



Barrier Analysis of Exclusive Breastfeeding, Minimum Dietary Diversity and Early Antenatal Care Seeking Behaviors of Syrian Refugees in Lebanon



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Abbreviations and Acronyms

ANC	Antenatal Care
BA	Barrier Analysis
CHW	Community Health Worker
EBF	Exclusive Breastfeeding
Echo	Echography or ultrasound
FFP	USAID Office of Food for Peace
INGO	International Non-Governmental Organization
ITS	Informal Tented Settlement
IYCF	Infant and Young Child Feeding
PLW	Pregnant & Lactating Women
M&E	Monitoring and Evaluation
MCH	Maternal and Child Health
MoPH	Ministry of Public Health
PHC	Primary Healthcare Center
PLW	Pregnant & Lactating Women
SBC	Social Behavior Change
TOPS	Technical and Operational Performance Support (as in the TOPS Program)
USAID	U.S. Agency for International Development
USD	United States dollar(s)
WASH	Water, Sanitation and Hygiene

Executive Summary

Three Barrier Analysis (BA) studies were conducted in five regions of Lebanon to examine determinants of three key behaviors that have been promoted among displaced Syrians in Lebanon, yet require improvement to ensure improved maternal, neonatal, and child health and nutrition: 1) attending antenatal care during the first trimester of pregnancy, (2) exclusive breastfeeding, and (3) ensuring minimum dietary diversity during complementary feeding. International Medical Corps engaged partner organizations in Lebanon to conduct capacity building in the Barrier Analysis methodology and conduct three Barrier Analysis assessments among the displaced Syrian population to lend evidence to inform program activity design and advocacy.

Methodology. We closely followed the Barrier Analysis methodology, as specified in [A Practical Guide to Conducting a Barrier Analysis \(2013\)](#). For each behavior studied, we sampled at least 45 “Doers” and 45 “Non-Doers” across Lebanon, 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.” A workshop was then held with interested implementing partners in Lebanon to help inform interpretation, activities, and recommendations based on findings.

Results and Recommendations. The BA’s identified key factors that explain the differences between mothers of children (ages 0- 6 months) who exclusively breastfeed (EBF), pregnant women who attend 1 antenatal care (ANC) visit during their first trimester, and mothers of children (ages 9 – 23 months) who feed them meals containing foods from at least 4 of the 7 food groups each day. Specifically, 9 determinants were found to be significant for EBF, 6 determinants for ANC, and 8 determinants for Minimum Dietary Diversity. 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 Lebanon, as well as contribute to advocacy toward policy changes that may be necessary to support behavior change.

Introduction

After 5.5 years of conflict in Syria, around 6.5 million people have been displaced and there is still no clear end to the fighting. Neighboring countries opened their borders to those fleeing the violence, but are increasingly struggling to provide basic services and accommodation. Lebanon in particular is hosting 1,048,275 registered refugees, however unlike other countries no refugee camps have been setup to accommodate them. Instead, over 55% of refugees live under substandard conditions in informal settlements, overcrowded buildings, and densely populated low-income neighborhoods. Refugees also face limited livelihood opportunities and with only 17% of refugees being given cash assistance, access to food and primary health care will be severely affected. Cuts in food assistance this past year, further

increased vulnerability and led to increases in households with poor or borderline food consumption, as well as increases in the adoption of negative coping strategies.¹

Through community health workers and clinic-based staff, International Medical Corps and partner organizations have been promoting key maternal and child health behaviors among displaced Syrians in Lebanon since 2012 with the aim to improve maternal, neonatal, and child health and nutrition (MNCHN) in this population. Displaced Syrians in Lebanon receive awareness sessions and one-on-one counseling on infant and young child feeding (IYCF) practices and on ANC, as well as referral to ANC. ANC is subsidized in NGO or UN-supported clinics for registered pregnant Syrian women. By way of example, the International Medical Corps ANC medical package includes: 2 free ultrasounds (Echography or 'Echo') during the 1st and 3rd trimester, 4 consultations at a subsidized cost of 3000 LL (2 USD) to the patient, 85% off on 4 lab tests (including FBS, CBC, urine), and free supplements. ANC medical packages vary by organization.

Despite this MNCHN programming, it is clear that barriers remain, keeping many Syrian women from practicing recommended IYCF behaviors and accessing ANC, particularly during the first trimester of pregnancy. Three behaviors stand out, according to recent assessments and program data, and required further investigation to uncover context-specific determinants to inform improved programming: (1) attending antenatal care during the first trimester of pregnancy, (2) exclusive breastfeeding, and (3) ensuring minimum dietary diversity during complementary feeding.

The rate of exclusive breastfeeding for infants under 6 months of age is 25% (17.13-34.96)² among Syrian refugees in Lebanon according to a joint nutrition assessment in 2013 (no trend analysis is available within Lebanon). By way of comparison, the exclusive breastfeeding rate among Syrians in pre-war Syria was much higher at 42.6%. Though representative data is unavailable, program data and observation indicates that minimum dietary diversity among children 6-23 months is not being met, which is corroborated by the low rate of consumption of iron-rich or iron-fortified foods in this age group (at 36.4%).² While overall, 87% of Syrian refugees in Lebanon received some ANC during their pregnancies, only 53% sought ANC during their first trimester,³ indicating that there are some significant barriers to obtaining ANC during the first trimester. Previous studies have found barriers to seeking antenatal care among Syrian refugees in Lebanon to include: cost, distance or transport to a health facility, family deciding ANC should not be sought, long wait times, fear of mistreatment, and others.^{2,4} These studies, however, did not focus on barriers to ANC during the first trimester in particular.

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 these behaviors. Such evidence can be used to inform activity planning in International Medical Corps and other agencies' programs in

¹ 3RP 2016 Mid-Year Report <http://data.unhcr.org/syrianrefugees/regional.php>

² Joint Nutrition Assessment, Syrian Refugees in Lebanon, 2013 (UNICEF)

³ Syrian Refugee and Affected Host Population Health Access Survey in Lebanon, July 2015

⁴ Reese-Masterson et al. *BMC Women's Health* 2014, 14:25

Lebanon, as well as contributing to advocacy toward any policy changes that may be necessary to support behavior change.

International Medical Corps was awarded a TOPS Microgrant to lead a Barrier Analysis (BA) training and assessment in Lebanon during spring 2016 to identify the most important context-specific determinants of these three key IYCF & ANC behaviors, while at the same time building capacity in Barrier Analysis among the wider humanitarian community (including Food for Peace-funded implementing partners) responding to the Syrian refugee crisis. It is intended that the assessment findings and recommended evidence-informed activities are incorporated into programming by International Medical Corps and partner agencies in order to improve IYCF and ANC behaviors among Syrian refugees in Lebanon.

Methods

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 identifying the facilitators or motivators to adopting the behavior. The BA approach is based on the Health Belief Model and the Theory of Reasoned Action, 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), 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. 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.



Mother and child at an ITS in Beirut

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 Lebanon, yet have not seen improvement, according to recent assessments and program data:

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

To assess this behavior, Syrian mothers with children aged 5-12 months were recruited to participate in the BA (this behavior definition was relaxed to be “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. 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, in addition to other benefits for the mother and baby.⁵

➤ **Behavior 2: Pregnant women attend 1 antenatal care visit during their first trimester**

To assess this behavior, Syrian mothers in their second or third trimester (months 4-9) of pregnancy were recruited. The WHO ANC guidelines,⁶ as well as those put forth by the Lebanese Ministry of Public Health (MoPH), 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, this includes newborn care, breastfeeding promotion and healthy timing and spacing of subsequent pregnancies.

➤ **Behavior 3: Mothers of children ages 6 – 23 months feed them meals each day containing foods from at least 4 of the 7 food groups**

To assess this behavior, mothers with children aged 9-23 months were recruited. Complementary feeding is the transition from EBF to solid or semi-solid food and complementary feeding recommendations cover the 6-24 month period. To meet evolving nutritional requirements of the developing child during this period, minimum dietary diversity requires children receive foods from 4 or more of the 7 food groups (1. Grains, roots and tubers; 2. Legumes and nuts; 3. Dairy products; 4. Flesh foods; 5. Eggs; 6. Vitamin-A-rich fruits and vegetables; 7. Other fruits and vegetables), along with recommendation for continued breastfeeding. Minimum dietary diversity represents adequate micronutrient-dense food consumption.⁷

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

Recruitment of Data Collectors and Training

Twenty- two participants were recruited from International Medical Corps, local NGOs, partner INGOs and the American University of Beirut. Three International Medical Corps HQ staff from the Nutrition, Food Security & Livelihoods Unit facilitated the BA training and assessment. A two-day training was conducted

⁵ WHO and UNICEF Exclusive breastfeeding http://www.who.int/nutrition/topics/exclusive_breastfeeding/en
http://www.unicef.org/nutrition/index_24824.html

⁶ 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

⁷ UNICEF & WHO Indicators for assessing infant and young child feeding practices.
http://www.unicef.org/nutrition/files/IYCF_Indicators_part_III_country_profiles.pdf

on the fundamentals of the Barrier Analysis technique, with special focus on structure and process of developing questionnaires, and interviewing skills. The *Practical Guide to Conducting a Barrier Analysis* was used for curriculum development.⁸ 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 a Syrian refugee, region in Lebanon, living situation, and criteria related to the behaviors of interest. All five regions of Lebanon were targeted: Beirut/ Mt. Lebanon, Bekaa, South Lebanon, Tripoli and the North, and Akkar. In each of the regions, teams collected data either at an informal tented settlement (ITS), collective shelter, clinic or Primary Healthcare Center (PHC) (seeking to include those not living in ITSs or collective shelters).

Prior to assessments, International Medical Corps' Program staff visited the selected communities to seek approval from community leaders or PHC directors to conduct data collection. Additionally, where possible women meeting criteria for inclusion in the BA were recruited ahead of time by a Community Health Worker (CHW) to gather in a central location (either a central tent, room, or clinic). During data collection, data collectors approached each potential participant (either at her home or in the central location), found a semi-private place to conduct the interview, introduced the study and offered informed consent. Those who consented to be part of the study were then screened to determine Doer or Non-Doer status, before proceeding with the survey interview.



Children at an informal tented settlement in Beirut

Field Data Collection and Coding

Fieldwork lasted 3 days. The first day of data collection lasted the whole day, and coding occurred the next morning to ensure enough time to train data collectors in how to code BA responses. During the following two days, data collection was conducted in the morning and coding of the responses took place in the evening. 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 identify which determinants were identified as significant differences

⁸ Kittle Bonnie. 2013. *A Practical Guide to Conducting a Barrier Analysis*. New York, NY: Helen Keller International

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 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

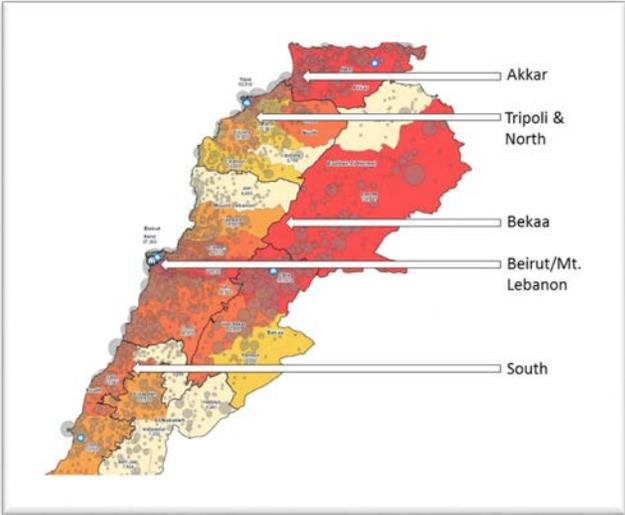
The wide geographic area of coverage for this Barrier Analysis, and the wide array of partners attending from different offices within Lebanon, created challenges related to logistics. This led to delays in starting data collection, as some participants were traveling in from 1-2 hours outside Beirut. Data collection and coding was planned to occur during the same day, however this often went late into the evening due to these logistical issues. Despite these challenges, all data collection and coding was completed within the same day.

Piloting of the survey tool was not always possible among the beneficiary population, therefore it was piloted (in English and Arabic) among the participating data collectors during training. The data collectors served as an extra set of eyes, catching any mistakes in the survey and providing input on the translation to ensure all questions could be understood. This became an essential part of the Barrier Analysis process, as it allowed trainees to go through the process of editing a survey and allowed for further improving the survey tool.

Results

Sample description

In total, we interviewed 289 Syrian refugee women across all three behaviors of interest. For EBF (n=94), 80 were living in an informal tented settlement (ITS) or collective shelter, while the remaining 14 were living in rented or shared homes. For the behavior ANC during the first trimester (n=94), 75 were living in ITS's or group shelters, and 19 were living in rented/shared homes. And finally, for Minimum Dietary Diversity (n=101), 75 were living in ITS's or collective shelters and 26 were living in rented or shared homes. Data were collected across the five regions of Lebanon: Beirut/Mt. Lebanon, Akkar, Tripoli and the North, the Bekaa, and South Lebanon.



Source: UNHCR

Table 1. Total # of surveys per behavior

	Exclusive Breastfeeding (n=94)		Antenatal Care (n=94)		Minimum Dietary Diversity (n=101)	
	Doer	Non-Doer	Doer	Non-Doer	Doer	Non-Doer
# Surveys	46	48	49	45	49	52

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

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

Nine 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 give only breastmilk to their baby in the first 6 months of life.

	Key Findings	Related Quotes
Doers	3.9 times more likely to say that bonding or positive feelings toward breastfeeding make EBF easier (p=0.009)	“Breastmilk is free!” - Doer “I find it healthier, I do not depend on anything else” – Doer
	3.1 times more likely to say that economic savings, due to breastfeeding being free, makes EBF easier (p=0.015)	“It is a cultural belief that we should breastfeed and I believe that it is our child’s right.” - Doer
	3.6 times more likely to say they do not experience any difficulties in EBF (p=0.016)	
Non-Doers	6.9 times more likely to say good maternal health and nutritional status would make it more easier to EBF (p=0.034)	“Even at first the baby was not happy or getting enough [milk], but I kept on trying.” – Doer
	11.8 times more likely to say that a sick or hospitalized baby would make it more difficult to EBF (p=0.002)	“Good nutrition for me as a mother would facilitate EBF for 6 months.” – Non-Doer
	6 times more likely to say poor maternal health and nutritional status would make it more difficult to EBF (p=0.000)	“Good nutrition like yogurt, milk, kishk, rice pudding, and parsley give more milk flow.” –NonDoer
	5.2 times more likely to say that stress and/or crowding would make it more difficult to EBF (p=0.016)	“When I am anxious due to the situation we are living in, I don’t feel happy to breastfeed because my milk will transmit anxiety to my child.” – Non-Doer

Non-Doer mothers and children tended to report suffering from poor health conditions. When children are sick, some mothers ceased breastfeeding and provided other liquids. One mother indicated that when her baby has a stomach ache she will give lemon juice or *zohourat* (herbs) and anise. Another mother whose child suffered from lower respiratory problems preventing him from suckling, was giving formula through a syringe. Illnesses among the mothers included: hypertension, anemia, stroke, colon problems, back pain issues, and flu. These mothers stopped EBF because they were too tired and weak to continue breastfeeding, and they were also scared that they would transmit their sickness to their baby though breastfeeding.

Transmission of illness through breastmilk is not the only concern, mothers are also worried about transmitting their negative emotions and stress to their babies. Several Non-Doer mothers explained that due to the “bad conditions” they were living in, it was difficult for them to exclusively breastfeed. The hot tents and crowded spaces created a stressful environment, which they claimed resulted in a decrease in ability to breastfeed, or even in a decrease in breast milk production. One Non-Doer said, “When I am anxious due to the situation we are living in, I don’t feel happy to breastfeed because my milk would transmit anxiety to my child.” Another said that stress makes the flow of her breastmilk difficult, especially when she receives news that a family member in Syria has died, which causes her body to go into shock. There was also a concern that the “hot” tents made the breast milk “hot” and this would be bad for the baby’s health.

2 & 3. Perceived Positive Consequences and Perceived 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
Doers	5.2 times more likely to say diarrhea prevention is an advantage of EBF (p=0.003)	<i>“Breastmilk protects against diseases and artificial milk harms the baby.” -Doer</i>
	More likely to say increased immunity/ disease prevention in the child is an advantage of EBF (15% point difference)	<i>“God mentioned it in the Koran, it will prevent from breast cancer and it is full of nutrients for the baby.”-Non-Doer</i>
	More likely to say there are no disadvantages of EBF (19% point difference)	<i>“I am afraid that maybe breastmilk only for the first 6 months is not sufficient nutrition for the baby to grow.” -Non-Doer</i>
Non-Doers	4.6 times more likely to say that low baby weight/poor growth would be a disadvantage of EBF (p=0.03)	<i>“I am afraid that maybe breastmilk only for the first 6 months is not sufficient nutrition for the baby to grow.” -Non-Doer</i>

In addition to the above findings, when data was stratified by living situation, Non-Doers living in ITS were 3.5 times more likely to say saving money would be an advantage of EBF (p=0.047). When asked what would be the disadvantages of only giving breastmilk, Non- Doer ITS residents were 3.5 times more likely than Doers to indicate the transmission of infection/ disease and allergic reactions from mother to baby (p=0.047) and 2.9 times more likely to say depletion of maternal nutrients and health (p=0.039).

4. 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	Quotes
Doers	3.9 times more likely to say their Father-in-law (p=0.009) and 2.9 times more likely to say their Father (p=0.037) approves of EBF	<i>“[My] husband disapproves when the child is not satisfied from breastmilk alone.”- Non-Doer</i>

	More likely to say Mother-in-law approves of EBF (19% point difference)	<i>"[My] husband disapproves when I become tired because of breastfeeding, taking all my energy and I become thinner." - Non-Doer</i>
Non-Doers	6.9 times more likely to say their husbands would disapprove of EBF (p=0.034)	

5. 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 in the next year.

	Key Finding
Non-Doers	Overall result not significant *Non-Doer ITS residents were 3.3 times more likely to state that it is "very likely" that their baby will become malnourished in the next year (p=0.033).

6. 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.

	Key Finding
Non-Doers	Non-Doers were more likely (16% point difference) to state that it would be "very serious" if their baby became malnourished *Non-Doer ITS residents 2.8 times more likely to state that it would be "very serious" if their baby became malnourished (p=0.019).

7. 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.

	Key Finding	Quotes
Non-Doers	Non-Doers 3 times more likely to state that it is "somewhat likely" that their baby will get diarrhea if they are fed only breastmilk for the first 6 months (p=0.007).	<i>"I am afraid that maybe breastmilk only for the first 6 months is not sufficient nutrition for the baby to grow." -Non-Doer</i>

8. Culture

This determinant refers to the set of history, customs, lifestyles, values and practices within a self-defined group. Respondents were asked if there were any cultural rules or taboos against only giving breastmilk to their baby for 6 months.

	Key Finding
Non-Doers	Overall results not significant *Non-Doers ITS residents 4.6 times more likely to state that there are cultural rules and taboos (p=0.036).

9. Cues for Action

This determinant refers to the presence of reminders that help a person remember to do a particular behavior. Respondents were asked how difficult is it (or would it be) to remember to give only breastmilk to their baby for the first 6 months.

	Key Finding
Non-Doers	Overall results not significant *Non-Doers residing in rented houses were 18.2 times more likely to state that it would “not be difficult at all” to remember to give only breastmilk to their baby for the first 6 months (p=0.023).

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

Six 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 to attend ANC during the first 3 months of pregnancy.

	Key Findings	Quotes
Doers	6.5 times more likely to say mother’s worry about baby’s health made it easier (p=0.003)	“It would be easier if I had enough money to go to a private clinic. The cost of the private clinic is high, and I don’t know about any free PHCs nearby.” – Non-Doer
	3.8 times more likely to say the mother’s poor health condition was the reason it made it easier (p=0.010)	
Non-Doers	3.4 times more likely to say availability of money to pay for services would make it easier (p=0.005)	“Even in the PHC, you need money for PHC and medical tests that they ask for.” – Non-Doer
	2.4 times more likely to say lack of time/childcare would make it difficult (p=0.047)	“I’m afraid of having a miscarriage if I go to a doctor at the PHC. I don’t trust them. But, it is costly to go to a private clinic.” – Non-Doer

Financial constraints played a large role in ability or perceived ability to access ANC during the first trimester. Non-Doers were 3.4 times more likely than Doers to say that having money to pay for ANC services would make it easier to attend. Even though Non-Doers were more likely to say this, over 50% of the entire sample (both Doers and Non-Doers) said that the lack of money made it difficult to attend ANC.

While there was a consensus between Doers and Non-Doers regarding the topic of finances to cover doctor’s visit fees, Doers were able to overcome this barrier and still attend ANC during the first trimester. Many participants emphasized either their preference to attend a private clinic due to the perceived higher level of care (costing around 25,000-35,000 LL (13- 23 USD) per visit), or did not know about a subsidized clinic nearby. Several Doers explained that a husband’s income and cash assistance from NGOs helped make ANC more affordable.

It is also important to note that 27% of Doers said they were more likely to attend ANC because they were sick or had a complication that they wanted a doctor to address. This could mean that some Doers do not fully understand the benefits of attending ANC in their first trimester and may not have attended services had they been in better health.

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.

	Key Finding	Quotes
Doers	4.7 times more likely to say that getting advice and education from the doctor is an advantage (p=0.039)	<p>“They don’t give Echos until the 5th month of pregnancy, so there is no need to go.” – Non-Doer</p> <p>“I’m excited to know the gender, so it will be easier to go if they do Echo during the 1st trimester.” – Non-Doer</p>
	2.4 times more likely to say that access to prescription medication and vitamins is an advantage (p=0.017)	
Non-Doers	7.9 times more likely to say that knowing the gender of the baby would be an advantage (p=0.022)	<p>“It is not useful to go during first trimester because we can’t know gender, size, weight of the baby. There is no Echo.” – Non-Doer</p> <p>“At the supported PHC we cannot benefit from ANC before the 4th month. If a pregnant woman goes during the 1st trimester, she has to pay the full consultation fee...” – Non-Doer</p>
	More likely to say that checking up on the mother’s health would be an advantage (16% point difference)	

The majority of both Doers and Non-Doers reported the advantages of attending ANC for the mother’s health and the baby’s health, therefore other factors external to knowledge prevent Non-Doers from attending services in the first trimester. There was also a consensus among Doers and Non-Doers about the costs associated with ANC (transport to services, consultation, diagnostics, medications and vitamins) being a disadvantage.

A critical issue that came out of the assessment is the perception among Non-Doers that the main purpose of ANC is to find out the baby’s gender and therefore there was “no need” for a visit during the first trimester. This is reinforced by practices of some PHCs and international NGOs which, according to participants, turn away women in their first trimester, asking them to return during their 4th month of

pregnancy to receive their first free Echo. One Doer explained that when she attended ANC prior to the 4th month she was expected to pay the full consultation fee and did not benefit from NGO support. Several women said they were told that the Echo was not free during the first trimester and were turned away. While ANC medical packages vary by organization and PHC, Syrian women are generally accorded 2 free Echo's throughout their pregnancy. Some organizations specify that the first free Echo cannot occur until the 4th month of pregnancy (according to respondents), while others support a free Echo during the first trimester (e.g. International Medical Corps). Overall, respondents offered varied information regarding this policy, and cited policies surrounding Echo subsidy as a source of confusion.

3. Perceived Social Norms

Respondents were asked who the people are that approve or disapprove of them attending ANC during the first 3 months of pregnancy.

	Key Findings	Quotes
Doers	6 times more likely to say their husbands approve of ANC access during 1 st trimester (p=0.001)	"[No one disapproves], however in the community a lot [of people] say that they do not need to go to the physician because their parents gave birth [without doing so] and they are alright." - Doer

4. Perceived Access

Respondents were asked how difficult it was/would be to get to the health center for ANC during the first 3 months of their pregnancy

	Key Finding
Doers	5.7 times more likely to say accessing ANC during 1 st trimester is " not difficult at all " (p=0.000) *Doers residing in Rented houses are 18.6 times (p=0.006) and in ITS are 4.2 times (p=0.008) more likely to say "not difficult at all"
Non-Doers	More likely to say that accessing ANC during 1 st trimester was " somewhat difficult " and " very difficult " (18% point difference)

Access related difficulties mentioned by participants include: lack of money, crowding at the clinic, cost of the consultation, sickness, no childcare, lack of time to visit the clinic, distance/traffic, and the need for accompaniment to the clinic.

5. Cues for Action

Respondents were asked how difficult it was/would be to remember to get to the health center for ANC during the first 3 months of pregnancy.

	Key Finding
Doers	3 times more likely to say " not difficult " to remember to attend ANC (p=0.004) *Doers residing in ITS are 3.4 (p=0.004) times more likely to say "not difficult"

Non-Doers	2.5 times more likely to say “ somewhat difficult ” to remember to attend ANC (p=0.021) *Non- Doers residing in ITS are 2.8 (p=0.019) times more likely to say “somewhat difficult”
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6. Policy

Respondents were asked if they were aware of any health guidance that makes it/would make it more likely for them to attend ANC during the first trimester.

	Key Finding
Non-Doers	5.3 times more likely to say they were unaware of any guidance available on ANC during 1st trimester (p=0.018)

Behavior 3: Mothers of children ages 9-23 months feed them meals each day containing foods from at least 4 of the 7 food groups

Eight 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/more difficult for them to feed their baby at least four of the different food groups each day.

	Key Findings
Doers	4.4 times more likely to say lack of time makes it more difficult to give 4+ food groups daily (p=0.010)

Doers were more likely to say that lack of time makes it more difficult to do this behavior. It is possible that Doers recognize time as a constraint to feeding food variety because they have tried to do the behavior and have noted this as a difficulty; however, Doers have clearly found a way to overcome this barrier. The majority of Doers and Non-Doers alike pointed to the availability of income/ work as a factor that would make it easier for them to feed their baby a diverse diet each day. Similarly, over half of Doers and Non-Doers said that limited availability of money is a difficulty. Several Doers who receive food vouchers said that the vouchers are being discontinued, which would soon make it harder to provide their child with a diverse diet. Additionally, respondents reported that some of the vouchers only allow for the purchase of bread, sugar, yogurt, cheese and legumes. This excludes meat products, which are more expensive to purchase. It was noted that the vegetable and fruit trucks only come to ITSs on certain days, limiting the mother’s ability to feed variety on a daily basis in some settings.

2 & 3. Perceived Positive Consequence and Perceived Negative Consequences

Respondents were asked what are (or what would be) the advantages/ disadvantages of feeding their baby from at least four of the seven different food groups each day.

	Key Finding	Quotes
Non-Doers	2.3 times more likely to say baby wellbeing (feeling full/ satisfied, increased energy, increased independence and better sleep) would be an advantage of giving 4+ food groups (p=0.038)	<p><i>“The child gets satisfied faster with a diversity of food.” - Doer</i></p> <p><i>“The baby will have diarrhea from mixing foods.” – Non-Doer</i></p>
	More likely to say that baby gastro-intestinal (GI) problems would be a disadvantage of feeding 4+ food groups daily (16% point difference)	<i>“Eating various foods means eating more quantity than the body can handle, which can intoxicate his body and the child might vomit.” – Non-Doer</i>

The majority of Doers and Non-Doers understood the advantages of feeding their baby a diverse diet, they indicated that it would improve a baby’s health and immunity (59% Doers, 50% Non-Doers) and growth (65% Doers, 71% Non-Doers), therefore knowledge of benefits is not one of the reasons why Non-Doers are not practicing this behavior. The more likely barrier is the perception that feeding many food groups will cause GI problems, as several women indicated that their babies had issues with digestion and abdominal disturbances, such as bloating, cramps, constipation, vomiting and diarrhea. Certain food groups were indicated as causing abdominal issues, for example carbohydrates cause constipation, flesh foods cause diarrhea, and grains lead to abdominal disturbance.

4. Perceived Access

Respondents were asked how difficult it was/would be to access the resources to be able to feed their child 4+ food groups daily.

	Key Finding
Doers	4.2 times more likely to say that access to food variety was “ somewhat difficult (p=0.000)
Non-Doers	4.3 times more likely to say that access to food variety was “ very difficult ” (p=0.000)

Access to food variety is difficult due to lack of money, distance to grocery stores and the lack of variety in available food. Women explained that there is not enough variety available at supermarkets or kiosks nearby, and that the food vans that visit the ITS have a low variety, especially in fruits and vegetables, and do not come every day. Notably, displaced Syrians living in ITS’s do not have access to refrigeration, limiting their ability to store fresh foods.

5. Cues for Action

Respondents were asked how difficult it was/would be to remember to feed their child 4+ food groups daily.

	Key Finding
Non-Doers	3.8 times more likely to say that remembering to give the child 4+ food groups daily was “ very difficult ” (p=0.027)

6. Perceived Susceptibility

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

	Key Finding
Doers	3.1 times more likely to say that it is “ not likely ” that their baby will become malnourished in the coming year (p=0.003)
Non-Doers	6.7 times more likely to say that it is “ very likely ” that their baby will become malnourished in the coming year (p=0.000)

This response pattern demonstrates that Doers do not find it likely that their child will become malnourished, indicating that they think they are doing what they should be doing to prevent this outcome. Whereas, Non-Doers find it very likely that their child will become malnourished, but this is not enough to drive them to feed their child a diverse diet (or the barriers to doing so are insurmountable).

7. Perceived Action Efficacy

Respondents were asked how likely it is that their baby would become malnourished if they fed him/her 4+ food groups daily.

	Key Finding
Doers	2.2 times more likely to say that it is not likely at all that their child will become malnourished if fed 4+ food groups daily (p=0.033)

8. Perceived Divine Will

Respondents were asked if they think it is God’s will if a child becomes malnourished.

	Key Finding
Doers	2.3 times more likely to say that it is not God’s will if a child becomes malnourished (p=0.019)

Recommendations

To address the significant determinants of each behavior, the following Bridges to Activities were noted in written form, and Activities to build upon these “bridges” were drafted with input from participating organizations and interested agencies in Lebanon. These activities are recommended to be incorporated into program work plans to ensure barriers are addressed.

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

Determinant	Bridges to Activities*	Recommended Activities
Perceived Self-Efficacy	Reinforce the perception that EBF is a good way to economize (breast milk is free!)	<ul style="list-style-type: none"> Utilize these messages in National Breastfeeding Campaign, potential also creating catchy, descriptive posters: <ul style="list-style-type: none"> “Breast milk is Free!”
	Reinforce the perception that EBF is a good way to bond with your	

	<p>baby and make them feel safe and secure</p> <p>Increase the perception that all mothers can produce enough breast milk – even when the mother is not eating optimally</p> <p>Increase the ability of mothers to EBF even when their child is sick/ hospitalized (express breast milk)</p> <p>Increase ability of mothers to relax</p>	<ul style="list-style-type: none"> - For bonding: “You don’t want to miss out on this experience” • Advocate for... <ul style="list-style-type: none"> - Incentive structures or enforcement of the Baby Friendly Hospital Initiative - Including breastfeeding module in doctors’ curriculum at the university level (including education on mother’s status (sick, poor nutrition, stress, etc.) and breastfeeding ability - Mother’s ability to breastfeed or pump for baby in NICU (could introduce penalty for not doing so, such as withholding payment) - Targeting men to be integrated into the National Breastfeeding Campaign • Create support groups for the mother (e.g. Care Group, breastfeeding support groups): <ul style="list-style-type: none"> - Sessions on the benefits of EBF - Address the “chubby baby = healthy baby” misconception - Emphasize bonding, skin-to-skin contact, and the emotional side of breastfeeding - Testimonials or skits on the emotional side of breastfeeding, with an emphasis that “you don’t want to miss out on this opportunity.” • Provide healthcare providers with EBF messages for patients: <ul style="list-style-type: none"> - Provide ‘talking points’ for midwives to use during ANC (third trimester) and during postnatal consultations. - Provide health care providers with messages about how much more quickly a sick infant will recover if exclusively breastfed • Promote EBF among men: <ul style="list-style-type: none"> - Hold focus groups with husbands to confirm their perspective of EBF - Hire male CHWs (preferably fathers) to conduct education for husbands on EBF - Engage doctors/ male health care providers to speak to men
Perceived Positive Consequences	Increase the perception that EBF prevents diarrhea.	
Perceived Action Efficacy	Decrease the perception that a baby who is exclusively breastfed will not grow as well	
Perceived Social Norms	Increase perception that husbands approve of EBF	
	Increase the perception among husbands that EBF is important and has benefits for mother and baby	

*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.

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

Determinant	Bridges to Activities	Recommended Activity
<p>Perceived Self-Efficacy</p>	<p>Increase the perception that it's worth the expense to get ANC during the first trimester of pregnancy</p>	<ul style="list-style-type: none"> • Integrate ANC awareness raising with vocational trainings at community centers • Develop a simple pamphlet / posters explaining what is likely to happen during each ANC visit and the benefit to mother and baby • Ensure NGOs in Lebanon are aware of policies for covering ANC and ultrasounds • Through CHW networks: <ul style="list-style-type: none"> – Provide information on coverage of ANC / ultrasounds – Provide referrals to ANC using ANC cards – Send SMS messages to pregnant women when they should attend ANC – Recruit male CHWs to conduct awareness sessions in husband groups – Encourage other family members to support pregnant women by looking after children – Deliver messages: <ul style="list-style-type: none"> ➤ <i>“ANC during the 1st trimester is worth the expense and is a good way to screen, manage, and prevent complications”</i> ➤ <i>“Prenatal tests provide valuable information about the baby’s health and can detect fetal abnormalities.”</i> ➤ <i>“Vitamins, minerals, and certain medications are free at ANC visits”</i> ➤ <i>“ANC during the 1st trimester is important for checking on the mother’s health”</i> • Create Peer Support Groups for mothers to provide: <ul style="list-style-type: none"> – Sessions on importance of antenatal vitamins given at 1st visit, emphasizing that these are free at the first ANC visit – Collective childcare – Testimonials from other women on 1st trimester ANC – Importance of prenatal tests that occur during the first ANC visit
	<p>Increase the perception that you will have a worry-free pregnancy if you have an ANC during the first trimester</p>	
	<p>Increase the perception that getting an ANC visit during the first trimester is a good way to get problems attended to</p>	
	<p>Increase the perception that every pregnant woman can make time for an ANC visit during her first trimester</p>	
<p>Perceived Positive Consequences</p>	<p>Increase the perception that getting ANC during the first trimester is a good way to get advice</p>	
	<p>Increase perception that getting ANC during first trimester is a good way to get vitamins or needed medications</p>	
<p>Perceived Social Norms</p>	<p>Reinforce the perception that husbands approve of their wives getting ANC during the first trimester of pregnancy</p>	
<p>Access</p>	<p>Increase access to the health center/to ANC services.</p>	
<p>Cues for Action</p>	<p>Increase the ability to remember to go for ANC during the first trimester</p>	
<p>Policy</p>	<p>Increase the perception that there is a policy that recommends pregnant women to get their first ANC visit during the first three months of pregnancy</p>	

		<ul style="list-style-type: none"> • Healthcare service delivery recommendations: <ul style="list-style-type: none"> – Recruit midwives to conduct ANC visits (lower cost/less likely to order tests outside protocol) – Regulate PHCs ordering tests outside protocol, which drives up cost & increases perception that ANC services are too costly – Nurses send SMS reminders to pregnant women when they should attend ANC – Create e-card that could be used for payments at PHCs, diagnostic centers, and pharmacies – Assess the feasibility of mobile clinics for ANC delivery → OR develop a community transportation plan for pregnant women to attend ANC
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Behavior 3: Mothers of children ages 9-23 months feed them meals each day containing foods from at least 4 of the 7 food groups

Determinant	Bridges to Activities	Recommended Activity
Perceived Self Efficacy	Reinforce the perception that giving 4+ food groups is good for baby’s wellbeing	<ul style="list-style-type: none"> • Conduct a “Cost of the Diet” or similar study to research what affordable, quality foods are available from each of the 7 food groups, and based on this: <ul style="list-style-type: none"> – Create appropriate recipe recommendations for complementary feeding – Update materials on “eating well on a budget” designed for ITS setting • Provide training: <ul style="list-style-type: none"> – Train CHWs to utilize updated recipes and materials to conduct supermarket shopping visits with refugees, looking at market prices for key quality foods – Train CHWs on food safety / hygiene surrounding complementary feeding – Train healthcare providers on food groups, using local examples/pictorials to ensure alignment with CHW messages
Perceived Action Efficacy	Increase perception that giving 4+ food groups can help prevent/ reduce likelihood of malnutrition	
Perceived Negative Consequences	Decrease perception that feeding babies a variety of food results in gastro-intestinal problems (increase perception that some GI problems are expected during the complementary feeding period as the baby adjusts)	
Cues for Action	Increase the ability to remember which foods are in which food groups	
	Increase mothers’ ability to remember to add variety of foods in daily meals.	

Access	Increase the ability to get a variety of foods	<ul style="list-style-type: none"> • Develop and post household posters on: <ul style="list-style-type: none"> – Food groups and example meal plans (noting breastmilk contribution), based on 24-hr recalls – Food safety for households given ITS setting and resources
	Increase the perception that it's not difficult to get foods from 4 different food groups	<ul style="list-style-type: none"> • Form Peer Support Groups to provide: <ul style="list-style-type: none"> – Session on food groups – Session on benefits of dietary diversity for children under 2, linking this to baby growth and development – Session on anemia and other relevant forms of malnutrition, emphasizing how dietary diversity can help – Reassurance that it is normal for many babies who eat semi-solid foods for the first time show signs of 'being in distress' – Session on hygiene surrounding baby feeding (storage, cleaning, preparation, cooking) • Through CHWs, deliver the following: <ul style="list-style-type: none"> – Messages on the importance of dietary diversity for the baby's growth and development – Food hygiene and preparation for complementary feeding – Education on how to select food variety for the baby – Reassurance that it is normal for babies who eat semi-solid food for the first time to show some signs of 'being in distress' • Start micro-gardening project in camps to promote dietary diversity (as well as addressing mental health, livelihoods, food security), in coordination with WASH • Implement community kitchen model

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 Lebanon. 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 is being shared through a variety of channels, including the Food Security Network's Behavior Bank and the Emergency Nutrition Network.