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Formative Research to Improve the Promotion of the Lactational Amenorrhea Method (LAM) and Exclusive Breastfeeding (EBF) in the MAHEFA USAID/Madagascar Program, Ambilobe District, DIANA Region

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This report is made possible by the generous support of the American people through the support of the Office of Health, Infectious Diseases, and Nutrition, Bureau for Global Health, U.S. Agency for International Development (USAID) and USAID/Madagascar under terms of Cooperative Agreement No. AID-OAA-A-12-00005, through the Food and Nutrition Technical Assistance III Project (FANTA), managed by FHI 360.

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Recommended Citation

Dulli, Lisa and Randrianasolo, Bodo Sahondra. 2015. *Formative Research to Improve the Promotion of the Lactational Amenorrhea Method (LAM) and Exclusive Breastfeeding (EBF) in the MAHEFA USAID/Madagascar Program, Ambilobe District, DIANA Region*. Washington, DC: FHI 360/FANTA.

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Acknowledgments

The authors of the study wish to thank the staff of the U.S. Agency for International Development (USAID)/Madagascar for their assistance in providing valuable information and support for the study, especially Raharimalala (Hary) Vololontsoa, Jean Claude Randrianarisoa, and Robert Kolesar. The authors also wish to provide special thanks to MAHEFA and Ministry of Health staff and community health workers from Antsiranana and Ambilobe District for the support and information that they shared that greatly enriched the study.

In addition, the authors extend their gratitude to the data collection team, Philéas Parfait Jaovelondazafanomezana, Arline Vanonasy, Lucia Justine Hanitranaiaina, Hortensia Rasoanandrasana, Gisèle Rasoarivelo, Datsune Harimanantsoa Soavinjara, Diane Lolita Tsialiva, and Oddelvy Vanessa Vlady Ravo for their tireless support and assistance in the data collection process. Finally, the authors also thank FHI 360 staff Megan Deitchler, Kavita Sethuraman, Monica Woldt, Reena Borwankar, Sarah Mercer, and Sam Field for their technical input for the study and Anna Lisi and Pam Sutton for their editorial support for this document.

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Abbreviations and Acronyms

ANC	antenatal care
BFFP	breastfeeding for family planning
CHW	community health worker
CI	confidence interval
CP	contraceptive prevalence
DHS	Demographic and Health Survey
EBF	exclusive breastfeeding
FANTA	Food and Nutrition Technical Assistance III Project
FP	family planning
ICC	intra-class correlation coefficient
IUCD	intrauterine contraceptive device
IUD	intrauterine device
LAM	Lactational Amenorrhea Method
MAHEFA	Malagasy Heniky ny Fahasalamana
MOH	Ministry of Health
OCP	oral contraceptive pill
OR	odds ratio
PI	principal investigator
PPS	probability proportionate to size
RA	research assistant
SDM	Standard Days Method
USAID	United States Agency for International Development
WHO	World Health Organization

Executive Summary

The Lactational Amenorrhea Method (LAM) is a modern contraceptive method based on the natural period of infertility after the birth of a child that results from specific breastfeeding practices. LAM effectively protects a woman from pregnancy as long as:

- Her menses have not returned since her baby was born
- She exclusively breastfeeds her baby
- Her baby is under 6 months old

Limited evidence suggests LAM use may lead to improved breastfeeding practices and increased adoption of follow-on modern contraceptive methods after LAM is no longer feasible. The simultaneous promotion of exclusive breastfeeding (EBF) and LAM is a strategy designed to address adverse maternal and child health outcomes in the immediate postpartum period and beyond by supporting both improved infant nutrition and family planning (FP) for healthy timing and spacing of pregnancies. Birth intervals of 3 to 5 years are associated with improved infant and maternal survival and health compared to shorter birth intervals.

According to an analysis of the 2008-09 Madagascar Demographic and Health Survey, LAM use in Madagascar was 8.1 percent among women less than 6 months postpartum.ⁱ Between 6 and 12 months postpartum, modern FP use was very low at 18.1 percent. In addition, EBF, a prerequisite for LAM use, is also low in Madagascar during the first 6 months after delivery; only 29.8 percent of women reported exclusively breastfeeding their infant through 5 months postpartum. The median birth spacing in rural Madagascar is less than 3 years (32 months) and is lower among young women who are 15–19 years of age (25 months), among those who have no formal schooling (30.7 months), and among women in the lowest wealth quintile (30.5 months).

Given the low use of LAM and other modern FP methods, the low use of EBF in the first 6 months postpartum, and the short birth intervals in Madagascar, USAID/Madagascar asked the Food and Nutrition Technical Assistance III Project (FANTA) to conduct a literature review and a formative research study to inform improvements to promotion of LAM and EBF in selected USAID/Madagascar programs.

While the study faced two key limitations—its relatively small sample size and the retrospective collection of data on EBF—its findings suggest there is considerable room for improving the practice of EBF for the first 6 months of a baby’s life and increasing use of contraceptive methods such as LAM to prevent unplanned pregnancies among postpartum women.

Key Findings Related to EBF

1. Most postpartum women in the district studied do not practice EBF for 6 months.
2. Women are not receiving adequate information from health care workers on EBF during antenatal care (ANC) or around the time of delivery of their babies.
3. Women are not receiving the support they need from health care workers or family members to practice EBF.

ⁱ Prevalence of LAM use among women 0-6 months postpartum was calculated using 2008–2009 Madagascar DHS data.

4. A large proportion of pregnant women attend one or more ANC sessions, which provides an important opportunity to counsel them on the benefits of EBF.
5. More than half of pregnant women deliver at home, so providing breastfeeding information and support around the time of delivery will need to be done by individuals, such as community health workers (CHWs), who can provide support in the woman's home.
6. Women's breastfeeding practices are influenced by the opinions of others, including health care workers, their husbands/partners, and other family members such as mothers and mothers-in-law.

Findings Related to FP

1. Unmet contraceptive need in this population of postpartum women was very high (53 percent).
2. More than 90 percent of respondents had never heard of LAM as an FP method.
3. The mix of contraceptive methods currently being used was skewed toward short-acting methods. Women who desire to limit future pregnancies may be better served by access to long-term or permanent methods.
4. The influence of others, particularly husbands, mothers, and mothers-in-law, is important to FP use.
5. Receiving information from a health care provider or CHW during pregnancy was positively associated with current FP use among respondents.
6. Many CHWs reported being not at all or only somewhat confident in their ability to counsel women on LAM, as well as other FP methods.

Recommendations

Based on the study's findings, several strategies can be suggested to improve public health programming to support postpartum FP use, LAM in particular, as well as EBF among postpartum women in Ambilobe:

1. Strengthen training for health care providers and CHWs on EBF and LAM.
2. Ensure that education and counseling on the benefits of EBF, LAM, and other FP methods are systematically integrated into all health contacts with pregnant women (through ANC) and at delivery for those who give birth in health facilities.
3. Identify opportunities to raise awareness of the benefits of EBF to infants and to support women to exclusively breastfeed their infants for the first 6 months postpartum, particularly during the early days or weeks after delivery, but also later when EBF often drops off at 3–5 months postpartum.
4. Identify strategies to support women who work outside the home or who have other competing priorities so that they can continue to practice EBF while fulfilling those obligations.
5. Identify opportunities outside the home to engage men and others in the community to promote EBF for the health of the baby and FP for the healthy timing and spacing of pregnancies.

1 Introduction

1.1 Background

The Lactational Amenorrhea Method (LAM), first defined during the August 1988 Bellagio Consensus Conference in Italy, is a modern contraceptive method based on the natural period of infertility after the birth of a child that results from specific breastfeeding practices.¹ LAM effectively protects a woman from pregnancy as long as she meets the three following criteria or conditions:^{1,2}

- Her menses have not returned since her baby was born
- She exclusively breastfeeds her baby, meaning she breastfeeds the baby “on demand,” day and night, and does not give any other food, water, or liquids
- Her baby is under than 6 months old

Waiting until one of these criteria is no longer met to begin considering the next method of contraception is too late, leaving a “gap” in contraceptive protection and greatly increasing the woman’s risk of becoming pregnant. Thus, when these three criteria were codified as an algorithm in a 1989 meeting at Georgetown University, a fourth item was added for consideration: the timely transition to another family planning (FP) method in order to maintain the same level of protection when any of the three criteria change.³

Limited evidence suggests LAM use may confer two significant benefits: (1) improved breastfeeding practices^{4,5} and (2) increased adoption of follow-on modern contraceptive methods after LAM is no longer feasible.^{4,6} The simultaneous promotion of exclusive breastfeeding (EBF) and LAM is a strategy designed to address adverse maternal and child health outcomes in the immediate postpartum period and beyond by supporting both improved infant nutrition and FP for healthy timing and spacing of pregnancies. Birth intervals of 3 to 5 years are associated with improved infant and maternal survival and health compared to shorter birth intervals.⁷ In addition, birth intervals of 3 to 5 years also have social benefits such as increased savings, less stress on the mother, and more time for the mother and/or couples to engage in other activities compared to shorter birth intervals.

According to secondary analysis of data from the 2008-09 Madagascar Demographic and Health Survey (DHS), LAM use in Madagascar was 8.1 percent among women less than 6 months postpartum. Between 6 and 12 months postpartum, modern FP use was very low at 18.1 percent.⁸ EBF, a prerequisite for LAM use, is also low in Madagascar during the first 6 months after delivery, with only 29.8 percent of women reporting exclusively breastfeeding their infant through 5 months postpartum.⁹ The median birth spacing in rural Madagascar is less than 3 years (32 months) and is lower among young women who are 15–19 years of age (25 months), among those who have no formal schooling (30.7 months), and among women in the lowest wealth quintile (30.5 months).⁹

Given the low use of LAM and other modern contraceptive methods, the low use of EBF in the first 6 months postpartum, and the short birth intervals in Madagascar, USAID/Madagascar asked the Food and Nutrition Technical Assistance III Project (FANTA) to conduct a literature review and a formative research study to inform improvements in promotion of LAM and EBF in selected USAID/Madagascar programs.

2 Review of the Current Literature

2.1 Overview

During the first phase of this study, FHI 360 study investigators conducted a review of the current peer-reviewed and grey literature to summarize the evidence with regard to the use of LAM and LAM as a gateway method to other modern contraception use. We systematically searched PubMed and POPLINE databases, examined the grey literature including USAID project and nongovernmental organization (NGO) partner websites, and cross-checked article references to identify new evidence on LAM. In addition, we reviewed studies that examined the relationship between LAM and the transition to other modern contraceptives. The goal of the literature review was to synthesize the current evidence regarding LAM and understand how it might be applied in Madagascar to intervention strategies to improve infant nutrition and postpartum FP by increasing the use of EBF, LAM, and other modern FP methods. The literature review also aimed at understanding LAM's potential to serve as a bridge to other modern FP method use for postpartum women.

We begin by summarizing global evidence, starting with background information on the importance and intersection of postpartum family planning and infant nutrition. Next we present summaries of the existing evidence on LAM efficacy, acceptability, and use. We also present findings on knowledge of the LAM criteria and LAM as a gateway to other modern FP method use later in the postpartum period. Last, we discuss current evidence regarding the intersection between LAM and breastfeeding among postpartum women. After a summary of global evidence is provided, we present findings on these same topics specific to Madagascar. Findings from this review of the literature were used to inform the design of the study and development of the data collection instruments.

2.2 Global Evidence

2.2.1 Background

Every hour of every day at least 30 women die from complications of pregnancy and childbirth, resulting in approximately 270,000 maternal deaths a year, 99 percent of which occur in developing countries.¹⁰ More than one-third of the 182 million pregnancies that occur in developing countries annually are unintended, with two-thirds of these unintended pregnancies experienced by women who are not using an FP method.¹¹ In 2013, it was estimated that nearly 7 million children would die before they turn 5, as many countries worldwide are falling short of achieving the United Nations Millennium Development Goals for reducing child mortality and improving maternal health.¹²

FP and improved infant nutrition are key components in the fight to reduce maternal and infant mortality. As one of four strategies endorsed by the Safe Motherhood Initiative, a global campaign launched in 1987 to reduce maternal mortality, FP could prevent as many as one third of maternal deaths by allowing women to delay motherhood, space births, avoid unintended pregnancies and abortions, and stop childbearing when they have reached their desired family size.¹³ Similarly, practicing EBF in the first 6 months of life and continued breastfeeding from 6 to 11 months was identified as one of the single most effective preventive interventions in reducing child mortality by the Bellagio Child Survival Study Group (2003), with the potential of saving 1.3 million lives annually.¹⁴ According to more recent data (2011), sub-optimal breastfeeding is responsible for 11.6 percent of the deaths of children under 5 worldwide.¹⁵

The World Health Organization (WHO) estimates that worldwide approximately 38 percent of infants up to 6 months are exclusively breastfed.¹⁶ WHO defines EBF as maternal milk being the only food source,

with no other liquids or food given except medicines, minerals, and vitamins.¹⁷ EBF during the child's first 6 months of life provides protection against gastrointestinal infections and decreases the likelihood of mortality from diarrhea and other infections.¹⁶ Moreover, early initiation of breastfeeding, within 1 hour of birth, protects the newborn from infections and reduces newborn mortality.¹⁶ In May 2012, WHO Member States endorsed the Comprehensive Implementation Plan on Maternal, Infant, and Young Child Nutrition, which includes six targets, one of which is to increase the rate of EBF of infants from birth to 6 months to at least 50 percent by 2025.

The intersection between FP and breastfeeding creates an opportunity to improve both maternal and child health outcomes during the postpartum period and to encourage women to practice healthy timing and spacing of pregnancies.¹⁸ Some evidence also suggests that practicing LAM may result in better breastfeeding practices^{4,19} and that LAM may serve as a gateway contraception method to support timely transition to another method as soon as any one of the three LAM criteria changes.²⁰

2.2.2 LAM Efficacy

During the initial Bellagio meeting in 1988, researchers agreed that among women who breastfed fully or nearly fully and who remained amenorrheic, breastfeeding was more than 98 percent effective at preventing pregnancy during the first 6 months postpartum.¹ This consensus was based on three studies that had examined pregnancy rates among breastfeeding women and 10 studies investigating ovulation during the postpartum period.

In 2003, Cochrane Reviews published a systematic review of the existing peer-reviewed literature on LAM, which was updated in 2008. This study's investigators did not identify any further efficacy or effectiveness studies after the updated Cochrane review was published. This review included 14 studies,^{2,21-32} which include those most commonly cited works that serve as the foundational science supporting the efficacy of LAM as a modern contraceptive method. Of the studies included, only two reported on controlled trials of the method (Perez 1991 and Diaz 1988), both of which had important limitations; the rest of the efficacy studies were observational prospective cohort studies. The authors of the Cochrane review provided only a descriptive narrative summarizing the evidence presented by these 14 studies, stating that the heterogeneity in sample characteristics, operational definitions of key variables (such as breastfeeding and return of menses), and lack of clarity in the presentation of data across studies precluded a more rigorous meta-analysis.³³ Based on both the strength of the evidence presented in the studies and the review authors' assessment of the quality of the studies reviewed, the authors concluded that there was no evidence to support that intentional practice of LAM is any different from simply fully or nearly fully breastfeeding in the first 6 months postpartum.³³ The greatest limitations of the majority of these studies are by far a reliance on observational studies with non-representative samples and small sample sizes of women to examine efficacy of the method. To address these issues, the authors recommended that if more research on the topic were pursued, "uniform and transparent definitions should be used, [and] intervention groups and controls should be from the same population, and be comparable for culture, age, parity, and previous breastfeeding experience or lactational amenorrhea."³³

2.2.3 LAM Acceptability

Acceptability of LAM for contraception hinges on the acceptability of EBF. Breastfeeding behavior varies across settings, but there is a traditional reliance on the contraceptive effect of breastfeeding in many countries. This may be true for subpopulations where FP is generally not regarded favorably because some consider contraceptive methods to be contrary to the basic principles of their religious beliefs.³⁴ For example, a study investigator in Turkey found that because LAM does not require the couple to put any items inside the body and is a natural method, it can be accepted in keeping with

Islamic tenets.³⁴ In another example, focus group participants in a 2004 study in Egypt expressed generally positive attitudes and beliefs about lactational amenorrhea as an FP method, indicating that LAM may be a culturally competent FP method for Muslim women. Findings from a multi-country study of LAM among different populations from 10 countries on four continents plus the South Pacific region confirmed that LAM is acceptable, demonstrating an overall satisfaction rate among users of 83.6 percent.³⁵ Thus, current evidence supports the belief that LAM is an acceptable method among at least some subgroups in a wide variety of populations, providing an alternative contraceptive option for women during the first 6 months postpartum.

2.2.4 LAM Use

LAM use varies widely across the globe and is especially difficult to measure given that many women rely on the natural contraceptive benefits of breastfeeding, or breastfeeding for family planning (BFFP), without necessarily meeting the three criteria to be considered LAM users.^{4,36} When reviewing reported findings from LAM studies, it is critical to consider whether LAM use was accurately measured or whether women who practice BFFP may be wrongly classified as LAM users, which would overestimate LAM use. To accurately classify women as LAM users, the most accurate strategy would be to assess both self-reported LAM use and the woman's understanding of the three LAM criteria. Those women who report using LAM but cannot name all three criteria should not be classified as active LAM users. On the other hand, many women do meet all three LAM criteria but do not report practicing the method because they are unaware of the method; therefore, excluding them from LAM prevalence estimates could be considered an underestimation of LAM practice. For example, a 2013 study that used data from 75 DHS datasets from 45 countries found that while the average reported LAM use was 0.8 percent, an average of 3.7 percent of respondents met the three LAM criteria.³⁷ These investigators also found that only 25.1 percent of self-reported LAM users actually met the three LAM criteria.³⁷

In addition to accurately classifying LAM users, comparing LAM use across different studies can be difficult because estimates are not always being calculated among the same groups of women. Because LAM use is limited to the first 6 months postpartum, it would follow that the LAM use is only measured among women who are eligible to use the method (i.e., 6 months or fewer postpartum). However, LAM use is frequently reported among all women of reproductive age (e.g., DHS studies). Studies also vary in their measurement of LAM use, making comparisons across studies difficult.

Population estimates of LAM use from DHS data demonstrate that LAM use varies considerably across countries, with many reporting zero prevalence but some reporting prevalence as high as 61.3 percent among women 3 months postpartum.³⁸ However, as previously noted, these estimates are plagued by a lack of consistency in measurement, with at least six different measures of LAM used in these DHS surveys.³⁷ The variation in LAM practice was also documented by WHO in 1998, with rates of LAM use estimated from 17.2 percent to 68.4 percent in a longitudinal study conducted in five developing and two developed countries among 4,118 breastfeeding mothers and their infants.³⁹

2.2.4.1 Interventions Designed to Increase LAM Use

Interventions designed to increase LAM use have shown remarkable results. The most notable gains in LAM use were documented in project sites of the USAID-funded LINKAGES Project (1996–2006). Data from three LINKAGES projects are reported here.

In Madagascar, LINKAGES aimed to improve mother and infant nutrition through a variety of efforts from 1997 to 2004, including both promoting EBF for the first 6 months of a baby's life and counseling on LAM.⁴⁰ A series of rapid assessments were conducted in select study communities over the course of

the project to examine outcomes associate with intervention. These assessments collected data in a sample of communities where “the (intervention) strategy had been successfully embraced” and a set of comparison or control communities.⁴⁰ Data from these assessments demonstrate that LAM use increased from 5 percent to 15 percent from project baseline (2000) to endline (2002) in the intervention communities, compared to 1 percent LAM use at endline in the comparison communities.⁴⁰ The practice of EBF for 6 months also increased in intervention communities from 29 percent to 52 percent during this period.⁴⁰ However, an important limitation of this assessment is that the intervention sites included in the assessment were specifically chosen because they performed better than other intervention sites. This means that findings from the assessment are not necessary generalizable beyond the sites where the study was conducted.

Under the LINKAGES project in Jordan, LAM was promoted in Ministry of Health (MOH) maternal and child health centers, beginning with a pilot project in 1996 and expanding to all MOH maternal and child health facilities from 1998 to 2003.⁴ To assess the effect of LAM promotion, a survey was carried out in 2004 with 3,183 women who had a child 13–24 months of age in 11 child health centers in and around Amman, Jordan.⁴ In 1999, the LAM user rate, estimated from health center service statistics, was 0.1 percent.⁴¹ The 2004 survey revealed that 7 percent of women reported using LAM during the first 6 months postpartum.⁴ The study defined LAM use as reported use of LAM or BFFP AND knowing the three LAM conditions. Last, in Bolivia, the LAM rate more than doubled among LINKAGES sites from 3 percent at baseline (2000) to 7 percent at endline (2003).⁴²

In addition to the LINKAGES studies, the Health Fertility Study in India also examined the effects of an intervention to increase LAM use. This study was a quasi-experimental evaluation study nested in a larger cluster randomized control study on the effectiveness of a community-based maternal and newborn health intervention conducted in Sylhet, Bangladesh.⁵ Pregnant women in eight unions, the smallest rural administrative unit in Bangladesh, were recruited to participate in the study and followed from baseline through 36 months postpartum. A total of 4,570 women were enrolled at baseline, and 4,239 (2,117 [94.2 percent] in the intervention group; 2,122 [94.0 percent] in the comparison group) completed the 36-month interview. Contraceptive use was considerably higher among women in the intervention group as compared to the comparison group at every time point. Specifically, at 6 months postpartum, 35 percent of women in the intervention group reported any modern method use and 12 percent reported LAM use, compared to 16 percent and zero percent of women in the comparison group, respectively.⁵

2.2.5 LAM Knowledge

In general, the evidence in the literature suggests that failure to understand the three LAM criteria contributes to decreased protection from pregnancy among women reporting LAM as their FP method. As mentioned previously, BFFP is practiced in many settings. The distinguishing feature between BFFP and LAM is the understanding of the specific criteria on the part of the woman practicing the method. The reason such a distinction is made is because when one of the three criteria (EBF, amenorrhea, child is under 6 months) no longer applies, the method can no longer be considered reliable.¹ Despite the high prevalence of breastfeeding, correct use of LAM is sub-optimal due to inadequate LAM knowledge.^{34,43} Lack of understanding LAM leads to misperceptions that any breastfeeding prevents pregnancy,^{6,44} which can also lead to early initiation of complementary foods to infants.³⁴ Findings from a study conducted in Turkey of postpartum women documented that although 34.0 percent of the sample (n=188) reported using LAM, only 17.2 percent of LAM users actually met the three LAM criteria.³⁴ Similarly, in Niger, where more than half of breastfeeding women who were using some form of contraception reported using LAM, less than a quarter of these women used LAM correctly.⁴⁵

Interventions designed to improve LAM knowledge have been largely successful. For example, an Optimal Birth Spacing Interval study in Egypt examined the effectiveness of two service delivery models (a health services model and a community awareness model) as compared to a control group to improve optimal birth spacing among a cohort of pregnant women enrolled during their third trimester and followed through 10 to 12 months postpartum.⁴⁶ This study demonstrated that a higher percentage of women in the health services model were able to cite all three LAM criteria at 4 months postpartum compared to the control group (the numbers in the community awareness group were too small to report).⁴⁶ In another study, which examined a behavioral change communication intervention in Uttar Pradesh, India, none of the women (4–7 months pregnant at baseline) in either the intervention or control groups could describe the three LAM criteria at baseline; however, at follow-up, which took place at 4 to 5 months postpartum, 64.4 percent of women in the intervention group and less than 1 percent in the control group knew the three criteria.⁶ Findings from the LINKAGES project in Jordan found that, among the three LAM criteria, women have the most difficulty recalling the 6-month criterion.⁴

2.2.6 LAM as a Gateway Method

Because LAM is limited to the first 6 months postpartum, transition to another contraceptive method at or before 6 months is critical for LAM users who wish to limit or adequately space their pregnancies. Very limited evidence suggests that LAM users may be more likely to transition to another modern FP method than those who do not use any modern methods during the first 6 months postpartum. However, that evidence stems largely from observational studies that lack control groups, which limits the strength of any inference of causal effect. Additionally, each of the studies discussed in this section relied on convenience samples, limiting their generalizability beyond the study samples.

Only the LINKAGES study in Jordan specifically examined the effect of LAM use on other contraceptive method use at 12 months postpartum. The study reported that women who practiced LAM during the first 6 months postpartum were more likely than those who practiced BFFP, other traditional FP methods, or no method at all to be practicing a modern FP method at 12 months; however, LAM users were less likely to be practicing a modern FP method at 12 months than those who practiced another modern method (condom, intrauterine device [IUD], pills) during the first 6 months postpartum.⁴ Additionally, among those women who had not used a modern FP method in the 24 months before their index pregnancy (the pregnancy at enrollment into the study), women who used LAM were more likely to use a modern FP method at 12 months postpartum (38 percent) than women who practiced BFFP (20 percent) or women who used no FP during the first 6 months postpartum (15.7 percent).⁴ Among LAM users in the study, women who used a modern FP method in the 24 months before the index pregnancy and those whose menses returned before 12 months postpartum were significantly more likely to be using a modern method at 12 months than those who had not previously used a modern FP method in that period or whose menses had not yet returned.⁴

A handful of other studies have reported on other method use after LAM, but few examined the transition from LAM to another method. A study that examined 302 LAM users from nine countries reported that 70.5 percent of its subjects had transitioned to another FP method at 7 months postpartum; however, only 32.1 percent had transitioned to a modern FP method.³ The other 38.4 percent transitioned to non-modern methods, including withdrawal, periodic abstinence, and “extended LAM.”³ In the same study, but with a larger sample (n=519) of LAM acceptors, 86.0 percent of women had initiated another FP method at 12 months postpartum (the methods are not specified but likely include both modern and non-modern methods given their inclusion in the definition at 7 months).²

A quasi-experimental evaluation study of an intervention designed to improve the healthy timing and spacing of pregnancies among women in Uttar Pradesh, India, also showed that a significant proportion of

LAM users transitioned to other FP methods.⁶ In this study, 22 percent of women practiced LAM at the 4 month postpartum follow-up visit, and 68 percent of these LAM users had transitioned to another modern contraceptive method at 9 months postpartum.⁶ This study did not compare later modern method use rates between LAM users and non-LAM users.

The Healthy Fertility Study in Bangladesh examined the effectiveness of an intervention to improve postpartum FP and reported on contraceptive use at multiple points in time. Although transition after LAM is a noted endpoint, the authors did not present data on the transition from LAM to other modern FP methods in their final study report. To date, only formative and preliminary findings have been reported in the peer-reviewed literature.

While these studies suggest that LAM may contribute to greater modern method use by postpartum women, more research using more rigorous study designs is needed to help tease out whether women who use LAM are more likely to later use another modern FP method or whether women who would more likely use a modern FP method during the postpartum period are more likely to choose to practice LAM initially.

2.2.6.1 Barriers to Transitioning

The USAID-sponsored project ACCESS-FP conducted a descriptive study of barriers to transitioning from LAM to another contraceptive method in FP programs implemented by Save the Children in three countries.⁴⁷ For each assessment (in each country), a convenience sample of 80 women who practiced LAM was enrolled: 40 women who had transitioned to another FP method after using LAM and 40 women who had not. These women were compared on a variety of outcomes. Additionally, in-depth interviews were conducted with 20 transitioners and 20 non-transitioners from each country. Main barriers to transitioning are reported below in Table 1, by country.

Table 1. Main Barriers to Transitioning to Another Modern FP Method after LAM, as Reported by Women in the ACCESS-FP Barrier Analyses^{47,48}

Bangladesh	Guinea	Uganda
<ul style="list-style-type: none"> • Waiting for the return of menses • High parity • Women’s previous experience with return to fertility • Believe/heard menses are necessary to initiate another FP method • Side effects • Financial concerns (cost of methods and treating side effects) • Lack of support from husband or mother-in-law 	<ul style="list-style-type: none"> • Lack of information on other modern methods • Difficulty accessing other modern methods • Waiting for the return of menses • Fear of informing spouse • Perceived lack of support for FP use from husband or co-wives 	<ul style="list-style-type: none"> • Waiting for the return of menses • Fear of side effects from other FP methods • Misperceptions about modern methods • Perception that one cannot conceive while breastfeeding • Lack of support from husband

Several barriers were common across the three countries, including waiting for the return of menses to initiate a modern method and lack of support from others, particularly the husband. Waiting for the return of menses after having a baby to initiate a contraceptive method other than LAM has been reported extensively as a barrier to FP for postpartum women. The underlying cause of this barrier appears to be

twofold: Women often do not think they can become pregnant before their menses return, and providers often refuse to provide a method to women who are not menstruating because they lack access to pregnancy tests and they fear initiating a method when a woman may be pregnant.

2.2.7 LAM Promotion Associated with Improved Breastfeeding Practices

Because the practice of LAM relies on EBF, the two are inherently connected. However, the relationship between LAM and EBF can be difficult to tease out. For example, does the choice to practice LAM as a contraceptive method improve women’s breastfeeding practices because they have additional incentive to practice EBF, or do women choose LAM as a contraceptive method because they plan to practice EBF? In other words, would strengthening women’s knowledge and attitudes about LAM increase LAM use and therefore also increase the proportion of women who practice EBF for 6 months postpartum, or would we simply increase women’s understanding of the natural period of infertility associated with EBF so that they can transition to another method in a timely manner once they are no longer protected by EBF alone? Although subtle, this distinction is important and can influence programming strategies to provide services to postpartum women.

While a handful of studies have examined the duration of LAM practice, only one study intentionally looked at the relationship between LAM use and duration of EBF. The LINKAGES study in Jordan compared breastfeeding practices among women who used different FP methods during the first 6 months postpartum (Table 2). They found that far fewer women who practiced LAM introduced other milks or semi-solid foods into their infants’ diets before 6 months than women who used any other FP method—including BFFP—or no method at all.⁴ However, the Jordan study found that although fewer LAM users introduced other milks and solid food before 6 months postpartum as compared to other women, a substantial proportion (46 percent) did introduce solids before 6 months.⁴ This suggests that, while LAM use may contribute to extending the period of EBF for postpartum women, there remains much work to do to promote EBF for a full 6 months, even among LAM users.

Table 2. Percentage of Women Introducing Other Milks and Semi-Solid Foods in the First 6 Months by Type of FP Method Used in the First 6 Months⁴

	N	LAM	Condoms	Pills	IUD	BFFP	Periodic Abstinence	Withdrawal	No Use
Introduced other milks	3,025	9.0	31.0	35.0	31.0	16.0	45.0	33.0	35.0
Introduced semi-solid foods	3,023	46.0	58.0	68.0	66.0	58.0	73.0	67.0	64.0

2.3 Malagasy Context

The state of maternal and child health in Madagascar reflects that of many countries in the region. Despite progress over the past two decades, maternal and child mortality remains high. The annual maternal mortality rate was estimated to be 478 per 100,000 in 2013; annual mortality among infants under 1 year was 42 per 1,000 live births, and under-5 mortality was estimated at 56 per 1,000 live births.⁴⁹ Preterm births contribute to a substantial number of neonatal deaths, and it is estimated that as much as 35 percent of under-5 deaths can be attributed to nutrition-related factors.⁴⁹

2.3.1 Breastfeeding

Breastfeeding is nearly universal in Madagascar (98.2 percent), and the proportion of children put to the breast within 24 hours of birth increased from 88.4 percent in 2003–04 to 92.2 percent in 2008–09.⁸ Providing the first milk, or colostrum, not only provides essential nutrients and immune protection to the child, but it can stimulate production of breast milk. In addition, breastfeeding in itself can facilitate emotional bonding between mother and child. Moreover, ensuring that newborns are put to the breast within 24 hours of birth is the first step toward EBF. Yet EBF of infants under 6 months has remained low in recent years: 29.8 percent in 2008–09 compared to 21.9 percent in 1997.^{9,50}

In Madagascar between 1997 and 2004, LINKAGES worked with the Measure Communication Project to train selected health professionals to estimate the consequences of malnutrition by using national and international data and the PROFILES computer model.⁴⁰ Their analysis attributed 14 percent of infant deaths in Madagascar to sub-optimal breastfeeding practices and 54 percent of child deaths to protein-energy malnutrition.⁴⁰ It was also estimated that Madagascar would suffer economic losses of US \$440 million between 2000 and 2010 due to sub-optimal breastfeeding practices.⁴⁰

2.3.2 Family Planning

Data from the 2008-09 DHS provide a general assessment of the FP environment in Madagascar. Knowledge of FP methods is high, with women able to recall an average of 6 methods and men recalling 5 methods.⁹ More than 90 percent of men and women know at least one modern method, and the most commonly cited modern method was oral contraceptive pills followed by injectables and male condoms.⁹ By contrast, only 43 percent of women and 24 percent of men were familiar with LAM.⁹

Despite high contraceptive knowledge, fewer than half (41 percent) of Malagasy women have ever used any method of contraception.⁹ Current modern FP method use at the time of the survey was 23 percent.⁹ Only 5.7 percent of all married or sexually active women age 15 to 49 years of age report ever having used LAM; the proportion of women who have ever used LAM is highest among the 30–34 age group (11.6 percent). According to the DHS, current LAM use among all married or unmarried but sexually active women was 1.0 percent in 2008–09; however, when we restrict the calculation to only women who are 0–6 months postpartum, current LAM use at the time of the survey was 7.4 percent nationally.^{8,9}

Nearly half (46.6 percent) of married women who are not currently using contraception indicated that they want to use contraception in the future, with the highest percentage of respondents preferring injectables (57 percent) followed by pills (14 percent).⁹ Among the 40.3 percent of women who indicated that they had no intention of using contraception in the future, nearly one in five (18.7 percent) said they wanted as many children as possible. Another fifth (22.1 percent) cited not being able to get pregnant (infecund, hysterectomy, or menopausal) as their reason for non-use, and 15.9 percent cited opposition to use (their own or another's).⁹ Health problems (10.2 percent) and fear of side effects (17.5 percent) were the remaining two most commonly reported reasons for non-use.⁹ Among those women who were not currently using a modern FP method, 83.3 percent reported not receiving any information on FP from a health care provider or community health worker in the prior 12 months; while 29.2 percent of non-users reported having visited a health facility in the prior 12 months, fewer than half received any information on FP from a provider.⁹

Nearly three-quarters of DHS respondents (73.0 percent) access FP methods from the public sector, with 60.0 percent obtaining methods at basic community health centers.⁹ One in five women (19.7 percent) access FP methods from the private medical sector, and approximately 7.0 percent obtain their methods from other sources.⁹ Only 2.2 percent of women got their methods from community health workers

(CHWs) at the time of the last DHS.⁹ Similarly, very few women report discussing FP with a CHW (4 percent) or health care provider (10.7 percent) in the past year.⁹

2.3.3 Previous LAM and Breastfeeding Programming in Madagascar

LINKAGES, USAID's flagship project for breastfeeding promotion from 1996–2006, aimed to improve infant survival, nutrition and development as well as improve maternal and reproductive health.^{41,51} The key behaviors targeted by the project were to increase the proportion of women who initiate breastfeeding within the first hour of birth; increase the proportion of mothers who exclusively breastfeed their infants for the first 6 months of life; increase the proportion of postpartum women who practice LAM to help space their pregnancies; and improve complementary feeding of infants 6–9 months of age.⁵²

The Madagascar program consisted of four phases: (1) support to the MOH for national policy activities and establishment of an intersectoral nutrition action group (1997–1999); (2) district and community activities in the provinces of Antananarivo and Fianarantsoa beginning in 2000; (3) provincial focus including support for provincial nutrition action groups, promotion of self-learning Essential Nutrition Actions training modules, mass media, Baby-Friendly Hospital, Clinic, and Workplace initiatives, pre-service medical and paramedical training, and training of private doctors (2002–2006); and (4) added emphasis on complementary feeding (2005–2006).⁵²

The final LINKAGES report on the Madagascar effort estimated that 6.3 million women were reached across 23 districts in 2 of 6 regions.⁵² The authors concluded that over 5 years (2000–2005) in program areas, the timely initiation of breastfeeding (TIBF) increased from 32 percent to 68 percent, EBF increased from 42 percent to 70 percent, and the LAM rate increased dramatically from 2 percent to 24 percent.⁵² However, it is important to note that these findings are largely based on results from data collected in sites that were initially selected because they were among the highest performing districts and so should be interpreted conservatively.⁴¹

The Government of Madagascar is committed to achieving the Millennium Development Goals and recently scaled up its volunteer CHW program in maternal health and FP to reach the nation's predominantly rural population.⁵³ CHWs are trained to provide integrated maternal, reproductive health, and FP services including counseling and provision of short-acting methods (e.g., condoms, oral and injectable contraceptives).⁵³ An evaluation of 100 CHWs trained to provide contraceptive counseling and short-acting contraceptive services at the community level was conducted in 2011.⁵³ CHWs were observed providing contraceptive counseling to clients at the health center in their catchment area. Slightly more than half (53 percent) presented at least one advantage of LAM during their counseling sessions.⁵³ The first part of the observation checklist used to score CHW performance assessed the CHW's procedures used in welcoming the client and obtaining basic information about her contraception needs and the second part evaluated the CHW's ability to accurately determine the client's eligibility for FP methods and to provide quality counseling on the method chosen by the client. The mean performance score (possible scores ranged from 0–100 percent) for CHWs based on five client encounters was 74 percent (95 percent CI: 70.3–77.6 percent; range 40.7 percent to 100 percent).⁵³ Variables associated with performance scores were years of education completed, weekly work hours as a CHW, and participation in refresher training after the initial FP training.⁵³

2.4 Summary

For nearly three decades, advocates have been promoting the contraceptive benefits of LAM. Despite these efforts, understanding and use of the method remains low. Lack of awareness by women appears to be the most important reason why more women do not practice the method, though with low rates of EBF in many populations, it may not be a feasible method for many. Promotion of LAM by health care

providers and others such as CHWs also seems to be weak, even among those who have been trained on it; but, where health personnel have successfully promoted the methods, improvements in LAM knowledge and use have been documented.

The body of literature supporting LAM both in terms of its effectiveness and as a bridge to other modern FP methods is small. The evidence that does exist is plagued by limitations: Most studies have relied on observational designs without comparison groups—which provide weaker evidence than experimental studies because they are susceptible to a myriad of threats to internal validity/confounding—and on convenience samples, which limit generalizability. There are many possible reasons for the use of these more limited study and sampling designs, many of which are probably related to the small numbers of women who have adopted LAM in these study settings, as well as the ethical and feasibility difficulties that randomizing women to use LAM or not would pose.

Despite the limitations of the evidence to support it, LAM has been widely integrated into global guidance and national policies for FP. Many may argue that, given what we do know about the natural period of infertility that occurs due to certain breastfeeding patterns and what we know about the health benefits of EBF, more rigorous evidence may not be that important. Promoting EBF for the first 6 months postpartum has known health benefits for the infant, and fully or nearly fully breastfeeding in the early postpartum period does help prevent pregnancy. Promoting LAM can serve to improve women's understanding of the limitations of these contraceptive effects, which can also permit women who chose to practice EBF to transition to a modern FP method in a timely manner so as to limit their chances of becoming pregnant before they wish to do so. There is also programmatic evidence to suggest that promoting the added contraceptive benefit of LAM may, in turn, provide additional incentive for women to practice EBF for the full 6 months. Therefore, more fully integrating LAM promotion into existing maternal and infant health services could contribute to better health outcomes for both the mother and the child.

3 Study Goal and Objectives

The goal of this study was to provide decision makers and program managers with evidence to improve programming aimed at increasing FP use, notably LAM, and EBF among postpartum women in USAID/Madagascar-funded programs. The specific study objectives were to:

- Document contraceptive knowledge, attitudes, and use; contraceptive intentions and reasons for non-use; and retrospective data on EBF practices among postpartum women in the study area;
- Examine individual characteristics associated with EBF and FP/LAM use, as well as the relative importance of barriers and facilitators to FP use and EBF practices among postpartum women;
- Examine current knowledge, attitudes, and practices regarding EBF, LAM, and FP counseling and service provision among CHWs and the health care providers who support them; and
- Explore potential strategies to improve EBF and FP uptake among postpartum women.

Key questions that the formative study addressed included:

- Is LAM an acceptable and feasible modern FP method among postpartum women?
- Which are the most important barriers to use of LAM and other FP methods?
- Which barriers can be addressed and facilitators leveraged to increase LAM use among postpartum women?

4 Methods

4.1 Study Design

This mixed-method, cross-sectional, descriptive study gathered information from CHWs (supported by Malagasy Heniky ny Fahasalamana [Malagasy Healthy Families, MAHEFA]) and their supervisors and from a representative sample of women who were 6 to 12 months postpartum to examine knowledge, attitudes, and practices regarding EBF, LAM, and FP, as well as counseling and service provision on these three topics.ⁱⁱ Structured interviews included both open- and closed-ended questions to explore knowledge, attitudes, and practice of EBF and FP; the role of influential others (e.g., husband, mother, mother-in-law) in breastfeeding and FP decisions; FP future intentions; and knowledge of and attitudes toward healthy timing and spacing of pregnancies and perceived benefits and barriers to EBF and FP. To explore potential strategies to improve EBF and LAM uptake among postpartum women, expanded semi-structured interviews were conducted with a subset of postpartum women who were identified as practicing EBF for 6 months and among women who reported having practiced LAM (Table 3).

Table 3. Overview of Study Design, Sample Size, and Methods, by Objective

Objective	Study Population	Data Collection Methods	Sample Size
1. Document contraceptive knowledge, attitudes, and use; contraceptive intentions and reasons for non-use; and data on EBF practices among postpartum women in the study area	CHW clients who are 6 to 12 months postpartum	Structured interviews	250
2. Examine the individual characteristics associated with EBF and FP/LAM use, as well as the relative importance of barriers and facilitators to FP use and EBF practices among postpartum women			
3. Examine current knowledge, attitudes, and practices regarding EBF, LAM, and FP counseling and service provision among CHWs and the health care providers who support them	CHWs	Structured interviews	28
	Supervising health care providers for sampled CHWs	Structured interviews	10
4. Explore potential strategies to improve EBF and FP uptake among postpartum women	CHW clients who are 6 to 12 months postpartum	Semi-structured interviews	29 (EBF) 2 (LAM)

ⁱⁱ MAHEFA is a 5-year (2011–2016) health program that provides basic, quality health care to isolated populations in nine remote regions in north and northwest Madagascar. The project is funded by USAID/Madagascar and implemented by John Snow Inc., with partners the Manoff Group, Transaid, and various local NGO partners.

	CHWs	Structured interviews w/open-ended questions	10 (same individuals as in objective 3)
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4.2 Study Setting and Population

The study was conducted in Ambilobe District, DIANA Region, Madagascar in September–October 2014. The decision to focus on Ambilobe District in DIANA Region was based on discussions with stakeholders including MAHEFA technical staff, the researcher who has led other formative work for MAHEFA in Madagascar, and staff from the USAID Mission in Madagascar. The choice was made on three factors: 1) the district has low EBF and FP prevalence compared to both national averages and other districts in the region;ⁱⁱⁱ 2) no formative research has been conducted or is planned for this area so the study will not duplicate other efforts and will serve to provide important information to the project; and 3) the communes within this district are relatively easily accessible, which will facilitate data collection within a reasonable timeframe.

There are 15 communes and 174 *fokontany* in Ambilobe District (Table 4).^{iv} Currently there are supposed to be two active CHWs within each *fokontany*, all of whom are attached directly to a health center for supervision.

Table 4. Communes, *Fokontany*, and CHWs in Ambilobe District, DIANA Region

Commune (15 total)	Number of <i>Fokontany</i>	Number of CHWs	Name of Health Center (CSB) to Which CHWs are Attached in the Commune
Ambakirano	19	38	CSB2 Ambakirano CSB1 Anketrakabe CSB1 Antanabe
Ambarakaraka	11	22	CSB2 Ambarakaraka CSB1 Ambakirano
Ambatoben'anjavy	10	20	CSB2 Ambatoben'anjavy CSB1 Amborondolo
Ambilobe (commune)	11	22	CSB2 Ambilobe
Ambodibonara	8	16	CSB1 Ambodibonara
Ampondralava	7	14	CSB2 Ampondralava
Anaborano Ifasy	12	24	CSB2 Anaborano Ifasy
Anjiabe	6	12	CSB2 Anjiabe

ⁱⁱⁱ FP use in other districts of DIANA region ranges from 20 percent (Nosy-be) to 43 percent (Ambanja); it is 29 percent in Ambilobe. EBF in other districts of DIANA region ranges from 45 percent (Ambilobe) to 100 percent (Antiranana II and Nosy-be). (Personal communication from Rabemanantsoa, Andry HI. JSI, May 17, 2013. Data are from the MAHEFA baseline survey results.)

^{iv} *Fokontany* is a traditional village unit.

Antsaravibe	12	24	CSB2 Antsaravibe CSB1 Ampanasina CSB1 Ambatoharanana
Antsohimbondrona	15	30	CSB2 Antsohimbondrona CSB2 Ouest-Sucre CSB1 Nosy-Mitsio CSB1 Pilakibe
Beramanja	20	40	CSB2 Beramanja CSB1 Siranana
Betsiaka	13	26	CSB1 Ambararata Loky CSB1 Ankaramy CSB2 Betsiaka CSB1 Tanambao Mangily
Manambato	7	14	CSB2 Manambato CSB1 Ambohipato
Mantaly	12	24	CSB2 Mantaly
Tanambao Marivorahona	11	22	CSB2 Marivorahona
Totals	174	348	29

4.3 Sampling and Sample Size Calculation

A two-stage cluster sampling strategy was used to select postpartum women for this study. Sample size for postpartum women was calculated based on the ability to detect the current contraceptive prevalence (CP) among CHW clients 6–12 months postpartum. Current data indicated that CP in this district is approximately 12.9 percent.⁹ The simple random sample necessary to estimate a CP of 15 percent (slightly more conservative estimate than 12.9 percent) with a 95 percent confidence interval (CI) of +/- 5 percentage points is 195. Because this was a 2-stage sampling process, adjustments were made to account for cluster effects. Data from which to calculate the expected intra-class correlation coefficient (ICC) among women 6–12 months postpartum in Ambilobe District are limited; however, a 2008 study conducted in Madagascar revealed an ICC for contraceptive use among postpartum women of 0.023.⁵⁴ Therefore, using an ICC of 0.023, the total sample size necessary to estimate a 15 percent CP in Ambilobe was 240 or 14 women selected in each of 18 *fokontany*. To account for potential non-response, we increased the sample size by 20 percent, thereby sampling 16 women in each of 18 *fokontany* for a total of 288 women.

First, 18 *fokontany*, which served as our primary sampling unit, were randomly selected with probability proportionate to size (PPS). Our PPS measure of size was an estimate of the number of women of reproductive age in each community, based on *fokontany*-level population data derived from a combination of district census records and DHS data for DIANA Region. Given that women of reproductive age make up approximately 24 percent of the population in Madagascar and prevalence of pregnancy among those women is 8 percent, we restricted our sampling frame to *fokontany* with a minimum of 200 women of reproductive age. The reason for this was to both increase our likelihood of achieving the necessary sample within each *fokontany* and to improve the confidentiality of women who participate in the study, which could be more difficult to maintain in very small communities.

Next, research assistants (RAs) worked with CHWs in the selected *fokontany* to develop a sampling frame of all postpartum women from CHW records and their knowledge of community members. If the number of eligible women in a *fokontany* exceeded the number to be selected within the *fokontany* (16), then a random sample of 16 eligible women was selected. If, however, the number of eligible women equaled or was less than the calculated sample size, all eligible women were recruited. All CHW clients who were 6 to 12 months postpartum and whose child was living with them were eligible for the study. If a woman's baby had died or was not living with her, the woman was excluded.

For expanded interviews, we did not anticipate large numbers of women who reported having practiced LAM or EBF. Therefore we asked RAs to administer the expanded interview questions to each woman who met the eligibility criteria of having practiced one or the other until we achieved our sample of at least 12 women in each group. Although women who actively practice LAM for 6 months postpartum also practice, by definition, EBF, we included in the LAM group only those women who self-reported as having practiced LAM and included in the EBF group those who reported EBF but not LAM.

For CHW and CHW supervisor interviews, all CHWs in a selected *fokontany* and their supervisors were recruited.

4.4 Recruitment

Once an eligible woman was identified and selected, CHWs accompanied RAs to her home. The study's purpose was then explained and, if the woman was interested in participating, RAs obtained informed consent and administered the interview. Before beginning the informed consent process, the woman was asked if she preferred to be interviewed at home or elsewhere. All participants chose to be interviewed at home.

4.5 Data Collection and Instruments

Data collection was overseen by the local investigator and the study principal investigator (PI). The PI and the local investigator trained the RAs on research ethics, the data collection instruments, informed consent procedures and forms, and recruitment procedures.

Data were collected using three structured questionnaires (see Annex 1) and one semi-structured interview guide designed to meet the study objectives. All study instruments were translated into Malagasy; the local consultant managed translation of all study documents including validating that the translation was accurate. A description of each instrument follows.

4.5.1 Postpartum Women Questionnaire

The questionnaire administered to postpartum women included questions about demographics (age, relationship status, education, and occupation); EBF knowledge, attitudes, and practices (LAM criteria, facilitators and barriers to EBF, breastfeeding initiation, current breastfeeding status, and breastfeeding duration); reproductive and FP history (parity, number of living children, knowledge of FP methods, ever/current/future contraceptive use, contraceptive intentions and reasons for non-use); current pregnancy risk (infant age, number of months postpartum, breastfeeding status, status of menses since last birth, return to sexual activity); and perceptions about susceptibility to and severity of an unplanned pregnancy, benefits of FP, barriers to using FP, and self-efficacy for using FP.

4.5.2 Community Health Worker Questionnaire

Data collected from CHWs included questions on FP service delivery including the type of FP services provided; the number of clients served during a typical week/month; estimated time spent with a typical client; provision of EBF and LAM support; knowledge and attitudes regarding EBF, FP (LAM specifically), and child spacing; perceived social norms regarding key EBF and FP behaviors and child spacing; perceived influences on EBF and FP behaviors, especially support or lack of support from key gatekeepers; and access to and preferences regarding options for provision of modern FP methods. In addition, CHWs were asked to provide ideas about potential strategies to improve EBF and FP/LAM service delivery and uptake among their clients.

4.5.3 Supervisor Questionnaire

CHW supervisors were interviewed to gather information about the level of support for EBF and LAM promotion at the health center and in the community. Supervisors were asked to suggest ideas about potential support they can provide to CHWs to help them improve the quality of their work and increase EBF and FP/LAM uptake among their clients.

4.5.4 Expanded Open Questions on EBF and LAM

A subset of postpartum women who completed the survey questionnaire and were identified as either having practiced EBF for 6 months or having practiced LAM were asked detailed questions about barriers and facilitators to LAM use and EBF practices among postpartum women.

4.5.5 Quantitative Data Management and Analysis

Data from structured questionnaires were entered directly into tablet computers and uploaded at least weekly to a database stored on a secure, password-protected server. Data from semi-structured interviews were digitally recorded onto the same tablet computers, then transcribed and typed by the RAs as soon as possible after each interview. All questionnaires were pilot-tested during the data collector training with postpartum women, CHWs, and CHW supervisors in Antsiranana, DIANA Region.

Data cleaning, data checks, and analyses were completed in North Carolina by the data analyst and/or the PI in consultation with the FHI 360 biostatistician assigned to this study. Data were archived in accordance with FHI 360 standard operating policy.

Sampling weights for the postpartum women data were calculated, and analyses of these data were adjusted for cluster effects of the sampling design. All analyses were conducted using SAS 9.3.⁵⁵ An overview of analyses specific to each study objective appears below:

Objective 1: Document contraceptive knowledge, attitudes, and use; contraceptive intentions and reasons for non-use; and retrospective data on EBF practices among postpartum women in the study area.

We calculated descriptive statistics applying sampling weights to the analyses and controlling for cluster effects of the sampling design.

Objective 2: Examine individual characteristics associated with EBF and FP/LAM use, as well as the relative importance of barriers and facilitators to FP use and EBF practices among postpartum women.

To document the relative importance of barriers and facilitators, we conducted bivariate analyses examining the strength of association between measures of individual characteristics, barriers, and facilitators and the outcomes of interest: EBF and FP/LAM use. We then put any independent variables

that were statistically associated with the outcomes of interest into a multivariable model to examine their relative strength of association with each outcome. Bivariate analyses for categorical variables were conducted using logistic regression and adjusted for cluster effects of the sampling design and, as noted above, sampling weights were applied to all analyses for data from postpartum women participants. Test statistics with a p-value < 0.05 were considered statistically significant.

Objective 3: Examine current knowledge, attitudes, and practices regarding EBF, LAM, and FP counseling and service provision among CHWs and the health care providers who support them.

Descriptive analyses were conducted for these variables. Because the CHWs and supervising providers do not constitute a probability sample, we did not calculate CIs or other inferential statistics for these groups. The number of individuals for each response option of each item is reported due to small sample sizes (28 CHWs and 10 health care providers).

Objective 4: Explore potential strategies to improve EBF and FP uptake among postpartum women.

The data for this objective were derived from open-ended questions posed during expanded interviews. These analyses were qualitative in nature (see below).

4.5.5.1 Missing Data

Data were examined for completeness (variables missing responses that should not be missing responses, i.e., not part of a skip pattern) and “correctness” (values out of range, responses that seem to contradict other responses, or just do not make sense). No imputation of missing data was performed. Missing data are noted in table or figure footnotes.

4.5.6 Qualitative Data Management and Analyses

Data from semi-structured interviews were digitally recorded onto the same tablet computers, then transcribed and typed by the RAs as soon as possible after each interview. Qualitative thematic analysis methods were used to analyze the semi-structured interview responses. Open-ended responses were transcribed and translated. All transcripts were typed into a word processing program and password-protected; some transcripts were handwritten first. Transcripts and the database were stored on password-protected computers. All data were sent electronically via email to FHI 360 headquarters or stored directly onto FHI 360’s network.

Data-derived codes developed through inductive coding and retrieving were used during analysis. *A priori* codes for retrieving text for key concepts related to the overall objectives also were applied to the data. New codes were added as necessary during interview analysis. QSR NVivo software was used to organize all qualitative data and prepare the data for analysis. Procedures were established to check for inter-coding discrepancies. Once all the transcripts were coded, textual coding reports were produced. Data reduction techniques were used to examine codes in detail for sub-themes and patterns across the interviews. Summary reports were developed.

4.6 Ethical Considerations

This research study was reviewed and approved by both the Madagascar National Ethics Committee and FHI 360’s Protection of Human Subjects Committee before implementation. All investigators, technical monitors, and study staff completed training in human subjects’ protection before study implementation began. For both the structured and semi-structured interviews, written informed consent was obtained from each participant before the interview was conducted.

5 Results

5.1 Postpartum Women

A total of 250 of the 256 women selected were interviewed for the study, a response rate of 97.7 percent. Some *fokontany* had fewer than the estimated number of postpartum women, which reduced the number of eligible women to be recruited. Among the 256 women who were selected, two refused to participate and four were not available to be interviewed (they had traveled).

Note: All percentages presented for postpartum women in this section are weighted unless otherwise noted.

5.1.1 Background Characteristics

Women in the study were young, married, and had at least some primary education in general, but they varied considerably on a number of socio-demographic characteristics (Table 5). Although nearly one in five women interviewed had no formal education, nearly 40 percent had at least some secondary education or greater. In terms of religion, half of respondents were Christian (evenly split between Catholic and Protestant sects), one-fifth were Muslim and nearly one-third reported another religious affiliation (predominately no religion).

Table 5. Demographic Characteristics of Postpartum Women Participants

	(n=250) % (or mean)
Average age (range)	25.9 (18–46)
Education	
No formal schooling	21.2
Some primary schooling	27.5
Completed primary school	12.6
Some secondary School	32.9
Completed secondary school	4.5
Any post-secondary school	1.4
Religion	
Protestant	25.2
Catholic	21.0
Muslim	22.3
Other	31.5
Marital status	
Married or partnered/living together	67.7
Married or partnered/not living together	10.0
Separated, divorced, or widowed	10.1
Never married or partnered	12.2
Type of work done for pay in cash or in-kind	
None/unemployed	59.1

Sales/small business	18.9
Artisan	0.8
Unskilled manual	0.3
Agriculture	18.9

The majority of respondents were married at the time of the interview, although nearly one quarter were unmarried, including 12.2 percent who had never been married. Approximately 40 percent of women reported working regularly, about half of whom were self-employed in sales/small business.

Because the influence of husbands/partners can be important to the use of FP, we also asked those women who were married/partnered about their partners (Table 6). Overall, the distribution of education reflected that of the women in the study, though slightly more husbands/partners were reported to have completed secondary or any post-secondary education than the women who participated. The majority of women reported that their husbands/partners were currently employed, primarily in agriculture.

Table 6. Education and Employment of Husbands/Partners (n=197)

	%
Highest level of education of husband/partner¹	
No formal schooling	18.4
Some primary schooling	22.5
Completed primary school	18.3
Some secondary school	23.0
Completed secondary school	5.5
Any post-secondary school	12.7
Type of work husband/partner does for pay in cash or in kind	
None	22.1
Professional, technical, management	2.7
Sales/small business	13.5
Artisan	8.0
Skilled manual	2.4
Unskilled manual	10.0
Agriculture	31.5
Other	9.7

1. 20 missing responses

5.1.2 Breastfeeding

We assessed breastfeeding practices among postpartum women, asking them to report on their breastfeeding knowledge, attitudes, and behaviors during the first 6 months of their baby's life. Breastfeeding was nearly universal among study participants, with only four women reporting that they

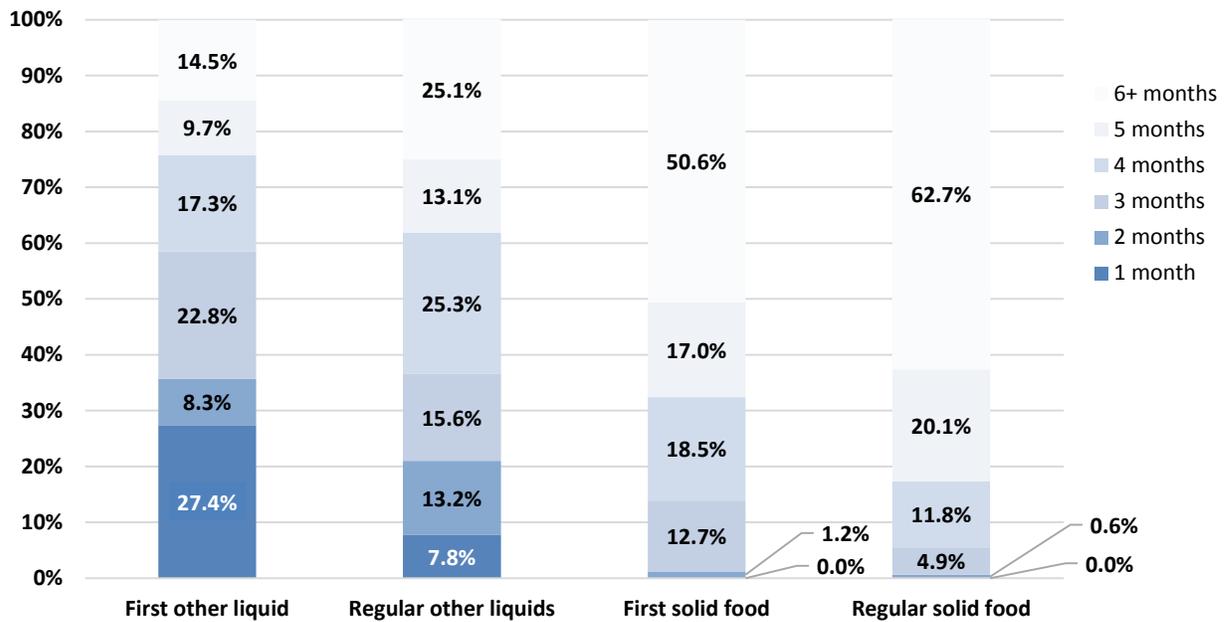
never breastfed their baby. The reasons for which these women did not breastfeed at all included: the mother did not establish adequate milk flow (n=2); the baby would not breastfeed (n=1); and health problems for the mother (n=1). Women initiated breastfeeding within the first 24 hours after delivery, with more than half initiating immediately after delivery. Nearly all women were still breastfeeding their infants as of the time of the interview (6–12 months postpartum).

Only 14 percent of infants were exclusively breastfed for the first 6 months of life when EBF was defined as not giving any foods or other liquids during the first 6 months (Table 7). We calculated this proportion by asking women at what age they first gave liquids other than breast milk and solid foods to their infants, at what age they began giving other liquids or solids “regularly” (defined in the questionnaire as every day or at least a few days per week), in addition to asking women to identify the liquids and foods their infants were given during the first 6 months after birth. Many women reported having given a liquid other than breast milk, most commonly tea or water, before 6 months. But the women said these liquids were not given regularly before 6 months, so they might have been given during an illness or another short-term reason. This means the actual rate of EBF could be higher. By our strict definition, more than half of infants (63.5 percent) were exclusively breastfed for at least 3 months (Figure 1); solids were not introduced for most until 6 months or after.

Table 7. Infant Breastfeeding Practices (n=250)

	%
Ever breastfed baby	97.4
Initiated breastfeeding	
Immediately after birth	53.4
Within 24 hours of birth	39.8
Within 2 days of birth	1.8
Other	2.4
Did not breastfeed	2.6
Baby exclusively breastfed for 6 months	14.3
Still breastfeeding	96.0

Figure 1. Age When Other Liquids or Solids Were First and Then Regularly Introduced into Infants' Diets (n=250)



We asked mothers to report the foods and liquids given to their infants before 6 months. In the first 3 days after birth, nearly half of mothers reported giving their babies something besides breast milk (Table 8). Tea and water were most commonly given, both during the first 3 days and at other times during the first 6 months after birth.

Table 8. Liquids and Solids Introduced into the Infant’s Diet (n=250)

	%
Liquids other than breast milk given during first 3 days of life ^{1,2}	
Nothing	51.8
Tea/herbs	32.2
Plain water	12.9
Boiled water	7.9
Milk (other than breast milk)	3.3
Sugar or glucose water	2.8
Powdered milk	0.5
Liquids other than breast milk given during first 6 months of life ^{1,2}	
Nothing	14.3
Tea/herbs	43.4
Plain water	30.1
Boiled water	20.7
Milk (other than breast milk)	13.8
Powdered milk	12.2
Sugar or glucose water	6.7
Salt and sugar solution	0.5
Fruit juice	0.5
Other	11.2
Solids given during first 6 months of life ^{1,2}	
Nothing	21.5
Cereals: Oatmeal, bread, rice, pasta, others	55.6
White-fleshed tubers (e.g., cassava, yams, potatoes)	15.8
Cheese, yogurt, or other dairy products	12.8
All sugary foods such as candies, pastries, or biscuits (cookies)	6.6
Yellow- or orange-fleshed fruits and vegetables (e.g., pumpkin, carrots, squash, or sweet potatoes)	2.5
Other fruit and vegetables	2.4
Beans, peas, lentils, nuts, seeds, or foods containing these items	1.9
Dark green leafy vegetables	1.1
Meats such as beef, pork, lamb, goat, chicken, or duck	0.8
Fresh or dried fish, shellfish, or other seafood	0.8
Eggs	0.4

1. Four missing (4 women who never breastfed)

2. More than one response possible

All women were asked what problems, if any, they experienced with breastfeeding their infant during the first 6 months of the baby’s life. Among women who breastfed exclusively, only three reported any problem, which included breast pain (n=1), mother was ill (n=1), and the baby had a fever (n=1). Many more problems were reported by women who did not breastfeed exclusively (Table 9). Not having enough breast milk was the most common problem, reported by about one-third of women who experienced problems breastfeeding (n=16), followed by breast pain. Mother or baby illness, including breast infections, also created breastfeeding problems for a few women.

Table 9. Problems Breastfeeding during the First 6 Months Among Women Who Did Not Practice EBF and Reported Problems (n=47)¹

Problem Associated with Breastfeeding	n
Not having enough breast milk	16
Breast pain	9
Mother fell ill	8
Breast abscess/infection	5
Baby was ill	4
Mother was weak/dizzy	3
Infant would not breastfeed	1
Other (marital conflict)	1

1. Analysis not weighted.

5.1.3 Exclusive Breastfeeding (In-Depth Interview Data)

We sought to better understand facilitators and barriers to EBF among a subset of women (n=29) who reported having practiced EBF for 6 months. The most commonly reported facilitator to practicing EBF was the support of a health care worker (n=12), followed by family support (other than husband) (n=11), knowing the health benefits to the baby (n=11), and having the support of the husband (n=7). Health care support came from doctors, CHWs, and midwives who educated and convinced the mothers to practice EBF. One mother reported receiving counseling during prenatal care and another reported that the CHW would visit her every now and then to support her in practicing EBF. Support from mother/mother-in-law and husband was among the most commonly reported family support. A few women stated that their husbands' support and encouragement is what motivated them to continue to breastfeed. Other important factors mentioned were that practicing EBF had no financial cost (n=4), mothers felt that their milk supply was sufficient to nourish their baby (n=3), EBF is easy to practice (n=1), and EBF encourages bonding with the baby (n=1).

In terms of barriers to EBF, about one-third of the women interviewed reported experiencing no problems practicing EBF (n=10). A little less than a half (n=13) of the women reported that others tried to influence them to give their baby food or banana powder or mentioned that the mother's milk is not sufficient; however, they all reported not giving in to others' influences. Other challenges reported were the demands of breastfeeding (n=6), the feeling of having insufficient milk (n=2), food and drink traditions (n=2), breast pain (n=1), working and having to feed (n=1), and not feeling comfortable to expose breasts in public/around others (n=1). The demands of breastfeeding reported as barriers included lack of sleep during the nights and feeling fatigued.

We asked women what they felt would help them to practice EBF again in the future, should they have another baby. More than half of the women interviewed reported needing the support of their family in order to practice EBF in the future (n=15). Three women reported needing better nutritional support for themselves next time as breastfeeding expends a lot of energy. Three other women reported that their experience with the first child will help them to practice EBF in the future.

In addition to asking women who successfully practiced EBF for 6 months about their personal experiences, we asked them to shed light on reasons why they think that their peers in their communities choose not to practice EBF. The most common reason women think others do not practice EBF was that women think they do not have a sufficient milk supply to nourish their baby (n=13).

“Inadequate (quantity of) breast milk pushes other mothers to not practice EBF and to give other foods to their babies.”

“In general, it is the women who are malnourished (themselves) who cannot practice EBF. They don’t have enough milk.”

“The reason is poverty. They don’t have the means to follow a healthy diet while breastfeeding, and their breast milk is not sufficient.”

Other reported reasons include not having the time as mothers need to work (n=9), not wanting their breasts to change form (n=4), the traditional customs of giving banana powder to infants and to give *tambavy* or traditional remedies such as herbal concoctions (n=3), breastfeeding expends too much energy (n=2), not wanting to give up outside activities by being tied to one’s child (n=2), and not receiving prenatal care and counseling (n=2).

“The reason for which women don’t decide to practice EBF is Malagasy customs. Once the baby is 4 months old and he begins to sit up, we give him things to eat such as banana powder.”

One woman mentioned that other women don’t want to practice EBF because they don’t want to get dirty and have physical contact with their baby, and another said that some women lack affection toward their child.

When asked how CHWs might better support EBF among women in their communities, more than 75 percent (n=23) of the women said that they believe CHWs need to sensitize women on how to practice EBF and explain its benefits, such as how it supports the health of the baby and mother and can be used as an FP method. Some suggested that CHWs should provide advice on how to maintain good nutrition for the mother and counseling to mothers who haven’t delivered yet. Women also said that CHWs need to go into the community through outreach activities and talk to women in their homes (n=11). Some suggested that CHWs should visit new mothers to help support EBF practice. One mother suggested that the CHWs need to be better educated.

5.1.4 Postpartum Family Planning

Over half (62 percent) of women reported having used a modern contraceptive method at some point in their life, with oral contraceptive pills (OCPs) and injectable contraceptives the most commonly reported methods (Table 10). Nearly 30 percent of respondents reported current use of a modern FP method, and injectable contraceptives were the most common method used, followed by OCPs. Women currently using an FP method initiated their method on average just before 6 months postpartum and the majority (two-thirds) of women received their methods from a health center; about one-third of current users received their FP method from a CHW.

Table 10. Family Planning Use

	%
Ever used FP method	61.9
FP methods ever used ¹	
None	38.1
Pills	27.9
Injectables	39.1
Implant	1.6
IUD/IUCD	0.8
Condoms	0.5
LAM	1.1
Standard Days Method (SDM)	2.4
Other	0.5
Currently using an FP method	29.8
Current FP method use ¹	
None	69.7
Pills	7.5
Injectables	21.4
IUD/IUCD	0.7
Condoms	0.5
Female sterilization	0.8
SDM	1.1
Average number of months after delivery initiated FP method (range)	5.8 (1–11)
FP method source	
Health care facility	18.8
CHW	9.6
Local pharmacy/drug shop	0.4
Other shop	0.3
Other	2.5
No source (non-user)	69.7

1. More than one response possible

Reasons that women were not using an FP method were varied (Table 11). Approximately one in five women had no need or desire to use a method (not sexually active, not interested in FP, wants to get

pregnant, doesn't think can get pregnant). However, the majority of those not currently using a method reported that they intend to use a method in the future, and many of the reasons they are not yet using a method (such as waiting for their menses to return or not having visited an FP service yet) place them at risk for an unplanned pregnancy. "Other" reasons that women were not currently using an FP method included that a woman's husband/partner disapproved (n=2) and health problems (n=3).

Table 11. Reasons for Non-Use (n=162)

Main Reason for Not Using FP	%
Waiting for return of menses	27.7
Intend to do so, just haven't yet	19.8
Have not yet visited an FP service	10.6
Fear of side effects or methods	10.1
Not yet resumed sexual activity/no partner	9.7
Not interested in using FP	8.0
Wants to get pregnant again	2.3
Breastfeeding	0.9
Doesn't think can get pregnant again	0.8
Desired method wasn't available	0.8
Other	7.3

Although only about 30 percent of women were currently using a modern FP method, three-quarters of non-users intended to use a method within the next 12 months (Table 12). Most intended to initiate an injectable contraceptive, and four out of five women preferred to seek FP services in a health facility, though almost 20 percent would prefer to receive FP services from a CHW.

Table 12. FP Intentions among Non-Users (n=164)

	%
Intends to use FP in the next 12 months¹	
Yes	77.3
No	21.4
Don't know	1.4
Preferred future FP method among those who intend to use (n=123)	
Pills	14.0
Injectables	72.1
Implant	1.1
Female sterilization	1.0
SDM	3.6

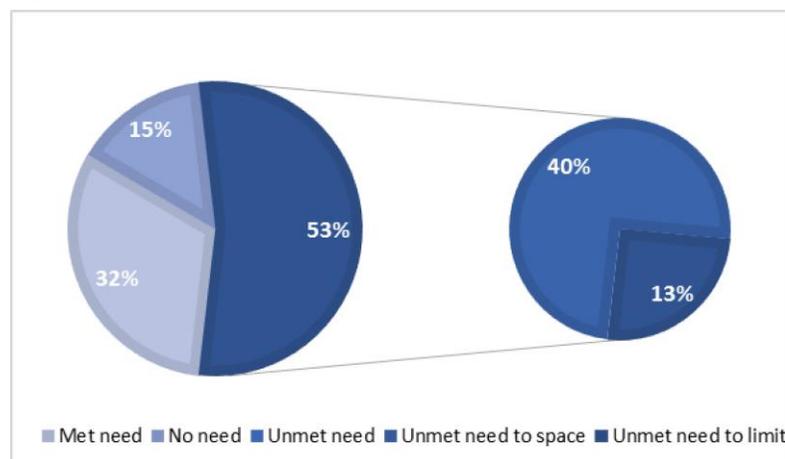
Other	1.4
Don't know	6.8
Preferred source of FP services among those who intend to use² (n=123)	
Health facility	80.3
A CHW	19.0
Local pharmacy / drug shop	0.5
Other shop	0.2

1. 2 missing

2. 3 missing

Need for contraception can be broken down into “no need,” “met need,” and “unmet need.” Those with *no* contraceptive need include individuals who are not sexually active and those who are sexually active but want to become pregnant. Women who are sexually active and currently using a modern FP method to prevent unplanned pregnancy are considered to have a *met* contraceptive need. Women with an *unmet* contraceptive need include those who are married, or unmarried and sexually active, who do not want to get pregnant again in the next 2 years or more, if ever, and are not using a modern FP method to prevent an unplanned pregnancy. Women with an unmet contraceptive need require access to high quality, affordable FP services in order to reduce the possibility of unplanned pregnancies, which are associated with the risks of health problems for the woman, miscarriage and preterm delivery if pregnancies are spaced too closely, and elective abortion.⁷ In this study, more than half (53.5 percent) of women had an unmet need for FP (Figure 2). Among those with unmet need, most had an unmet need to space their pregnancies, though a substantial portion had an unmet need to limit their pregnancies (13 percent of the total sample). Given the propensity of women in this study to choose short-acting FP methods, it appears there is also a need to promote and make available long-term reversible and permanent methods to women who desire no more pregnancies.

Figure 2. Unmet Contraceptive Need among Postpartum Women (n=250)



5.1.5 LAM

As previously noted, practice of LAM is low in Madagascar, though DHS data show that its use is increasing slowly. In this study we were particularly interested in understanding how many women

elected to use LAM during the first 6 months postpartum, reasons for deciding to use LAM, and barriers and facilitators to its use. We found that few women (7.9 percent) had ever heard of the method and even fewer (2.7 percent) were able to list the three LAM criteria. We interviewed only two out of 250 participants who report having practiced LAM ever, and both practiced LAM with their most recent pregnancy (Table 13).

Table 13. LAM Use among Postpartum Women (n=250)

	%
Ever heard of LAM¹	7.9
Knows three conditions necessary to use LAM	2.7
Ever practiced LAM	
Yes	1.1
No	6.8
Never heard of LAM	92.1
Among LAM users (n=2²)	
When made the decision to practice LAM	
During pregnancy	2
Reason for choosing LAM³	
Highly effective	1
Provider recommended method	2
Heard good things about method	1
Duration practiced LAM (6 months)	2
Stopped LAM because baby is 6 months	2

1. One missing

2. Because there were only two previous LAM users, n's are presented for these items.

3. More than one response possible

Women who had heard of LAM but had chosen not to practice it (n=18) cited a number of reasons for their decision. Those reasons include not knowing about LAM at the time or not understanding it well enough to practice it, not having enough milk for baby, lacking confidence in their ability to practice LAM, poverty that makes life (in general) difficult, others telling mother to give water to baby, and having twins.

Both women who practiced LAM reported having support from health care workers, and one reported support from her husband. One mentioned that breastfeeding was beneficial to the health of her baby, which is why she chose to practice LAM. Both reported no personal barriers to practicing LAM. However, they mentioned some potential barriers to others within the community, including the beliefs that babies need to drink water and that maternal milk is not sufficient for babies, and the issue of having no time to breastfeed because mothers need to work. For future children and practicing LAM, one reported needing both nutritional support as breastfeeding requires a lot of energy from the mother and support from her husband. Some recommendations for promoting EBF in the community included having an official be in charge of creating awareness in the community and educating the CHWs so they can

effectively promote EBF in the community. One mentioned that CHWs should explain the importance of breastfeeding for the health of the baby.

5.1.6 Influences on Family Planning Decisions

We were interested in understanding factors such as knowledge, attitudes, and the influence of other people with regard to FP practices during the postpartum period. We began by asking knowledge questions on issues specific to FP during the postpartum period for women (Table 14). The majority of respondents knew that a woman could become pregnant while breastfeeding or before her menses returned after delivering a baby; however, only about one-third of women knew that EBF (by practicing LAM) could provide contraceptive protection only up to 6 months postpartum. Approximately half of women were aware that it is recommended to wait at least 2 years after the birth of a child to become pregnant again.

Table 14. Family Planning Knowledge among Postpartum Women (n=250)

	%
Believes a postpartum woman can get pregnant before her menses return	
Yes ¹	74.4
No	12.9
Don't know	12.7
Believes it is possible for a woman to get pregnant while breastfeeding	
Yes ¹	88.3
No	3.7
Don't know	8.0
Maximum length of time a woman can rely on EBF for contraception²	
6 months ¹	35.5
Any other response	19.4
Don't know	45.1
Minimum time recommended before becoming pregnant again³	
2 years ¹	53.8
Any other response	43.1
Don't know	3.1

1. Correct response

2. One missing response

3. Two missing responses

Next we asked participants about their attitudes toward unintended pregnancy and the use of FP to better understand possible motivations for using or not using an FP method (Table 15). Questions were grouped into three concepts: perceived severity of an unplanned pregnancy, perceived benefits of FP to prevent an unplanned pregnancy, and perceived barriers to FP service. We also measured perceived susceptibility to

an unplanned pregnancy. Participants were asked to respond to a series of statements and state whether they strongly disagreed, somewhat disagreed, somewhat agreed, or strongly agreed with each statement. For most questions, except for items measuring perceived benefits of FP, most women were grouped in the agree/disagree options, with few choosing strongly agree or strongly disagree.

Table 15. FP Attitudes (n=250)

FP Attitudes	% Strongly Disagree	% Somewhat Disagree	% Somewhat Agree	% Strongly Agree	Refused (n)
Perceived severity of an unplanned pregnancy					
Getting pregnant again at this time could cause health problems for me.	2.0	42.8	46.4	8.7	10
Getting pregnant again now could be dangerous to the health of my unborn baby.	2.6	56.4	38.7	2.3	7
Becoming pregnant now would be a serious problem for me or my family.	1.9	39.7	48.3	10.0	6
Getting pregnant now would interfere with my work/school.	1.5	29.5	59.7	9.3	15
If I get pregnant now, I am/we are prepared to care for the baby. (opposite)	9.3	43.5	39.2	8.0	4
Perceived barriers to FP use					
Going for family planning services takes too much of my time.	13.9	62.2	23.2	1.7	14
Getting family planning services costs too much money.	17.2	78.2	3.8	0.7	11
Family planning methods can make you infertile.	15.8	73.3	10.2	0.7	19
Family planning methods have too many side effects.	8.7	45.4	41.8	4.1	15
Talking to a health care provider about family planning methods is embarrassing.	10.8	71.7	17.0	0.5	8
The family planning method that I want is not easily available.	20.2	74.0	5.8	0.0	18
Perceived benefits of FP use					
Family planning methods are effective at preventing an unplanned pregnancy.	0.8	3.9	68.8	26.5	8
Delaying getting pregnant again allows me to spend more time with my baby and my family.	0.7	2.0	78.2	19.1	9
Using family planning can prevent abortions.	0.5	1.6	74.3	23.5	8
Having children is expensive, and family planning allows families to have their children when they are able to take care of them.	3.1	2.6	69.6	24.8	6

Overall, perceived severity of an unplanned pregnancy was mixed, with a small majority of women reporting that they agreed/strongly agreed with each of the items, except for the statement “getting pregnant now could be dangerous to the health of my unborn baby,” to which just under 60 percent disagreed (Table 15). Perceived barriers to FP use were low overall, with potential side effects being the greatest concern among women. Nearly all women agreed or agreed strongly with all perceived benefits

of FP use. In terms of susceptibility to an unplanned pregnancy (Table 16), the majority of sexually active women (80.5 percent) believed that they were at no risk. When asked why, just over half (54.8 percent) stated it was because they were currently using an FP method. However, many women held misperceptions regarding their risk for an unplanned pregnancy. About one quarter of respondents stated that they were at no risk of getting pregnant because either their menses had not yet returned or because they were breastfeeding. About 4 percent reported that it was just too soon for them to be able to get pregnant; for example, one woman said “I cannot get pregnant because my child is not yet 1 year” and another said “because my child is still little.”

Table 16. Perceived Susceptibility to an Unplanned Pregnancy

	%
Perceived susceptibility to an unplanned pregnancy (n=250)	
Not sexually active	19.5
Very likely	3.8
Somewhat likely	6.6
Not at all likely	70.2
Reasons why women think they are not at risk of becoming pregnant (among sexually active)¹ (n=168)²	
Currently using FP	54.8 ³
Menses have not returned	22.0
Currently breastfeeding	3.6
Too soon	4.2
Don't know	2.4
Refused	1.8
Other	10.2

1. More than one response possible.

2. Percentages not weighted.

3. 7 women reported not being at risk because they were “counting days”; however, when asked later if they were currently using an FP method, they responded “no.”

We also explored women’s perspectives on the influence of others in making decisions related to FP use. Just over half of women (58.9 percent) believed that decisions regarding FP use should be a joint decision between the woman and her husband/partner, and the majority had discussed FP with their husbands/partners (Table 17). They also stated that their mothers and, to a lesser extent, their mothers-in-law had influence over their FP-related decisions. The majority of women felt that their husbands approved of FP use as would their mothers; however, fewer believed that their mothers-in-law would approve of FP use.

Table 17. Influence of Others on Decisions about Family Planning

	% (n=197)
Have you ever discussed using a family planning method with your husband/partner?	
Yes	68.6
No	31.4
Does your husband/partner approve or disapprove of using a family planning method to plan your pregnancies?¹	
Approve	63.9
Disapprove	17.3
Don't know	18.8
Would you say that using contraception is mainly your decision, mainly your husband/partner's decision, or you both decide together?²	
Mainly respondent	34.2
Mainly husband	1.8
Jointly	58.9
Other	1.1
Besides yourself and your husband/partner (if applicable), who else influences your decision to use a family planning method?³ (n=250)	
Mother	41.3
Mother in law	8.2
Other ⁵	4.0
If your mother learned that you were using a family planning method, would she approve or disapprove?⁴ (n=250)	
Approve	62.0
Disapprove	16.6
Don't know	20.3
N/A (no mother)	1.1
If your mother-in-law learned that you were using a family planning method, would she approve or disapprove?³ (n=197)	
Approve	39.8
Disapprove	16.7
Don't know	40.4
N/A (no mother-in-law)	3.1

1. One response missing

2. 8 responses missing

3. More than one response possible

4. 5 responses missing

5. Other included: sister, grandmother, and doctor

When asked about their role in family decision-making, few women reported that only their husbands/partners made decisions about health care, household purchases, use of household income, or visiting family. The vast majority of women reported that they participated in all noted decision-making processes, either jointly with their husbands/partners or alone, even regarding how the husband’s income will be used (Table 18).

Table 18. Decision-Making Power among Married/Partnered Women (n=197)

	%
Who usually makes decisions about health care for yourself?¹	
Respondent	32.5
Husband/partner	6.2
Respondent jointly with husband/partner	52.3
Respondent and other jointly	3.5
Other	5.4
Who usually makes decisions about making major household purchases?	
Respondent	38.8
Husband/partner	7.6
Respondent jointly with husband/partner	49.2
Other	4.4
Who usually decides how the money you earn will be used?	
Respondent	18.4
Husband/partner	0.4
Respondent jointly with husband/partner	19.5
Not working/Not paid	61.7
Who usually makes decisions about visits to your family or relatives?¹	
Respondent	28.6
Husband/partner	7.4
Respondent jointly with husband/partner	57.0
Respondent and other jointly	3.1
Other	3.9
Who usually decides how your husband/partner's earnings will be used?	
Respondent	12.0
Husband/partner	10.5
Respondent jointly with husband/partner	53.6
Other	1.7
Husband doesn't work	22.1

1. One missing

Lastly, we gathered information on health service use during and after pregnancy among postpartum women. The vast majority (91.8 percent) had at least one antenatal care (ANC) visit during their pregnancy, and the majority had the recommended four or more ANC visits (Table 19). Just under half of

women delivered their babies in a health facility, and very few received a visit from a CHW during their pregnancy. The majority of women reported not having received information on either breastfeeding or FP from any health care provider or CHW during ANC or after delivery, marking a considerable missed opportunity.

Table 19. Health Care Services

	% (n=250)
Received ANC during pregnancy	91.8
Where received ANC (n=234)	
Health facility	93.4
Other	6.6
Number of ANC visits	
1 to 3	22.6
4 or more visits	76.6
Don't remember	0.8
Received information during ANC on breastfeeding from:²	
No one	66.7
Doctor	3.0
Nurse/midwife/auxiliary nurse	25.0
CHW	9.1
Other	0.5
Breastfeeding topics discussed during ANC²	
Initiate breastfeeding within an hour after birth	8.6
Exclusively breastfeed for 6 months	21.2
Introduce complementary foods at 6 months	17.7
Breastfeed for at least 2 years	6.4
Breastfeeding benefits mother's health	12.9
Breastfeeding protects child's health	10.7
Other	2.3
Not applicable (didn't discuss)	66.7
Received information on FP during ANC from:²	
Doctor	5.2
Nurse/midwife/auxiliary nurse	23.0
CHW	7.2

Other	0.9
No one	68.6
FP topics discussed during ANC²	
Healthy timing and spacing of pregnancies	16.4
What methods are safe during the postpartum period	2.4
What methods are safe to use while breastfeeding	4.0
About LAM	1.5
When she should start a method after having a baby	22.7
Other	0.3
Not applicable (didn't discuss)	68.6
Number of visits by CHW during pregnancy (n=250)	
None	83.1
1 to 3	11.5
4 or more visits	4.5
Don't remember	1.0
Place of delivery	
At home	54.9
Health facility	42.7
Other	2.4
Received information on breastfeeding after delivery from:²	
Doctor	6.4
Nurse/midwife/auxiliary nurse	32.4
CHW	3.3
Did not receive information from a provider or CHW	59.0
Received information on FP after delivery from:²	
Doctor	5.7
Nurse/midwife/auxiliary nurse	21.7
CHW	5.7
Did not receive FP information from a provider or CHW	68.1

1. One missing

2. More than one response possible

5.1.7 Bivariate Analyses

We examined the associations between various factors—including demographics, knowledge, attitudes, interpersonal dynamics, and health service experiences—and our outcomes of interest, namely reported EBF and current FP use. Our original intent was to examine these same factors in association with the

practice of LAM during the first 6 months postpartum, but because we only identified two women who had ever practiced LAM, we could not complete these analyses.

These analyses are exploratory and, in some cases, insufficient numbers for specific response options required that we combine or eliminate certain response options and eliminate some variables from analysis. We present odds ratios (OR) and 95% CIs; all results presented in this section are based on weighted analyses that also controlled for cluster effects.

First we examined the relationship between demographic variables and both EBF and FP use among postpartum women in our study (Table 20). Married/partnered women who did not live with their husbands/partners were more likely to practice EBF than those who were married/partnered and living with their husbands/partners (OR=3.20, 95 percent CI [1.31, 7.80]). Women who had completed secondary school or higher were also more likely to practice EBF than those at other education levels (OR=7.50; 95 percent CI [1.27, 44.05]); however, no trends were evident for any demographic characteristic.

As with EBF, we observed a statistically significant relationship between being married/partnered and not living together and FP. Those women who were married/partnered and not living with their husbands/partners were about 50 percent more likely to be currently using FP than those who were married/partnered and living with their husbands/partners (OR=1.54, 95 percent CI [1.002, 2.37]). In addition, the husband/partner's education was associated with current FP use; women whose husbands/partners had at least some primary school or had completed secondary school were more likely to be currently using FP methods than women whose husbands/partners had no formal schooling.

Table 20. Bivariate Analyses of Association between Demographic Characteristics and EBF and Current FP Use among Postpartum Women (n=250)

	EBF		Current FP Use	
	OR	95% CI	OR	95% CI
Age	0.96	(0.89, 1.03)	0.99	(0.93, 1.04)
Education				
No formal schooling	REF		REF	
Some primary schooling	1.73	(0.59, 5.07)	0.94	(0.41, 2.17)
Completed primary school	2.13	(0.39, 11.79)	1.61	(0.48, 5.37)
Some secondary school	1.90	(0.50, 7.31)	2.64 [†]	(1.13, 6.16)
Completed secondary school or higher	7.50 [†]	(1.27, 44.05)	1.16	(0.35, 3.85)
Religion¹				
Protestant	REF		REF	
Catholic	0.79	(0.29, 2.13)	0.60	(0.28, 1.27)
Muslim	1.05	(0.42, 2.66)	0.61	(0.27, 1.40)
Other	0.90	(0.18, 4.58)	0.50	(0.18, 1.39)

Marital status

Married or partnered/living together	REF		REF	
Married or partnered/not living together	3.20 ^{††}	(1.31, 7.80)	1.54 [†]	(1.002, 2.37)
Separated, divorced, or widowed	0.90	(0.27, 3.06)	0.58	(0.12, 2.81)
Never married or partnered	1.58	(0.52, 4.77)	0.50	(0.15, 1.70)

Woman employment status

Not employed	REF		REF	
Employed	1.43	(0.62, 3.33)	1.19	(0.63, 2.24)

Among those with husbands/partners (n=197)

Husband/partner works	0.44	(0.18, 1.10)	1.63	(0.78, 3.42)
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Highest level of education of husband/partner²

No formal schooling	REF		REF	
Some primary schooling	3.09	(0.50, 18.92)	3.10 [†]	(1.11, 8.48)
Completed primary school	1.66	(0.16, 16.68)	1.89	(0.69, 5.22)
Some secondary school	3.25	(0.63, 16.82)	2.64	(0.86, 8.12)
Completed secondary school or higher	4.04	(0.69, 23.56)	3.85 [†]	(1.02, 14.46)

[†]p≤0.05 ^{††}p<0.01; REF=reference group

1. 6 missing for religion

2. 20 missing for husband education

We also explored the relationships between decision-making power for married/partnered women and EBF and current FP use (Table 21). We were unable to assess the relationship between decision-making power with regard to the woman’s or husband’s incomes and the outcomes of interest. However, for the remaining decision-making power variables, only one statistically significant relationship emerged. Women who reported sharing responsibility for making decisions about visiting her own family (OR=0.18, 95 percent CI [0.05, 0.70]) or whose husbands made such decisions alone (OR=0.27, 95 percent CI [0.45, 0.70]) were less likely to use an FP method than if the women alone made those decisions.

Table 21. Relationship between Decision-Making Power and EBF and FP among Married/Partnered Postpartum Women (n=197)

	EBF		FP Use	
	OR	95% CI	OR	95% CI
Usually makes decisions about health care for respondent¹				
Respondent	REF		REF	
Husband/partner	0.32	(0.04, 2.64)	0.47	(0.11, 1.96)

Respondent and husband/partner jointly	1.12	(0.44, 2.85)	0.79	(0.39, 1.61)
Other	4.73	(0.75, 29.68)	0.80	(0.17, 3.74)

Usually makes decisions about making major household purchases

Respondent	REF		REF	
Husband/partner		NA ¹	1.01	(0.26, 3.88)
Respondent and husband/partner jointly	0.47	(0.22, 1.01)	0.61	(0.27, 1.36)
Other	4.12	(0.24, 71.61)		NA ¹

Usually makes decisions about visits to woman's family²

Respondent	REF		REF	
Husband/partner	0.17	(0.02, 1.22)	0.18 [†]	(0.05, 0.70)
Respondent and husband/partner jointly	0.46 [†]	(0.23, 0.91)	0.27 ^{††}	(0.10, 0.70)
Other	2.68	(0.28, 25.62)	0.20	(0.03, 1.52)

†p<0.05; ††p<0.01

1. Insufficient numbers for the comparison.

2. One missing

Experiences with health care services were not associated with EBF practice among our sample. Women who received ANC, delivered in a health facility, and discussed breastfeeding with a health care provider during pregnancy or after delivery were no more likely to practice EBF than those who did not (Table 22). While findings were similar for FP use, women who discussed FP with a provider during ANC and women who gave birth in a health facility were about twice as likely to report current FP method use as those who did not discuss FP with a provider (OR=2.01; 95 percent CI [1.21, 3.32]) or did not deliver in a health facility (OR=2.16; 95 percent CI [1.35, 3.46]).

Table 22. Bivariate Analyses of Health Care Service Experiences with EBF and FP Use among Postpartum Women (n=250)

	EBF		FP	
	OR	95% CI	OR	95% CI
Visited by CHW during pregnancy¹	1.28	(0.44, 3.75)	1.29	(0.57, 2.91)
Received ANC during pregnancy	0.80	(0.16, 4.14)	1.77	(0.51, 6.12)
Number of ANC visits²				
None	REF		REF	
1 to 3	0.60	(0.07, 4.92)	0.86	(0.21, 3.61)
4 or more visits	0.83	(0.17, 4.26)	2.10	(0.63, 7.00)
Among those who received ANC (n=234)				
Received ANC in a health facility (versus elsewhere)	0.35	(0.06, 2.17)	0.51	(0.22, 1.19)

Discussed breastfeeding with provider during ANC ³	1.76	(0.85, 3.64)	--	--
Discussed FP with a provider during ANC ³	--	--	2.01 ^{††}	(1.21 3.32)
Gave birth in a health facility	0.84	(0.40, 1.75)	2.16 ^{††}	(1.35 3.46)
Received information on breastfeeding from a health care provider or CHW after delivery	1.32	(0.53, 3.31)	--	--
Received information on FP from a health care provider or CHW after delivery	--	--	0.94	(0.56, 1.58)

††p<0.01

1. 2 missing

2. 3 missing

3. 2 missing

Focusing on FP use, none of the postpartum FP knowledge items, nor perceptions regarding severity of an unplanned pregnancy or benefits and barriers to FP use were associated with FP use in this group (Table 23).

Table 23. Bivariate Analyses of FP Knowledge and Attitudes with FP Use among Postpartum Women (n=250)

	FP	
	OR	95% CI
Knows a postpartum woman can get pregnant before her menses return	1.20	(0.69, 2.08)
Knows it is possible for a woman to get pregnant while breastfeeding	1.31	(0.45, 3.77)
Knows 2 years is the minimum time recommended before becoming pregnant again after a delivery	1.28	(0.73, 2.26)
Importance of delaying a pregnancy¹		
Not at all important	REF	
Somewhat important	0.68	(0.16, 2.96)
Very important	1.34	(0.36, 5.01)
Perceived severity of an unplanned pregnancy²	1.65	(0.64, 4.26)
Perceived benefits of FP use³	1.15	(0.65, 2.03)
Perceived barriers to FP use⁴	0.52	(0.22, 1.23)

1. 4 missing

2. 30 missing

3. 14 missing

4. 41 missing

However, among married/partnered women, the perceived opinions of others were strongly associated with FP use (Table 24). Women whose husbands/partners, mothers, and mothers-in-law disapproved of FP use were much less likely to report current FP use than those whose family members approved of FP

use. The disapproval by a mother or mother-in-law was more strongly associated with lack of current FP use than a husband’s disapproval. Not knowing whether the husband/partner, mother, or mother-in-law approved of FP use was also negatively associated with current FP use. Women who reported that the decision to use FP was a joint decision were also more likely to report using an FP method than women who stated that the decision was mainly the woman’s (OR=1.88; 95 percent CI [1.05, 3.39]).

Table 24. Influence of Others on Decisions about Family Planning among Postpartum Women Who Are Married/Partnered (n=197)

	FP Use	
	OR	95% CI
Ever discussed FP with husband	5.86	(2.86, 12.01)
Using contraception is mainly respondent’s decision, mainly husband/partner's decision, or joint decision?		
Mainly respondent	REF	
Mainly husband	0.59	(0.05, 7.09)
Jointly	1.88 [†]	(1.05, 3.39)
Husband approves of FP		
Approve	REF	
Disapprove	0.26 ⁺⁺⁺	(0.12, 0.53)
Don’t know	0.15 ⁺⁺⁺	(0.06, 0.36)
Mother-in-law approves of FP use		
Approve	REF	
Disapprove	0.05 ⁺⁺⁺	(0.01, 0.22)
Don’t know	0.45 ⁺⁺	(0.24, 0.82)
Mother approves of FP use (n=250)¹		
Approve	REF	
Disapprove	0.07 ⁺⁺⁺	(0.02, 0.29)
Don’t know	0.46 [†]	(0.24, 0.89)

+++p<0.001, ++p<0.01, †p<0.05

1. Mother approval of FP use is among full sample of 250, though 6 observations were missing for this analysis

5.2 Community Health Workers and Their Supervisors

5.2.1 Background

To understand current services and inform strategies to improve FP and nutrition services for pregnant and postpartum women, we gathered information on current knowledge, attitudes, and practices regarding EBF, LAM, and FP counseling and service provision among CHWs and the health care providers who

supervise them. A total of 28 CHWs were interviewed from the 18 *fokontany* as well as their 10 supervisors. Supervisors, based in basic health centers, often supervise CHWs from multiple *fokontany* within a single commune.

Table 25. CHW and Supervisor Demographics

	CHWs (n=28) n	Supervisors (n=10) n
Sex		
Female	16	4
Male	12	6
Mean age in years (range)	42.9 (23–66)	38.8 (32–56)
Highest level of education attained		
Some primary schooling	3	--
Completed primary school	4	--
Some secondary school	12	--
Completed secondary school	4	1
Any post-secondary school	5	9
Religion		
Protestant/Anglican	9	5
Catholic	9	4
Muslim	8	1
Traditional	2	--
Professional designation		
Physician	--	5
Nurse	--	3
Midwife	--	2

5.2.2 EBF

All 10 supervisors and three-quarters of CHWs adequately defined EBF as feeding the baby only breast milk, not other liquids, including water, and no semi-solid/solid foods. Nearly all stated that they recommend EBF to postpartum women for 6 months after delivery, though one supervisor reported recommending EBF for only 1 month or less, and one CHW recommended EBF for longer than 6 months. Both CHWs and supervisors believed that competing priorities for time, including work or school, and the perception that breast milk alone is not enough for a baby inhibit many women from practicing EBF.

Table 26. EBF Attitudes

	CHWs (n=28) n	Supervisors (n=10) n
CHW/supervisor definition of EBF¹		
Feeding the baby only breast milk, no water, other liquids, or semi-solid foods	22	10
Any other response	1	0
Duration recommends EBF²		
1 month or less	--	1
6 months	25	9
More than 6 months	1	--
Reasons respondent believes some women choose not to practice EBF³		
Pressure from husband to feed other things	2	0
Pressure from mother to feed other things	2	1
Pressure from mother-in-law to feed other things	0	0
Work/school/chores	18	8
Breast milk alone is not enough	17	5
Other	9	3
Advantages of EBF for the first 6 months³		
Inexpensive/economical	16	0
Immunity against disease	23	9
Mother-infant bonding	10	5
Prevents breast cancer	4	0
Temporarily prevents pregnancy	15	0
Ease of feeding	16	5
Provides balanced nutrition for infant	15	5

1. 5 missing

2. 2 missing

3. More than one response possible

When asked how to better promote EBF in the community, most recommended educating women on the social, economic, and health benefits of practicing EBF. One supervisor suggested sensitizing men, and another supervisor suggested giving women time to breastfeed while they are working. One supervisor also suggested having a campaign to get women's attention. A few CHWs (n=6) also stressed the importance of home visits to women to raise awareness and “convince” them of the importance of EBF. One CHW mentioned the need to establish a center in the community where they could work and could provide information on EBF to women.

5.2.3 Family Planning

All but one CHW and all supervisors have been trained in FP and provide FP services to women as part of their routine duties (Table 27). More than half of CHWs received FP training within the past year. While nearly all CHWs reported having received training on LAM, only four of 10 supervisors reported receiving such training, which likely impacts their ability to support the CHWs that they supervise in LAM counseling.

Table 27. Family Planning Training and Experience among CHWs and Their Supervisors

	CHWs (n=28) n	Supervisors (n=10) n
FP services provided		
FP counseling	27	10
FP method initiation	25	10
FP commodity resupply	23	10
Average number of women provided with FP last month (CHW)/week (supervisor)	14	12
Has received formal training in FP	27	10
When completed most recent FP training¹		
Within the last year	17	0
More than a year ago	9	10
Who provided training		
Health center	3	8
NGO	22	2
Another CHW	1	--
Other	1	0
Training topics²		
Providing injectable contraceptives	26	9
Providing OCPs	25	8
Providing male condoms	19	5
Providing female condoms	2	2
SDM counseling	17	1
LAM counseling	22	4
Side-effect management	5	6
FP for clients with HIV	2	2

1. One missing for CHW respondents

2. More than one response possible

The majority of CHWs had accurate knowledge about issues specific to FP for postpartum women (Table 28). Most knew that the recommended period to wait to try to become pregnant again is 2 years after a delivery and 6 months after a miscarriage or abortion. Nearly all also knew that it is possible for a postpartum woman to become pregnant while breastfeeding and before her menses return after delivery. Supervisors were less accurate in their knowledge of healthy spacing of pregnancies but accurate overall in their knowledge of a woman’s risk of becoming pregnant before her menses return or while breastfeeding. In terms of which FP methods are appropriate for postpartum breastfeeding women, most supervisors and CHWs knew that LAM and condoms could safely be used as soon as 6 weeks postpartum, but fewer knew that injectable contraceptives, implants, and IUDs could safely be used by that time. A substantial number of CHWs and supervisors erroneously identified both OCPs and the Standard Days Method (SDM) as appropriate for a breastfeeding woman 6 weeks postpartum. We did not specifically ask about combined oral contraceptives (containing both progestin and estrogen) or progestin-only pills, so it is possible that there was confusion as to the type of OCPs, since only the estrogen-containing combined pills are contra-indicated before 6 months postpartum for breastfeeding women. However, the SDM requires women to have at least three regularly spaced menstrual cycles before initiation, which for most breastfeeding postpartum women can come only much later in the postpartum period, and thus SDM is inappropriate for a woman 6 weeks postpartum.

Table 28. Postpartum FP Knowledge

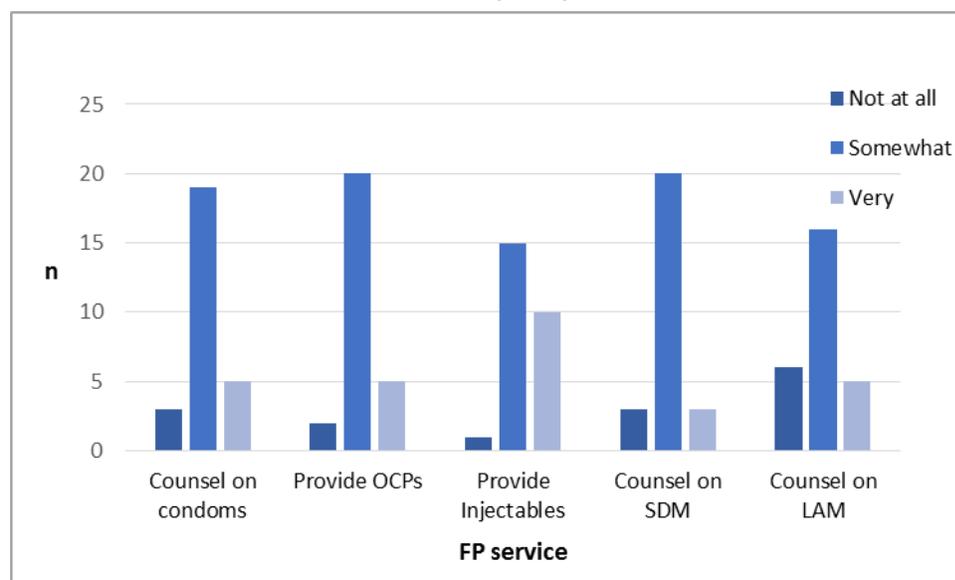
	CHWs (n=28) n	Supervisors (n=10) n
Minimum recommended time for spacing pregnancies		
2 years	19	6
Any other response	9	4
Minimum recommended time to wait after a miscarriage/abortion before trying to become pregnant¹		
6 months	17	1
Any other response	9	7
Don’t know	1	2
Believes a woman can become pregnant before her menses return after giving birth to child		
Yes	22	8
No	6	2
Believes that it is possible for a woman to get pregnant while breastfeeding		
Yes	27	9
No	1	1
Believes guidelines recommend this method can be used by a breastfeeding woman 6 weeks after giving birth²		
OCP ³	7	6
Injectables ⁴	7	3
Implants ⁴	2	5
IUD ⁴	8	3

Condoms ⁴	13	9
LAM ⁴	26	10
SDM ³	13	9

1. One missing
2. More than one response possible
3. Not recommended for use for breastfeeding women 6 weeks postpartum
4. Recommended for use for breastfeeding women 6 weeks postpartum

We asked CHWs specifically about their level of confidence in their ability to provide several FP-related services (Figure 3). Respondents were asked whether they were very confident, somewhat confident, or not at all confident in their ability to provide these services to clients. For all five services named, the majority of respondents were somewhat comfortable, as opposed to very comfortable, providing the specific FP services. With regard to LAM specifically, although 22 CHWs reported having been trained on LAM counseling, only five CHWs felt very confident in their ability to counsel their clients on LAM; the remaining were somewhat or not at all confident in this ability.

Figure 3. CHW Self-Reported Level of Confidence in Their Ability to Perform Specific FP Services for Their Clients (n=27)



Overall both supervisors and CHWs were able to list a number of health-related and social advantages that FP provides to users (Table 29). They also felt overall that FP use was somewhat but not very acceptable within their communities. The main reasons they believed FP use was not “very acceptable” in their communities were related to fear of side effects and misinformation about FP methods. We asked both CHWs and supervisors to suggest ways FP acceptability could be improved within communities. All CHWs who responded (n=27) and most supervisors (n=6) felt that education and awareness raising were key to improving acceptability of FP within the communities where they work. In addition, most CHWs and supervisors said husbands were most likely to influence a woman’s use of an FP method, followed by mothers and friends.

Table 29. Perspectives on Postpartum Family Planning

	CHWs (n=28) n	Supervisors (n=10) n
FP advantages for woman¹		
Avoid pregnancy too young	12	0
Avoid pregnancy too late	3	0
Space pregnancies	22	7
Have only the number of children desired	15	4
Improve socioeconomic status	20	9
Reduce chance of unintended pregnancy/abortion	22	2
Whose opinions are most likely to influence whether a client uses FP?¹		
Husband	18	7
Mother	8	2
Mother-in-law	4	1
Health care provider	2	7
CHW	7	3
Friends	8	2
Other family members	1	0
Neighbors/others who promulgate rumors	4	1
How acceptable do you think using FP is among community members?		
Somewhat acceptable	20	6
Very acceptable	8	4
Why is FP not very acceptable in your communities?		
Fear of methods or side effects	4	2
Rumors and misinformation	9	3
Ignorance/lack of information or awareness	3	2
Husband refuses	2	2
Other FP methods are acceptable, just not LAM because of other competing priorities for time or lack of confidence in the method	5	0
Woman's body won't support FP	0	1

1. More than one response possible.

5.2.4 LAM

To identify possible opportunities to strengthen LAM programming, we explored CHWs' and supervisors' knowledge and perspectives about LAM. All CHWs and supervisors had heard of LAM, but

only about one-third of CHWs and half of supervisors could cite all three conditions/criteria necessary to practice LAM (Table 30). The most commonly forgotten of the three criteria was that menses have not yet returned. All CHWs and supervisors also believed LAM to be an effective FP method for postpartum women, but two CHWs and one supervisor said they would not recommend the method. The supervisor would not recommend the method because he/she had not yet been trained on it. The two CHWs offered no explanation.

Although all respondents reported that they thought LAM was an effective contraceptive method, just over half of CHWs and about a third of supervisors cited its effectiveness as an advantage for postpartum women.

Table 30. LAM Knowledge and Attitudes

	CHWs (n=28) n	Supervisors (n=10) n
Ever heard of LAM	28	10
Knows all three LAM criteria	9	6
Individual LAM criteria knowledge¹		
Less than 6 months postpartum	20	7
EBF	25	9
Menses have not returned	10	8
<i>Refused</i>	3	1
Advantages to practicing LAM for postpartum woman¹		
Highly effective	17	3
Can initiate immediately	17	3
Promotes good nutrition for infant	15	3
Doesn't require any product or medication	18	7
Is culturally acceptable	3	0
Other	2	1
Disadvantages to practicing LAM¹		
Duration is limited to 6 months	8	0
Can only be used by women who breastfeed	6	0
EBF can be difficult to maintain	7	2
Doesn't protect against sexually transmitted infections	5	4
Other	8	3
<i>Refused</i>	6	2
Believes LAM is an effective FP method for women during first 6 months postpartum	28	10
Would recommend LAM to woman who has just delivered^{2, 3}	26	9

Perceived community acceptance of LAM²

Very unacceptable	0	1
Somewhat unacceptable	15	4
Somewhat acceptable	11	3
Very acceptable	1	2

1. More than one response possible

2. 1 CHW refused.

3. The CHWs who would not recommend LAM did not give a reason; the provider who would not recommend LAM said he/she had not yet received specific training on LAM.

Although around half of CHWs stated that LAM was somewhat unacceptable in their communities, they did not explain why. Supervisors who reported that LAM use was unacceptable cited 1) lack of confidence in the effectiveness of the method itself (n=3); 2) cultural habit of introducing other forms of food and liquids early in the infant's life (n=2); 3) breast milk not being sufficient for the baby (n=2); and 4) overall lack of awareness about LAM in the community (n=1).

As with other FP methods, both CHWs and supervisors universally agreed that the best way to promote LAM in communities was to target them with LAM education and outreach activities. Five CHWs specifically mentioned visiting women at their home to counsel them on LAM as being an important strategy for promoting LAM.

5.2.5 Support to CHWs

Finally, we asked CHWs and supervisors about how to better motivate CHWs and how supervisors could better support CHWs in their work. The most commonly reported strategy by CHWs was for supervisors to conduct site visits and provide more supervision; however, this was mentioned by only one supervisor. Overall both CHWs and their supervisors felt that CHWs need additional training. Providing salaries or other compensation was mentioned by seven of 10 supervisors but only five of 28 CHWs.

Table 31. Suggestions for Supporting CHWs

Ways CHWs could be better supported in their work ¹	CHWs (n=28) n	Supervisors (n=10) n
Supervisors should conduct field visits	12	1
More supervision	6	1
Training/job aids	11	6
Payment/salary for CHWs	5	7
Help CHWs manage materials and supplies	3	6
Promote CHWs' work to clients and communities	2	1

1. More than one response possible

6 Discussion

The goal of this formative study was to provide information to decision makers and program implementers to strengthen nutritional and FP programming in Ambilobe District with the aim to increase EBF, modern FP use, and LAM use in particular, among postpartum women. Results from this study suggest that there is considerable room for improvement, certainly for both the practice of EBF for the first 6 months of a baby's life and for contraceptive use to prevent unplanned pregnancies among postpartum women. However, we found LAM use to be virtually non-existent in these communities.

In this section, we will summarize the main findings of the study, and recommend next steps for stakeholders to consider based on these findings.

6.1 Limitations

Before discussing the study's findings, it is important to note its limitations. This study's primary limitation stems from its relatively small sample size. We sought as a primary objective to describe current knowledge, attitudes, and practices among postpartum women with regard to breastfeeding and FP. Therefore our sample size calculation was based on this primary objective. Because the statistical assessment of relationships between various factors and the outcomes of interest, namely EBF, current FP use, and LAM use was a secondary objective, it is likely that the study was not sufficiently powered to detect many relationships. However, we did indeed identify a number of statistically significant relationships between our outcomes of EBF and FP use and these various factors. Given the formative nature of the study, this information is nonetheless very relevant for programming purposes.

A second limitation is the retrospective collection of data on EBF. It is possible that difficulties remembering dates when foods or liquids were introduced into an infant's diet may decrease the reliability of the measures. Although the exact month a liquid or solid was introduced into the infant's diet may not be clear, we believe the information is sufficiently accurate for understanding EBF practices. A second issue with our measure of EBF is that we may have been overly strict in our definition of exclusive breastfeeding. A number of women stated that they first gave their infants boiled water, plain water, or tea during the first 6 months of life but did not give these liquids regularly until 6 months or later. If these women gave such liquids on a few occasions but otherwise maintained EBF for 6 months, we may have misclassified their EBF behavior, thereby underestimating the EBF rate.

6.2 Exclusive Breastfeeding

Only a small proportion (14.3 percent) of women practiced EBF for a full 6 months in this study, less than the national average (29.8 percent) according to 2008-09 DHS data; however, this percentage is perhaps more consistent with regional DHS findings that show the average duration of EBF in DIANA region to be less than 1 month.⁹ If we were to apply a more liberal set of criteria and include those women who report having given a liquid to their infant before 6 months but not giving other liquids or solids regularly, then the proportion increases to 25.1 percent. Regardless, there is considerable room for improvement in EBF rates in Ambilobe. The postpartum women, CHWs, and supervisors interviewed offered a number of possible reasons for low EBF rates, of which two stood out: Having competing priorities such as school or work and the perception that the woman's breast milk alone is insufficient for the baby. Consistent with this perception, not having enough milk for the baby was the most commonly reported breastfeeding problem reported by women who did not practice EBF.

None of the individual characteristics, knowledge, or perceptions—except having completed secondary school or higher and being married but living apart—were significantly associated with practicing EBF. Qualitative data did provide some guidance as to potential enablers and barriers to EBF. Women attributed much of their success in practicing EBF for 6 months to the support of others, including health care workers and family, and indicated that support from family would be very important to practicing EBF again for children they have in the future.

Given the importance placed on support from others, including health care workers, it is discouraging to note that fewer than half of women discussed breastfeeding with a health care provider or CHW during ANC (33.3 percent) or after delivery (41 percent). Postpartum women, CHWs, and their supervisors all said that improved education and support from CHWs and other health care providers, including home visits from CHWs, would be important to improving EBF practice in their communities. In addition, given the importance women placed on support from family, including mothers, mothers-in-law, and husbands, extending education and promotion of EBF to these family members should also be considered for future programming.

Key Findings:

1. Most postpartum women in Ambilobe District do not practice EBF for 6 months.
2. Women are not receiving adequate information from health care workers on EBF during ANC or around the time of delivery of their babies.
3. Women are not receiving the support they need from health care workers or family members to practice EBF.
4. A large proportion of pregnant women attend one or more ANC sessions, which provides an important opportunity to counsel them on the benefits of EBF.
5. More than half of pregnant women deliver at home, so providing breastfeeding information and support around the time of delivery will need to be done by individuals, such as CHWs, who can provide support in the woman's home.
6. Women's breastfeeding practices are influenced by the opinions of others, including health care workers, their husbands/partners, and other family members such as mothers and mothers-in-law.

6.3 Family Planning

The proportion of postpartum women in this study using a modern FP method was similar to the national average, according to 2008-09 DHS data. Despite a substantial number of women reporting current contraceptive use, unmet contraceptive need was very high (53.5 percent). Many of the reasons women were not (yet) using an FP method placed them at risk for an unplanned pregnancy. Given that most non-users reported that they intended to initiate an FP method in the coming year, it is important for women to better understand their risks for an unplanned pregnancy in order to ensure timely initiation of an FP method during the postpartum period.

Unlike with EBF, this study did identify factors that were significantly associated with current FP use. There were no clear trends in relationships between individual characteristics or postpartum FP knowledge or perceptions and current FP use, but women who received information on FP during ANC and those who delivered in a health care facility were twice as likely as those who did not to report current FP use. The influence of others was also strongly associated with FP use. Women who had ever

discussed FP with a husband/partner were nearly six times as likely to currently use FP as compared to those who had not discussed FP with their husband/partner. Disapproval of FP use by a husband, mother, or mother-in-law was associated with significant reductions in the odds of current FP use. These findings indicate the potential importance of reaching not only women but also their families with information on the benefits of using FP methods to time and adequately space pregnancies.

As previously noted, only two women in the study reported ever having used LAM as an FP method, both of whom practiced LAM with the most recent birth. In this study, it appears that the most important reason for not practicing LAM was simply never having heard of the method. Because we were only able to identify two LAM users and the vast majority of respondents were unaware of LAM, we were unable to explore potential enablers and barriers. Most certainly, women need to know about LAM before they can consider it as an option. Although many postpartum women who desire to space or limit their pregnancies may not ultimately chose LAM for their FP method, it is an important option for some, particularly those who would practice EBF anyway. Given that over 90 percent of women in the study had at least one contact with a health care facility during their pregnancy, it is very surprising that so few had ever heard of LAM. This would indicate that either providers are not discussing LAM as a contraceptive option, or if they are, they are not doing it in a way so that women understand it. Data from providers indicate that few CHWs or supervisors feel very confident in their ability to counsel women on LAM, which could be an important reason why women are not receiving the information that they need to make informed decisions regarding LAM. Because LAM is intricately tied to EBF, many of the same enablers likely apply, such as improved awareness and knowledge, as well as support from health care providers and family members.

Key Findings:

1. Unmet contraceptive need in this population of postpartum women was very high (53 percent).
2. More than 90 percent of respondents had never heard of LAM as an FP method.
3. The mix of contraceptive methods currently being used was skewed toward short-acting methods. Women who desire to limit future pregnancies may be better served by access to long-term or permanent methods.
4. The influence of others, particularly husbands, mothers, and mothers-in-law, is important to FP use.
5. Receiving information from a health care provider or CHW during pregnancy was positively associated with current FP use among respondents.
6. Many CHWs reported being not at all or only somewhat confident in their ability to counsel women on LAM, as well as other FP methods.

6.4 Recommendations for Next Steps

Based on findings from this descriptive study, a number of strategies can be suggested to improve public health programming to support postpartum FP use, LAM in particular, as well as EBF among postpartum women in Ambilobe District. These suggestions are as follows:

Recommended Actions

1. Strengthen training for health care providers and CHWs on EBF and LAM.

2. Ensure that education and counseling on the benefits of EBF, LAM, and other FP methods are systematically integrated into all health contacts with pregnant women (through ANC) and at delivery for those who give birth in health facilities.
3. Identify opportunities to raise awareness of the benefits of EBF to infants and to support women to exclusively breastfeed their infants for the first 6 months postpartum, particularly during the early days or weeks after delivery, but also later when EBF often drops off at 3–5 months postpartum. Potential opportunities could include providing education services to pregnant women and their families through CHWs (including via home visits), mother support groups, and health care workers (when mothers take children to well-baby clinics or mobile brigades for immunizations). Education could also be provided to those who influence women's breastfeeding practices such as husbands, mothers, and mothers-in-law.
4. Identify strategies to support women who work outside the home or who have other competing priorities so that they can continue to practice EBF while fulfilling those obligations.
5. Identify opportunities outside the home to engage men and others in the community to promote EBF for the health of the baby and FP for the healthy timing and spacing of pregnancies.

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Annex 1. Survey Questionnaires for Postpartum Women, CHWs, and Supervisors

POSTPARTUM WOMEN'S QUESTIONNAIRE

STEP 1. INTRODUCTION

Read to client: "Good morning/afternoon/evening. My name is _____. I am an interviewer working with FHI 360. We are working on a research study to understand breastfeeding practices and the use of and need for family planning services in Madagascar. We are asking you to take part in a brief interview where we will ask you some questions about your thoughts and experiences about breastfeeding and family planning."

.....

STEP 2. VERIFY THAT THE POTENTIAL PARTICIPANT MEETS THE ELIGIBILITY CRITERIA

1. Is the potential participant at least 18 years old?
 - Yes (continue)
 - No – STOP**

 2. Is the potential participant a woman with who is between 6 and 12 months postpartum (6 months or more up to, but not including 1 year)?
 - Yes (continue)
 - No – STOP**

 3. Is the woman's child, who is between 6 and 12 months of age, currently living with her?
 - Yes (continue)
 - No – STOP**

 3. Does the woman have a younger living infant to whom she gave birth since the birth of the above referenced child?
 - Yes – STOP
 - No (continue)
-

STEP 3. REVIEW THE INFORMED CONSENT FORM WITH POTENTIAL PARTICIPANT

Ask the participant if she/he would like a copy of the informed consent form to read along with you. Read the form aloud. If the individual agrees to participate, sign the consent as witness to the participant's verbal consent and place it in the envelope provided. Offer the participant a copy of the consent form.

Only conduct the interview after you have obtained the participant's verbal consent.

INSTRUCTIONS TO INTERVIEWERS: UNLESS OTHERWISE NOTED...

- Do not read the response categories to the participant, unless otherwise noted.
- Select only one response, unless otherwise noted.
- Do not leave a question blank, unless it is intentionally skipped through a skip pattern. If a participant refuses to respond to a question, write "REF" for that question
- Try not to accept "don't know" as a response or no response at all, unless is it a sensitive question.
- Skip patterns are only marked where they apply. For example, →Q104 means "skip to question 104".
- For each item, select the response or write answer, as appropriate.
- Neatly print "Other" responses.

SECTION 1: INTERVIEW INFORMATION

No	QUESTION	RESPONSE OPTIONS	CODES
101.	Interviewer ID		_ _
102.	Fokontany	Drop down list	
103.	Interview number		_ _
104.	Participant ID	= Fokontany code + Interview #	_ _ _ _
105.	Date	DD/MM/YY	_ _ / _ _ / _ _

SECTION 2: DEMOGRAPHICS

READ: To start, I would like to ask you some questions about yourself.

No.	Question	Response	Code	Skip
201.	How old are you?	Age in years	_ _	
202.	What is the highest level of schooling/education you have attained?	No formal schooling Some primary school Completed primary school Some secondary school Completed secondary school Any post-secondary school	1 2 3 4 5 6	
203.	What is your religion?	Protestant Catholic Muslim Other (Specify) _____	1 2 3 4	
204.	Are you currently:	Married or partnered/ living together Married or partnered/not living together Widowed Separated or divorced Never married or partnered	1 2 3 4 5	} Q209
205.	What is the highest level of school your husband/partner attended?	No formal schooling Some primary school Completed primary school Some secondary school Completed secondary school Any post-secondary school	1 2 3 4 5 6	

No.	Question	Response	Code	Skip
206.	Does your husband/partner have a job for which he is paid in cash or in-kind?	Yes No	1 2	→ Q209
207.	What type of work does he mainly do? READ RESPONSES. SELECT ONLY ONE.	Professional, technical, management Clerical Sales /service/small business Artisan Skilled manual Unskilled manual Agriculture Other (Specify)_____	1 2 3 4 5 6 7 8	
208.	Who usually decides how your husband/partner's earnings will be used: you, your husband/partner, or you and your husband/partner jointly?	Respondent Husband/partner Respondent & Jointly with Husband/partner Respondent & Other Jointly Other (specify): _____	1 2 3 4 5	
209.	As you know, some women have jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. Have you done any such work in the last 12 months?	Yes No	1 2	→Q216
210.	In the last seven days, have you done any such work?	Yes No	1 2	
211.	Do you do this work for a member of your family, for someone else, or are you self-employed?	For family member For someone else Self-employed	1 2 3	
212.	What kind of work do you mainly do? READ RESPONSES.	Professional, technical, management Clerical Sales /service/small business Artisan Skilled manual Unskilled manual Agriculture Other (specify):_____	1 2 3 4 5 6 7 8	
213.	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	Throughout the year Seasonally/part of the year Once in a while	1 2 3	

No.	Question	Response	Code	Skip
214.	Are you paid in cash or kind for this work or are you not paid at all?	Cash only Cash and kind In kind only Not paid	1 2 3 4	→Q216 →Q216
215.	Who usually decides how the money you earn will be used: you, your husband/partner/ partner, or you and your husband/partner jointly?	Respondent Husband/partner Respondent & Jointly with Husband/partner Respondent & Other Jointly Other Refused	1 2 3 4 5 9	
216.	Who usually makes decisions about health care for yourself: you, your husband/partner, you and your (husband/partner) jointly, or someone else?	Respondent Husband/partner Respondent & Jointly with Husband/partner Respondent & Other Jointly Other Refused	1 2 3 4 5 9	
217.	Who usually makes decisions about making major household purchases: you, your husband/partner, or you and your husband/partner jointly?	Respondent Husband/partner Respondent & Jointly with Husband/partner Respondent & Other Jointly Other Refused	1 2 3 4 5 9	
218.	Who usually makes decisions about visits to your family or relatives: you, your husband/partner, you and your (husband/partner) jointly, or someone else?	Respondent Husband/partner Respondent & Jointly with Husband/partner Respondent & Other Jointly Other Refused	1 2 3 4 5 9	
219.	Does your household have any of the following? READ RESPONSES. Select 1 for yes and 0 for no.	a. Radio b. Television c. Mobile telephone d. Refrigerator e. Bicycle f. Motorcycle g. Car/truck h. Arable land i. Farm animals	<u>Yes</u> 1 1 1 1 1 1 1 1 1	<u>No</u> 2 2 2 2 2 2 2 2 2

SECTION 3: BREASTFEEDING PRACTICES

READ: Now I would like to talk with you about your breastfeeding experience.

No.	Question	Response	Code	Skip
301.	How many times have you given birth? <i>If no response, enter 99</i>	Number of times	_ _	
302.	How many living children do you have? <i>If no response, enter 99</i>	Number of living children	_ _	
303.	What is the date of birth of your baby? <i>Enter 88 for any element that is unknown (such as day)</i> Interviewer – these questions refer to the child to whom the respondent has given birth in the past 6 to 12 months. Do not record the child's name, but use it where you see [NAME] indicated in the question to help indicate the child to which you refer	DD MM YY	_ _ _ _ _ _	
304.	What is the [NAME]'s sex?	Male Female	1 2	
305.	Did you ever breastfeed [Name]?	Yes No	1 2	→Q307
306.	Why did you not breastfeed this child? DO NOT READ Response. Select 1 for all reasons mentioned (M), select 0 if the reason if not mentioned (NM).	a. Did not establish adequate milk flow b. Baby would not breastfeed c. Work/school kept me away from baby too much d. Health problems for the mother e. Health problems for the baby f. Other (specify): _____	<u>M</u> 1 1 1 1 1 1 <u>NM</u> 2 2 2 2 2 2	For ALL, go to Q324
307.	How long after giving birth did you put [NAME] to the breast?	Immediately Within 24 hours Within 2 days Other	1 2 3 4	
308.	In the first 3 days after delivery, was [NAME] given anything to drink other than breast milk?	Yes No	1 2	→ Q310

No.	Question	Response	Code		Skip
313.	<p>What, if anything, was [NAME] given anything to eat (semi-solid, solid or soft foods) besides breast milk during the first six months after [NAME] was born?</p> <p>READ RESPONSES.</p> <p>SELECT "1" FOR ALL LIQUIDS MENTIONED ELSE SELECT "0".</p> <p><u>If the baby was not given anything to eat or drink in addition to breast milk during the first 6 months the woman qualifies for the expanded interview questions on EBF</u></p>	<p>a. Oatmeal, bread, rice, pasta and other foods derived from cereals</p> <p>b. Pumpkin, carrots, squash or sweet potatoes with yellow or orange flesh</p> <p>c. Potatoes with white flesh, white-fleshed yams, cassava and other tubers</p> <p>d. Dark green leafy vegetables</p> <p>e. Other fruit and vegetables</p> <p>f. Meats such as beef, pork, lamb, goat, chicken or duck</p> <p>g. Eggs</p> <p>h. Fresh or dried fish, shellfish or seafood</p> <p>i. Food or food containing beans, peas, lentils, nuts or seeds</p> <p>j. Cheese, yogurt or other dairy products</p> <p>k. All sugary foods such as candies, pastries, or biscuits</p> <p>l. Larvae, snails and insects</p> <p>m. Nothing</p>	<u>M</u>	<u>NM</u>	
314.	<p>At what age did you first give semi-solid/solid or soft foods to [NAME] ?</p> <p>Enter 99 if hasn't begun giving other liquids yet.</p>	Age in months	[____ ____]		If 99, →Q316
315.	<p>At what age did you begin giving semi-solid/solid or soft foods, to [NAME] regularly? By regularly, I mean every day or at least few days per week.</p>	Age in months	[____ ____]		
316.	<p><i>If infant was not given any liquids other than breast milk and not given any soft, semi-solid/solid foods, then the infant is considered exclusively breastfed for the first 6 months.</i></p> <p><i>Is the infant exclusively breast fed during the first six months?</i></p>	<p>Yes</p> <p>No</p>	1	2	→Q319
317.	<p>Exclusive breastfeeding is when a mother feeds her infant only breast milk, no other solids or liquids, including water. According to you responses, you exclusively breastfed your infant for at least the first six months of his/her life. In your opinion, what are the benefits, if any, to exclusively breastfeeding an infant for the first six months of life?</p> <p>DO NOT READ RESPONSES.</p> <p>SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0".</p>	<p>a. Inexpensive/economical</p> <p>b. Immunity against disease</p> <p>c. Mother-infant bonding</p> <p>d. Prevents breast cancer</p> <p>e. Temporarily prevents pregnancy</p> <p>f. Ease of feeding</p> <p>g. Provides balanced nutrition</p> <p>h. Other (specify) _____</p> <p>i. Don't know</p>	<u>M</u>	<u>NM</u>	

No.	Question	Response	Code		Skip
318.	In your opinion, what are the disadvantages, if any, to exclusively breastfeeding an infant for the first six months of life? DO NOT READ RESPONSES. SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0".	a. Breast pain/discomfort b. Embarrassed to expose breasts in public c. Tied to your child/disrupted sleep d. Need to return to work and can't feed e. Other (specify): _____ f. Don't know	<u>M</u> 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2	
319.	Are you still breastfeeding [NAME]	Yes No	1 2		→Q321
320.	For how many months did you breastfeed [NAME]?	No. of months	[] []		→Q322
321.	Until what age (in months) do you intend to keep breastfeeding [NAME]? 88=Don't know	No. of months	[] []		
322.	Did you experience any problems with breastfeeding [Name] during his/her first 6 months?	Yes No	1 2		→Q324
323.	What problems did you have breastfeeding when [Name] was less than 6 months old?	<i>Open response</i>			
324.	In your opinion, what are the benefits, if any, to breastfeeding in general? DO NOT READ RESPONSES. SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0".	a. Inexpensive/economical b. Immunity against disease c. Mother-infant bonding d. Prevents breast cancer e. Temporarily prevents pregnancy f. Ease of feeding g. Provides balanced nutrition h. Other (specify) _____ i. Don't know	<u>M</u> 1 1 1 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2 2 2 2	
325.	In your opinion, what are the disadvantages, if any, to breastfeeding in general? DO NOT READ RESPONSES. SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0".	a. Breast pain/discomfort b. Embarrassed to expose breasts in public c. Tied to your child / disrupted sleep d. Need to return to work and can't feed e. Other (specify): _____ f. Don't know	<u>M</u> 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2	

SECTION 4: INFLUENTIAL OTHERS

No.	Question	Response	Code	Skip
401.	When you were pregnant with [Name] did you receive any antenatal care [Name]?	Yes No	1 2	→ Q410
402.	Where did you receive antenatal care?	Community health worker Health facility Other (specify): _____	1 2 3	
403.	How many antenatal care visits did you have?	1 2 3 4 5 or more Don't remember	1 2 3 4 5 8	
404.	During antenatal care, did anyone talk to you about breastfeeding?	Yes No	1 2	→ Q407
405.	Who talked to you about breastfeeding? READ Responses: Select 1 if yes and select 0 if no.	a. Doctor b. Nurse/midwife/auxiliary nurse c. Community health worker d. Other (specify): _____	<u>M</u> 1 1 1 1 <u>NM</u> 2 2 2 2	
406.	What were you told about breastfeeding? DO NOT READ RESPONSES. SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0".	a. Initiate breastfeeding within an hour after birth b. Exclusively breastfeed for 6 months c. Introduce complementary foods at 6 months d. Breastfeed until at least 2 years e. Breastfeeding benefits mother's health f. Breastfeeding protects child's health g. Other, Specify _____	<u>M</u> 1 1 1 1 1 1 1 <u>NM</u> 2 2 2 2 2 2	
407.	During antenatal care, did anyone talk to you about family planning?	Yes No	1 0	→ Q412
408.	Who talked to you about family planning? READ Responses: Select 1 if yes and select 0 if no.	a. Doctor b. Nurse/midwife/auxiliary nurse c. Community health worker d. Other (specify): _____	<u>M</u> 1 1 1 1 <u>NM</u> 2 2 2 2	

No.	Question	Response	Code		Skip
409.	What were you told about family planning? DO NOT READ RESPONSES. SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0".	a. Healthy timing and spacing of pregnancies b. What methods are safe during the postpartum period c. What methods are safe to use while breastfeed d. About LAM e. When she should start a method after having a baby f. Other (specify): _____	<u>M</u> 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2	
410.	When you were pregnant with [Name] did you receive any visits from a CHW?	Yes No	1 2		→ Q412
411.	How many visits did you have from the CHW?	1 2 3 4 5 or more Don't remember	1 2 3 4 5 8		
412.	Often, people have opinions about how to feed babies, especially in the first 6 months of life. Whose opinions about feeding [Name] matter the most to you? (Ask, "Anyone else?") DO NOT READ RESPONSES. SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0"	a. Husband/partner b. Mother c. Mother-in-law d. Health care provider e. Community health worker f. Other (specify): _____	<u>M</u> 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2	
413.	Where did you give birth to [NAME]?	At home Health facility Other (specify): _____	1 2 3		
414.	Who was present with you when you gave birth? DO NOT READ RESPONSES. SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0".	a. Doctor b. Nurse/midwife/auxiliary nurse c. Community health worker d. Other (specify): _____	<u>M</u> 1 1 1 1	NM 2 2 2 2	
415.	During the time of delivery and immediately afterwards, with whom, if anyone, did you talk to about feeding [Name]? (Ask, "Anyone else?") DO NOT READ RESPONSES. SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0".	a. Doctor b. Nurse/midwife/auxiliary nurse c. Community health worker d. Other (specify): _____	<u>M</u> 1 1 1 1	NM 2 2 2 2	

No.	Question	Response	Code		Skip
416.	During the time of delivery and immediately afterwards, with whom, if anyone, did you talk to about family planning? (Ask, "Anyone else?") DO NOT READ RESPONSES. SELECT "1" FOR ALL THAT APPLY ELSE SELECT "0".	a. Doctor b. Nurse/midwife/auxiliary nurse c. Community health worker d. Other (specify): _____	<u>M</u> 1 1 1 1	NM 2 2 2 2	

SECTION 5 REPRODUCTIVE HEALTH

READ: Thank you. Now I am going to ask some questions about matters related to reproductive health.

No.	Question	Response	Code	Skip
501.	The time that you became pregnant with [Name] did you want to become pregnant <u>at that time</u> , did you want to get pregnant <u>later</u> , or did you <u>not want</u> to get pregnant at all?	Wanted to be pregnant at that time Wanted to become pregnant later Did not want to get pregnant at all Don't know	1 2 3 8	
502.	Would you like to give birth to another child in the future?	Yes No Cant get pregnant Don't know	1 2 3 4	→ Q504
503.	How long from now would you like to wait before becoming pregnant again?	Less than 1 year One to two years More than two years Don't know	1 2 3 8	
504.	Does your husband/partner want another child? (Among those that have a partner section2_q204 = 1 2)	Yes No No partner Don't know	1 2 3 8	→Q506
505.	Does your husband/partner want the same number of children as you want, or does he want more children, or does he want fewer children than you want? (Among those that have a partner section2_q204 = 1 2)	Husband/partner wants more children He wants the same number of children He wants fewer children Unsure	1 2 3 8	
506.	Have your menses returned since the birth of your last child?	Yes No Don't know	1 2 8	
507.	Have you had sexual intercourse since the birth of you last child?	Yes No No response	1 2 9	→Q512 →Q509

No.	Question	Response	Code	Skip
508.	How long did you wait before having sexual intercourse for the first time after the birth of your last child? For refused, enter 99 in weeks, for don't know enter 88	< 1 month 1-2 months 3-4 months 5-6 months More than 6 months Refused	1 2 3 4 5 9	
509.	How likely do you think it is that you could become pregnant now?	Not at all likely Somewhat likely Very likely	1 2 3	→ Q511 → Q511
510.	Why are you <u>not</u> likely to become pregnant right now? DO NOT READ RESPONSES PROBE: "Any other reasons?" SELECT '1' IF MENTIONED, '0' IF NOT MENTIONED.	a. Not had sex since birth b. Using a family planning method c. Not enough time has passed since giving birth d. Menstrual period has not returned e. Breastfeeding baby f. <u>Exclusively</u> breastfeeding (NOT providing additional formula, liquids, or foods) g. Other, specify _____ h. Don't know	<u>M</u> 1 1 1 1 1 1 1 1 <u>NM</u> 2 2 2 2 2 2 2 2	Go to Q512 for all
511.	Why might you be likely to become pregnant right now? DO NOT READ RESPONSES PROBE: "Any other reasons?" SELECT '1' IF MENTIONED, '0' IF NOT MENTIONED.	a. Resumed having sex b. Not using family planning method c. Enough time has passed since giving birth/ baby is old enough d. Menstrual period has returned e. Not breastfeeding baby at all f. Not <u>exclusively</u> breastfeeding (Providing additional formula, liquids, or solids) g. Suspect I am already pregnant h. Other, specify _____ i. Don't know	<u>M</u> 1 1 1 1 1 1 1 1 <u>NM</u> 2 2 2 2 2 2 2 2	

Read: Next I am going to ask your opinion on a series of questions about family planning and pregnancy. There is no right or wrong answer to these questions; we are looking for your opinion only. I am going to read a statement then ask how strongly you agree or disagree with each statement. The possible answers are: Agree strongly, Agree somewhat, Disagree somewhat, and Disagree strongly.

No	<i>Interviewer: Read each statement and read all response options after each statement.</i>	Disagree Strongly	Disagree Somewhat	Agree Somewhat	Agree Strongly
512.	Getting pregnant again at this time could cause health problems for me.	1	2	3	4
513.	Becoming pregnant now would be a serious problem for me or my family.	1	2	3	4

No	<i>Interviewer: Read each statement and read all response options after each statement.</i>	Disagree Strongly	Disagree Somewhat	Agree Somewhat	Agree Strongly
514.	Getting pregnant again now could be dangerous to the health of my unborn baby.	1	2	3	4
515.	If I get pregnant now I am/we are prepared to care for the baby.	1	2	3	4
516.	Getting pregnant now would interfere with my work/school.	1	2	3	4
517.	Going for family planning services takes too much of my time.	1	2	3	4
518.	Family planning methods can make you infertile.	1	2	3	4
519.	Getting family planning services costs too much money.	1	2	3	4
520.	Family planning methods have too many side-effects.	1	2	3	4
521.	Talking to a health care provider to about family planning methods is embarrassing.	1	2	3	4
522.	The family planning method that I want is not easily available.	1	2	3	4
523.	Family planning methods are effective at preventing an unplanned pregnancy.	1	2	3	4
524.	Delaying getting pregnant again allows me to spend more time with my baby and my family.	1	2	3	4
525.	Using family planning can prevent abortions.	1	2	3	4
526.	Having children is expensive and family planning allows families to have their children when they are able to take care of them.	1	2	3	4

SECTION 6: KNOWLEDGE AND ATTITUDES ABOUT PFP AND LAM

READ: Now I'd like to ask you some questions to explore things you may have heard about family planning. It is okay if you do not know the answers to these questions. We would just like to hear your thoughts.

No.	Question	Response	Code	Skip
601.	Have you ever discussed using a family planning method with your husband/partner? (Among those that have a partner section2_q204 = 1 2)	Yes No No husband/partner	1 2 8	→Q603
602.	Does your husband/partner approve or disapprove of using a family planning method to plan your pregnancies? (Among those that have a partner section2_q204 = 1 2)	Approve Disapprove I don't know	1 2 8	
603.	If your mother learned that you were using a family planning method, would she approve or disapprove?	Approve Disapprove I don't know Not applicable/no mother	1 2 8 9	

No.	Question	Response	Code	Skip
604.	If your mother-in-law learned that you were using a family planning method, would she approve or disapprove? (Among those that have a partner section2_q204 = 1 2)	Approve Disapprove I don't know Not applicable/no mother-in-law	1 2 8 9	
605.	Would you say that using contraception is mainly your decision, mainly your husband/partner's decision, or you both decide together?	Mainly respondent Mainly husband/partner Joint decision Other (Specify): _____	1 2 3 4	
606.	Besides yourself and your husband/partner (if applicable), who else influences your decision to use a family planning method?	a. Mother b. Mother in law c. Other (specify): _____	<u>M</u> 1 1 1 <u>NM</u> 0 0 0	
607.	How important is it for you to delay or avoid pregnancy <u>now</u> ? Would you say it is... Read responses	Not at all important Somewhat important Very important	1 2 3	
608.	How would you feel if you got pregnant within the next year? Would you say you would feel... Read responses	Happy Neutral Upset Refused	1 2 3 4	
609.	After giving birth, can a woman get pregnant before her menses return?	Yes No Don't know	1 2 8	
610.	Is it possible for a woman to get pregnant while she is still breastfeeding?	Yes No Don't know	1 2 8	
611.	If a woman is exclusively breastfeeding, meaning she does not give her baby and solid food or liquids, including water, other than breastmilk, and her menses have not returned, for how long after giving birth can she rely on exclusive breastfeeding for protection against pregnancy?	6 months Other (specify): _____ Don't know	1 2 8	
612.	After giving birth, what is the minimum recommended time that women should wait before becoming pregnant again to protect her health and the health of her babies?	2 years Other (specify): _____ Don't know	1 2 8	
613.	Have you ever used a family planning method to avoid getting pregnant?	Yes No	1 2	→ Q618

No.	Question	Response	Code		Skip
614.	What family planning methods have you ever used? DO NOT READ RESPONSES. PROBE: "Any other methods?" SELECT '1' IF MENTIONED, '0' IF NOT MENTIONED.	a. Oral contraceptive pills b. Injectable c. Implant d. IUCD e. Condoms f. Female Sterilization g. Male Sterilization h. LAM i. Standard Days Method (beads) j. Other (specify): _____ k. Don't know	<u>M</u> 1 1 1 1 1 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2 2 2 2 2 2	
615.	Are you currently using a family planning method?	Yes No	1 2		→ Q619
616.	What family planning method are you currently using? DO NOT READ RESPONSES. PROBE: "Any other methods?" SELECT '1' IF MENTIONED, '0' IF NOT MENTIONED.	a. Oral contraceptive pills b. Injectable c. Implant d. IUCD e. Condoms f. Female Sterilization g. Male Sterilization h. Standard Days Method (beads) i. Other (specify): _____ j. Don't know	<u>M</u> 1 1 1 1 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2 2 2 2 2	
617.	How many months after giving birth did you begin using this method (these methods)? If more than one method, record earliest start date	Months	[_ _]		
618.	Where did you receive this method?	Health care facility CHW Local pharmacy/drug shop Other shop Other (specify): _____	1 2 3 4 5		SKIP TO Q701 for all responses

No.	Question	Response	Code	Skip
619.	What is the <u>main</u> reason that you are not using a family planning method?	I have not yet resumed sexual activity/ I have no partner I don't think I can get pregnant again Waiting for return of menses I am breastfeeding Want to, but haven't started yet Have not yet visited a FP service Method I wanted was not available at the health facility when I wanted it I am not interested in using FP I want to get pregnant again Other (specify): _____	1 2 3 4 5 6 7 8 9 10	
620.	Do you think you will use a family planning method within the next 12 months?	Yes No Don't know	1 2 8	→Q701
621.	What family planning method are you most likely to use?	Oral contraceptive pills Injectable Implant IUCD Condoms Female Sterilization Male Sterilization Standard Days Method (beads) Other Don't know	1 2 3 4 5 6 7 8 9 10	
622.	If you were to seek family planning services, what would be the most convenient source of FP services for you? Would you prefer to receive services from: Read options, select one.	Health care facility A community health worker Local pharmacy/drug shop Other shop	1 2 3 4	

SECTION 7: EXPERIENCE WITH LAM

READ: I have just a few final questions about your experience with LAM.

No.	Question	Response	Code	Skip
701.	Have you ever heard of the lactational amenorrhea method for family planning (LAM)?	Yes No	1 2	→Q713
702.	Have you ever talked about LAM with... Read each response. Allow respondent to answer 'yes' or 'no' for each. Select appropriate response.	a. A doctor b. Nurse/midwife/auxiliary nurse c. A community health worker d. Anyone else	<u>Yes</u> <u>No</u> 1 2 1 2 1 2 1 2	

No.	Question	Response	Code		Skip
703.	Can you name the three conditions necessary to use LAM? DO NOT READ RESPONSES. Select 1 if mentioned and 0 if not mentioned.	a. Exclusive breastfeeding b. Menses have not yet returned c. Infant is less than 6 months old	<u>M</u> 1 1 1	<u>NM</u> 2 2 2	
704.	Do you personally know a woman, other than yourself, who has used LAM as a family planning method?	Yes No	1 2		
705.	At any point since the birth of [NAME], did you practice LAM for family planning?	Yes No	1 2		→Q707
706.	Why did you choose to not practice LAM after the birth of [NAME]?	Open response:			→Q713
707.	When did you make the decision to use LAM? Did you decide... READ RESPONSES	Before you were pregnant While you were pregnant While in labor or immediately after More than 48 hours following delivery	1 2 3 4		
708.	Why did you choose to practice LAM as your family planning method? DO NOT READ RESPONSES PROBE: "Any other reasons?" SELECT '1' IF MENTIONED, '0' IF NOT MENTIONED.	a. Method is convenient for me b. No side effects c. Highly effective d. Want short-term FP method e. Provider recommended method f. Heard good things about the method g. Culturally acceptable h. Other (specify): _____	<u>M</u> 1 1 1 1 1 1 1 1	<u>NM</u> 1 2 2 2 2 2 2 2	
709.	For how long did you practice LAM with your baby?	Number of months	_ _ _		
710.	Why did you stop practicing LAM? <i>(What is the primary reason, if multiple reasons offered – select one only).</i>	Menses returned Baby reached 6 months EBF became too difficult/had to stop Other (specify): _____ Hasn't stopped yet	1 2 3 4 5		
711.	Would you chose to use LAM again if you have another baby?	Yes No Don't know	1 2 8		
712.	Why or why not? Open response	Open response:			
713.	Have you had a follow-up visit with a health care provider since your baby was born?	Yes No	1 2		→ Q716

No.	Question	Response	Code		Skip
714.	Who have you been seen for follow-up health care?	a. Doctor at a health facility b. Nurse at a health facility c. Other provider d. CHW	<u>M</u> 1 1 1 1	<u>NM</u> 2 2 2 2	
715.	Did a health care provider talk to you about LAM during your follow-up visit?	Yes No Never heard of LAM Don't know	1 2 3 8		
716.	Do you have any additional comments that you would like to provide?	Open response:			

READ: We have come to the end of the interview. Thank you for the time you have shared with me. Your input will help to improve maternal and child health services in Madagascar.

COMMUNITY HEALTH WORKER (CHW) INTERVIEW

STEP 1. INTRODUCTION

Read to client: "Good morning/afternoon/evening. My name is _____. I am an interviewer working with FHI 360. We are working on a research study to understand breastfeeding practices and the use of and need for family planning services in Madagascar. We are asking you to take part in a brief interview where we will ask you some questions about your thoughts and experiences about providing services and counseling on breastfeeding and family planning to postpartum women."

.....

STEP 2. VERIFY THAT THE POTENTIAL PARTICIPANT MEETS THE ELIGIBILITY CRITERIA

Criterion: Is the potential participant an active community health worker in the selected community?

- Yes (continue)
- No – STOP
-

STEP 3. REVIEW THE INFORMED CONSENT FORM WITH POTENTIAL PARTICIPANT

Ask the participant if she/he would like a copy of the informed consent form to read along with you. Read the form aloud. If the individual agrees to participate, sign the consent as witness to the participant's verbal consent and place it in the envelope provided. Offer the participant a copy of the consent form.

Only conduct the interview after you have obtained the participant's verbal consent.

INSTRUCTIONS TO INTERVIEWERS: UNLESS OTHERWISE NOTED...

- Do not read the response categories to the participant, unless otherwise noted.
- Circle only one response, unless otherwise noted.
- Do not leave a question blank, unless it is intentionally skipped through a skip pattern. If a participant refuses to respond to a question, write "REF" for that question
- Try not to accept "don't know" as a response or no response at all, unless it is a sensitive question.
- Skip patterns are only marked where they apply. For example, →Q104 means "skip to question 104".
- For each item, circle the response or write answer, as appropriate.
- Neatly print "Other" responses.

No	QUESTION	RESPONSE OPTIONS	CODES
101.	Interviewer ID		__ __
102.	Fokontany	Drop down list	
103.	Health Centre	Drop down list	
104.	Interview number		__
105.	Participant ID	= Fokontany code + Interview #	__ __ __
106.	Date	DD/MM/YY	__ __ / __ __ / __ __
107.	Participant sex (by observation)	Female Male	1 2

SECTION 2. BACKGROUND INFORMATION

READ: "Thank you for agreeing to speak with me today. I would like to first ask you for some demographic information. Then I would like to learn about your work providing family planning services in your role as a CHW. Finally, I will ask about your ideas around family planning and breastfeeding. Shall we begin?"

No	QUESTION	RESPONSE OPTIONS	Skip
201.	How old are you?	Age in years	__ __
202.	What is the highest level of schooling you have completed?	No formal schooling Some primary school Completed primary school Some secondary school Completed secondary school Any post-secondary school	1 2 3 4 5 6
203.	What is your religion?	Protestant Catholic Muslim Other (Specify) _____	1 2 3 4
204.	For how long have you been working as a community health worker?	< 1 year 1 year 2 years 3 years 4 years 5 or more years	1 2 3 4 5 6
205.	How many hours a week do you typically provide services as a CHW?	Number of hours	__ __

No	QUESTION	RESPONSE OPTIONS		Skip																										
206.	<p>Please name all the services you provide in this community as a CHW.</p> <p>Circle 1 if mentioned, circle 0 if not mentioned</p> <p><i>Allow the respondent to answer, but you may read the list if needed. Probe: "Anything else?"</i></p>	<p>a. Treatment for childhood illnesses (CB-IMCI)</p> <p>b. FP counseling</p> <p>c. FP method initiation</p> <p>d. FP commodity resupply</p> <p>e. Antenatal care</p> <p>f. Growth monitoring of infant/child</p> <p>g. Treatment for TB (DOTS)</p> <p>h. Treatment for malaria</p> <p>i. Nutrition counseling</p> <p>j. Counseling on sanitation/home hygiene</p> <p>k. Counseling/support for HIV/AIDS</p> <p>l. Other (specify): _____</p>	<table border="1"> <thead> <tr> <th data-bbox="1222 186 1271 218"><u>M</u></th> <th data-bbox="1271 186 1336 218"><u>NM</u></th> </tr> </thead> <tbody> <tr><td>1</td><td>2</td></tr> </tbody> </table>	<u>M</u>	<u>NM</u>	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	
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207.	How frequently do you meet with your supervisor to discuss your work?	<p>Weekly</p> <p>Monthly</p> <p>Quarterly (every 3 months)</p> <p>When needed</p> <p>Other (specify): _____</p>	<table border="1"> <tbody> <tr><td>1</td></tr> <tr><td>2</td></tr> <tr><td>3</td></tr> <tr><td>4</td></tr> <tr><td>5</td></tr> </tbody> </table>	1	2	3	4	5																						
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208.	How often do you typically go to the health center to obtain supplies for work?	<p>Weekly</p> <p>Monthly</p> <p>Quarterly (every 3 months)</p> <p>When needed</p> <p>Other (specify): _____</p>	<table border="1"> <tbody> <tr><td>1</td></tr> <tr><td>2</td></tr> <tr><td>3</td></tr> <tr><td>4</td></tr> <tr><td>5</td></tr> </tbody> </table>	1	2	3	4	5																						
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209.	Do you do other work for which you are paid in cash or in kind in addition to being a community health worker?	<p>Yes</p> <p>No</p>	<table border="1"> <tbody> <tr><td>1</td></tr> <tr><td>2</td></tr> </tbody> </table>	1	2	→Q301																								
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210.	What other type work do you mainly do?	<p>Professional, technical, management</p> <p>Clerical</p> <p>Sales /service/small business</p> <p>Artisan</p> <p>Skilled manual</p> <p>Unskilled manual</p> <p>Agriculture</p> <p>Other</p>	<table border="1"> <tbody> <tr><td>1</td></tr> <tr><td>2</td></tr> <tr><td>3</td></tr> <tr><td>4</td></tr> <tr><td>5</td></tr> <tr><td>6</td></tr> <tr><td>7</td></tr> <tr><td>8</td></tr> </tbody> </table>	1	2	3	4	5	6	7	8																			
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SECTION 3. FAMILY PLANNING SERVICES

READ: "Thank you for sharing that information with me. Now I would like to ask you about your experience providing family planning services as a CHW."

No	QUESTION	RESPONSE	CODES	SKIP
301.	Have you ever received formal training to provide family planning (FP) services?	Yes No	1 2	→Q305
302.	When did you complete your most recent formal training to provide FP services? Enter 88 for any date element that is not known	MM/YY	__ __ / __ __	
303.	Who provided your training?	Health center NGO Another CHW Other (specify): _____	1 2 3 4	
304.	For which of the following have you received training? Ask about each method. If respondent has received training on a method, select "1" for Yes.	a. Providing injectable contraceptives b. Providing oral contraceptive pills c. Providing male condoms d. Providing female condoms e. Providing emergency contraceptives f. SDM counseling g. LAM counseling h. Side-effect management i. FP for clients with HIV	<u>Yes</u> <u>No</u> 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
305.	Do you provide FP services to any of your clients?	Yes No	1 2	→Q321
306.	On which days do you typically provide family planning services? SELECT "1" FOR ALL DAYS THAT APPLY	a. Monday b. Tuesday c. Wednesday d. Thursday e. Friday f. Saturday g. Sunday	<u>Yes</u> <u>No</u> 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
307.	How many hours per week do you typically do CHW work?	Number of hours per week	__ __	
308.	Approximately how many women did you provide family planning services for last month?	Number of clients	__ __ __	
309.	Approximately how much time, on average, do you spend with a typical client on a visit?	Number of hours per week	__ __	

No	QUESTION	RESPONSE	CODES		SKIP
318.	Before giving a woman a family planning method for the first time, do you generally...? <i>Read options.</i> <i>Select 1 if Yes.</i> <i>Select 2 if No.</i>	a. Try to rule out current pregnancy b. Check the woman's blood pressure c. Measure the woman's weight d. Give the woman a pelvic exam e. Give the woman a breast exam f. Other (specify): _____	<u>Yes</u> 1 1 1 1 1 1	<u>No</u> 2 2 2 2 2 2	
319.	If you wanted to make sure a woman is not pregnant before she starts an FP method, how would you do that? DO NOT READ RESPONSE OPTIONS <i>Select 1 if Mentioned. Select 2 if Not mentioned.</i>	a. Use a pregnancy test b. Use a pregnancy checklist c. Ask her questions to determine if she is at-risk of being pregnant d. Ask the woman if she has her menses now e. Ask the woman to show that she has her menses now f. Other (specify): _____	<u>M</u> 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2	
320.	When a woman wants to start a FP method, what medical conditions or health problems do you ask about? DO NOT READ RESPONSE OPTIONS <i>Select 1 if Mentioned. Select 2 if Not mentioned.</i>	a. Pregnancy b. Menstruation, bleeding patterns c. Heart condition, stroke, clot d. Diabetes e. Breast cancer f. Liver disease g. STIs h. HIV status i. Other j. None	<u>M</u> 1 1 1 1 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2 2 2 2 2	
321	Whose opinions, other than the client herself, are most likely to influence whether a client uses family planning? DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 2 if Not mentioned.	a. Husband b. Mother c. Mother-in-law d. Doctor e. Nurse/midwife/auxiliary nurse f. Other (specify): _____	<u>M</u> 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2	
322	How acceptable do you think using family planning methods is among the community members where you serve as a CHW, would you say it is..... <i>Read response options, select one only.</i>	Very unacceptable Somewhat unacceptable Somewhat acceptable Very acceptable	1 2 3 4		→Q327

No	QUESTION	RESPONSE	CODES		GO TO
401	For health reasons, what is the <u>minimum</u> time that women should wait after giving birth before trying to become pregnant again?	2 years Other Don't know	1 2 8		
402	For health reasons, what is the <u>minimum</u> time that women should wait after having a miscarriage before trying to become pregnant again?	6 months Other Don't know	1 2 8		
403	In your opinion, do you think most women in the community where you work wait at least the recommended amount of time after the birth of a child before becoming pregnant again?	Yes No Don't know	1 2 8		→Q405
404	Why do you think some women do not wait long enough between pregnancies? DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 2 if Not mentioned. Probe: anything else?	a. Personal desire get pregnant b. Pressure from husband c. Pressure from mother d. Pressure from mother-in-law e. Other (specify): _____	<u>M</u> 1 1 1 1 1 <u>NM</u> 2 2 2 2 2		
405	Can a woman get pregnant before her menses return after giving birth to a child?	Yes No Don't know	1 2 8		
406	Is it possible for a woman to get pregnant while she is breastfeeding?	Yes No Don't know	1 2 8		
407	What, if any, advantages might family planning have for a woman? DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 2 if Not mentioned.	a. Avoid pregnancy too young (<18 years) b. Avoid pregnancy too late (>35 years) c. Space pregnancies (at least 2 years between pregnancies) d. Have only the number of children desired (limit pregnancies) e. Improve socioeconomic status f. Reduce chance of unwanted pregnancy and/or abortion g. For women with HIV, reduce risk of transmitting HIV to baby	<u>M</u> 1 1 1 1 1 1 1 <u>NM</u> 2 2 2 2 2 2		

No	QUESTION	RESPONSE	CODES		GO TO
			Yes	No	
408	I am going to read you a list of family planning methods. For each method, I would like you to tell me whether guidelines recommend that this method can be used by a breastfeeding woman 6 weeks after giving birth. READ RESPONSE OPTIONS. Select 1 if yes, 0 if no, and 8 if the respondent doesn't know	a. Oral contraceptive pills b. Injectables c. Implants d. IUCD e. Condoms f. Female sterilization g. Vasectomy h. LAM i. Standard Days Method j. Other	1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
409	I am going to read you a list of family planning methods. For each method, I would like you to tell me whether guidelines recommend that this method can be used by a breastfeeding woman 6 months after giving birth. READ RESPONSE OPTIONS. Circle 1 if yes, 2 if no, and 8 if the respondent doesn't know	a. Oral contraceptive pills b. Injectables c. Implants d. IUCD e. Condoms f. Female sterilization g. Vasectomy h. LAM i. Standard Days Method	1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
			1	2	8
410	Have you ever heard of the lactational amenorrhea method, or LAM, for family planning?	Yes	1		→Q501
		No	2		
411	Can you tell me the three conditions that must be met for a postpartum woman to be protected against pregnancy through lactational amenorrhea, or LAM? DO NOT READ RESPONSE OPTIONS. Select 1 if mentioned, 0 if not mentioned.	Less than 6 months postpartum Exclusively or nearly exclusively breastfeeding Menses have not returned Don't know any conditions	<u>M</u>	<u>NM</u>	
			1	2	
			1	2	
			1	2	
			1	2	
412	In your opinion, do you think that LAM is an effective FP method for postpartum women during the first six months after delivery?	Yes	1		
		No	2		
413	Is LAM a method that you would recommend to women who have just delivered a baby?	Yes	1		
		No	2		
414	Why or why not?	Open response			

No	QUESTION	RESPONSE	CODES		GO TO
415	<p>What, if any, are some advantages to practicing LAM for postpartum women who want to use a contraceptive method?</p> <p>DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 2 if Not mentioned.</p>	<p>a. Highly effective method</p> <p>b. Can be initiated immediately after delivery</p> <p>c. Promotes good nutrition for infant (EBF)</p> <p>d. Doesn't require any product or medication</p> <p>e. Is culturally acceptable</p> <p>f. Other (specify): _____</p>	<p><u>M</u></p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p><u>NM</u></p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>	
416	<p>What, if any, are some disadvantages or challenges to practicing LAM for postpartum women who want to use a contraceptive method?</p> <p>DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 2 if Not mentioned.</p>	<p>a. Duration is limited to 6 months</p> <p>b. Can only be used by women who breastfeed</p> <p>c. Exclusive breastfeeding can be difficult to maintain</p> <p>d. Doesn't protect against STIs, including HIV</p> <p>e. Other (specify): _____</p>	<p><u>M</u></p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<p><u>NM</u></p> <p>2</p> <p>2</p> <p>2</p> <p>2</p> <p>2</p>	
417	<p>How acceptable do you think practicing LAM is among the community members where you live? Is it ...</p> <p>READ responses, select one only</p>	<p>Very unacceptable</p> <p>Somewhat unacceptable</p> <p>Somewhat acceptable</p> <p>Very acceptable</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p>		<p>→Q419</p> <p>→Q419</p> <p>→Q419</p>
418	Why do you think practicing LAM is not very acceptable in the community where you serve as a CHW?	Open response			
419	What, if anything, do you think can be done to make the practice of LAM more acceptable in the community where you serve as a CHW?	Open response			
420	What, if any, challenges or barriers to promoting LAM among postpartum clients do CHWs face in their communities?	Open response:			
421	What strategies do you believe might help overcome some of those barriers/challenges	Open response:			
422	In what ways could CHWs like you be better prepared to support or promote LAM among their postpartum clients?	<u>Open response:</u>			

SECTION 5: KNOWLEDGE AND ATTITUDES ABOUT BREASTFEEDING

READ: "Thank you for sharing that information. Now I would like to ask you some questions about breastfeeding. Again, it is okay if you don't know the answers to these questions. We would just like to hear your thoughts."

No	QUESTION	RESPONSE OPTIONS	CODES	GO TO
501.	Do you counsel pregnant women on breastfeeding practices	Yes No	1 2	→Q510
502.	How long after birth do you advise women to begin breastfeeding?	Immediately Within 24 hours Within 2 days Other	1 2 3 4	
503.	In the first 3 days after delivery, should a mother give her baby anything to drink other than breast milk before her milk begins to flow regularly?	Yes No	1 2	→Q505
504.	What would you advise a mother to give her baby before her milk begins to flow regularly? DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 2 if Not mentioned.	a. Milk (Other than breast milk) b. Plain water c. Sugar or glucose water d. Gripe water e. Salt and sugar solution f. Fruit juice g. Tea/ herbs h. Other specify _____	<u>M</u> <u>NM</u> 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
505.	What advice do you provide to mothers about breastfeeding? DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 2 if Not mentioned.	a. Start breastfeeding within 1 hour after birth b. Exclusively breastfeed for 6 months c. Introduce complementary foods at 6 months d. Breastfeed up to at least 2 years e. Breastfeeding has benefits for your health f. Breastfeeding protects the child's health g. Other (specify): _____	<u>M</u> <u>NM</u> 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
506.	At what age should a mother start giving/plan to give her baby liquids other than breast milk (water, other milk)?	Age in months Don't know = 88	[__ __]	
507.	At what age should a mother start giving/plan to give her baby semi-solid/solid foods?	Age in months	[__ __]	
508.	How would you define "exclusive breastfeeding" for a mother? DO NOT READ RESPONSE OPTIONS AFTER PARTICIPANT HAS RESPONDED AND YOU HAVE RECORDED HIS/HER RESPONSE, PROVIDE HIM/HER WITH THE CORRECT DEFINITION FOR EBF BEFORE PROCEEDING TO Q509	Feeding the baby only breast milk, no water, other liquids or semi-solid/solid foods Any other response	1 2	

No	QUESTION	RESPONSE OPTIONS	CODES	GO TO
509.	For how long do you recommend to mothers that they exclusively breast feed their babies?	<p>Don't recommend EBF</p> <p>One month or less</p> <p>2-3 months</p> <p>4-5 months</p> <p>6 months</p> <p>More than 6 months</p>	<p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p>	
510.	<p>What are some reasons why women choose to not exclusively breastfeed their infant?</p> <p>DO NOT READ RESPONSE OPTIONS</p> <p>Select 1 if Mentioned. Select 2 if Not mentioned.</p>	<p>a. Pressure from husband to feed other things</p> <p>b. Pressure from mother to feed other things</p> <p>c. Pressure from mother-in-law to feed other things</p> <p>d. Work/school/chores keeps them from their baby at times during the day</p> <p>e. Breast milk alone is not enough to meet the baby's needs</p> <p>f. Other (specify): _____</p>	<p><u>M</u> <u>NM</u></p> <p>1 2</p> <p>1 2</p> <p>1 2</p> <p>1 2</p> <p>1 2</p> <p>1 2</p>	
511.	<p>In your opinion, what, if any, advantages does exclusively breastfeeding an infant for the first 6 months of his/her life have?</p> <p>DO NOT READ RESPONSE OPTIONS</p> <p>Select 1 if Mentioned. Select 2 if Not mentioned.</p>	<p>a. Inexpensive/economical</p> <p>b. Immunity against disease</p> <p>c. Mother-infant bonding</p> <p>d. Prevents breast cancer</p> <p>e. Temporarily prevents pregnancy</p> <p>f. Ease of feeding</p> <p>g. Provides balanced nutrition</p> <p>h. Other (Specify): _____</p> <p>i. Don't know</p>	<p><u>M</u> <u>NM</u></p> <p>1 2</p>	
512.	<p>In your opinion, what, if any, challenges does exclusively breastfeeding an infant for the first 6 months of his/her life have?</p> <p>DO NOT READ RESPONSE OPTIONS</p> <p>Select 1 if Mentioned. Select 2 if Not mentioned.</p>	<p>a. Breast pain/discomfort</p> <p>b. Embarrassed to expose breasts in public</p> <p>c. Tied to your child</p> <p>d. Night feeding/disrupted sleep</p> <p>e. Need to return to work and can't feed</p> <p>f. Other specify: _____</p> <p>g. Don't know</p>	<p><u>M</u> <u>NM</u></p> <p>1 2</p>	
513.	What, if any, challenges or barriers to promoting exclusive breastfeeding for babies under the age of 6 months do CHWs face in their communities?	Open response:		
514.	What could CHWs do to get more women in their communities to practice EBF for the first 6 months of their baby's life?	Open response:		

No	QUESTION	RESPONSE OPTIONS	CODES	GO TO
515.	Are there ways that you believe supervisors could better support CHWs like you in your work?	Open response:		

READ: Thank you for taking the time to talk to me today. The information you have shared with us is very helpful. Our study team will make every effort to keep private the information you have shared. Do you have any questions that I can pass on to the people who are in charge of this study? [Make note of questions/concerns].

Interviewer comments (use reverse if necessary):

CHW SUPERVISOR INTERVIEW

STEP 1. INTRODUCTION

Read to client: "Good morning/afternoon/evening. My name is _____. I am an interviewer working with FHI 360. We are working on a research study to understand breastfeeding practices and the use of and need for family planning services in Madagascar. We are asking you to take part in a brief interview where we will ask you some questions about your thoughts and experiences as a supervisor of a community health worker, and about providing services and counseling on breastfeeding and family planning to postpartum women."

.....

STEP 2. VERIFY THAT THE POTENTIAL PARTICIPANT MEETS THE ELIGIBILITY CRITERIA

Criterion: Is the potential participant supervisor of a community health worker who has been selected to participate in the study?

Yes (continue)

No – STOP

.....

STEP 3. REVIEW THE INFORMED CONSENT FORM WITH POTENTIAL PARTICIPANT

Ask the participant if she/he would like a copy of the informed consent form to read along with you. Read the form aloud. If the individual agrees to participate, sign the consent as witness to the participant's verbal consent and place it in the envelope provided. Offer the participant a copy of the consent form.

Only conduct the interview after you have obtained the participant's verbal consent.

INSTRUCTIONS TO INTERVIEWERS: UNLESS OTHERWISE NOTED...

- Do not read the response categories to the participant, unless otherwise noted.
- Circle only one response, unless otherwise noted.
- Do not leave a question blank, unless it is intentionally skipped through a skip pattern. If a participant refuses to respond to a question, write "REF" for that question
- Try not to accept "don't know" as a response or no response at all, unless is it a sensitive question.
- Skip patterns are only marked where they apply. For example, →Q104 means "skip to question 104".
- For each item, circle the response or write answer, as appropriate.
- Neatly print "Other" responses.

No	QUESTION	RESPONSE OPTIONS	CODES
101.	Interviewer ID		__ __
102.	Fokontany	Drop down list	
103.	Health Centre		
104.	Interview number		__
105.	Participant ID	= Fokontany code + Interview #	__ __ __
106.	Date	DD/MM/YY	__ __ / __ __ / __ __
107.	Participant sex (by observation)	Female Male	1 2

SECTION 2. BACKGROUND INFORMATION

READ: "Thank you for agreeing to speak with me today. I would like to first ask you for some demographic information. Then I would like to learn about your work providing family planning services in your role as a CHW. Finally, I will ask about your ideas around family planning and breastfeeding. Shall we begin?"

No				
201.	How old are you?	Age in years	__ __	
202.	What is the highest level of schooling you have completed?	No formal schooling Some primary school Completed primary school Some secondary school Completed secondary school Any post-secondary school	0 1 2 3 4 5	
203.	What is your religion?	Protestant Catholic Muslim Other (Specify) _____	1 2 3 4	
204.	What is your professional designation?	Physician Nurse Midwife (sage femme) Nurse's aid (aide sanitaire) Other (specify) : _____	1 2 3 4 5	

No	QUESTION	RESPONSE OPTIONS	Skip
205.	For how long have you been working in this profession?	Less than one year 1 year 2 years 3 years 4 years 5 or more years	1 2 3 4 5 6
206.	For how long have you been in this health facility?	Less than one year 1 year 2 years 3 years 4 years 5 or more years	1 2 3 4 5 6
207.	For how long have you been supervising CHWs?	Less than one year 1 year 2 years 3 years 4 years 5 or more years	1 2 3 4 5 6
208.	How often do you meet with the CHWs that you supervise?	Weekly Monthly Quarterly (every 3 months) When needed Other (specify): _____	1 2 3 4 5
209.	How frequently do the CHWs that you supervise come to the health center to obtain supplies for work?	Weekly Monthly Quarterly (every 3 months) When needed Other (specify): _____	1 2 3 4 5
210.	How many CHWs do you currently supervise?	Number of CHWs	__ __

SECTION 3. PROVISION OF FAMILY PLANNING SERVICES

READ: "Thank you for sharing that information with me. Now I would like to ask you about your experience providing family planning services as a health provider."

No	QUESTION	RESPONSE	CODES		SKIP
301.	What FP methods are available to clients at this facility? Read Responses. Circle 1 if available and circle 0 if not available.	a. Oral contraceptive pills b. Injectables c. Implants d. IUCD e. Condoms f. Female sterilization g. Vasectomy h. LAM education i. Standard Days Method j. Don't know	<u>Yes</u> 1 1 1 1 1 1 1 1 1 1	<u>No</u> 2 2 2 2 2 2 2 2 2 2	
302.	Have you ever received training (in-service or pre-service) to provide FP methods and counseling?	Yes No	1 2		→Q306
303.	When did you complete your most recent training to provide FP services?	MM/YY	__ __	__ __	
304.	Who provided your training?	Health center NGO Another health care provider Other (specify): _____	1 2 3 4		
305.	For which of the following have you ever received formal training? Ask about each method. If respondent has received training on a method, circle "1" for Yes.	a. Providing oral contraceptive pills b. Providing injectable contraceptives c. Inserting implants d. Inserting IUDs e. Providing male or female condoms f. SDM counseling g. LAM counseling h. Side-effect management i. FP for clients with HIV	<u>Yes</u> 1 1 1 1 1 1 1 1 1	<u>No</u> 2 2 2 2 2 2 2 2 2	
306.	Do you currently provide FP services within this health facility?	Yes No	1 2		→Q401

No	QUESTION	RESPONSE	CODES		SKIP
307.	When you talk to women about family planning, what methods do you tell them about? DO NOT READ RESPONSES. Circle 1 if mentioned and 2 if not mentioned	a. Oral contraceptive pills b. Injectables c. Implants d. IUCD e. Condoms f. Female sterilization g. Vasectomy h. LAM i. Standard Days Method j. Other	<u>Yes</u> 1 1 1 1 1 1 1 1 1 1 1	<u>No</u> 2 2 2 2 2 2 2 2 2 2 2	
308.	Approximately how many women did you provide family planning services for last week?	Number of clients	__ __ __		
309.	Imagine that I am a woman wanting to start contraception. What topics would you discuss with me to help me select a method of contraception? DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 0 if Not mentioned.	a. Number of living children b. Number of previous pregnancies c. Preference for number of children d. Preference for waiting time e. Partner preferences for having children f. History of contraceptive use g. Health problem	<u>M</u> 1 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2 2	
310.	When a woman wants to start a FP method, what medical conditions or health problems do you ask about? DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 0 if Not mentioned.	a. Pregnancy b. Menstruation, bleeding patterns c. Heart condition, stroke, clot d. Diabetes e. Breast cancer f. Liver disease g. STIs h. HIV status i. Other : _____ j. None	<u>M</u> 1 1 1 1 1 1 1 1 1 1	<u>NM</u> 2 2 2 2 2 2 2 2 2 2	
311.	If you wanted to rule-out pregnancy, how would you do that? DO NOT READ RESPONSE OPTIONS Select 1 if Mentioned. Select 0 if Not mentioned.	a. Use a pregnancy test b. Use a pregnancy checklist c. Ask questions to determine if she could be pregnant d. Other (specify): _____	<u>M</u> 1 1 1 1	<u>NM</u> 2 2 2 2	

SECTION 4: KNOWLEDGE AND ATTITUDES ABOUT POSTPARTUM FAMILY PLANNING

READ: "Next I would like to ask you some questions about child bearing and family planning. It is okay if you don't know the answers to these questions. We would just like to hear your thoughts."

No	QUESTION	RESPONSE	CODES		GO TO
401.	For health reasons, what is the <u>minimum</u> time that women should wait after giving birth before trying to become pregnant again?	2 years Any other response Don't know	1 2 8		
402.	For health reasons, what is the <u>minimum</u> time that women should wait after having a miscarriage before trying to pregnant again?	6 months Any other response Don't know	1 2 8		
403.	In your opinion, do you think most women in the community where you work wait the recommended time after the birth of a child before becoming pregnant again?	Yes No Don't know	1 2 8		→ 405
404.	Why do you think women do not wait long enough between pregnancies?	a. Personal desire get pregnant b. Pressure from husband c. Pressure from mother d. Pressure from mother-in-law e. Other (specify): _____	<u>M</u> 1 1 1 1 1 <u>NM</u> 2 2 2 2 2		
405.	Can a woman get pregnant before her menses return after giving birth to a child?	Yes No Don't know	1 2 8		
406.	Is it possible for a woman to get pregnant while she is breastfeeding?	Yes No Don't know	1 2 8		
407.	Can you name any advantages that family planning has for a woman? DO NOT READ RESPONSE OPTIONS Circle 1 if Mentioned. Circle 0 if Not mentioned.	a. Avoid pregnancy too young (<18 years) b. Avoid pregnancy too late (>35 years) c. Space pregnancies (at least 2 years between pregnancies) d. Have only the number of children desired (limit pregnancies) e. Improve socioeconomic status f. Reduce chance of unwanted pregnancy and/or abortion g. For women with HIV, reduce risk of transmitting HIV to baby	<u>M</u> 1 1 1 1 1 1 1 <u>NM</u> 2 2 2 2 2 2 2		

No	QUESTION	RESPONSE	CODES		GO TO
408.	I am going to read you a list of family planning methods. For each method, I would like you to tell me whether guidelines recommend that this method can be used by a breastfeeding woman 6 weeks after giving birth. READ RESPONSE OPTIONS. Circle 1 if yes, 2 if no, and 8 if the respondent doesn't know	a. Oral contraceptive pills b. Injectables c. Implants d. IUCD e. Condoms f. Female sterilization g. Vasectomy h. LAM i. Standard Days Method	<u>Yes</u> 1 1 1 1 1 1 1 1 1	<u>No</u> 2 2 2 2 2 2 2 2 2	<u>DK</u> 8 8 8 8 8 8 8 8 8
409.	I am going to read you a list of family planning methods. For each method, I would like you to tell me whether guidelines recommend that this method can be used by a breastfeeding woman 6 months after giving birth. READ RESPONSE OPTIONS. Circle 1 if yes, 2 if no, and 8 if the respondent doesn't know	a. Oral contraceptive pills b. Injectables c. Implants d. IUCD e. Condoms f. Female sterilization g. Vasectomy h. LAM i. Standard Days Method	<u>Yes</u> 1 1 1 1 1 1 1 1 1	<u>No</u> 2 2 2 2 2 2 2 2 2	<u>DK</u> 8 8 8 8 8 8 8 8 8
410.	Have you ever heard of the lactational amenorrhea method of family planning, also called LAM?	Yes No			→420
411.	Can you tell me the three conditions that must be met for a postpartum woman to be protected against pregnancy through lactational amenorrhea, or LAM? DO NOT READ RESPONSE OPTIONS	a. Less than 6 months postpartum b. Exclusively or nearly exclusively breastfeeding c. Menses have not returned	<u>M</u> 1 1 1	<u>NM</u> 2 2 2	
412.	In your opinion, do you think that LAM is an effective FP method for postpartum women?	Yes No	1 2		
413.	Is LAM a method that you would recommend to women who have just delivered a baby?	Yes No	1 2		
414.	Why or why not?	Open response			

No	QUESTION	RESPONSE	CODES		GO TO	
415.	What, if any, are some advantages to practicing LAM for postpartum women who want to use a contraceptive method?	<p>a. Highly effective method</p> <p>b. Can be initiated immediately after delivery</p> <p>c. Promotes good nutrition for infant (EBF)</p> <p>d. Doesn't require any product or medication</p> <p>e. Is culturally acceptable</p>	<u>M</u>	<u>NM</u>		
			1	2		
			1	2		
			1	2		
			1	2		
			1	2		
416.	What, if any, are some disadvantages or challenges to practicing LAM for postpartum women who want to use a contraceptive method?	<p>a. Duration is limited to 6 months</p> <p>b. Can only be used by women who breastfeed</p> <p>c. Exclusive breastfeeding can be difficult to maintain</p> <p>d. Doesn't protect against STIs/HIV</p>	<u>M</u>	<u>NM</u>		
			1	2		
			1	2		
			1	2		
			1	2		
417.	How acceptable do you think practicing LAM is among the community members where you live?	<p>Very unacceptable</p> <p>Somewhat unacceptable</p> <p>Somewhat acceptable</p> <p>Very acceptable</p>	1			
			2			
			3			
			4		→Q419	
418.	Why do you think practicing LAM is not very acceptable in the community where you live?	Open response				
419.	What, if anything, do you think can be done to make the practice of LAM more acceptable in your community?	Open response				
420.	How acceptable do you think using other family planning methods is among the community members where you live?	<p>Very unacceptable</p> <p>Somewhat unacceptable</p> <p>Somewhat acceptable</p> <p>Very acceptable</p>	1		→Q423	
			2			
			3			
			4			
421.	Why do you think using other family planning methods is not very acceptable in the community where you live?	Open response				
422.	What, if anything, do you think can be done to make using other family planning methods more acceptable in your community?	Open response				
423.	Whose opinions, other than the woman herself, are most likely to influence whether a client uses family planning?		<u>M</u>	<u>NM</u>		
		a. Husband	1	2		
		b. Mother	1	2		
		c. Mother-in-law	1	2		
		d. Health Care provider	1	2		
		e. CHW	1	2		
		f. Other (specify):_____				
	DO NOT READ RESPONSE OPTIONS					
	Circle 1 if Mentioned. Circle 0 if Not mentioned.					

No	QUESTION	RESPONSE	CODES	GO TO																						
424.	What can health providers do to get more women who do not want to be pregnant, either now or ever, to use an effective modern contraceptive method?	Open response																								
425.	In what ways could CHWs be better prepared or supported to provide FP services to their clients?	Open response																								
426.	Are you personally currently using a family planning method?	Yes No	1 2	→Q428																						
427.	What family planning method are you using?	a. Oral contraceptive pills b. Injectables c. Implants d. IUCD e. Condoms f. Female sterilization g. Vasectomy h. LAM a. Standard Days Method	<table border="1"> <thead> <tr> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr><td>1</td><td>2</td></tr> </tbody> </table>	Yes	No	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	All go to Q 501
Yes	No																									
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428.	What is the <u>main</u> reason that you are not using a family planning method?	I am unable to get pregnant Waiting for menses to return after delivery I'm breastfeeding I am not currently sexually active There is no method that suits me Desired method not available I am not interested in using family planning I am currently pregnant I am trying to get pregnant Other (specify):_____	1 2 3 4 5 6 7 8 9 10																							

SECTION 5: KNOWLEDGE AND ATTITUDES ABOUT BREASTFEEDING

READ: "Thank you for sharing that information. Now I would like to ask you some questions about breastfeeding. Again, it is okay if you don't know the answers to these questions. We would just like to hear your thoughts."

No	QUESTION	RESPONSE OPTIONS	CODES	GO TO
501.	How long after birth should a women to begin breastfeeding? Don't know = 88	Immediately Within 24 hours Within 2 days Other	1 2 3 4	
502.	In the first 3 days after delivery, should a mother give anything to drink other than breast milk before her milk begins to flow regularly?	Yes No	1 2	
503.	Do you counsel pregnant or postpartum women on infant feeding and breastfeeding?	Yes No	1 2	→Q510
504.	What would you advise a mother to give her baby before her milk begins to flow regularly? DO NOT READ RESPONSE OPTIONS Circle 1 if Mentioned. Circle 0 if Not mentioned.	a. Milk (Other than breast milk) b. Plain water c. Sugar or glucose water d. Gripe water e. Salt and sugar solution f. Fruit juice g. Tea/ herbs h. Other specify _____ i. Nothing	<u>M</u> <u>NM</u> 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
505.	What advice to you provide to mothers about breastfeeding? DO NOT READ RESPONSE OPTIONS Circle 1 if Mentioned. Circle 0 if Not mentioned.	a. Start breastfeeding 1 hour after birth b. Exclusively breastfeed for 6 months c. Introduce foods at 6 months d. Breastfeed up to at least 2 years e. Mother health benefits f. Breastfeeding protects child's health g. Other (specify): _____	<u>M</u> <u>NM</u> 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
506.	At what age should a mother start giving/her baby liquids other than breast milk (like water, and other milks)?	Age in months	[__ __]	
507.	At what age should a mother start giving her baby semi-solid/solid or soft foods?	Age in months	[__ __]	
508.	How would you define "exclusive breastfeeding" to a mother? DO NOT READ RESPONSE OPTIONS AFTER PARTICIPANT HAS RESPONDED, PROVIDE HIM/HER WITH THE CORRECT DEFINITION FOR EBF BEFORE PROCEEDING TO Q509	Feeding the baby only breast milk, no water, other liquids or solids Any other response	1 2	

No	QUESTION	RESPONSE OPTIONS	CODES	GO TO
514.	In what ways could the CHWs that you supervise be better prepared to support or promote EBF for the first 6 months of a baby's life among their clients?	Open response:		
515.	What, if any, challenges or barriers to providing family planning services do CHWs face in their communities?	Open response:		
516.	What strategies do you believe might help overcome some of those barriers/challenges	Open response:		
517.	What, if any, challenges or barriers to promoting exclusive breastfeeding for babies under the age of 6 months do CHWs face in their communities?	Open response:		
518.	What strategies do you believe might help overcome some of those barriers/challenges	Open response:		
519.	Among the CHWs that you supervise, how motivated do you believe they are to perform their duties?	Open response:		
520.	Are there ways in which the CHWs could be better motivated to carry out their duties or to improve the services they provide?	Open response:		
521.	Are there ways that you believe supervisors could better support CHWs in their work?	Open response:		

READ: Thank you for taking the time to talk to me today. The information you have shared with us is very helpful. Our study team will make every effort to keep private the information you have shared. Do you have any questions that I can pass on to the people who are in charge of this study? [Make note of questions/concerns].

Interviewer comments (use reverse if necessary):

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Cover photo: Nathalie Raharilaza, Courtesy of Photoshare

Recommended Citation: Dulli, Lisa and Randrianasolo, Bodo Sahondra. 2015. *Formative Research to Improve the Promotion of the Lactational Amenorrhea Method (LAM) and Exclusive Breastfeeding (EBF) in the MAHEFA USAID/Madagascar Program, Ambilobe District, DIANA Region.* Washington, DC: FHI 360/FANTA.

This report is made possible by the generous support of the American people through the support of the Office of Health, Infectious Diseases, and Nutrition, Bureau for Global Health, U.S. Agency for International Development (USAID), and and USAID/Madagascar under terms of Cooperative Agreement No. AID-OAA-A-12-00005, through the Food and Nutrition Technical Assistance III Project (FANTA), managed by FHI 360.

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