid pain/ complications
Cues for Action	3a. Increase ability of mothers to remember to immediately initiate breastfeeding	
Perceived Social Norms	4a. Increase the perception that mothers and mothers-in-law approve of immediate breastfeeding	<ul style="list-style-type: none"> • Create and post visual reminders in the maternity ward for midwives, medical staff, and the mother that depict medical staff

		giving the newborn to the mother for both normal vaginal delivery and C-section
--	--	---

Behavior 2: Pregnant women attend 1 antenatal care visit during their 1st trimester

Determinant	Bridges to Activities	Recommended Activities
Perceived Self-Efficacy	1a. Increase the availability of a gynecologist at the border camp <i>(Not applicable to Azraq camp, but to the berm where many Azraq residents are coming from)</i>	<ul style="list-style-type: none"> Establish Mother Care Groups (potentially conducted at the women and girls centers), including: <ul style="list-style-type: none"> Sessions on signs of pregnancy Sessions on the importance of ANC during the first trimester (including confirming the pregnancy) Sessions where other women share their success stories and experiences with the group Sessions on what is included in the first ANC visit Arrange a system of transport to the clinic for women needing to attend ANC Advocate with camp management to ensure female gynecologist is available at the clinics in Azraq camp Ensure all needed medications are available for women in their first trimester during the ANC visit At the berm: ensure a female gynecologist is available at the border camp
	1b. Reinforce the perception that going to ANC during the first trimester will give mothers access to needed medications and vitamin supplements	
Perceived Positive Consequences	2a. Reinforce the perception that confirming the pregnancy is important during the 1 st trimester	
Access	3a. Increase the perception that attending an ANC consultation during the 1 st trimester is worth the inconvenience	
	3b. Increase the ability of women to attend ANC consultations during the 1 st trimester and reduce inconveniences related to accessing services	

Behavior 3: Mothers of children 6-23 months feed iron-rich foods to their children at least 3 times/week

Determinant	Bridges to Activities	Recommended Activities
Perceived Self-Efficacy	1a. Increase the perception that it's possible to consume enough iron – rich foods using the food voucher.	<ul style="list-style-type: none"> Advocate to increase the value of the food voucher or provide a voucher specifically for iron-rich foods, and with the local food

	1b. Increase the perception that the market food is of acceptable quality and cleanliness	<p>supplier to increase availability of iron-rich foods in the market</p> <ul style="list-style-type: none"> • Initiate a micro-gardening project in camps, focusing on production and use of iron-rich green vegetables (Requires coordination with WASH) • Organize behavior change promotion activities for mothers, mothers-in-law, and husbands on: <ul style="list-style-type: none"> – benefits of iron-rich foods for children under two – identifying iron-rich foods in the market – utilizing food vouchers/available resources to obtain iron-rich foods without sacrificing nutrition of the family • Plan inspection visits to the market in coordination with the WFP to ensure quality and safety of foods available there • Develop and post educational pictorials in the market to remind mothers of which foods are iron-rich
	1c. Increase the perception that there are iron-rich foods in the market	
	1d. Increase mother’s ability to identify iron-rich foods in the market	
	1e. Increase the perception that iron-rich foods improve babies’ growth and development	
Perceived Positive Consequences	2a. Increase the perception that consuming iron-rich foods will improve the baby’s health	
Social Norms	3a. Increase perception that husbands approve of feeding iron-rich foods to young children	
	3b. Increase perception that mothers approve of feeding iron-rich foods to young children	
Perceived Severity	<i>*This is not an actionable finding because despite the fact that the Non-doers know that anemia is serious, they still do not do the behavior.</i>	

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 Jordan. International Medical Corps is planning for several next steps to help ensure incorporation of activities into program workplans for Azraq camp. Steps include wide dissemination of findings among partners in Jordan, camp management, 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 as lessons learned may be relevant for similar closed-camp settings. Finally, the report is being shared through a variety of channels, including the Food Security Network’s Behavior Bank and the Emergency Nutrition Network.