USAID
FROM THE AMERICAN PEOPLE

Maternal and Child Survival Program

Addressing Barriers to Exclusive Breastfeeding in Nampula, Mozambique: Opportunities to Strengthen Counseling and Use of Job Aids

Technical Report

Authors:
Gabriela Buccini, Rafael Pérez-Escamilla, Justine A. Kavle, Melanie Picolo, Iracema Barros, Chloe H. Dillaway

www.mcsprogram.org

The Maternal and Child Survival Program (MCSP) is a global, $560 million, 5-year cooperative agreement funded by the United States Agency for International Development (USAID) to introduce and support scale-up of high-impact health interventions among USAID's 25 maternal and child health priority countries,* as well as other countries. MCSP is focused on ensuring that all women, newborns, and children most in need have equitable access to quality health services to save lives. MCSP supports programming in maternal, newborn, and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment.

This document is made possible by the generous support of the American people through USAID under the terms of the Cooperative Agreement AID-OAA-A-14-00028. The contents are the responsibility of MCSP and do not necessarily reflect the views of USAID or the United States Government.

* USAID's 25 high-priority countries are Afghanistan, Bangladesh, Burma, Democratic Republic of Congo, Ethiopia, Ghana, Haiti, India, Indonesia, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Nepal, Nigeria, Pakistan, Rwanda, Senegal, South Sudan, Tanzania, Uganda, Yemen, and Zambia.

July 2019

Suggested Citation: Buccini G, Pérez-Escamilla R, Kavle JA, Picolo M, Barros I, Dillaway C. Addressing Barriers to Exclusive Breastfeeding in Nampula, Mozambique: Opportunities to Strengthen Counseling and Use of Job Aids. Washington, DC: USAID's Maternal and Child Survival Program (MCSP); July 2019.

Table of Contents

Abbreviations

ANC	antenatal care
BFGM	Breastfeeding Gear Model
BFHI	Baby-Friendly Hospital Initiative
EBF	exclusive breastfeeding
IDI	in-depth interviews
IEC	information, education, and communication
INAS	National Institute of Social Protection
IYCF	infant and young child feeding
MCSP	Maternal and Child Survival Program
MOH	Ministry of Health
PIP	Program Impact Pathways
SBCC	social and behavior change communication
TWG	technical working group
USAID	United States Agency for International Development
WHO	World Health Organization

Acknowledgments

We gratefully acknowledge USAID Washington and USAID Mozambique for their funding and support of the study. We thank the mothers and health providers for participating in the interviews.
The contributions of the following individuals were invaluable for the study's success:

Co-Principal Investigators
Justine A. Kavle, PhD, MPH, Nutrition Team Lead, MCSP/PATH
Rafael Perez Escamilla, PhD, Dr. Honoris Causa, Yale University School of Public Health

Co-Investigators
Gabriela Buccini, PhD, MPH, IBCLC Yale University School of Public Health
Melanie Picolo, MCSP/PATH. Mozambique
Iracema Barros, MCSP/PATH, Mozambique

Field Research Interviewers (Phase 1 and 3)
Fátima Evaristo Belua, MCSP Mozambique Nutrition Research Assistant
Abdul Soares José, MCSP Mozambique Nutrition Research Assistant
Leonel Sabonete, MCSP Mozambique Nutrition Research Assistant
Creitoni Germano Branco, MCSP Mozambique Nutrition Research Assistant
Aurelio Fernando, MCSP District Nutrition Officer Meconta
Angi Singano, MCSP District Nutrition Officer Mogovolas
Momade Albano Intata, MCSP Nampula Nutrition Officer
Olga Muaquiua, MCSP Nampula Nutrition Officer

Key Analyst (Phase 3) data
Chloe H. Dillaway, MSCP/PATH

This study was a collaborative effort between MCSP and Yale University. The MCSP team led the initial development of the protocol and tools, selected the study sites, assisted in data collection (Phase 1), co-developed the job aids, co-facilitated trainings on the job aid, supported the 3-month roll out of the job aid, conducted Phase III interviews, transcribed interviews, and assisted in data processing and analysis for all phases. The Yale team provided significant input into the protocol, tools, and job aids, led training of the providers on the job aids, and carried out Phase 1 data collection and Phase 1 qualitative data analyses, in partnership with MCSP.

Executive Summary

Background

Optimal breastfeeding practices reduce neonatal and child morbidity (i.e., respiratory infection and diarrhea) and mortality.[1] Evidence of the protective effects of breastfeeding against obesity and diabetes have also been well documented.[1–5] In the past two decades, progress in exclusive breastfeeding (EBF) has stagnated, with only 41% of infants exclusively breastfed in low- and middle-income countries, according to the 2018 Global Nutrition Report.[6]

Lactating women may experience challenges to early initiation of breastfeeding and maintaining EBF for the first 6 months of an infant's life. A recent Maternal and Child Survival Program (MCSP)-led systematic review identified 16 barriers to EBF, including prelacteal feeding, maternal perceptions of insufficient breastmilk, early introduction of foods and liquids prior to 6 months of age, and lack of counseling on physical breast problems, which are often unaddressed through infant and young child feeding (IYCF) programs.[7]

In Mozambique, recent evidence reveals that EBF practices are suboptimal. According to 2011 Demographic Health Survey data, about three-quarters of infants initiate breastfeeding within the first hour of life, while only 43% of children under 6 months are exclusively breastfed. About half of infants are introduced to food and/or liquids other than breastmilk prior to 3 months of age. According to an MCSP-led qualitative formative assessment using trials of improved practices (TIPs) methodology, although most Mozambican mothers practiced early initiation of breastfeeding, there was a lack of knowledge of the benefits of breastfeeding. Some mothers were advised by health personnel to wait to offer the breast to the child beyond the first hour after childbirth (sometimes up to 3 to 4 days). In addition, some mothers started to introduce foods early, prior to 6 months of age, either due to a lack of knowledge about the appropriate time to introduce foods or because of perceptions that their breastmilk was insufficient. In 2011, a study in Mozambique found that health workers relayed the benefits of EBF, yet most lacked skills to adequately counsel and address breastfeeding challenges that mothers experienced.[8]

Barriers and challenges to breastfeeding can hinder early initiation, exclusivity, and duration of EBF, which is a key component of nutrition and health programming in Mozambique and elsewhere; yet are often unaddressed in health programs. The World Health Organization (WHO) guidelines on breastfeeding counseling also highlighted that a key gap in evidence exists in the minimum competency of health providers needed to address breastfeeding challenges, in terms of duration, clinical and practical skills, and modes of training delivery.[9] Therefore, the objectives of this implementation science study were to:

- Identify problems and challenges with EBF experienced by mothers in rural and semi-urban areas in Nampula, Mozambique.
- Gain an understanding of mothers' care-seeking patterns for addressing the identified breastfeeding problems and challenges.
- Gain an understanding of the quality and type of counseling on breastfeeding problems and challenges currently provided by facility- and community-based health provider and how providers can improve counseling on EBF through the use of job aids at delivery, postpartum, and community routine health contact points.
- Assess the usefulness of job aids to improve the successful identification of and counseling on barriers to EBF by facility- and community-based health provider, and identify ways to improve them through their rollout and use within existing service delivery entry points.

Methods

This study was conducted in two districts, Meconta and Mogovolas, in Nampula Province, where MCSP worked with the Ministry of Health (MOH) to improve the quality of preventive and curative nutrition services, including infant and young child counseling, from January 2017 to January 2019. Human Subjects Review approval from the National Committee of Bioethics for Health in Mozambique, PATH, and Yale's Human Subjects Institutional Review Boards were received.

The study had three phases, which were carried out from July to October 2018:

- Phase 1: Qualitative in-depth interviews (mothers and providers) and breastfeeding counseling observations (mother-provider individual sessions) were conducted to assess experiences with breastfeeding challenges and characterize the quality of provider counseling.
- Phase 2: Three health provider job aids were developed and rolled out among maternity, facility-, and community-based providers.
- Phase 3: Qualitative in-depth interviews (mothers and providers) were conducted to ascertain providers' and mothers' experiences with the job aids.

The inclusion criteria for mothers were: (1) residents of the selected study sites within Nampula Province and (2) at least 18 years of age. In Phase 3 only, mothers were eligible if they had received counseling from a facility- or community-based health provider who used study job aids. Mothers were excluded from Phase 1 and Phase 3 if they had (1) infants born prior to 35 weeks of gestation and/or (2) infants with any chronic illness or disability that would markedly affect normal feeding practices. Facility- and community-based health providers were eligible if they: (1) worked in Nampula Province and within MCSP-supported facilities and communities, (2) provided nutrition and child health services, and (3) had been trained on and used a study job aids (Phase 3 only).

All in-depth interview and observation guides and job aids were designed based on a systematic literature review of barriers to EBF from low- and middle-income countries,[7,10–12] and were adapted to the local context before implementation. All study participants provided verbal informed consent following a description of the study's purpose for in-depth interviews and observations and granted permission to audio record the interviews for Phases 1 and 3. Interviews with community-based health providers and mothers were conducted in the local language, Macua, and interviews with facility-based providers were conducted in Portuguese. Following data collection, all interview transcripts were transcribed verbatim directly into Portuguese, and were coded and classified using Dedoose v.8.1.8 qualitative computer software, applying codes in English to the Portuguese transcripts. Conceptual themes and subthemes were generated throughout the coding process based on research questions. Quotes that most closely represented these themes were included in the report, with illustrative participant quotes translated from Portuguese into English for reporting purposes.

Job Aid Development

MCSP developed a checklist to aid health professionals in identifying common problems related to breastfeeding and counseling breastfeeding women on how to address these problems. In May–June 2018, the checklist was modified into three job aids, which incorporated feedback from the Nutrition Technical Working Group in Nampula Province and MCSP nutritionists. The job aids are intended for use at various health contact points by facility- and community-based health providers, as follows:

- At childbirth (either at the health facility or in the community)
- All postnatal and child health visits at the health facility level
- All community contact points within the first 6 months during the postnatal period

The aim of the job aids is to guide health providers to (1) support mothers to use and practice a variety of breastfeeding techniques for optimal latch and positioning and to prevent common breastfeeding problems; (2) assess if a mother uses appropriate breastfeeding techniques and counsel her; (3) identify common breastfeeding problems; and (4) counsel mothers on resolving and managing common breastfeeding problems or refer women with breastfeeding problems to a health facility (community-based providers only). In July 2018, 10 facility-based providers (four maternal and child health nurses, three preventive medicine technicians, and three nutritionists), four maternal and child health and nutrition focal points, and 17 community-based health providers (11 nutrition activists, four community leaders, and two traditional birth attendants) were trained on use of the job aids. Following the trainings, suggestions on how to improve the materials were incorporated into the final versions. In August 2018, the materials were distributed to trained providers. MCSP district nutrition officers provided routine supportive supervision and mentoring on the use of the job aids during the 3-month rollout period (August–October 2018).

Findings

Our findings from Phase 1 (i.e., prior to rollout of the job aids) indicate that at the community and facility levels, there was little attention to breastfeeding counseling during antenatal care (ANC), childbirth, postnatal care, and well child and sick child consultations in the study areas. No guidance on breastfeeding was provided during pregnancy at the community level or during ANC health talks. Providing breastfeeding information during ANC is key to strengthening EBF counseling.[13] Practical support to address breastfeeding positioning, latching, and other difficulties was not consistent among health providers, which was in line with the lack of pre-service training on topics related to lactation and resolving breastfeeding challenges. Although community-based providers had some in-service training in breastfeeding counseling, lack of self-efficacy hindered counseling, and mothers who experienced problems with breastfeeding were often referred to health facilities. Facility-based providers stated they did not have in-service training in breastfeeding counseling or knowledge of how to adequately manage breastfeeding problems.

Husbands were reported to be the primary source of support for EBF during pregnancy and after childbirth. This finding indicates the importance of breastfeeding counseling reaching influential family members. During the observation of breastfeeding counseling sessions, a few health providers advised mothers to share the guidance received during the consultation with husbands or even scheduled an appointment to inform and counsel husbands directly. Early return to work postpartum was reported as a key challenge to EBF in Mozambique

Following rollout, Phase 3 findings showed that the job aids reaffirmed existing health provider knowledge, and providers shared that they learned new information about breastfeeding problems and technique. Providers were better able to identify and resolve breastfeeding problems, resulting in improved provider confidence and self-efficacy in counseling. Community-based providers were also better able to solve breastfeeding problems themselves, with fewer referrals to the facility. The job aids helped providers explain breastfeeding problems to women and were used before and during practical support to mothers, which was valued by mothers. Key challenges to counseling that were not addressed in the job aids included language barriers for providers, and clarification on the use of infant formula for vulnerable infants (orphans/HIV).

Key Recommendations

The following key recommendations are based on results from the study:

- **Update existing maternal and child health and nutrition guidelines, standards, and training curricula.** Feature breastfeeding challenges and problems and how to solve them in key guidelines (i.e., national ANC guidelines), pre- and in-service training curricula, and supportive supervision tools (including the Model Maternity Initiative tools) for facility-based health providers to improve breastfeeding counseling during ANC, maternity care/childbirth, postnatal, and child health services.

- **Integrate breastfeeding counseling content in pre-service curricula** for facility- and community-based health providers and develop supportive supervision tools for facility- and community-based provision of nutrition services, including breastfeeding counseling.

- **Provide in-service training and supportive supervision for providers.** Community and facility-based in-service trainings can emphasize support for early breastfeeding initiation (e.g., early breastfeeding physiology, colostrum, breastfeeding techniques) and management of common breastfeeding problems (e.g., sore nipples, breast engorgement and mastitis, breastfeeding challenges faced by working women, cross-feeding, latching, and insufficient milk).[a] In addition, on-the-job training can incorporate listening and learning skills, build confidence and self-efficacy, train providers to give anticipatory guidance, and incorporate provider behavior change into on-the-job training to counteract cultural beliefs and attitudes on breastfeeding challenges.

- **Integrate communication skills into on-the-job training and supportive supervision** to ensure providers have the appropriate interpersonal communication skills to effectively use the materials and support mothers in addressing identified breastfeeding problems.

- **Support observation skills.** During routine consultations, health providers should have the skills to observe the interaction between mother and baby, be able to respond to any doubts or questions the mother has about breastfeeding and care of the infant, and aid in supporting the baby's latch and positioning. A standard breastfeeding history form as part of the patient records for the visit may help institutionalize the practice of observing and assessing breastfeeding technique.

- **Complement existing IYCF materials with job aids.** Support materials, such as Mozambique's adapted UNICEF C-IYCF Counseling Package cards, and the job aids developed and tested through this study, should be used to complement each other. The job aids were developed to align with the IYCF counseling cards as they use similar language, key messages, and images. However, whereas the IYCF counseling cards are mainly used for breastfeeding promotion, the job aids provide additional step-by-step guidance on how to support breastfeeding by assessing technique and identifying and resolving breastfeeding problems. Collectively, these tools can help strengthen the quality of breastfeeding counseling in both community and clinical settings.[12,15] Prior to further rollout at a subnational and national scale, the job aids should be validated for rollout in conjunction with the MOH adapted UNICEF IYCF counseling package and providers trained on how to use these complementary materials, with this training reinforced by supportive supervision.

- **Provide practical support to mothers through health providers, who can identify and manage breastfeeding problems, as well as prevent future problems.** Although facility- and community-based health providers could identify problems, as our results demonstrate, they can also help mothers prevent problems by addressing the benefits of adopting good practices, analyzing the causes of breastfeeding difficulties or problems, and suggesting solutions.

- **Address literacy and language barriers faced by providers in the design of breastfeeding counseling trainings** and associated materials, particularly at the community level.

- **Update the job aids to address certain questions.** Address confusion and concerns about feeding recommendations around orphans, vulnerable children, children exposed to HIV, and women who believe their breastmilk is insufficient. Clarify the justified use of the infant formula for whom and when.

[a] Diverse training models have been tested globally, focusing on knowledge, attitudes, and skills of health providers.[15,16] A recent systematic review showed that diverse kinds of training courses (theoretical and practical training, workshops, online training, supervision, or a combination of strategies) had at least one positive result on knowledge, skills, and/or professional/hospital practices.[14] Thus, Mozambique may benefit from national training guidelines for breastfeeding counseling.

- **Integrate with and strengthen the Baby-Friendly Hospital Initiative at the facility level.** While the Baby-Friendly Hospital Initiative (BFHI) has been shown to improve EBF initiation and duration,[16,17] BFHI implementation has waned in several countries, including Mozambique. Although the government of Mozambique has prioritized breastfeeding as part of the IYCF strategy, no health facilities or hospitals in the country are certified as baby friendly, even though BFHI was first implemented between 1998 and 1999, was revitalized in 2007, with trainings of staff in central and provincial hospitals between 2010 and 2011. Although these sites are still attempting to implement BFHI, support is needed to achieve certification. On the other hand, the MOH has adopted the Model Maternity Initiative to promote early skin-to-skin contact between mothers and infants. It also supports early breastfeeding initiation, with a focus on maternal health. In this context, Mozambique has a key opportunity to promote early breastfeeding initiation in maternity wards by strengthening implementation of BFHI and integration with aspects of the Model Maternity Initiative, including kangaroo care and respectful maternity care. This would require updating local BFHI guidelines; training; information, education, and communication (IEC); and supportive supervision materials in alignment with the new WHO BFHI guidelines.[9,12]

- **Task shift to community-level health workers for comprehensive breastfeeding support.** Health providers relayed that excessive caseloads, lack of time to counsel mothers, and lack of infrastructure to perform one-on-one counseling (lack of privacy) are ongoing issues at the health facility level. Task-shifting to community-level health workers for comprehensive breastfeeding support may be considered through "model" breastfeeding mothers, guided by community-based providers, who can provide peer-to-peer support for other breastfeeding mothers, such as how they are able to exclusively breastfeed and manage issues that arise. Several existing initiatives in Mozambique use community-based breastfeeding support groups led by community providers or mother-to-mother groups, overseen by health units. The lead health units help to establish a functional referral and counter referral system through strengthened communication between facility-based health services and the community level.

Short- and long-term investments to improve breastfeeding counseling services during routine contact points and the implementation and sustainability of large-scale improvements in breastfeeding counseling in Mozambique would benefit from using the Breastfeeding Gear Model (BFGM) as a framework. BFGM looks at scaling up EBF protection, promotion, and support programs (including counseling) through eight gears: advocacy, political will, legislation, funding and resources, training and program delivery, promotion, research and evaluation, and coordination and monitoring. All of these components must work in harmony to achieve large-scale improvements in scaling up breastfeeding-friendly environments to protect, promote, and support optimal breastfeeding practices.[18]

Introduction

Optimal breastfeeding practices reduce neonatal and child morbidity (i.e., respiratory infection and diarrhea) and mortality, and contribute to better maternal health outcomes.[1] Evidence of the protective effects of breastfeeding against obesity and diabetes has also been well documented.[1–5] According to the 2018 Global Nutrition Report, only 41% of infants were exclusively breastfed in low- and middle-income countries, reflecting limited progress over the past two decades.[6]

Lactating women experience challenges to early initiation of breastfeeding and maintaining EBF for the first 6 months of an infant's life. A recent Maternal and Child Survival Program (MCSP)-led systematic review identified 16 barriers to EBF, including prelacteal feeding, maternal perceptions of insufficient breastmilk, early introduction of foods and liquids prior to 6 months of age, and lack of counseling on physical breast problems, which are largely unaddressed through traditional infant and young child feeding (IYCF) programs and initiatives.[7]

In Mozambique, recent evidence reveals that EBF practices are suboptimal. According to 2011 Demographic Health Survey data, about three-quarters of infants initiate breastfeeding within the first hour of life, but only 43% of infants under 6 months of age are exclusively breastfed. About half of infants are introduced to food and/or liquids other than breastmilk prior to 3 months old. According to a qualitative formative assessment using trials of improved practices (TIPs) methodology,[b] although most Mozambican mothers practiced early initiation of breastfeeding, there was a lack of knowledge of the benefits of breastfeeding.[19] Some mothers were advised by health personnel to wait to offer the breast to their infant beyond the first hour after childbirth (sometimes up to 3 to 4 days), showing a lack of knowledge about the importance of early initiation of breastfeeding among health providers. About one-quarter of mothers had either discarded colostrum or had given the baby colostrum but had not received advice on colostrum or the value of breastfeeding. In addition, some mothers started to introduce foods early, prior to 6 months of age, either due to a lack of knowledge about the appropriate time to introduce foods or because they perceived their breastmilk as insufficient.[19] In 2011, a qualitative study in Mozambique found that infants were frequently introduced to traditional medicines, water, and porridges prior to 6 months of age.[8] Many mothers lacked support from other family members to exclusively breastfeed for 6 months. Moreover, although health workers relayed the benefits of EBF, most lacked skills to adequately counsel and address breastfeeding challenges that mothers experienced.

Barriers and challenges to skilled lactation care and counseling can hinder early initiation, exclusivity, and duration of EBF, which is a key component of nutrition and health programming in Mozambique and elsewhere. The World Health Organization (WHO) guidelines on breastfeeding counseling also highlight a key gap in evidence on the minimum competency of health providers needed to address breastfeeding challenges, in terms of duration, clinical and practical skills, and modes of training delivery.[9] Therefore, this study aimed to:

- Identify problems and challenges with EBF experienced by mothers in rural and semi-urban areas in Nampula, Mozambique.
- Gain an understanding of mothers' care-seeking patterns for addressing the identified breastfeeding problems and challenges.
- Gain an understanding of the quality and type of counseling on breastfeeding problems and challenges currently provided by facility- and community-based health providers, and how providers can improve counseling on EBF through the use of a job aids at delivery, postpartum and community routine health contact points.
- Assess the usefulness of job aids to improve the successful identification of and counseling on barriers to EBF by facility- and community-based health providers and identify ways to improve them through their rollout and use within existing service delivery entry points.

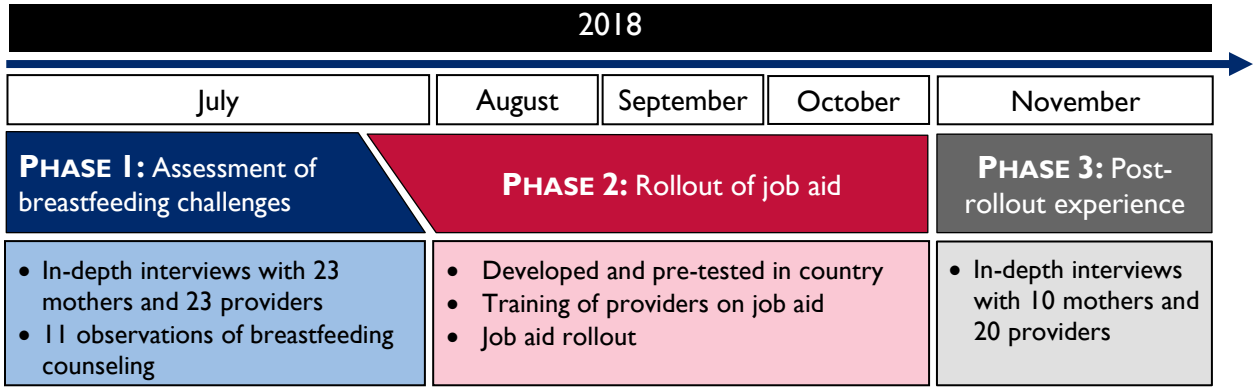
[b] The TIPs methodology consists of three home visits, during which health workers attempt to determine existing IYCF practices, negotiate with mothers to try new practices, and follow up to determine if they were able to adopt and sustain new behaviors. The methodology identifies barriers, solutions, and facilitating factors to optimal IYCF in the context of a mother's own household.

Methods

This study was conducted in two districts, Meconta and Mogovolas, in Nampula Province, where MCSP worked with the Ministry of Health (MOH) to improve the quality of preventive and curative nutrition programming, including infant and young child counseling, from January 2017 to January 2019. The two study sites were selected due to the existence of community structures for government buy-in for nutrition programming, presence of MCSP project activities, and accessibility. Districts were chosen to be regionally representative of the diversity in cultural beliefs and geography (i.e., coastal and inland areas), which can influence breastfeeding practices. Ethical approval from the National Committee of Bioethics for Health in Mozambique, PATH, and Yale's Human Subjects Institutional Review Boards was received.

This study was conducted in three phases (see Figure 1). Qualitative data collection and management (Phase 1 and Phase 3) took place pre- and post-rollout of the job aids (Phase 2) with the MOH from July 2018 to November 2018. All in-depth interview (IDI), observation guides, and job aids were designed based on a review of literature from low- and middle-income countries,[7,10–12] and were pre-tested and adapted to the local context before implementation. All study participants provided verbal informed consent following a description of the study's purpose and granted permission to audio record the interviews for Phases 1 and 3.

Figure 1. Summary of study components



A program impact pathways (PIP) analysis was used to identify opportunities to strengthen breastfeeding counseling within the Mozambique health system, before implementation.

- In Phase 1, a first round of IDIs was conducted with 10 facility-based health providers, 13 community-based health providers, and 23 lactating mothers; as well as 11 observations of counseling sessions between health providers and mothers, based on a PIP analysis (see Figure 2). Phase 1 provided insight into (1) mothers' knowledge, perceptions, and cultural beliefs about problems and challenges with EBF, (2) mothers' care-seeking patterns for addressing these identified breastfeeding problems and challenges, and (3) type and quality of counseling on EBF challenges provided by facility- and community-based health providers.

- In Phase 2, health provider job aids, which were used to identify and address common challenges and problems with EBF, were developed and vetted with the provincial Nutrition Technical Working Group (TWG). This was followed by extensive reviews by the research team and wider MCSP provincial nutrition team, after which the job aids were piloted in Mozambique.

- In Phase 3, following a 3-month rollout of the job aids, a second round of IDIs was conducted with 11 mothers, 10 facility-based providers, and 10 community-based providers. In Phase 3, the usefulness of the job aids in improving providers' successful identification of and counseling on barriers to EBF, and ways to improve the job aids from the perspective of both facility- and community-based health providers and lactating mothers were determined. Details of each phase are provided in the following sections.

Exploratory Program Impact Pathways Analysis

A PIP analysis was adapted from Nguyen et al.[20] and was framed around the Social and Behavior Change Communication (SBCC) Strategy to Prevent Undernutrition in Mozambique,[21] which defines three key components of SBCC: advocacy, social mobilization, and behavior change communication. The PIP analysis was developed to (1) identify routine contact points at the health facility and community levels where breastfeeding counseling and support can be integrated, and (2) identify opportunities and ways to disseminate breastfeeding counseling job aids (Figure 2).

The PIP was developed through (1) a desk review of Mozambique guidelines and government documents on breastfeeding counseling; (2) individual conversations with key stakeholders from the Provincial Health Directorate of Nampula and District Services of Health, Women and Social Action of Meconta District and the MCSP nutrition team in Nampula and Maputo; (3) input from direct observations of health services and conversations with key staff at health clinics and community members; and (4) facilitated discussion in Meconta and in Mogovolas with MCSP nutrition staff from Nampula and the District Nutrition Focal Point in Mogovolas, as well as discussions on routine contact points within the Mozambique health system.

Study Participant Selection

In-Depth Interviews with Providers and Lactating Mothers

In Phases 1 and 3, the study team conducted semi structured IDIs with facility- and community-based health providers and lactating mothers of infants ages 0 to 5 months. The inclusion criteria for mothers were (1) residents of the selected study sites within Nampula Province, and (2) at least 18 years of age (due to the need to obtain informed consent). In Phase 3 only, mothers were eligible if they had received counseling from a community or facility-based health provider who used a study job aid. Mothers were excluded from Phases 1 and 3 if they had (1) infants born with less than 35 weeks of gestation, and/or (2) infants with any chronic illness or disability that would markedly affect normal feeding practices. Facility- and community-based health providers were eligible provided that they (1) worked in Nampula Province and within MCSP-supported facilities and communities, (2) provided nutrition and child health services, and (3) in Phase 3 only, had been trained on and used a study job aid(s).

Observation of Breastfeeding Counseling Sessions

As part of Phase 1, direct observations of individual (mother-provider) breastfeeding counseling sessions were conducted to ascertain the type and quality of breastfeeding counseling skills of facility health providers. On the day of data collection, the team worked with health providers to approach mothers during postnatal care, growth monitoring, and other routine services at the health facility. Mothers were randomly approached in the waiting line and screened for eligibility (i.e. mothers 18 years of age, infant less than 6 months of age) for breastfeeding observations.

Data Collection

Phase 1 and Phase 3: Pre- and Post-Job Aid Rollout IDIs with Providers and Lactating Mothers

All IDI guides and observations developed by the research team were translated into Portuguese. Community-based health providers and mothers' interview guides were also translated into the local language, Macua. Local interviewers were trained in qualitative research and IDIs, confidentiality and best practices on interview transcription, and EBF counseling (e.g., breastfeeding benefits, physiology of breastmilk production, and counseling skills).

Phase 1 IDIs with lactating mothers explored their knowledge of EBF, breastfeeding experience and challenges encountered in the first 6 months, and information on breastfeeding support and care-seeking behaviors. Phase 1 IDIs with health providers explored their knowledge of EBF, experience counseling mothers on EBF and challenges encountered, training on breastfeeding counseling, and suggestions for improving breastfeeding support. Phase 3 IDIs with lactating mothers and health providers included topics related to experiences with the job aid post-rollout (i.e., experience/usefulness of advice given by health providers, and providers' experience in use of the job aids to identify and resolve breastfeeding problems.

In both phases, IDIs were conducted in the participant's workplace or at the mother's home. Community-based health providers' and mothers' interviews were conducted in Macua, and facility-based health providers' interviews were conducted in Portuguese, audio recorded, and complemented by interview notes. In Phases 1 and 3, native Portuguese and Macua speakers transcribed all interviews verbatim in Portuguese. In a few cases, audio recordings were not available and interview notes were used in lieu of full transcripts. A comparison of original interview audio recordings to Portuguese transcripts ensured accuracy and completeness of data, alongside reviews of field notes.

Phase 1: Observation of Breastfeeding Counseling Sessions

To inform the observation guide, breastfeeding counseling was defined as "a way of working with mothers in which the health provider understands how mothers feel in relation to their breastfeeding experience and helps them to make decisions in order to solve their own problems, including providing simple information that enables a better use of personal resources." [10,11] The observation guide included instructions for taking a breastfeeding history, assessing breastfeeding, and assessing counseling skills against a checklist. Observations of breastfeeding counseling sessions were conducted at selected health facilities by a co-investigator (GB), who is an international board-certified lactation consultant. Breastfeeding counseling was conducted in Macua and a trained MCSP nutritionist translated the session to Portuguese in real time for the observer. The sessions were between 1 and 14 minutes in duration, with most under 5 minutes. During each session, the observer marked which breastfeeding counseling skills were used by the health provider. Field notes and a summary narrative were developed for each session.

Phase 2: Job Aid Development and Rollout

In April 2017, MCSP developed a checklist to aid health professionals in identifying common problems related to breastfeeding and counseling breastfeeding women on how to address the problems identified. In May 2018, this checklist was presented to the Nutrition TWG in Nampula Province (led by the Provincial Health Directorate and supported by partners such as FHI 360, UNICEF, and the World Food Programme). In May–June 2018, the checklist was modified into three job aids, which incorporated feedback from the TWG and MCSP nutritionists. The job aids are intended for use at various health contact points by facility- and community-based health providers, as follows:

- At childbirth (either health facility or community)
- All postnatal and child health visits at a health facility
- All community contact points in the first 6 months of the postnatal period

The three job aids can be found in Appendix A. The job aids were developed in a flowchart format to guide health providers through a step-by-step process to (1) counsel and support the mother on how to breastfeed her newborn and prevent potential breastfeeding problems; (2) assess if a mother uses appropriate breastfeeding techniques and counsel her; (3) identify common breastfeeding problems; and (4) counsel mothers on resolving and managing common breastfeeding problems or refer women with breastfeeding problems to the facility level (community-based providers only). Illustrations aided health providers in each step and are aligned with the illustrations in the MOH Mozambique IYCF counseling materials.

In July 2018, 10 facility-based health providers (four maternal and child health nurses, three preventive medicine technicians, and three nutritionists), four district-level maternal and child health and nutrition focal points, and 17 community-based health providers (11 nutrition activists, four community leaders, and two traditional birth attendants) in the study sites were trained on breastfeeding counseling skills, management of breastfeeding problems, and use of job aids. The trainings took place at the district health directorate and included facility- and community-based providers who participated in Phase 1 IDIs. The trainings lasted one full day: in the morning, the training was conducted in Portuguese for facility-based providers, and in the afternoon, the training was repeated in Macua for community-based providers. Following the trainings, suggestions from participants and facilitators on how to improve the materials were incorporated into the final version of the materials, which were in flip chart format.

In August 2018, the materials were distributed to trained providers along with a registry of all breastfeeding women with infants under 6 months of age who were counseled by providers with the job aids at routine contact points in MCSP study areas. MCSP district nutrition officers provided routine supportive supervision and mentoring on the use of the job aids during the 3-month rollout period (August–October 2018). Due to high turnover of health providers in health facilities and the recognition that mothers who come to health facilities with physical breast problems are seen in adult triage visits,[c] health providers who were not exposed to the job aids (including general medicine technicians) were trained on the job aids by MCSP district nutrition officers during the rollout period. Trainings for previously trained health providers were also conducted.

Data Analyses

IDIs with Providers and Lactating Mothers

In both Phases 1 and 3, a thematic analysis was conducted, using a grounded theory approach involving a step-wise coding process adapted from Bradley et al.[22] Transcripts were analyzed based on a predetermined structure to answer research questions in each phase.

The Phase 1 analysis aimed to identify (1) mothers' knowledge, perceptions, and cultural beliefs on problems and challenges with EBF, (2) mothers' care-seeking patterns for addressing the identified breastfeeding problems and challenges, and (3) type and quality of counseling on EBF challenges provided by community and facility-based health providers. The Phase 3 analysis aimed to determine (1) how providers used the job aids, (2) whether the job aids was effective in assisting providers to identify and counsel on barriers to EBF, and (3) how the job aids could be improved through its use and rollout within existing service delivery entry points. For each phase of IDIs, a small group of investigators (JK, CD, MP, IB) first independently read and open-coded a subset of transcripts, assigning labels representing ideas in the text. Next, the research team established consensus on code usage, definitions, and structure and developed an initial codebook. The remainder of the transcripts were then coded using the codebook. Finally, the coding of interviews and codebook was refined iteratively with investigators, who provided input by reading a subset of transcripts to ensure agreement on code organization and definition. The transcripts were coded and classified using Dedoose v.8.1.8 qualitative computer software, applying codes in English to the original Portuguese transcripts. Conceptual themes and subthemes were generated throughout the coding process based on research questions. Quotes that most closely represented these themes were included in the report, with illustrative participant quotes translated from Portuguese into English for reporting purposes.

[c] Adult triage visits are all outpatient visits for adults (over age 15) at the health facility.

Observation of Breastfeeding Counseling Sessions

The qualitative analysis of counseling observation data followed a three-step process. First, field notes of each session were analyzed according to a framework that describes best practices for breastfeeding counseling (i.e., taking breastfeeding history, assessing breastfeeding, and using counseling skills) established by WHO/UNICEF.[11] Second, health providers' breastfeeding counseling skills were mapped to two categories, presented in Table 1.[11] The six "listening and learning skills" in category 1 aid providers to understand and empathize with the mother's situation. The six "building confidence and support skills" in category 2 are used to guide mothers in believing in themselves and their ability to breastfeed and care for their baby.[11] Health providers' breastfeeding counseling skills were classified with a green color when the health provider used the skill and red when the health provider did not demonstrate this skill. Yellow was used to classify partial use of the five nonverbal communications skills (skill 1 in category 1), defined as the health provider using at least two of the techniques. Third, narrative case studies illustrated current counseling practices and skills.

Table 1. Categories of breastfeeding counseling skills

Category 1: Listening and learning skills	
Skill 1	Use helpful nonverbal communication (i.e., keep the head at the same level as the client, pay attention, remove barriers, take time, and touch appropriately)
Skill 2	Ask opening questions
Skill 3	Use responses and gestures that show interest
Skill 4	Reflect back what the mother says
Skill 5	Empathize—show that you understand how the mother feels
Skill 6	Avoid words that sound judgmental
Category 2: Building confidence and support skills	
Skill 1	Accept what the mother thinks and feels
Skill 2	Recognize and praise what the mother and baby are doing right
Skill 3	Give practical help
Skill 4	Give relevant information a little at a time
Skill 5	Use simple language
Skill 6	Make one or two suggestions, not commands

Source: WHO/UNICEF Breastfeeding Counseling training course[11]

Results

Program Impact Pathways Analysis

Figure 2 summarizes the PIP analysis process. Based on a literature review, observations of health services at routine contact points, and discussions with key stakeholders in Nampula, several actions are needed to improve EBF counseling in the Mozambique health system. Taking the socioecologic model that guides the SBCC Strategy for the Reduction of Undernutrition in Mozambique as a framework, these actions are categorized as advocacy, social mobilization, and behavior change communication interventions:

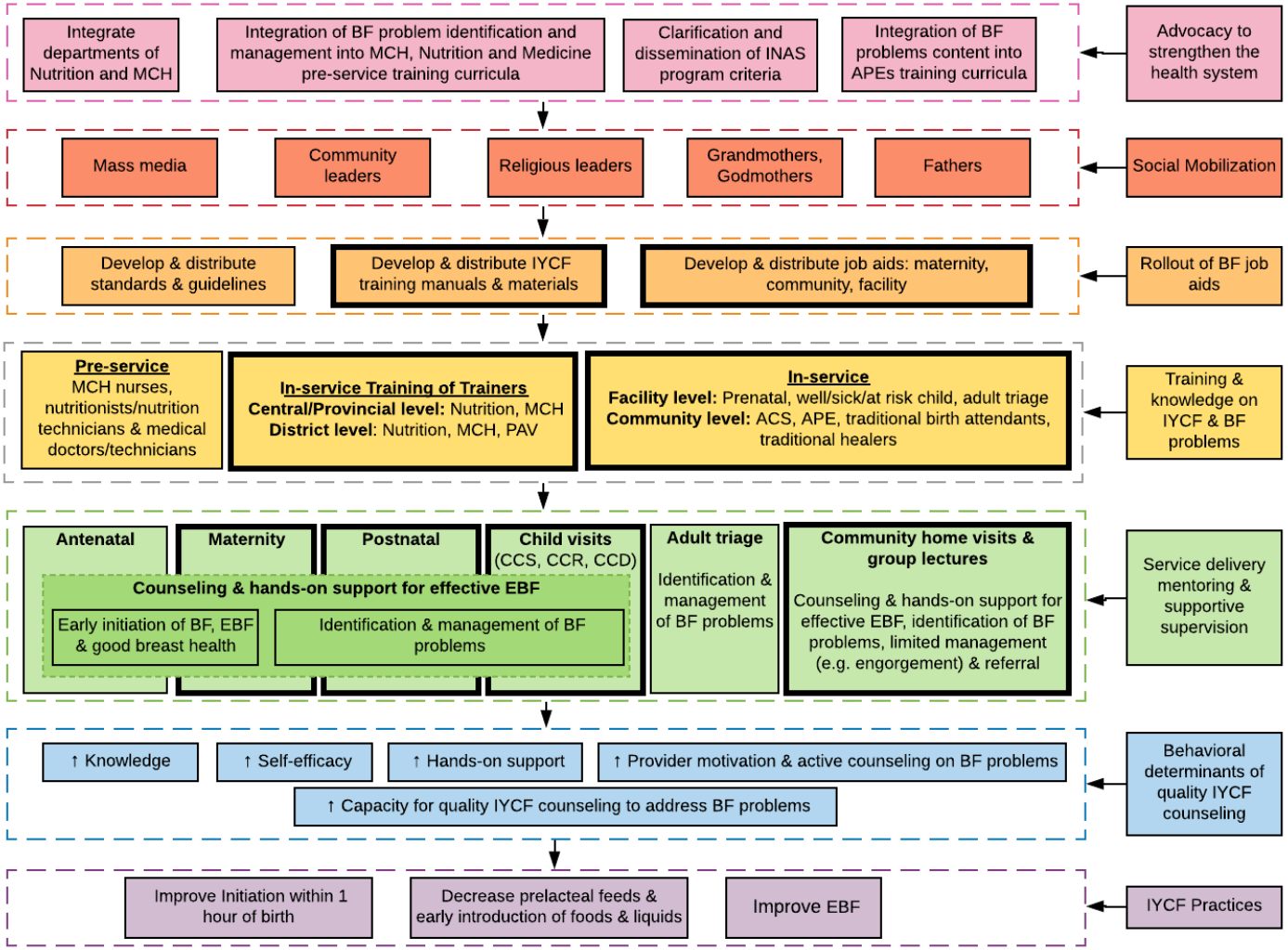
- **Advocacy interventions** to strengthen the health system (shown in pink in the diagram) need to be implemented to ensure the integration of content on the identification and resolution of breastfeeding problems and challenges in relevant training curricula, programs, and departmental objectives across the MOH. Additionally, advocacy with sectors other than health—such as the Gender, Child and Social Action Sector and National Institute of Social Protection (INAS)—and improved intersectoral coordination is key to ensuring that government programs do not conflict with each other and that social action programs benefit only those meeting certain criteria and that they do not do harm.

- **Social mobilization interventions** (shown in orange in the diagram) need to be implemented through mass media, community leaders, and key family influencers to set EBF as the social norm in the Mozambican context.

- **Behavior change communication interventions** (shown in dark yellow, light yellow, and green in the diagram) include the rollout of breastfeeding job aids and development and distribution of associated materials to the facility and community levels; training so health workers are equipped with the knowledge and skills needed to counsel on IYCF and breastfeeding challenges; training for social action workers and health workers on Direct Social Support Program (*Programa de Apoio Social Directo* [PASD-B]) criteria; and service delivery, mentoring, and supportive supervision to ensure the quality of health provider EBF counseling and support in identified contact points, and adherence to criteria for social action services.

These interventions should address and improve behavioral determinants of quality IYCF counseling, including knowledge, self-efficacy, practical support, and provider motivation and capacity (shown in blue in the diagram). This, in turn, will improve IYCF practices, including increased EBF (shown in purple in the diagram).

Figure 2. Program Impact Pathways analysis: Addressing breastfeeding challenges in Nampula, Mozambique



Legend: *Bold-bordered boxes:* MCSP intervention areas within the scope of this study. *ACS:* Activista comunitário de saúde (community health activists, community health workers generally associated with community-based organizations or nongovernmental organizations); *APE:* Agente Polivalente Elementar (government community health worker); *BF:* breastfeeding; CCD*: sick child visit; *CCR**: at-risk child visit; *CCS**: healthy child visit; *EBF:* EBF; *INAS:* Instituto Nacional de Acção Social (National Institute of Social Protection); *IYCF:* infant and young child feeding; *MCH:* maternal and child health; *PAV:* Programa Alargado de Vacinação (Expanded Program in Immunization). *Portuguese acronyms

Phase 1 In-Depth Interviews Assessing Experiences with Breastfeeding Challenges

The 23 mothers interviewed ranged from 18 to 33 years old. Most had less than a primary school education, were married or cohabiting, and worked as farmers (Table 2). Most mothers brought their infants with them to farm, with the average age of infants being 2.9 months (range 1–6 months).

Table 2. Characteristics of mothers participating in Phase 1 in-depth interviews (n=23)

Characteristic	N
Age	
18–19	4
20–25	15
26–33	4
Education	
No formal education	5
Some primary school	10
Primary school completed	4
Secondary school completed	4
Marital status	
Married or living together	20
Divorced	1
Not reported	2
Work status	
Not working outside home (domestic work and farming)	7
Maternity leave	2
Working outside home (working in the field or other commercial activity)	14
Infant accompanies mother to work	
Yes	11
No	1
Not reported	3
N/A (mother does not work outside home/is on maternity leave)	8
Infant's age	
1–2 months	10
3–6 months	13
Infant's sex	
Female	12
Male	10
Not reported	1

Facility-based providers (n=10) were younger and had between 1 and 7 years of work experience (Table 3). Community-based health providers (n=13) had a wide range of experience, between 1 and 31 years. Community-based providers included activists (a community health worker that receives general training and may receive incentives, usually paid through projects at the community level), traditional birth attendants, and a polyvalent agent (community health worker that is part of the national health system). Facility-based providers included nutrition technicians, preventive medicine technicians, and maternal and child health nurses.

Table 3. Characteristics of health providers participating in Phase 1 in-depth interviews

	Community-based (n=13)	Facility-based (n=10)
Age		
23–30	2	7
31–45	7	3
46–77	4	0
Gender		
Female	6	8
Male	7	2
Education		
No formal education	2	0
Some primary school	4	0
Completed primary school	2	0
Some secondary school	4	0
Completed secondary school	1	10
Position		
Activist	8	0
Polyvalent agent	1	0
Traditional birth attendant	4	0
Nutrition technician	0	2
Preventive medicine technician	0	3
Maternal and child health nurse	0	5
Years working in the position		
1–2 years	1	3
3–10 years	8	7
10–31 years	3	0
Not reported	1	0

The themes, including mothers' experiences with EBF, mothers' care-seeking patterns, and type and quality of breastfeeding counseling, identified from Phase I IDI data are described in Table 4 and in the following sections.

Table 4. Themes and subthemes identified from key informants' interview data

Theme	Subtheme	Description
Theme 1. Mothers' experiences with EBF: Facilitating factors and barriers	**1a.** Maternal facilitating factors for EBF	• Maternal knowledge of benefits and key aspects of EBF • Maternal knowledge of breastfeeding during illness
	1b. Maternal barriers/challenges to EBF	• Maternal characteristics influencing EBF practices • Perception of insufficient breastmilk (a major barrier to EBF in the first few days and months postpartum) causes and management • Other breastfeeding challenges experienced in the first days of life, including latching problems and breast engorgement • Other breastfeeding challenges experienced in the first 6 months
Theme 2. Mothers' care-seeking patterns for EBF support and counseling at the community and facility levels	**2a.** Health contact points surrounding EBF counseling	• Social support • Community-level support • Childbirth/maternity and postnatal services • Child health services
Theme 3. Type and quality of EBF counseling at the community and facility levels	**3a.** Type of EBF counseling	• Breastfeeding promotion • Practical support
	3b. Training for EBF	• Lack of pre-service and in-service training • Alternatives ways to address lack of in-service training • EBF promotion topics • Barriers to EBF counseling
	3c. Key health system opportunities for strengthening EBF counseling	• Antenatal care • Childbirth • Child health services

Mothers' Experiences with EBF: Facilitating Factors and Barriers

Maternal Facilitating Factors for EBF

Maternal Knowledge of Benefits and Key Aspects of EBF

Mothers' knowledge of the benefits of breastfeeding emerged as a facilitating factor, as most mothers were exclusively breastfeeding. Mothers and health providers unanimously knew the global recommendations to exclusively breastfeed for the first 6 months.

> *[EBF] is breastfeeding until [the infant] turns six months, and I heard this in the hospital that I should give only breastmilk until the infant completes six months of life and then introduce water and porridge.* —Mother, Meconta

Yet, only a few mothers expressed knowledge of how to breastfeed correctly, including latching, positioning, and attachment of the baby.

> *When you are breastfeeding that child you should put the whole part of the nipple in the mouth, you cannot put just that tip and [the baby] should attach well, you should place the hand this way [the mother was demonstrating] and you should be putting the baby slightly inclined to hasten growth.* —Mother, Meconta

Some health providers reported that mothers' lack of knowledge of breastfeeding benefits influenced their intentions and attitudes in relation to EBF. A few mothers reported that they planned to introduce other liquids and food earlier than the recommended 6 months.

> *I am currently giving only breastmilk, when she is three months old I will start giving other liquids; but with 5 months, I will start to give porridges.*—Mother, Meconta

Maternal Knowledge of Breastfeeding During Illness

Most mothers reported continuing to breastfeed during illness of the infant or mother (i.e. fever, diarrhea, or malaria), as shown in the following quotes:

> *[When my son is sick] I go to the hospital, if they give me pills instead of syrup, I go home and I express breastmilk in the spoon, crush the pill in the [breast]milk on the spoon and I give it to the baby.* —Mother, Mogovolas

> *[When the mother is sick] I continue to eat foods that I see that help with the breastmilk production such as vegetables, those foods that I see that if I eat they will also help feed my son [through the breastmilk].* —Mother, Meconta

Maternal Barriers to EBF Practices

Maternal Characteristics Influencing EBF Practices

Number of births can influence mothers' early initiation and duration of EBF. From the viewpoint of health providers, some primiparous mothers were more willing to follow health providers' advice than multiparous mothers.

> *The mothers who need [breastfeeding support] are those primiparous, now those experienced who have been breastfeeding, they say they already know how to breastfeed.* —Facility-based provider, Mogovolas

Some health providers relayed that maternal age was related to mothers' capacity to produce enough milk. However, there was not consensus among health providers on whether younger or older women were more susceptible to insufficient milk production, as relayed below.

> *Yes, there are [women who do not produce enough milk], there were already 3 mothers over 45 years old, they did not produce enough milk.* —Facility-based provider, Mogovolas

> *I believe when they are primiparous just a little milk comes out then I conclude that this is related to the mother's age.* —Facility-based provider, Meconta

Perception of Insufficient Breastmilk

Perceived Insufficient Breastmilk Within First Days Postpartum

There was an overall misconception among mothers and community-based health providers that during the first 2 days (i.e. the time when breastmilk transitions from colostrum to transitional milk) some mothers do not produce any breastmilk. Indeed, health providers and mothers lacked knowledge about lactation physiology, specifically certain birth practices and medical conditions that can lead to dysregulation of milk production.

> *[During the first two days after the baby was born] I breastfeed anyway, he sucked and did not find anything until the next day that the milk began to come out.* —Mother, Mogovolas

> *In the first days, they have been having many difficulties, because some mothers spend two days without breastmilk coming out.* —Community-based provider, Mogovolas

Perceived Insufficient Breastmilk Through the First Three to Four Months of Life

Perceived insufficient breastmilk was reported as a continued issue of concern when the infant reached 3 and 4 months of age, due to maternal misconceptions and social expectations. The beliefs that infants should sleep for certain durations or that the infant is thirsty and hungry after breastfeeding was related to early introduction of foods and liquids, such as porridge and water, to address breastmilk insufficiency.

> *The experience I have here ... is that these mothers ... [introduce] food at four months, three [months], sometimes they ... claim the breast is not producing [breastmilk] well, they say that they [infants] do not become satiated when they breastfeed, they do get satiated at night, that is why they introduce food very early on and others it is because of lack of knowledge.* —Facility-based provider, Meconta

> *Some say, my baby is nursing a lot, he is hungry, he gets weak, so to avoid it I have to give my son something because then he goes to sleep, he fills up and I can stay an hour or two without the baby waking up.*—Facility-based provider, Mogovolas

When study participants were asked about the causes of insufficient breastmilk, facility- and community-based health providers identified multiple reasons, including maternal food insecurity, quality of maternal diet (i.e., quantity, types of foods), poverty, stress, marital problems, or maternal health issues.

> *[The reason she] does not let down [the breastmilk] may be because she doesn't eat well, it may not come out because the mother has health problems, because of family problems, I explain that [the mother] has to eat vegetables, eat other foods to produce more milk and I have no other way to advise them because I cannot ask them to make porridges and give to the child, that I don't do.*—Community-based health provider, Mogovolas

> *In my experience, what I see it that it is because of hunger, poverty, women do not eat well and soon they cannot breastfeed the child and end up introducing other foods.* —Facility-based health provider, Mogovolas

Managing Perceived Insufficient Breastmilk

Improving Maternal Diet

Overall, mothers and facility and community-based health providers reported that improving maternal diet was a primary way to address perceived insufficient breastmilk. Health providers advised mothers to select foods that help increase breastmilk production, follow a healthy diet and consume fresh cassava, peanuts, beans, and vegetables to increase breastmilk production.

> *I had a baby and because I stayed for one day without having milk I was advised to eat peanuts, cassava, and beans to stimulate the milk let down. When mothers know that they do not have enough milk they must eat a lot, ... as long as they are healthy and eat the recommended foods for producing enough milk for a child, the [mother's] body itself helps for this [milk production] to happen.* —Community-based health provider, Mogovolas

Health providers mentioned referring mothers with perceived insufficient breastmilk to the INAS program to receive infant formula. INAS, under the Ministry of Gender, Child and Social Action, implements and promotes direct social assistance programs to individuals who are unable to meet their basic needs either temporarily or permanently. The program aims to increase coverage of basic social protection at the district level by offering support through provision of infant formula to infants under 6 months of age who are considered vulnerable—defined as orphans, children and/or mothers who are HIV-positive, acutely malnourished children, or twins. Children are often referred by health providers during the "at-risk child consultation" or during antiretroviral therapy services. Caregivers of children who are in the INAS program receive one or two cans of infant formula monthly, when available. Community leaders are also expected to be trained to identify and refer vulnerable children directly to INAS. The practice identified in the study sites was that, if community leaders identified infants under 6 months of age experiencing problems with breastfeeding, they could refer families directly to INAS to obtain infant formula, without a formal evaluation by health providers.

Furthermore, INAS was used to provide infant formula for reported perceived insufficient breastmilk, regardless of whether children met the eligibility criteria for "vulnerability." This reflected a lack of knowledge of how to manage perceived insufficient breastmilk among health providers as well as when to refer to INAS.

> *There are cases where the mother no longer produces enough milk and when we know that this mother is not producing enough [breast]milk we advise her to practice mix feeding. Some mothers can buy [formulas] and others can't. For these ones we provide them with a written referral to "Acção Social" along with the declaration of the community leader and then she starts receiving milk.* —Facility-based health provider, Meconta

> *There is a mother who said she did not produce milk, I advised her to eat vegetables to help produce milk, she followed my recommendations but still did not produce milk. I had to send her to Namitil where she could receive artificial milk because I had no solution.* —Facility-based provider, Mogovolas

Other Breastfeeding Challenges Experienced in the First Days of Life

Latching problems (e.g., baby not latching properly and sore nipples) and breast engorgement (e.g., swollen breasts) emerged as key barriers to early initiation of breastfeeding within the first days of life, as described by health providers.

> *The majority of mothers have problems in the first days after giving birth at the beginning of breastfeeding ... there have been mothers who have a swollen breast and this causes pain because the baby cannot suck all the milk ... there are other women who have cracked nipple problems.* —Community-based health provider, Meconta

A few participants reported the practice of discarding the colostrum, likely due to the cultural belief that this "first" milk is putrid. Yet others reported that women knew the importance of colostrum.

> *Some mothers are curious to know, others even say that that first milk is yellowish and not good for our children, so we have an obligation to say that no, this milk is very good and should be your first contact with the child. We also say to not discard that milk because it fights many diseases and that the child may not have a good development if contracting some diseases through that milk that the mother did not give.* —Facility-based health provider, Mogovolas

Other Breastfeeding Challenges Experienced in the First 6 Months

Return to Farm Work Is a Challenge for Maintaining EBF in the First 6 Months

Mothers' return to farming within the first 6 months postpartum emerged as a barrier to EBF. Mothers who returned to field work when infants were 1 to 5 months of age (infants were 2.9 months of age on average), reported strategies to breastfeed their infants while in the field, including taking the infant with them or bringing someone (e.g., older child) to help take care of the child in the field.

> *When I arrive at the field I do not weed with a child on my back, but rather I take someone to help me carry the child while I am weeding, he plays with the child while I weed. After some time I check the baby again to breastfeed, I wash my breasts so the dust does not affect the baby ... it's a bit complex [to know when the baby is hungry], it's a mother's instinct I have. I personally feel that I am hungry hence I realize that the baby also needs to be fed; so I nurse until I feel she is satiated and I give her back to the siblings to play again. It's only a few times that it goes more than an hour without breastfeeding.* —Mother, Mogovolas

> *So, I ask mothers if the child is breastfeeding or not, some say that [they offer the breast and] the child does not accept, others say they offer [the breast] in a very limited time because she [the mother] gets busy and the child stays with another child aged 8 to 9 years old [when she is the field or working]; in this case [the older child] can give water in an attempt to offer a solution to the baby [if the baby cries or is hungry].*—Facility-based provider, Meconta

Some mothers reported having the father as a principal source of support for caring for the infant, as illustrated in the quote below.

> *When I go to the farm I take [the child with me], when I go to pick up nuts I leave with the [child with the] father ... If I leave the child with the father I express the milk from my breast and place it in a glass cup covered [for the father offer the breastmilk in case the child cries].*—Mother, Meconta

When a working mother does not have someone with whom to share the care of the infant, some facility and community-based providers mentioned the risk of early introduction of solids, bottle-feeding and pacifier use, and development of malnutrition, all of which interfere with EBF.

> *Some mothers have bottles, other mothers with a shortage of money [to] buy spoons, they have small spoons they usually give [the mother's milk] ... there are parents who buy pacifiers and give to the child to stop crying and the mother goes to work.*
> —Community-based provider, Mogovolas

> *The probability of these babies having malnutrition is higher because they do not have the proper feed of breastmilk and the person who stays with the baby does not know what type of behavior they have at home; the baby is even at risk of having diarrhea.*
> —Facility-based health provider, Mogovolas

In addition, short interpregnancy interval emerged as a barrier for EBF for some mothers, as it led mothers to interrupt breastfeeding to prepare themselves for the new pregnancy and because of the cultural belief that the breastmilk is not good for the baby. Although participants did not specify the length of a "short" interval, an interval of less than 6 months can be assumed, as all interviewed mothers had infants less than 6 months of age.

> *Other cases are early pregnancies, because when she gets pregnant [again] she no longer nurses the baby and has to take care of that new pregnancy, and here when the women are pregnant they have to wean the baby ... because according to them that milk is not good and can cause illness for the baby, it can cause diarrhea for the baby ... What confuses women are the older women who give this advice that if the woman is pregnant she should stop breastfeeding the baby because it can cause illness to the baby and [she should] dedicate herself exclusively to the new pregnancy; the problem comes from here, the elders.*
> —Facility-based provider, Mogovolas

Thus, the perceived consequence of short interpregnancy intervals among health workers is that babies become malnourished at a young age.

> *These are those mothers who do not follow our advice, do not participate in family planning after delivering a baby, so they have one young baby while they are also waiting for another [i.e., pregnant] and the babies get malnourished.*
> —Facility-based provider, Mogovolas

Mothers' Care-Seeking Patterns for Breastfeeding Support and Counseling at the Community and Facility Levels

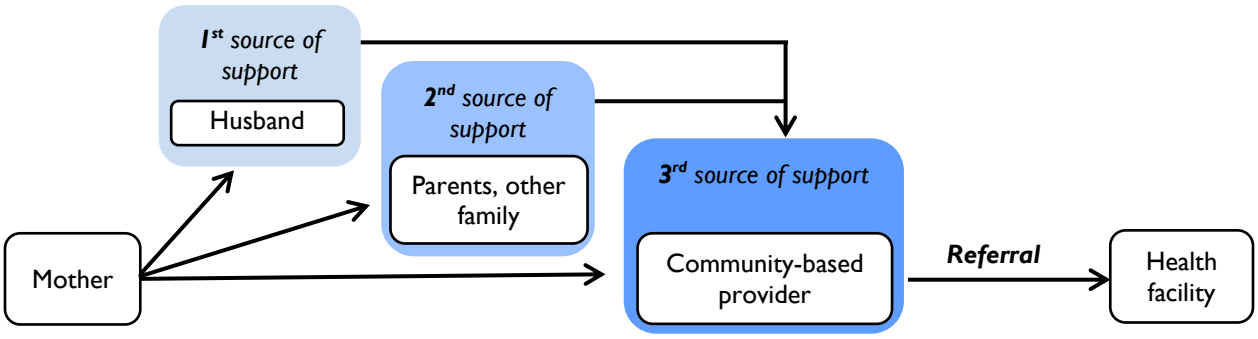
EBF support and counseling occurs through multiple routine contacts, at childbirth, postnatal care, and child health services in the Mozambique health system, as described in the sections below.

Health Contact Points Surrounding EBF Counseling

Sources of Support for Breastfeeding

Figure 3 illustrates a woman's sources of support during pregnancy and postpartum from her family and the community until referral to the health facility.

Figure 3. Women's sources of support during pregnancy and postpartum



At the community level, most mothers reported seeking help from their husbands, followed by parents/family members and community health providers (e.g., activists and traditional birth attendants) for EBF counseling in the first few months after delivery.

Community-Level Support

Community health providers are the primary source of health care advice for mothers within the community when breastfeeding issues and challenges arise, and they mostly refer mothers to the health facility if they are not able to help.

> *She starts seeking for her husband, her husband seeks for me [community-based health provider] and I go with him to the couple's home, I advise her and if I do not solve the problem, I refer them to the health facility unit.*
> —Community-based provider, Meconta

> [*When a mother has a breastfeeding problem] she goes to the [community-based] activist because the activist worked with her during the time she was pregnant until the time of delivery .... After the child has breastfeeding difficulties for one day or two days and she (the mother) is already following what the activist advised, ... (the activist) writes the referral to the health facility because at that point there is no other information, the information he has is to refer to the health facility to receive further information.*
> —Community-based provider, Mogovolas

Health Contact Points: Counseling on EBF at the Health Facility

At Childbirth and Postnatal Services

Facility-based health providers reported providing counseling to mothers on breastfeeding positioning and skin-to-skin contact following delivery within the first few days of life in the maternity ward, as shown in the below quote:

> *[W]e have to teach how to breastfeed, the positioning that she should take to breastfeed the baby also counts a lot ... I advise her to sit in a comfortable position and the baby should be skin contact with the mother's body ... I think most people breastfeed but they do not know these breastfeeding techniques, even the older mothers do not know ... in these cases, I explain and the baby sucks and I say it was due to the position, I already had 3 cases and I taught.*—Facility-based provider, Mogovolas

Following discharge, some mothers returned to the maternity ward due to early breastfeeding issues, such as difficulties with latching.

> *When they are here [in the maternity ward] we explain that the baby sucks, but when they are back home, at the same day later they return to say that the baby no longer sucks and is crying a lot ... and she says that the baby suckled here in the hospital but when the baby got home he/she did not breastfeed any more, he/she did not want to and we asked mother to explain how she breastfeed and we realized that she did not breastfeed well.*—Facility-based provider, Mogovolas

At Child Health Routine Services

Facility-based health providers indicated that breastfeeding support is a challenge in remote communities as mothers do not have easy access to health facilities. This emerged as a major barrier for mothers to access timely EBF counseling at the facility level, as illustrated below.

> *The communities here are very distant; there are mothers who cannot reach the health facility unit and these mothers, no matter how much we do breastfeeding talks here, they are still uninformed.* —Facility-based provider, Mogovolas

> *She only gets help coming here [at the health facility], she has to leave her distant community. The child is already two or three days [with breastfeeding difficulties] and she is saying that no milk comes out, she is no longer breastfeeding, and she arrives here, she receives a number card [to wait her turn]. You [facility-based provider] help her to express milk and you see her breastfeeding the child ... before arriving here, she was attended by an activist to whom she explained the case and the activist counseled her and referred.*—Facility-based provider, Meconta

At the health facility, children are seen at routine visits, known as well child services, (CCS) for growth monitoring (weight and height assessment), vaccination, micronutrient supplementation (beginning at 6 months), and deworming (beginning at 1 year of age). In the first year of life, children are normally seen monthly, and then bimonthly following 1 year of age if their growth is progressing well. The day before the start of CCS visit, mothers are invited to participate in educational talks that last approximately 3 minutes and cover different topics, including EBF. Although mothers reported participating in lectures on breastfeeding during CCS, they did not report receiving individual advice on breastfeeding during CCS consultations.

> *In the child consultations if I can attend the group talk then I receive advice, if not, they only weigh the baby and we return [to home].* —Mother, Meconta

Health providers considered the well child consultation an opportunity to address breastfeeding difficulties. Yet, in their experience, priority is given to growth monitoring and immunization. In fact, breastfeeding counseling is provided only when a problem with the child's weight gain is identified. It was common for health providers to advise mothers to improve maternal dietary intake during lactation as a way to resolve insufficient breastmilk.

> *When a mother has a problem with her baby's weight, I give advice right here [during the weighing and immunization], I explain what she has to do ... In EBF, the mother should eat well to produce enough milk to feed her baby. Because she can produce enough milk until six months, but if she does not eat well she runs the risk of her breast getting dry.*
> —Facility-based provider, Mogovolas

Type and Quality of EBF Counseling at the Community and Facility Levels

Types of EBF Counseling

Breastfeeding Promotion Through Health Facility Talks

Breastfeeding talks are the most common breastfeeding promotion activity at the health facility level. Breastfeeding talks aim to motivate mothers to exclusively breastfeed for six months. Although the talks were not designed to solve or manage breastfeeding problems, these breastfeeding promotion activities at the community and health facility levels were cited as an opportunity to strengthen EBF counseling.

> *I first give talks, not only in the health unit but also in the mobile brigades. So, I go there with the mothers of children of the age range from zero to five years old and every day is a different topic such as hygiene.* —Facility-based provider, Mogovolas

Providers recommended strengthening counseling by increasing the number of breastfeeding talks involving community leaders and fathers, developing materials and posters about breastfeeding topics to complement health talks, and displaying the materials in visible places in the community and health facilities.

> *I would suggest talks showing images and brochures. Indeed, a specific counseling activity targeting babies from zero to six months does not exist.*—Facility-based provider, Meconta

One of the things we can do is the talks ... talks and discussing with the activists we have in the community and they can give talks in churches and schools. For example, we have the Mobile Units when we go there [in the community] to provide health services. The only way I can help perhaps is these talks, counseling mothers, motivating and supporting them to breastfeed.
—Facility-based provider, Meconta

Practical Support

The provision of practical support to address breastfeeding positioning, latching, and other breastfeeding difficulties was not consistently reported. This was not surprising given that health providers did not report receipt of practical training in breastfeeding, signifying an important opportunity to strengthen breastfeeding counseling as part of the health system.

[W]e have to teach [mothers] how to breastfeed, the position she has to take to breastfeed the baby also counts a lot. I advise her to sit in a position where she feels comfortable, the baby must be in contact skin to skin, the baby's body should touch the mother's belly, I can only demonstrate. For example, I am a mother, I am sitting in this chair, I take my baby I put here, so, the baby's tail stays here, it is turned towards me and I breastfeed like the photo that is there.—Facility-based provider, Mogovolas

Training for EBF

Lack of Pre-Service and In-Service Training

Facility-based health providers lacked pre-service training on topics related to breastfeeding and lactation. Providers reported they received training on counseling skills that were not specifically related to breastfeeding.

In the health pre-service training, I learned that I have to allow space for questions and opinions while giving some advice, so mothers will be more willing [to receive advice]. —Facility-based provider, Mogovolas

While breastfeeding counseling was generally not practiced in study sites, a few facility-based health providers recognized the importance of breastfeeding counseling skills for identifying and managing breastfeeding problems, as shown in the quote below:

Counseling in breastfeeding is to inform the mother first about what breastmilk has, and why breastmilk is important to give until six months. Counseling is an open conversation with no obligations. When I talk to the mothers and ask them to come to the next sessions, they come and that motivates me a lot, when I come and meet a larger number of mothers that motivates me.
—Facility-based provider, Mogovolas

The topic of in-service training was discussed by all health providers. Most facility-based health providers had not received in-service training on breastfeeding counseling. Most health providers reported identifying breastfeeding problems primarily through well child consultations, if the child did not gain weight, during growth monitoring. Yet, the majority of providers lacked self-efficacy to manage or counsel properly on breastfeeding problems such as cracked nipples and physical breast problems.

Cracked nipples, these are more frequent ... [what is your advice for cracked nipples?] I advise to wash the wound and continue to offer the breast to the child ... [why do you think these wounds happen?]. I do not know.
—Facility-based provider, Meconta

Well, for example if the breast is full, I advise her to keep breastfeeding and give antibiotics to stop the pain and I advise her to not stop breastfeeding, unless she has a draining wound or something else not ...—Facility-based provider, Mogovolas

On the other hand, while community-based health providers had received some training on breastfeeding counseling, they also lacked self-efficacy to provide lactation support or manage breastfeeding problems, such as sore nipples or breast engorgement. Community-based health providers mainly identified breastfeeding problems and provided a referral for care at the health facility.

I did not give much advice I cannot lie, nor explained what to eat and how to breastfeed because we did not learn, I only give advice to the mother of what I was trained. —Community-based provider, Meconta

Both facility and community-based health providers expressed their desire to receive continuous education trainings to update their knowledge and skills in handling breastfeeding problems.

I would like a training to teach me how to help a mother with breastfeeding difficulties here in my community.
—Community-based provider, Meconta

I wanted to know a lot more! Although I may have thought that poor milk production was because of this or that, if the mother is not producing milk, it could be a shortage of food. [Although] the mother can eat well, but there is another problem associated with this complication [poor milk production] beyond what I'm thinking. —Facility-based provider, Meconta

Alternative Ways to Address Lack of In-Service Training

Health providers mentioned various strategies used to deal with the lack of in-service training opportunities. Some participants discussed seeking advice from more experienced colleagues when they had doubts about the best approach to provide advice or counseling.

[I]f I cannot [advise on a breastfeeding problem] I ask someone who is a little more serious, older, because we have many more experienced colleagues and I ask them to support me in the counseling, to try to see and change what the mother has in mind. Because she [the older professional] has more experience, she has more years of service, she had to deal with a lot of things, and maybe she knows how to overcome things that I find difficult, so I think she is someone with whom I can count with.
—Facility-based health provider, Mogovolas

Some respondents described a training cascade where facility-based health providers train community-based providers.

When I got here the activists were not trained in nutrition, they were trained in the area of tuberculosis and I had some difficulties because I came here to work as preventive medicine technician and when I have to talk about breastfeeding I did not know what to say, but time goes by and due to my curiosity and consultations with experienced colleagues from Maternal and Child health I was able to learn something ....—Facility-based health provider, Mogovolas

EBF Topics Discussed During Child Health Visits

Table 5 lists breastfeeding promotion topics discussed during well child services at the facility level and during home visits and group talks at the community level. Providers were more likely to be trained on these topics and reported they felt most confident counseling on them.

Table 5. Breastfeeding promotion topics during child consultations at the health facility or during visits/talks at the community level

Breastfeeding topic	Quotes
WHO recommendation for EBF through 6 months	*I advise mothers to not give water to children before six months; when the child is sick, take to the health the facility, she should not give other food before the child is six months.* —Community-based health provider, Meconta
Breastfeeding on demand	*We advise that (the mother) should breastfeed at any time the child needs to nurse, (she) should not wait for the child to cry to breastfeed, (she) should give whenever the child needs; for a very small child it is difficult to wake up, the mother should wake the child up and give them a bath and then breastfeed.* —Community-based health provider, Meconta
Maternal nutrition advice for breastfeeding women	*I advise mothers to drink water to help in breastmilk production and to insist on breastfeeding, also to eat fresh cassava, peanuts, and coconuts.* —Facility-based health provider, Mogovolas

Breastfeeding topic	Quotes
Physical activity during lactation	*Do not do heavy duty [activity] because the bones are not ready yet and she still has no strength. She cannot carry firewood on the head, child on her hip or back, they cannot do this.*—Community-based health provider, Meconta
Stress and family issues	*Then we need to talk to find out what causes the mother to not breastfeed the baby, it may be because she is not getting along well with her husband.* —Facility-based health provider, Mogovolas
Sick child	*If the child is sick and she has no problems with breastmilk, she should continue to breastfeed, she cannot think that if the child is sick they are not strong to breastfeed, the mother should insist on breastfeeding and cannot leave the child without breastfeeding.*—Community-based health provider, Mogovolas

On the other hand, community and facility-based health providers relayed their lack of training on managing and counseling on breastfeeding problems and techniques, as shown in Table 6. Providers suggested the following topics be reinforced during pre- and in-service curricula: breastfeeding physiology, colostrum feeding, and breastfeeding latching/positioning techniques. Although participants counseled mothers on giving colostrum, most of them lacked self-efficacy to counsel on issues related to early breastfeeding physiology (including the stages of breastmilk production) and to provide practical support on breastfeeding techniques. Participants also lacked knowledge on managing breastfeeding problems such as sore and cracked nipples, engorgement, and mastitis, as well as how to support working mothers or mothers who practice mixed feeding.

Table 6. Topics to incorporate in pre- and in-service curricula

Topic	Quotes
Feeding colostrum	*Before this nutrition project, the mothers when they saw that first orange milk coming out that is called colostrum, they used to discard it saying that it was dirty milk and they washed (their breast). However, in the training they told us that we cannot throw away that milk because it is full of vitamins and we have shared the information and mothers are following it up until now.* —Community-based health provider, Mogovolas
Early breastfeeding physiology	*Sometimes mothers do not have [breast]milk in the first few days, but after the first week they usually have milk ... and this happens with the young girls, because their breasts don't have much milk yet, after childbirth they go a few days without having much milk, and after a week then the milk appears and they breastfeed the child.* —Community-based health provider, Mogovolas
Breastfeeding techniques	*You ask her to position herself and put her baby (to the breast) and start explaining that the baby has to be in contact with you, looking at you, you have to talk to him, and avoid positioning the breast that way, [the breast] must be clean, prevent the breast from touching the baby's nose because it can cause asphyxia, the part of the breast should be more visible above than below; the chin of the baby has to be well glued here.*—Facility-based health provider, Mogovolas
	About EBF I only know how to give the mother a talk to give breastmilk until 6 months, those techniques to hold the breast that I did not know. —Facility-based health provider, Mogovolas
Sore nipples	*[Mothers] say that they have wounds in their breast when the baby starts to breastfeed, other say they had abnormal breast swelling with nipple discharge that contained pus and then they say that they cannot breastfeed otherwise they are going to transmit diseases (to the child). I explain that if the problem is in one breast she can offer the other breast, because she cannot offer the one with problems because it can cause problems to the baby.* —Community-based health provider, Mogovolas
	... those who have wounds and the breast gets full, I advise if the mother has conditions to prepare formula milk to give to the child or if the mother does not have money for formula here in our area we have a tradition of expressing coconut milk or peanut milk to give to the child. —Community-based health provider, Mogovolas

Topic	Quotes
Breast engorgement and mastitis	*Some because they feel pain do not breastfeed their children and this leads to swelling or abscesses. This does not happen so frequently, I only saw three cases. The advice is that she should continue breastfeeding to not cause an abscess, over a period of 2 days. Sometimes this happens because the mother only gives one breast and when it happens the breast inflames until it becomes an abscess and then she can no longer give that breast to the child.* —Facility-based health provider, Mogovolas
Cross-feeding	*Those who do not have milk, we go and talk to her family and we say that this mother does not have milk in her breasts, the breasts are dry. [We ask if there is] anyone with more milk to breastfeed this child.* —Community-based health provider, Mogovolas
Perception of insufficient milk	*There was a mother who said she did not have milk, I advised her to eat vegetables to help to produce milk, she followed my recommendations, but she still did not produce milk. I had to refer to the district capital to get artificial milk, because there was no other solution.* —Facility-based health provider, Mogovolas

Barriers to EBF Counseling: Work Load and Language Barriers

Health providers mentioned work overload as a barrier to EBF counseling. Having a high number of clients negatively impacted the quality of health talks, which included information on breastfeeding.

> *The number of patients is quite high to advise, a very large number I believe will not understand the message.*
> —Community-based health provider, Mogovolas

> *There are days when we have a lot of work, a lot of patients ... or we have urgencies that make it hard to stay in the talks for a long time, so we summarize it a bit, but we always give the talks.* —Facility-based health provider, Mogovolas

Facility-based health providers also faced language barriers, as some providers do not speak the local language (Macua) and most mothers do not speak or read Portuguese. This may be a major barrier for EBF counseling since clear communication is essential for understanding and properly addressing breastfeeding issues.

> *The first problem for me is communication, I am referring to the dialect since I am not from Nampula and the patients here do not speak Portuguese. At some point, I understand, but not at 100%, but when the mother speaks I can understand the question and I try to solve it when the mother speaks Portuguese, but when she does not, I ask my colleagues to facilitate.*
> —Facility-based health provider, Meconta

> *The local language tends to mix Macua with Portuguese then it makes [it] hard to understand and the Macua of them is a little difficult to understand that she wanted to say this so I also try to explain in a way that she can perceive.*
> —Facility-based health provider, Mogovolas

Another barrier that emerged was the low literacy level among community-based health providers. These providers expressed difficulties in reading materials in Portuguese as well as remembering information given in a training in Portuguese.

> *Papers were given to me [TYCF album series], but I do not know how, I do not read so it gets difficult.*
> —Community-based health provider, Meconta

> *[During the training, did they say how many times a child should nurse per day?] No, I do not know if they spoke in Portuguese, but I did not hear it.*—Community-based health provider, Meconta.

Key Health System Opportunities for Strengthening EBF Counseling

During Antenatal Care

In study sites, no advice was given at the community level to prepare pregnant women for breastfeeding. At the facility level, antenatal education emphasized broad topics during group talks, which were not consistent nor personalized to individual mothers. Some mothers reported receiving information about hygiene during pregnancy and how to care for the baby postpartum. Most mothers reported receiving information on maternal diet during pregnancy and most facility-based health providers stated they provided this information during pregnancy.

> *In the prenatal consultations, they advised us to have personal hygiene, taking a shower, bathing the baby, breastfeeding the baby and then putting him to sleep.* —Mother, Meconta

A few mothers could not recall receiving any advice on breastfeeding during antenatal care (ANC) at the health facility level.

> *I did not [receive advice at the pre-natal consultations on breastfeeding], we only participated in talks and they advised our husbands to take care of us, eat well, eat eggs, bananas, vegetables, sweet potato, verdures [greens], for the child to have a body, they told us there.* —Mother, Mogovolas

At Childbirth

During childbirth/maternity care services, some health providers reported promoting early skin-to-skin contact and breastfeeding initiation within the first hour after delivery and a few identified challenges for early initiation of breastfeeding.

> *After the mother gives birth, now that we are implementing the "Maternity Model" initiative, one of the standards is to promote breastfeeding within the first hour that is mandatory so as soon as the woman is born we advise [her to] breastfeed immediately. There in the delivery room, as they are tired, they do not breastfeed at that hour, but after counseling when we take them here they breastfeed, but it's a little more complicated when it's those old mothers, it's easy for primiparas because we advise and they do, but those women who have given birth have been a little difficult.*
> —Facility-based health provider, Mogovolas

At Child Health Services

At the community level, an opportunity to strengthen EBF counseling identified within the health system was the use of the IYCF counseling package, which was developed by UNICEF for community-based IYCF counseling for children 0 to 24 months of age and was adapted and rolled out by the Mozambique MOH in 2012. Study participants noted the usefulness of this material to strengthen the effectiveness of health and nutrition talks. Health providers felt that the material enhanced their counseling and communication skills.

> *I feel that I am prepared when I am going to give a talk to mothers with children. After preparing myself, I have to bring my album and all the information that I am going to say. I also show the images because through these images they feel very confident. Because everything I say they can see in those images.* —Community-based health provider, Mogovolas

> *[The IYCF counseling cards] help moms because when they see the images…. they start to see "oh it is this way, and that is this way ..." mothers easily understand [the information given during the talks].* —Facility-based health provider, Meconta

Yet, not all health providers within the health facilities had access to the counseling cards and other IYCF education materials, as they are often available in child health services, but not in maternal health services. Therefore, to strengthen counseling for addressing breastfeeding challenges and problems at multiple contact points within the health system, health providers at various levels and settings need to have access to evidence-based materials that meet their work and health literacy needs.

> *I have seen and I know [the IYCF counseling cards], but we do not have it here, we do not have it in the maternity.*
> —Facility-based health provider, Mogovolas

Strategies for Strengthening Breastfeeding Support

Health providers mentioned specific strategies for strengthening breastfeeding support at the community level.

> *It's just that I do not know that it works a lot for those mothers, like doing mother-to-mother counseling, teaching traditional birth attendants, and traditional birth attendants teaching polyvalent agents, and teach all of those health providers who are working with mother and baby to all have knowledge and information because they can greatly help change a lot in the behavior of the community itself because they are [community-based providers] kings there and people obeyed them more than us [facility health providers], if they have knowledge it would greatly help.*—Facility-based health provider, Mogovolas

> *One way to help is to improve "Mobile Brigades" in that community.... We leave here with the health facility team and we get there [in the community] to give health talks, screening…. We are able to talk with the mothers about what they should do during the pregnancy period, and when they deliver the baby how they can breastfeed the children, how long they can take to breastfeed.*
> —Facility-based health provider, Meconta

At the facility level, a key opportunity to strengthen breastfeeding counseling within the health system was to better monitor the provision of infant formula by INAS since it has a strong negative feedback loop that can prevent breastfeeding counseling from being effective. As mentioned earlier, this government program was designed to focus on vulnerable population including orphans, undernourished children, and children who are HIV infected. However, in Nampula, data revealed that the program provided infant formula for mothers reporting perceived insufficient milk, mothers who had mastitis, and infants who were not gaining weight as expected.

> *When a mother arrives with breastfeeding difficulties, or has twins, or babies whose mothers have passed away, or those who have difficulties in breastfeeding, mothers who do not produce [breast] milk and were already counseled [in regards of breastmilk production] and we did [breast] massage and they are not producing milk, then with the help [a statement] of the community secretary [community leader], because some women lie that the mother died [to receive the formula from the government]. So, with a statement from the community leader we carry the mother to the health facility and from there to the Director where INAS works. It is there where they provide assistance to the child. They give [formula] milk, soap, if they have diapers, clothes, give all support, give flour, rice ... For how long I do not know, but I can say that they come monthly and assess child needs ... many people know that in the hospital there is the possibility of getting [formula] milk, getting food.*
> —Facility-based health provider, Mogovolas

In sum, findings indicate that women are not receiving enough high-quality breastfeeding counseling from providers and there are structural issues, including a lack of pre-service and in-service breastfeeding training and supportive supervision. The following section documents the content and nature of breastfeeding counseling sessions based on direct observations.

Phase 1 Observations of Breastfeeding Counseling Sessions

Eight observations were conducted during well child consultations (growth monitoring and postnatal care) and three were conducted during sick child consultations. Table 7 summarizes the characteristics of the mothers and health providers observed. Six facility-based health providers were observed interacting with their clients: one nutrition technician (three observations), two preventive medicine technicians (five observations), two maternal and child health nurses (two observations), and one nutritionist (one observation).

Individual breastfeeding counseling sessions were uncommon in the health facilities visited. There were no private rooms for health providers to conduct individual breastfeeding counseling, thus breastfeeding counseling happened during child services, at either well child consultation (i.e., growth monitoring and child vaccination) or sick child visits. Overall, during child health visits, it was noted that breastfeeding counseling was done only if the health provider was concerned with infant weight or growth; otherwise, the immunization card was returned to the mother and the date of the next appointment was provided.

Additionally, counseling sessions were typically very short in duration (most lasted less than 5 minutes), which did not allow most health providers time to follow the best practices for effective EBF counseling (i.e., breastfeeding history, breastfeeding assessment, and breastfeeding counseling skills). Health providers offered a medical consultation for mothers focused on the specific issue at hand; thus if a mother did not ask about breastfeeding, it was not addressed during her consultation. All but three sessions were conducted per the suggestion of the research team to observe breastfeeding counseling, a study limitation that will be discussed later. However, the quality of breastfeeding counseling sessions was still poor. Few of the providers observed asked for a history of the mother's breastfeeding challenges or further explored the mother's breastfeeding experience. Furthermore, few providers assessed breastfeeding latch or positioning, even when the mother was breastfeeding during the consultation. In most observations, providers counseled mothers about the benefits of EBF and not providing water or other food during the first 6 months as per the WHO recommendations. An individualized approach addressing a specific maternal concern was used only a few times, most often when the infant was not gaining weight as expected.

Table 7. Characteristics of breastfeeding counseling session participants

Characteristic	N
Mothers (n=11)	
Age	
20–21	7
22–30	4
Education	
No formal education	2
Some primary school	6
Primary school completed	1
Secondary completed	2
Marital status	
Married or living together	11
Work status	
Not working	4
Working in the field	7
Infant's age	
1–2 months	4
3–5 months	7
Providers (n=6)	
Position	
Nutrition technician	1
Preventive medicine technician	2
Maternal and child health nurse	2
Nutritionist	1
Gender	
Female	4
Male	2
Years working in the position	
0–3 years	2
3–10 years	4

Table 8 summarizes the breastfeeding counseling skills used by health providers during the individual observation sessions. The majority of health providers did not practice counseling skills in the listening and learning category, which are important for understanding a mother's feelings and intentions and empathizing with her. We observed the short time health providers spent with each mother and infant as well as the lack of training in solving breastfeeding problems. Health facility providers were more likely to practice counseling skills in the building confidence and support skill category. Health providers were ready to give advice to guide mothers in believing in themselves and their ability to breastfeed and providing care for the baby. However, it was noted that in most sessions, the providers' advice was not addressing a maternal concern or complaint. Additionally, none of the health providers observed gave practical help to manage breastfeeding problems, which reflects the lack of training in practical management for breastfeeding problems.

Table 8. Summary of breastfeeding counseling skills used by health providers during EBF counseling sessions, Mozambique, July 2018

Breastfeeding counseling skills		Observation session										
Category 1: Listening and learning skills		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Skill 1	Use helpful nonverbal communication											
Skill 2	Ask open-ended questions											
Skill 3	Use responses and gestures that show interest											
Skill 4	Reflect back what the mother says											
Skill 5	Empathize—show that you understand how she feels											
Skill 6	Avoid words that sound judgmental											
Category 2: Building confidence and support skills												
Skill 1	Accept what the mother thinks and feels											
Skill 2	Recognize and praise what a mother and baby are doing right											
Skill 3	Give practical help											
Skill 4	Give relevant information, a little at a time											
Skill 5	Use simple language											
Skill 6	Make one or two suggestions, not commands											

Source: WHO/UNICEF Breastfeeding Counseling training course11
Legend: Green (yes, skill used), red (no, skill not used), yellow (skills partially used)

Two case studies based on direct observations and field notes are presented next.

Case Study 1: Missed Opportunity to Use Breastfeeding Counseling Skills

The mother came to the sick child consultation at the health facility as her infant (5 months old) had fever and diarrhea 2 days before. She sat close to the health provider. The health provider took detailed notes about the illness as reported by the mother.

Breastfeeding history: The health provider (male) asked the mother to breastfeed the baby in front of him, however, he did not assess the feeding behavior, latching, or positioning. The health provider asked about water intake, and the mother reported that her husband gave water to the infant 2 days ago. The health provider then reinforced the advice about EBF. The mother reacted telling the health provider that it was the father who gave water to the infant because the infant was constipated. Both mother and father concluded that the baby was having difficulties breastfeeding. Despite already having information to not offer other liquids or milk for the infant, her husband bought bottled water that she thought would not pose any risks because the water was clean. Then the health provider told the mother about the risk of giving water, even bottled water, and told the mother to provide this information to her husband. The provider ended the consultation testing the infant for malaria (which was negative) and prescribed drug for diarrhea. He advised again about continuing to exclusively breastfeed and to not offer water. The mother left the consultation. The consultation lasted 4 minutes.

Observation notes: The health provider advised the mother against the use of water with the infant using simple language. During this counseling session, he gave instructions to the mother and did not probe for what the mother thought or felt, and neither recognized nor praised the mother for what she was doing correctly for the infant. The health provider did not use any listening and learning approaches compatible with effective breastfeeding counseling and did not assess the breastfeeding latching or positioning. This consultation is a clear example of a missed opportunity to use breastfeeding counseling to enhance maternal confidence in EBF.

Case Study 2: Ways to Strengthen EBF Counseling

The mother came to the well child consultation at the health facility with her 3-month-old infant who had been seen monthly for growth monitoring follow-up visits. The mother sat side-by-side with a health provider on a small concrete bench.

Breastfeeding history: The health provider (female) started the consultation by checking the infant´s weight gain and she noticed that the infant had not been gaining weight as expected. The provider asked the mother how breastfeeding was going and how many times per day she was breastfeeding the infant. The mother reported she had been breastfeeding every hour and that she let the infant stay on the breast until the infant was satisfied, which the mother explained was until the infant fell asleep on the breast. However, the mother reported that the infant was vomiting after finishing the feeds. Thus, the mother realized that the infant had not taken the hind milk, which could be affecting infant weight gain. The health provider asked a couple of follow-up questions to better understand the vomiting situation and address the mother's concerns. Then, the health provider confirmed that the vomiting could be causing the slow gain weight and asked the mother why she did not report the vomiting situation earlier. The health provider advised the mother how to position the baby after breastfeeding to avoid vomiting and the importance of breastfeeding at night. The health provider also scheduled an appointment in the same week to talk with the mother and her husband about the situation in a private consultation.

Observation notes: This consultation was conducted per suggestion of the research team to observe breastfeeding counseling. The health provider advised the mother on how to position the baby after breastfeeding to avoid vomiting using simple language. Even though the mother breastfed during the session, the provider did not assess the breastfeeding latching or positioning. On the other hand, the health provider used almost all listening and learning skills, and did some confidence building and support skills compatible with effective breastfeeding counseling. The health provider built rapport with the mother and took the time to investigate the vomiting situation and how it affected infant growth by scheduling a follow-up appointment in the same week with the mother and her husband. The provider explained this would allow more privacy to discuss the vomiting situation and have the father involved in the solution. This consultation is an example of an opportunity on how EBF counseling can be strengthened.

In sum, the direct observations confirmed the lack of adequate breastfeeding counseling available for mothers, and the need to support health workers with job aids to improve their breastfeeding counseling skills. The following section describes findings from Phase 3 IDIs conducted with mothers and providers following rollout of the provider breastfeeding counseling job aids.

Phase 3 In-Depth Interviews to Assess Impact of the Job Aids

Following a 3-month rollout of the job aids, Phase 3 IDIs were conducted with mothers and providers to determine the usefulness of the job aids in improving providers' counseling on barriers to EBF. The majority of mothers interviewed (n=10) were under 25 years of age, had less than a primary school education, were married, and worked as farmers (Table 9). Half of the infants accompanied their mothers to work, whether in the field or during domestic work.

Table 9. Phase 3: Characteristics of mothers participating in in-depth interviews (n=10)

Characteristic	N
Age (years)	
18–19	3
20–24	3
25–40	4
Education	
None	1
Some primary	5
Completed primary	4
Marital status	
Married	9
Cohabiting	1
Work status	
Works outside home (in the field or other commercial activity)	1
Does not work outside home (domestic work and farming)	9
Infant age (months)	
1–2	3
3–5	7
Infant accompanies to work	
N/A (mother does not work outside the home)	9
Not reported	1

Table 10. Phase 3: Characteristics of health providers participating in in-depth interviews

Characteristic	Facility (n=10)	Community (n=10)
Age	**N**	**N**
24–29	7	1
30–39	2	4
40–77	1	4
Not reported	0	1

Characteristic	Facility (n=10)	Community (n=10)
Gender		
Female	7	5
Male	3	5
Education		
Some primary	1	2
Completed primary	0	2
Some secondary	0	4
Completed secondary	9	0
Not reported	0	2
Occupation		
General medicine technician	4	0
Maternal and child health nurse	2	0
Preventive medicine technician	1	0
General nurse	1	0
Nutrition technician	1	0
Midwife	1	0
National Health System community health worker	0	1
Activist	0	6
Traditional practitioner	0	2
Not reported	0	1
Years of experience		
0–3	7	5
4–36	3	4
Not reported	0	1

The 10 facility-based providers interviewed generally had more years of work experience than the 10 community-based providers (Table 10). Nearly all facility-based providers had completed secondary school, whereas community-based providers completed at most some secondary school education. Facility-based providers included general medicine technicians and maternal and child health nurses, and community-based providers included activists (generally trained, may receive incentives, and are usually paid through projects at the community level) and traditional practitioners. Although different participants were interviewed for each phase (Phases 1 and 3), demographic characteristics of the two samples were similar.

The major themes that emerged from the Phase 3 IDIs include the context in which the job aids were used, the effect of the job and on counseling topics and techniques, and providers' suggestion for job aid improvements (Table 11).

Table 11. Themes from Phase 3 in-depth interviews

Theme	Subtheme	Description
Theme 1. Job aid use	**1a.** Context	• Facility-level: Individual and group counseling across the care continuum • Community-level: Home visits and group counseling with lactating mothers

Theme	Subtheme	Description
Theme 2. Effect of job aids on breastfeeding counseling and technique	**2a.** Effect on counseling technique	• Importance of images in enhancing mothers' comprehension and providers' explanation • Practical support, breastfeeding observation and assessment, listening to mother's perspective
	2b. Effect on counseling	• Incorporating new topics: breastfeeding technique (latch and positioning) • Resolving breastfeeding problems: Engorgement and mastitis, insufficient milk, sore/cracked nipples • Preventing breastfeeding problems
	2c. Effect on health provider knowledge	• Facility-based providers: Reaffirmed existing knowledge, provided reminder of key messages • Community-based providers: Increased knowledge, facilitated incorporation of new topics
	2d. Effect on provider self-efficacy and motivation	• Increased confidence in knowledge • Increased self-efficacy and motivation • Mothers more likely to follow recommendations • Community-based provider referrals
Theme 3. Suggestions for job aid improvements	**3a.** Content	• Job aids covered most providers' and mothers' questions/concerns • Minor content modification suggestions
	3b. Formatting	• Providers generally liked the format • Suggested changes to size, pagination, and making the job aids more suitable to show to mothers

Phase 3: Use of Job Aids by facility and community-based providers

Facility- and community-based providers incorporated the job aids into counseling in individual and group settings. Facility-based providers used the job aids across a variety of health contact points, including antenatal, postnatal, and adult visits, but most commonly during well child visits. The majority of community-based providers reported using the job aid only in counseling mothers of children 0 to 6 months old in both group talks and home visits. Some community-based providers described using group talks to identify mothers with physical breast problems or incorrect breastfeeding technique(s), which included follow-up home visits to assist mothers in resolving any identified breastfeeding issues.

> *I planned a day to counsel with this material. I called all mothers of children from zero to six months to advise [as a group]. ... If today I gave the lecture and found a mother with difficulty, I had to register and then did home visits with mothers with difficulties two days later. For her to show me again what she has learned and [make sure she] is practicing [EBF].*
> —Community-based provider, Mogovolas

Effect of Job Aids on Breastfeeding Counseling and Techniques

Effect on Counseling Technique

Most facility- and community-based providers described how the job aids changed their counseling technique. Although the original intent of the materials was to aid providers in their day-to-day work of identifying and counseling on breastfeeding problems, in practice, the majority of facility- and community-based providers showed the materials to the women they counseled. Providers relayed that the job aid images aided their explanations of proper breastfeeding positioning and latching and facilitated improvements in mothers' comprehension. Most providers described asking mothers to breastfeed, observing and assessing their technique, and then adjusting the mothers' positioning and latch to mirror the images in the job aids. In contrast to Phase 1 findings, where providers rarely observed or provided practical help to mothers, providers in Phase 3 described using the job aids to facilitate providing practical support.

First, I use the job aid much more in the maternity ward, I do more practical lectures, because they learn a lot more by doing it than by listening. So, I pick up a baby and set the example how they should breastfeed. Not everyone picks up their baby and does the same thing I'm doing. To demonstrate the latch, as I do not use my breast (laughs) I watch each mother and see how the baby is doing the suction. I say, "This is correct," if not I say, "You are breastfeeding, but it does not have to be in this way, it has to be this way." And also the mothers see those images [in the job aid], because first I have to do the talk with the job aid, then execute what is in the job aid.—Facility-based provider, Mogovolas

Some facility- and community-based providers reported that the job aid images were particularly useful among community-based providers and mothers with low literacy, as illustrated in the quote below:

It was easy to transmit information to breastfeeding mothers, because the job aid is made of images, so most of the people have low educational level, perceive more seeing figures, it is easier to explain how this breastfeeding is done.
—Facility-based provider, Mogovolas

Providers also reported they provided more individualized counseling tailored to each mother's circumstances using the job aids. One community-based provider described being able to establish a dialogue with the mother using the job aid:

First of all, after I introduced myself ... I had to talk about what was the purpose that led me to enter that house and what was the subject I was going to address that day. From there I had to open the flip chart … [and] show it to the mothers. After showing it… I asked them what they were seeing in the pictures. I asked, "How do you breastfeed your baby?" They had to speak, and then from there [I asked], "If we're looking at this mom here, what does she do?"
—Community-based provider, Mogovolas

Effect of Job Aids on Counseling

Incorporating New Topics: Into Current Counseling Practices

The job aids also facilitated incorporation of new topics into current breastfeeding counseling, including breastfeeding technique and problems.

Counseling on Breastfeeding Technique

Post-rollout of the job aids, nearly all facility- and community-based providers used the job aids to counsel on breastfeeding techniques, such as signs of good latch and optimal positioning of the mother and infant.

I had no knowledge before this training, before many mothers did not hold the breast well to breastfeed the child, now after this material the mothers already know how to take the breast and give the child. Before I advised that from zero to six months, the only thing a child should do is just to nurse, she has nothing else to eat, no milk, no water or anything besides breastmilk until [six months]. Now I'm talking about positioning. —Community-based provider, Mogovolas

At first it was a difficult because I had no idea how they should hold the baby. After the training we had, I learned the proper techniques of breastfeeding. After the training, we can feel and notice that the milk is not reaching the baby. ... First, I start by checking the mother how she is holding the baby, if the areola is in her mouth and how the baby is sucking the milk. ... [Before,] the position that the mother used, for me was fine ... But I did not know there were rules for breastfeeding. After having learned and seen here, I realized that there are rules for how to hold [the baby]. —Facility-based provider, Mogovolas

All mothers reported receipt of counseling on technique and were able to describe and demonstrate proper positioning. Nearly all mothers appreciated learning about the "rules" for breastfeeding that they did not know before counseling, which included holding the breast with an open hand in the shape of a "C," obtaining optimal positioning with the infant facing the mother's chest and ensuring proper latch.

I have 11 children including this one. With the last 10, I did not know the rules for breastfeeding. (…) There is new information in the community about breastfeeding and its rules. ... They taught us how to latch, position. — Mother, Mogovolas

I was advised that I should not pick up the breast like this (showed the shape of scissors); I have to take this position (showed the hand in the shape of a "C") for the child to suck well. I was also advised to hold my hand on the child's bottom and control her feet. It helped a lot because I know this will help my daughter to suckle well, to gain weight and also it will help my own health.—Mother, Meconta

Effect of Job Aids on Resolving Breastfeeding Problems

The job aids helped both facility- and community-based providers to counsel on resolving breastfeeding problems, such as engorgement, insufficient breastmilk, and cracked nipples, which, consistent with the previous study phases, were the most commonly encountered problems in Phase 3.

Engorgement and mastitis

Breast engorgement was the most commonly mentioned physical breast problem in facility- and community-based health provider interviews. Preventing and managing mastitis was also mentioned, though more frequently among facility-based providers, because community-based providers referred mothers to the health facility for this issue. Both types of providers reported advising mothers experiencing breast engorgement to continue breastfeeding and to empty each breast to reduce swelling and prevent infection.

If we see that she has swelling, the child needs to breastfeed instead of stopping breastfeeding in that breast that has swelling. Then we must give the same breast constantly, to empty that milk because the thing that causes it to fill or to have this swelling is milk, is the fat that covers all the valves through which the milk comes out.—Community-based provider, Mogovolas

Yes, I had a primipara; she had a breast engorgement. ... after two days the baby did not want that breast anymore, and the mother also discouraged the baby from wanting that breast because she felt pain. But we talked to her and, good thing she was an informed mother, we presented our pictures and she also read ... after two and a half weeks she came back and came to show us her baby suckling that breast that she did not want —Facility-based provider, Mecon*ta*

Mothers described what they had been taught by health providers on the management of engorgement and prevention of mastitis. Mothers reported being advised to manage engorgement by continuing to breastfeed, expressing breastmilk, applying warm cloths to the breasts, or taking a warm shower to help express the breastmilk, strategies that were all described in the job aids.

Yes [counseling] helped because I managed to express the milk out of the breast that always created a fever, now [I am] breastfeeding my son without pain or fever. —Mother, Mogovolas

I was also advised that there are times when the breast gets full of [breast]milk, I have to warm water to get a cloth to wet and to massage on and under [demonstration] because if it is a problem that the milk gets thick inside it will help to dilute the [breast]milk [to make the breastmilk more fluid]. —Mother, Meconta

The job aids increased knowledge of breastfeeding problems among facility- and community-based providers, as they were either unaware or had difficulty diagnosing mastitis prior to rollout of the job aids. A facility-based provider relayed her appreciation that the job aids listed signs of mastitis, which helped determine whether a mother was experiencing this problem.

The job aid helps a lot. I use it a lot to help because not all the questions I have here in my head. For example, a mother comes in with complaints that she usually has fevers in the night. I talk, I am looking in my job aid and I find information that normally all the mothers with this complaint have a fever. —Facility-based provider, Mogovolas

Insufficient breastmilk

Facility- and community-based providers were more likely than mothers to mention encountering the problem of insufficient breastmilk. Both types of providers used the job aids to demonstrate proper positioning and to describe how to massage the breast to enhance milk supply.

[Mothers] have complained that the [breast] milk does not come out, that the baby cries a lot and it does not quench. I ask them to take the breast and give it to their baby, but they continue to hold it not the best way, the scissors [hand formed in the shape of scissors when holding the breast]. After teaching what I learned in the poster, in my presence she finds the correct position and thanks me: "Thank you, I did not know."—Facility-based provider, Mogovolas

One community-based provider reported that prior to the job aid, he primarily advised mothers to resolve insufficient breastmilk by changing their diet. However, the job aid provided him with additional management strategies that he found to be fruitful.

Before when I saw a mother who had problems of not having [enough] milk, I advised only to eat certain foods that could facilitate having that mother's energy to at least get milk. So, now after I received the material, I already have more knowledge ... it is also great benefit to massage the breasts [to address insufficient breastmilk]. —Community-based provider, Mogovolas

Cracked nipples

Community-based providers were more likely than facility-based providers to report counseling on cracked nipples. Community-based providers reported that the job aid taught them about the causes of cracked nipples and helped them resolve this problem. As illustrated by one community-based provider, although community-based providers were likely to refer mothers with cracked nipples to the health facility, the job aid reinforced consistent counseling messages between the community and facility.

Another situation the mother had a wound on the nipple and she was already giving up breastfeeding and I advised that she should give the breast. It was a small child, a newborn. Then I told her to go to the hospital. Also there [at the hospital] she was advised the same and came back and continued breastfeeding and the breast healed and she came back to thank me. —Community-based provider, Meconta

Effect of Job Aids on Prevention of Breastfeeding Problems

The original intent of the job aids was to assist health providers in identifying and resolving breastfeeding problems. Yet, both facility- and community-based providers reported that the job aids also facilitated the prevention of various breastfeeding problems. The job aids also drew attention to counseling on breastfeeding, even in the absence of breastfeeding problems or child growth issues. Some facility-based providers described how the job aids encouraged them to counsel proactively on problems before they occurred so that mothers were prepared to solve these problems and continue breastfeeding.

Before [the job aids], I was not able to ask a mother how she was going to breastfeed. We just waited. After having the problems is when she would come, since she has problems, has a fever. So that is where we interact with her.... So I want to say that it helped a lot! Worth it.—Facility-based provider, Meconta

[The job aids] changed [counseling] because before, there was no counseling. The counseling that was available was if an infant was malnourished, I would look at the card and pay attention, say that you have to breastfeed, ask if there was another child at home. Before I only noticed the issue of breastfeeding. I had no concept before. —Facility-based provider, Mogovolas

Some community-based providers also reported counseling mothers on ways to solve early stages of problems such as breast engorgement in the event that they arose later (i.e., anticipatory guidance).

At the level of the community where I support, I still have not [encountered] any [breastfeeding] problems, and, I have advised the mothers that if they have breast pain problems, tell me and I will guide you on how to overcome it.... If the breast is very full, until it hurts, I will advise you to extract the milk, not to throw it away. —Community-based provider, Meconta

Similarly, even among mothers who reported that they had not experienced any breastfeeding problems, many reported being counseled on the prevention of potential problems and proper breastfeeding technique.

I have no problems but I was informed when I have problems I must inform [the activist] she will accompany me to the hospital. —Mother, Meconta

Effect on Health Provider Knowledge

Facility-Based Providers

Many facility-based providers reported that the job aids reaffirmed their existing knowledge about breastfeeding problems and technique and served as a reminder of key topics to highlight during counseling. With the job aids, providers counseled on more topics during sessions, including how to position the baby and obtain a good latch. Some facility-based providers reported learning new information about breastfeeding technique from the job aids.

> *I used to leave a lot of things aside that were really important. When I started using the material, I realized that many women did not know the right way [to breastfeed], and this had many disadvantages for the children.… many mothers …position the baby well but do not know how to get a proper latch.* —Facility-based provider, Mogovolas

Other facility-based providers reported that the only topic they learned about in the job aids that they did not know before was the expression and storage of breastmilk.

> *Yes, there is new information, which I did not know. There is information that comes in the job aids about how to conserve breastmilk for many days. So that was some new information I [learned], the rest of the information was something I already had.*
> —Facility-based provider, Mogovolas

Community-Based Providers

Nearly all community-based providers reported that they learned new information about breastfeeding problems and technique from the job aid, which gave them the opportunity to disseminate new knowledge among community members. One community-level provider linked new knowledge about breastfeeding technique to improved child outcomes in his community.

> *Before in the community the mothers … did not have the good latch, they only managed to give the breast to the child but they did not look at the procedures so that the child has good breastfeeding. I did not know these procedures—now I know. My advice is now better because of increased knowledge ... From what I see, children are gaining weight because of the procedures that mothers are using. I feel confident because of the results in the children, the weight and the growth are showing a better result compared to before.* —Community-based provider, Mogovolas

Some community-based providers mentioned that the job aid increased their knowledge about the importance of EBF and not introducing food or liquids besides breastmilk prior to 6 months.

> *As a community activist, I was aware and was explaining in the community that the child should not be given water until six months. And this material further increased our knowledge about EBF.* —Community-based provider, Meconta

Effect of Job Aids on Provider Self-Efficacy and Motivation

Increased Confidence, Self-Efficacy, and Motivation

An increase in reported provider knowledge was accompanied by improved provider confidence and counseling self-efficacy. Community-based providers reported that showing mothers the job aids increased their credibility and gave them confidence that what they were saying was evidence-based. They related that mothers were more likely to listen to what they said because their words were taken as fact instead of based on experience or personal opinion.

Mothers More Likely to Follow Recommendations

Community-based providers also discussed that after implementation of the job aids, mothers were more likely to follow their recommendations and change long-held behaviors. Not only did this improve their self-efficacy, it seemed to increase provider motivation as they saw the effect the counseling had on their community.

Now that I have this material that is very good, the information that I give is accurate ... Now with this material, we talk and the mother can see the images that correspond to what we speak.... People used to hardly accept [our advice], but not today; for example, we advised mothers not to give water before six months, some people gave [water before], but now no, nobody gives.—Community-based provider, Meconta

I get positive responses from the mothers themselves. Because whoever gives a lecture hopes to give information and the person will follow that information and put it into practice. I have received this from them [mothers]; I have had positive responses.… I felt more firm in my words, in what I said, what I pass on to the women. I have a certainty.
—Facility-based provider, Mogovolas

Facility- and community-based health providers mentioned increased motivation as a result of the job aids. One community-based provider expressed that even though the providers have not received material incentives (i.e., soap) for doing their job, they are nonetheless motivated by the fact that the job aids are helping them in counseling mothers.

[Do you feel that this job aid changed the way you counsel mothers about EBF?] It changed and we are grateful. It helps a lot, even if we don't have soap, we are thankful. —Community-based provider, Meconta

Mothers' expression of gratitude for the additional breastfeeding support also increased provider motivation.

Yes, a mother after birth had sores on the nipple. After I counseled, the wounds healed and she became more confident that the materials helped her because two to three days [later] the mother again thanked me for the advice. At first, they did not come because they did not know that I knew how to help mothers with these problems, but after knowing they already came by themselves. —Community-based provider, Mogovolas

Providers were also motivated by improved infant weight gain (i.e., child growth) in their communities, which some relayed was due to improved counseling skills and knowledge.

Before in the community, the mothers … did not show the good latch, they only managed to give the breast to the child but they did not look at the procedures so that the child has good breastfeeding. I did not know these procedures [but] now I know. My advice is now better because [of] increased knowledge; there is also an improvement in the quality of children. From what I analyze, children are gaining weight because of the procedures that mothers are using. I feel confident because the results of the children and the weight itself and the growth are showing a positive result compared to before.
—Community-based provider, Mogovolas

Community-Based Provider Referrals to Health Facilities

Furthermore, for some community-based providers, the increased knowledge and self-efficacy they gained from the job aid enabled them to solve more breastfeeding problems themselves with fewer referrals to the health facility. One community-based provider described having no context for counseling on breastfeeding problems and no training on how to manage them prior to being trained on the job aid. The job aid allowed him to solve breastfeeding problems prior to referral, as described below.

The difference is that at the time I did not know that a mother, if she did not give the breast [properly], that child can cause swelling, wounds, many mothers appeared with these problems. Formerly I had no training and I soon referred to the health facility.… With swelling I give advice to breastfeed often in that breast that filled up. After two days, if the swelling does not go down, then I refer to the health facility. —Community-based provider, Mogovolas

Suggestions for Job Aid Improvements

Content of Job Aids

The consensus among providers was that the job aids was helpful and contained all the information needed for counseling on breastfeeding technique and problems.

> *The information is always extensive for the mothers with whom I am transmitting the information, they like it, and facilitate what they did not realize or did not know about.* —Community-based provider, Mogovolas

Many health providers suggested changes to job aids content; however, these were minor. For instance, two community-based providers reported that many households do not have freezers, so the recommendation to store expressed breastmilk in the freezer would not be feasible for some families. Two facility-based providers mentioned the lack of information and confusion surrounding breastfeeding recommendations for HIV-positive women.

> *There is something here in the part about infection—here it is saying that you have to express the breastmilk.… in the mother who has HIV, will the milk be used or thrown out?*—Facility-based provider, Meconta

Similar to the lack of information surrounding HIV, providers relayed questions regarding orphaned children.

> *A mother when the baby was born, she died and the baby was left alone and … here in the job aid it does not say what we can do with that one, yes! It happened in the community a few years ago.* —Community-based provider, Meconta

Finally, some providers gave suggestions for language and vocabulary modifications; a facility-based provider suggested that the job aids be translated into the local language of Macua and two community-based providers reported that some words were difficult to understand, pointing to literacy concerns, which are an important consideration for the community-based provider job aid.

Format of Job Aids

The majority of facility- and community-based providers liked the format of the job aids and reported that it was easy to use.

> *The job aid helps a lot.... As it is organized step by step, it is easy to find the information I need.*
> —Facility-based provider, Mogovolas

> *The format itself, I think there are no problems.... And also the arrows are very easy to understand.... It is very well specified.*
> —Community-based provider, Mogovolas

Many providers suggested enlarging the images depicting breastfeeding position and latch to facilitate ease in showing the images to mothers.

> *I was able to explain to them how to position and take the baby with the help of the materials but preferred that the images were clearer for the mother to see, especially the latch.… I used practically only page 1, because the other [pages] had mostly text so it was not useful to the mother.* —Facility-based provider, Mogovolas

> *Talking about the job aid … on one side could appear the information that a clinic or staff person can speak and on the other side appear the images to illustrate. This may facilitate what I am saying so the user can see—if they don't understand my language, the image can speak* —Facility-based provider, Meconta

The job aids provided for use measured around 16 x 11 inches, with laminated pages spiral bound at the top. Although most providers liked this size, some providers suggested that the job aids be available in alternative sizes, from posters displayed on health facility walls to pocket-sized booklets that would be easy to carry on community home visits. Many providers recommended the job aids be available in the form of a book (bound on the left) with page numbers so that it would be easier to follow and flip through.

> *Going back a little in relation to size, there may be other types of poster that would allow anyone to come consult or see. Not only can this give access to clinical staff, it can appear in several sizes or in various models.* —Facility-based provider, Meconta

> *To turn the pages, here may come to create embarrassment, then continue to the same page.... So for improvement of this here, instead of being in this way here [bound at the top of the page], could be from the side ... the person can turn like this in a notebook [demonstrating], but the same size so it is visible and big.* —Community-based provider, Mogovolas

In sum, Phase 3 demonstrated that, although there is still room for improvement, the job aids were helpful for improving the quality of breastfeeding counseling. The following discussion section places these findings in the context of Phase 1 and 2 findings and the PIP.

Discussion

This study showed that breastfeeding challenges, such as inadequate latching, poor positioning, perceptions of breastmilk insufficiency, and breast engorgement, were barriers to early initiation and EBF. Mothers' perceptions of insufficient breastmilk was the most commonly reported barrier to EBF according to mothers, as well as facility- and community-based health providers. Reported causes of perceived insufficient breastmilk were lack of understanding of i.e. the time when breastmilk transitions from colostrum to transitional milk), and food insecurity and poverty (in the first 3 to 4 months of life), which is consistent with data from other countries.[23] We found providers' lack of knowledge on how to manage perceived insufficient breastmilk led some providers to recommend infant formula . Latching problems (e.g., baby not latching properly and sore nipples) and breast engorgement (e.g., swollen breasts) also emerged as challenges to EBF described by providers. Building the capacity and skills of health providers at the facility and community levels in lactation management, especially at childbirth and the first days following birth,[23] combined with strong monitoring of infant formula distribution, provides a unique opportunity to strengthen EBF counseling in this area of Mozambique. Since health professionals are the key element in positively influencing the practices and knowledge of breastfeeding women, lack of knowledge and skills may also negatively influence breastfeeding practices.[19]

Although the Mozambique Government has endorsed the Code for Marketing of Breastmilk Substitutes and is currently in conversation with the National Inspection of Economic Activities to monitor its implementation, it is not yet clear how its implementation affects government social protection programs that distribute infant formula to children and families in need. For example, the Direct Social Support Program – Child Kit (*Programa de Apoio Social Directo – Kit para Criaça* [PASD-B]) implemented by INAS supports households with children under 24 months who are in need of a breastmilk substitute and/or recovering from acute malnutrition. To be eligible for PASD-B, the child must be less than 24 months old and (1) a medical certificate recommending that the child receives a breastmilk substitute due to the child's or mother's clinical condition must be presented, or (2) a death registration for the mother must be presented. The lack of knowledge and skills to address the common perception of insufficient milk led health providers to refer mothers to INAS to receive infant formula, which is a cause for concern. Another concern is that community leaders may be able to refer children directly to PASD-B without a clinical certificate attesting to the need for a breastmilk substitute. Although the MOH has an action plan to ensure the dissemination of the Code for Marketing Breastmilk Substitutes and is strengthening links with the National Inspection for Economic Activities to monitor its implementation, our findings point to a need to strengthen coordination between the health and the social action sectors. This would include providing guidance on referrals to social protection programs and strict implementation of eligibility criteria for the program to ensure appropriate distribution of infant formula.

Our findings from Phase 1, prior to rollout of the job aids, indicate that during health services at the community and facility levels there was no assessment of breastfeeding techniques and there was little attention to breastfeeding counseling during ANC, childbirth, postnatal care, and well child, at-risk child, and sick child consultations in the study areas. No guidance on breastfeeding was provided during pregnancy at the community level or during ANC health talks, which seldom covered breastfeeding. The prenatal consultation checklist and training package primarily concentrate on maternal and newborn care, without guidance on how to advise on the importance of breastfeeding. Providing breastfeeding information during ANC is key to strengthening EBF counseling.[13]

In addition, practical support to address breastfeeding positioning, latching, and other difficulties at all contact points beginning with childbirth was not consistent, which was in line with the lack of pre-service training on topics related to lactation and resolving breastfeeding challenges. While community-based providers had some in-service training in breastfeeding counseling, lack of self-efficacy hindered counseling, and mothers who experienced any problems with breastfeeding were often referred to health facilities. Facility-based providers stated they did not have in-service training in breastfeeding counseling or knowledge of how to adequately manage the most common breastfeeding problems. Supportive supervision and mentoring around addressing breastfeeding challenges was also weak and needs strengthening to complement training.

In Phase 1 findings, early return to work postpartum was reported as a key challenge to EBF in Mozambique, and has been described in the literature.[24,25] Mozambique labor law is currently under review to increase maternity leave from 60 days to 90 days and paternity leave from 1 day to 7 days. Extension of maternity leave to 18 weeks,[26] as recommended by the International Labor Organization, and establishing protection measures for women in the informal sector (i.e., enforcement of maternity leave, daycare centers) is an important consideration in revisions of the labor law.[24,27] Given that most women in this part of Mozambique work as farmers, and are most vulnerable to early interruption of EBF, measures such as baby-friendly workspaces and building a supportive social network for EBF, through community daycare centers in rural areas, may also be explored. Family members caring for infants (i.e., grandmother, aunt, older sibling) can also benefit from understanding how they can support breastfeeding at the household level, and how to feed the baby appropriately in the mother's absence; thus, behavior change communication activities to promote EBF should also target these audiences. Some of these proposed measures may also reduce the burden placed on older siblings in providing care for infants and prevent absenteeism from school in the long term.

Husbands were mentioned by mothers and providers as the primary source of support for EBF. This finding is consistent with the Strategy for Social and Behavior Change Communication for the Prevention of Malnutrition in Mozambique[21] and indicates the importance of breastfeeding counseling reaching influential family members. During the observation of breastfeeding counseling sessions, a few health providers advised mothers to share the guidance received during the consultation with husbands.

Following rollout of the job aids, Phase 3 findings reveal that the job aids re-affirmed existing health provider knowledge, and both facility- and community-based providers shared that they learned new information about breastfeeding problems and technique. Whereas prior to job aid roll out, group lectures and counseling during routine contact points focused primarily on the recommendation to exclusively breastfeed for the full first 6 months of the child´s life, post-rollout of the job aids, providers delivered more interactive counseling, assessment of breastfeeding techniques, and practical support, which was valued by mothers. This translated into greater number of problems identified through the job aids, resolution of breastfeeding problems before they became severe, and, in some cases, preventing problems from occurring. The job aids were also effective in improving provider confidence and self-efficacy in counseling. Community-based providers were better able to solve more breastfeeding problems themselves, with fewer referrals to the facility. Regular post-training supportive supervision during implementation was fundamental to the reinforcement of counseling skills and use of the job aids.

While it was not the original intent of the job aids, the results indicate that the use of the job aids also positively affected providers' motivation, as many providers referred to being happy that mothers were returning to thank them for the support. Key challenges with the use of the job aids included language barriers for providers and clarification on the role of infant formula for vulnerable infants (orphans/HIV) and not for new mothers who perceive breastmilk insufficiency with no physiological reason not be able to produce milk. Recommendations for improving the job aids included numbering the pages for easier flipping from one section to the next and increasing the sizes of the images, as most providers were using the job aids to show images to mothers and felt this increased mothers' confidence in the breastfeeding knowledge and skills providers were transmitting.

Key Recommendations

The following are key recommendations based on the results of this study:

- **Update existing maternal and child health and nutrition guidelines, standards, and training curricula.** Feature breastfeeding challenges and problems and how to solve them in key guidelines (i.e., national ANC guidelines), pre- and in-service training curricula, and supportive supervision tools (including the Model Maternity Initiative tools) for facility-based health providers to improve breastfeeding counseling during ANC, maternity/childbirth, postnatal, and child health services.

- **Integrate breastfeeding counseling content in pre-service curricula.** For facility- and community-based providers and develop supportive supervision tools for facility- and community-based provision of nutrition services, including breastfeeding counseling (e.g., as part of the Global Financing Facility Disbursement-Linked Indicator 4, Package of Nutrition Interventions).

- **Provide in-service training and supportive supervision for providers.** Community and facility-based in-service trainings can emphasize support for early breastfeeding initiation (e.g., early breastfeeding physiology, colostrum, breastfeeding techniques) and management of breastfeeding common problems (e.g., sore nipples, breast engorgement and mastitis, breastfeeding challenges faced by working women, cross-feeding, latching, and insufficient milk).[d] In addition, on-the-job training can incorporate listening and learning skills, confidence and self-efficacy building, training providers to give anticipatory guidance, and include provider behavior change to counteract cultural beliefs and attitudes on breastfeeding challenges.

- **Integrate communication skills into on-the-job training and supportive supervision.** To ensure providers have the appropriate interpersonal communication skills to effectively use these materials and support mothers in addressing identified breastfeeding problems.

- **Support skills in breastfeeding observation.** During routine consultations, health providers should have the skills to observe the interaction between mother and baby, be able to respond to any doubts or questions the mother has about breastfeeding and care of the infant, and aid in supporting the baby's latch and positioning. A standard breastfeeding history form as part of the patient records for the visit may help institutionalize the practice of observing and assessing breastfeeding technique.

- **Complement existing IYCF materials with job aids.** Supporting materials, such as Mozambique's adapted UNICEF C-IYCF Counseling Package cards and the job aids developed and tested through this study, should be used to complement each other. The job aids were developed to align with the IYCF counseling cards as they use similar language, key messages, and images. However, whereas the IYCF counseling cards are mainly used for breastfeeding promotion, the job aids provide additional step-by-step guidance on how to support breastfeeding by assessing technique and identifying and resolving breastfeeding problems. Collectively, these tools can help strengthen the quality of breastfeeding counseling in both community and clinical settings.[12,29] Prior to further rollout at a subnational and national scale, the job aids should be validated for rollout in conjunction with the MOH IYCF counseling package and providers trained on how to use these complementary materials, reinforced by supportive supervision.

- **Provide practical support to mothers through health providers, who can identify and manage breastfeeding problems, as well as prevent future problems.** Although facility- and community-based health providers could identify problems, as our results demonstrate, they can also help mothers prevent problems by addressing the benefits of adopting good practices, analyzing the cause of any breastfeeding difficulty di or problem, and suggesting ways to help resolve the difficulties.

- **Address literacy and language barriers faced by the providers in the design of breastfeeding counseling trainings** and associated materials, particularly at the community level.

- **Update the job aid to address certain questions.** Address confusion and concerns about feeding recommendations around orphans, vulnerable children, children exposed to HIV, and women who believe their breastmilk is insufficient. Clarify the justified use of the infant formula, including for whom and when.

[d] Diverse training models have been tested globally focused on knowledge, attitudes and skills of health care providers.[14,28] A recent systematic review showed that diverse kinds of training courses (theoretical and practical training, workshops, online training, supervision, or a combination of multiple strategies) had at least one positive result on knowledge, skills, and/or professional/hospital practices.[14] Thus, Mozambique may benefit from national training guidelines for breastfeeding counseling.

- **Integrate with and strengthen the Baby-Friendly Hospital Initiative at the facility level.** While BFHI has been shown to be effective at improving breastfeeding initiation and duration of EBF,[16,17] BFHI implementation has waned in several countries, including Mozambique. Although the government of Mozambique has prioritized breastfeeding as part of the IYCF strategy, no health facilities or hospitals are certified as baby friendly in Mozambique, even though BFHI was first implemented in 1998–1999 and was revitalized in 2007, with trainings of staff in central and provincial hospitals between 2010 and 2011. Although these hospitals have ongoing implementation of BFHI, support is needed to achieve certification. On the other hand, the MOH has adopted the Model Maternity Initiative to promote early skin-to-skin contact between mothers and infants. It also supports early breastfeeding initiation, with a focus on maternal health. Several health facilities in the country are now certified as Model Maternities through efforts of the Department of Maternal and Child Health Department catalyzed by the Maternal and Child Health Integrated Program (the predecessor project to MCSP), and MCSP, and with support from the First Lady's Cabinet. In this context, Mozambique has a key opportunity to promote early breastfeeding initiation and counseling on EBF in maternity wards by strengthening implementation of BFHI and integration with aspects of the Model Maternity Initiative, including kangaroo care and respectful maternity care. This would require updating local BFHI guidelines, training, IEC, and supportive supervision materials according to the new WHO BFHI guidelines.[9,12]

- **Task shift to community-level health workers for comprehensive breastfeeding support.** Health providers relayed that excessive caseloads, lack of time to counsel mothers, and lack of infrastructure to perform one-on-one counseling (lack of privacy) are ongoing issues at the health facility level. Task-shifting to community-level health workers for comprehensive breastfeeding support may be considered through "model" breastfeeding mothers, guided by community-based providers, who can provide peer-to-peer support to other breastfeeding mothers, such as how they to exclusively breastfeed and manage issues that arise. Several existing initiatives in Mozambique use community-based breastfeeding support groups led by community providers or mother-to-mother groups, overseen by health units, whose ultimate objective is to provide individual and group counseling and support and can be a vehicle for disseminating good practices in the community. The lead health units could provide the necessary technical support and materials, as well as support in establishing a functional referral and counter referral system, through strengthened communication between health services and the community level.[e]

Short- and long-term investments to improve breastfeeding counseling services during routine contact points and the implementation and sustainability of large-scale improvements in breastfeeding counseling in Mozambique would benefit from using the Breastfeeding Gear Model (BFGM) as a framework. BFGM looks at scaling up EBF protection, promotion, and support programs (including counseling) through eight gears: advocacy, political will, legislation, funding and resources, training and program delivery, promotion, research and evaluation, and coordination and monitoring. Collectively, these components must be harmonized to achieve large-scale improvements in scaling up breastfeeding-friendly environments, in tandem with building country capacity in skilled lactation care, which is essential to improve breastfeeding practices globally.[18]

[e] As a result, the revitalization of the UNICEF Community Infant Feeding Counseling training packages (IYCF created for Malawi and Zambia, adopted for Mozambique in 2012), together with instruments designed to support prevention and early identification of breastfeeding problems in promotion as a way of extending the continuity of US support to the community by strengthening the gaps in breastfeeding counseling and timely management of problems arising from breastfeeding both at the community level and at the health unit.

Limitations

This study had a few limitations. Breastfeeding counseling sessions observed in Phase 1 may have occurred because providers were aware of the researcher's expectations to observe counseling sessions. Despite this limitation, this study showed that even under observation, health professionals were unable to demonstrate an adequate level of understanding of breastfeeding counseling and associated skills. Additionally, during Phase 1 counseling observations, because mothers were approached about participating in the observation sessions prior to the beginning of their appointment, the research team was not able to identify which mothers would have breastfeeding problems.

In Phase 3, MCSP nutritionists at the facility level selected health facility providers to participate in IDIs, which may have introduced selection bias, as identified providers may have used the job aids frequently, and/or liked the job aids. Similar to Phase 1 counseling observations, although the intention was to interview only mothers who had experienced breastfeeding problems, mothers were approached about participating in IDIs prior to their appointments at the health facility, making it difficult to identify mothers with breastfeeding challenges. This resulted in a relatively small sample of mothers who had experienced breastfeeding problems and could speak to their experiences managing problems. Finally, during Phase 3, health providers working in maternity wards in the selected study sites were not available to participate in the interviews, which limited the research team's ability to assess the usefulness of the job aids designed for use at childbirth at the health facility level.

Conclusion

In the future, the findings from this seminal implementation science study on breastfeeding counseling should be used to integrate high-quality breastfeeding counseling content into maternal, newborn, and child health curricula and supportive supervision materials for community and facility levels that will address IYCF in sub-Saharan Africa. The *2018 WHO Guidelines on Counseling of Women to Improve Breastfeeding Practices* recommends counseling occur during at least six breastfeeding contacts, which includes ANC, the first 2 to 3 days of life, the neonatal period (first week), and early infancy (first 3 to 4 months), which can be leveraged in Mozambique to address challenges to EBF at key time points and with appropriate frequency.[9] Furthermore, the development of clear lactation management protocols that help providers understand the causes and key ways to address insufficient breastmilk, physical breast problems (engorgement, sore nipples), positioning, and correct latching are strongly needed in Mozambique. Evidence indicates that breastfeeding problems tend to originate from poor lactation knowledge and management very soon after birth, so it is important to reach women with skilled lactation support in health facilities and at the community.[23] Our findings also call for addressing the excessive caseloads and limited time that health providers have through task-shifting to community health workers. Finally, as Mozambique had adopted the WHO Code for Marketing Breastmilk Substitutes,[30,31] the MOH and Ministry of Gender, Child and Social Action should join efforts to ensure the criteria for infant formula distribution to INAS are known by all relevant stakeholders and strictly followed.

References

1. Victora CG, Bahl R, Barros AJD, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet*. 2016;387(10017):475-490. doi:10.1016/S0140-6736(15)01024-7
2. Horta BL, Loret de Mola C, Victora CG. Long-term consequences of breastfeeding on cholesterol, obesity, systolic blood pressure and type 2 diabetes: a systematic review and meta-analysis. *Acta Paediatr*. 2015;104(467):30-37. doi:10.1111/apa.13133
3. Chowdhury R, Sinha B, Sankar MJ, et al. Breastfeeding and maternal health outcomes: a systematic review and meta-analysis. *Acta Paediatr*. 2015;104(467):96-113. doi:10.1111/apa.13102
4. Horta BL, Loret de Mola C, Victora CG. Breastfeeding and intelligence: a systematic review and meta-analysis. *Acta Paediatr*. 2015;104(467):14-19. doi:10.1111/apa.13139
5. Victora CG, Horta BL, Loret de Mola C, et al. Association between breastfeeding and intelligence, educational attainment, and income at 30 years of age: a prospective birth cohort study from Brazil. *Lancet Glob Health*. 2015;3(4):e199-e205. doi:10.1016/S2214-109X(15)70002-1
6. Development Initiatives, 2018. *2018 Global Nutrition Report: Shining a Light to Spur Action on Nutrition*. Bristol, UK: Development Initiatives; 09:58:49.202407+00:00. https://globalnutritionreport.org/reports/global-nutrition-report-2018/. Accessed March 7, 2019.
7. Kavle JA, LaCroix E, Dau H, Engmann C. Addressing barriers to exclusive breast-feeding in low- and middle-income countries: a systematic review and programmatic implications. *Public Health Nutr*. 2017;20(17):3120-3134. doi:10.1017/S1368980017002531
8. Arts M, Geelhoed D, De Schacht C, Prosser W, Alons C, Pedro A. Knowledge, Beliefs, and Practices Regarding Exclusive Breastfeeding of Infants Younger Than 6 Months in Mozambique: A Qualitative Study. *J Hum Lact*. 2011;27(1):25-32. doi:10.1177/0890334410390039
9. World Health Organization. *Guideline: Counselling of Women to Improve Breastfeeding Practices*. Geneva; 2018. Licence: CC BY-NC-SA 3.0 IGO.
10. Bueno LG dos S, Teruya KM. The practice of breastfeeding counseling. *J Pediatr (Rio J)*. 2004;80(5):s126-s130.
11. WHO, UNICEF. Breastfeeding Counselling a Training Course. 1993.
12. WHO, UNICEF. Baby-friendly hospital initiative: revised, updated and expanded for integrated care. 2009.
13. Lumbiganon P, Martis R, Laopaiboon M, Festin MR, Ho JJ, Hakimi M. Antenatal breastfeeding education for increasing breastfeeding duration. *Cochrane Database Syst Rev*. 2011;(11):CD006425-CD006425. doi:10.1002/14651858.CD006425.pub2
14. de Jesus PC, de Oliveira MI, Fonseca SC. Impact of health professional training in breastfeeding on their knowledge, skills, and hospital practices: a systematic review. *J Pediatr Rio J*. 2016;92(5):436-450. doi:10.1016/j.jped.2015.09.008
15. Rollins NC, Bhandari N, Hajeebhoy N, et al. Why invest, and what it will take to improve breastfeeding practices? *The Lancet*. 2016;387(10017):491-504. doi:10.1016/S0140-6736(15)01044-2
16. Kavle JA, Welch PR, Bwanali F, et al. The revitalization and scale-up of the Baby-Friendly Hospital Initiative in Malawi. *Matern Child Nutr*. 2019;15(S1):e12724. doi:10.1111/mcn.12724
17. Pérez-Escamilla R, Martinez JL, Segura-Pérez S. Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review. *Matern Child Nutr*. 2016;12(3):402-417. doi:10.1111/mcn.12294
18. Pérez-Escamilla R, Curry L, Minhas D, Taylor L, Bradley E. Scaling up of breastfeeding promotion programs in low-and middle-income countries: the "breastfeeding gear" model. *Adv Nutr*. 2012;3(6):790-800.

19. Picolo M, Rácz S, Kavle J, Gottwalt A. *Cultural Beliefs and Practices That Influence Infant and Young Child Feeding in Mozambique: Results of Trials of Improved Practices Assessment*. Washington, DC: Maternal and Child Survival Program; 2017.

20. Nguyen PH, Menon P, Keithly SC, et al. Program impact pathway analysis of a social franchise model shows potential to improve infant and young child feeding practices in Vietnam. *J Nutr*. 2014;144(10):1627-1636. doi:10.3945/jn.114.194464

21. Ministerio da Saude, MISAU DN de SP. *Estratégia de Comunicação Para a Mudança Social e de Comportamento Para a Prevenção Da Desnutrição Em Moçambique 2015-2019*.; 2015.

22. Bradley EH, Curry LA, Devers KJ. Qualitative data analysis for health services research: developing taxonomy, themes, and theory. *Health Serv Res*. 2007;42(4):1758-1772.

23. Pérez-Escamilla R, Buccini GS, Segura-Perez S, Piwoz E. Should Exclusive Breastfeeding Still be Recommended for Six Months? *Adv Nutr*. 2019 doi: 10.1093/advances/nmz039. [Epub ahead of print].

24. Monteiro FR, Buccini GDS, Venancio SI, da Costa THM. Influence of maternity leave on exclusive breastfeeding. *J Pediatr Rio J*. 2017;93(5):475-481. doi:10.1016/j.jped.2016.11.016

25. Damião J de J. Influence of mothers' schooling and work on the practice of exclusive breastfeeding. *Rev Bras Epidemiol*. 2008;11(3):442-452.

26. Global Breastfeeding Collective. Advocacy Guidance and Tools: Enacting Paid Family Leave and Workplace Breastfeeding Policies. https://www.k4health.org/sites/default/files/collective_gudiance_brief_3_parental_leave_final.pdf. Published 2019. Accessed March 21, 2019.

27. Chai Y, Nandi A, Heymann J. Does extending the duration of legislated paid maternity leave improve breastfeeding practices? Evidence from 38 low-income and middle-income countries. *BMJ Glob Health*. 2018;3(5):e001032-e001032. doi:10.1136/bmjgh-2018-001032

28. Gavine A, MacGillivray S, Renfrew MJ, Siebelt L, Haggi H, McFadden A. Education and training of healthcare staff in the knowledge, attitudes and skills needed to work effectively with breastfeeding women: a systematic review. *Int Breastfeed J*. 2017;12:6-6. doi:10.1186/s13006-016-0097-2

29. WHO. Indicators for assessing infant and young child feeding practices: part 1: definitions: conclusions of a consensus meeting held 6-8 November 2007 in Washington DC, USA. 2008.

30. Robinson H, Buccini G, Curry L, Perez-Escamilla R. The World Health Organization Code and exclusive breastfeeding in China, India, and Vietnam. *Matern Child Nutr*. 2019;15(1):e12685. doi:doi:10.1111/mcn.12685

31. Piwoz EG, Huffman SL. The Impact of Marketing of Breast-Milk Substitutes on WHO-Recommended Breastfeeding Practices. *Food Nutr Bull*. 2015;36(4):373-386. doi:10.1177/0379572115602174

Appendix A

Facility-Based Health provider Job Aid

REPÚBLICA DE MOÇAMBIQUE
Ministério da Saúde

MATERIAL DE APOIO PARA PROFISSIONAIS DE SAÚDE QUE APOIAM O ALEITAMENTO MATERNO (PARTE 1)

1 Pergunte: Como está a correr a amamentação?

BEM / MAL

2 Peça: Posso ver como é que o bebé mama?

3 Verifique: BOM POSICIONAMENTO

- O corpo do bebé está direito e virado para o peito da mãe.
- O corpo do bebé está encostado à barriga da mãe (barriga com barriga).
- Todo corpo do bebé está apoiado na mão e braço da mãe.
- A mãe está confortável e não refere dor.

SIM / NÃO

Elogie à mãe e passe para o ponto 4

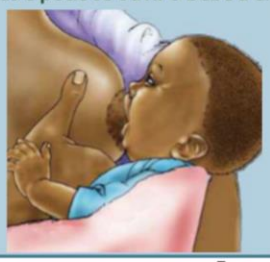
Muito bem! É assim mesmo que se põe o bebé a mamar.

Verifique a boa pega e passe para o ponto 4

Ajude a mãe a posicionar bem o bebé.

4 Verifique: BOA PEGA

- A boca do bebé está bem aberta.
- O lábio de baixo do bebé está virado para fora.
- O queixo do bebé toca a mama da mãe.
- A mãe tem 4 dedos abaixo da mama e o dedo grande em cima (mão em "C").
- O bebé não faz barulho a chupar, as bochechas ficam cheias e pode se ouvir o bebé a engolir.



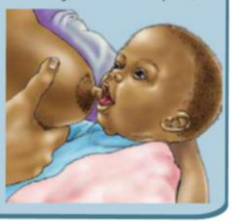
SIM / NÃO

Elogie à mãe e passe para a próxima página.

Demonstre para a mãe os reflexos orais do bebé:

1) Toque nas bochechas (o bebé vira a cabeça em direcção ao toque).

2) Ajude a mãe a estimular o bebé a abrir bem a boca. A mãe pode exprimir algumas gotas de leite para o bebé sentir o cheiro do leite materno e tocar o lábio do bebé com o mamilo.



NOTA: Caso o bebé não consiga pegar o peito, refira para a Unidade Sanitária mais próxima.

USAID DO POVO AMERICANO

Maternal and Child Survival Program
Programa de Saúde e Sobrevivência Materna e Infantil

REPÚBLICA DE MOÇAMBIQUE
Ministério da Saúde

MATERIAL DE APOIO PARA PROFISSIONAIS DE SAÚDE QUE APOIAM O ALEITAMENTO MATERNO (PARTE 2)

1 Pergunte: O bebé parece ficar satisfeito (larga e mama sozinho, não chora) depois de mamar ?

SIM

Elogie à mãe: Que bom!

Lembre a mãe os sinais de que a amamentação vai bem, ex.: O bebé troca a fralda 6 ou mais vezes por dia, ganha peso a cada mês, atinge os sinais de desenvolvimento para a idade.

Reforce a importância de voltar à unidade sanitária para as consultas de seguimento.

2 Pergunte: Há vezes em que o seu peito enche de leite, até doer ?

SIM

Explique:

- Não deixe passar muito tempo entre as mamadas.
- Tire o excesso leite manualmente (ordenha de alívio).
- Ponha panos limpos e quentes nas mamas, ou tome um banho com água morna, antes de tirar o leite.

NÃO

Explique: Que bom! Se isto acontecer, procure por mim para eu lhe ajudar.

NÃO

Explique que isto pode estar a acontecer porque:

- O bebé não está numa boa posição. **Verifique o posicionamento (PARTE 1)**
- O bebé não está a pegar bem a mama. **Verifique a boa pega (PARTE 1)**
- O bebé não fica o tempo suficiente na mama. **Aconselhe a dar uma mama de cada vez, até ficar leve e macia. Se o bebé quiser, ofereça a outra mama até ele largar sozinho.**

Aconselhe à mãe:

- Amamente muitas vezes durante o dia e a noite (a cada 2-3 horas ou sempre que o bebé quiser) para aumentar a produção de leite.
- Coma regularmente. Aumente a quantidade de comida nas suas refeições e inclua 1-2 lanches entre as refeições.
- Beba muita água limpa e fervida ou tratada com certeza (pelo menos 8 copos por dia).
- Peça apoio da família para fazer as tarefas diárias, cuidar do bebé, e lidar com outras preocupações do dia-a-dia.
- Descanse o suficiente. Aproveite os intervalos em que o bebé descansa e sempre que possível tire uma soneca.

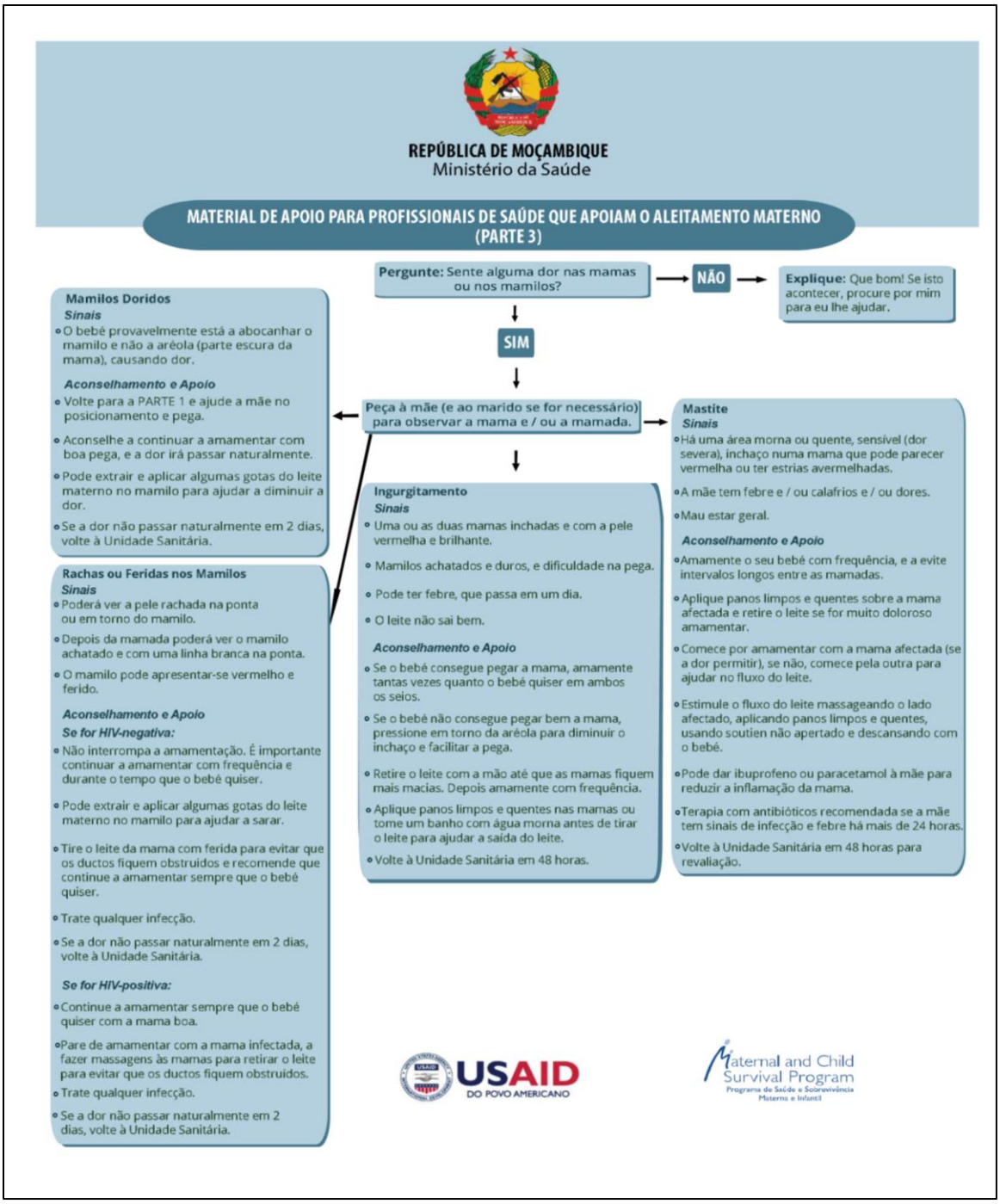
Sinais de fome:

- Aumenta os movimentos dos olhos fechados ou abertos.
- Abre a boca, estica a língua e vira a cabeça para procurar a mama.
- O bebé fica agitado, mexe os olhos ou faz sons (acordado ou a dormir).
- Chupa ou morde as mãos, dedos, manta ou lençol, ou outro objecto que entra em contacto com a boca.

O choro é o último sinal !

Lembre sempre à mãe que:

- **O leite materno nos primeiros 6 meses é tudo o que o bebé precisa para matar a fome e a sede.**
- **Beber só o leite materno durante os primeiros 6 meses faz crescer e protege.**


REPÚBLICA DE MOÇAMBIQUE
Ministério da Saúde
MATERIAL DE APOIO PARA PROFISSIONAIS DE SAÚDE QUE APOIAM O ALEITAMENTO MATERNO (PARTE 3)
Pergunte: Sente alguma dor nas mamas ou nos mamilos?
NÃO
Explique: Que bom! Se isto acontecer, procure por mim para eu lhe ajudar.
SIM
Peça à mãe (e ao marido se for necessário) para observar a mama e / ou a mamada.
Mamilos Doridos
Sinais
O bebé provavelmente está a abocanhar o mamilo e não a aréola (parte escura da mama), causando dor.
Aconselhamento e Apoio
Volte para a PARTE 1 e ajude a mãe no posicionamento e pega.
Aconselhe a continuar a amamentar com boa pega, e a dor irá passar naturalmente.
Pode extrair e aplicar algumas gotas do leite materno no mamilo para ajudar a diminuir a dor.
Se a dor não passar naturalmente em 2 dias, volte à Unidade Sanitária.
Rachas ou Feridas nos Mamilos
Sinais
Poderá ver a pele rachada na ponta ou em torno do mamilo.
Depois da mamada poderá ver o mamilo achatado e com uma linha branca na ponta.
O mamilo pode apresentar-se vermelho e ferido.
Aconselhamento e Apoio
Se for HIV-negativa:
Não interrompa a amamentação. É importante continuar a amamentar com frequência e durante o tempo que o bebé quiser.
Pode extrair e aplicar algumas gotas do leite materno no mamilo para ajudar a sarar.
Tire o leite da mama com ferida para evitar que os ductos fiquem obstruídos e recomende que continue a amamentar sempre que o bebé quiser.
Trate qualquer infecção.
Se a dor não passar naturalmente em 2 dias, volte à Unidade Sanitária.
Se for HIV-positiva:
Continue a amamentar sempre que o bebé quiser com a mama boa.
Pare de amamentar com a mama infectada, a fazer massagens às mamas para retirar o leite para evitar que os ductos fiquem obstruídos.
Trate qualquer infecção.
Se a dor não passar naturalmente em 2 dias, volte à Unidade Sanitária.
Ingurgitamento
Sinais
Uma ou as duas mamas inchadas e com a pele vermelha e brilhante.
Mamilos achatados e duros, e dificuldade na pega.
Pode ter febre, que passa em um dia.
O leite não sai bem.
Aconselhamento e Apoio
Se o bebé consegue pegar a mama, amamente tantas vezes quanto o bebé quiser em ambos os seios.
Se o bebé não consegue pegar bem a mama, pressione em torno da aréola para diminuir o inchaço e facilitar a pega.
Retire o leite com a mão até que as mamas fiquem mais macias. Depois amamente com frequência.
Aplique panos limpos e quentes nas mamas ou tome um banho com água morna antes de tirar o leite para ajudar a saída do leite.
Volte à Unidade Sanitária em 48 horas.
Mastite
Sinais
Há uma área morna ou quente, sensível (dor severa), inchaço numa mama que pode parecer vermelha ou ter estrias avermelhadas.
A mãe tem febre e / ou calafrios e / ou dores.
Mau estar geral.
Aconselhamento e Apoio
Amamente o seu bebé com frequência, e a evite intervalos longos entre as mamadas.
Aplique panos limpos e quentes sobre a mama afectada e retire o leite se for muito doloroso amamentar.
Comece por amamentar com a mama afectada (se a dor permitir), se não, comece pela outra para ajudar no fluxo do leite.
Estimule o fluxo do leite massageando o lado afectado, aplicando panos limpos e quentes, usando soutien não apertado e descansando com o bebé.
Pode dar ibuprofeno ou paracetamol à mãe para reduzir a inflamação da mama.
Terapia com antibióticos recomendada se a mãe tem sinais de infecção e febre há mais de 24 horas.
Volte à Unidade Sanitária em 48 horas para revaliação.
USAID
DO POVO AMERICANO
Maternal and Child Survival Program
Programa de Saúde e Sobrevivência Materno e Infantil

Community-Based Health provider Job Aid

REPÚBLICA DE MOÇAMBIQUE
Ministério da Saúde

MATERIAL DE APOIO PARA TRABALHADORES COMUNITÁRIOS DE SAÚDE QUE APOIAM O ALEITAMENTO MATERNO (PARTE 1)

1 Pergunte: Como está a correr a amamentação?

BEM / MAL

2 Peça: Posso ver como é que o bebé mama?

3 Verifique: BOM POSICIONAMENTO

- O corpo do bebé está direito e virado para o peito da mãe.
- O corpo do bebé está encostado à barriga da mãe (barriga com barriga).
- Todo corpo do bebé está apoiado na mão e braço da mãe.
- A mãe está confortável e não refere dor.

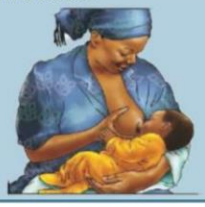
SIM / NÃO

Elogie à mãe e passe para o ponto 4

Muito bem! É assim mesmo que se põe o bebé a mamar.

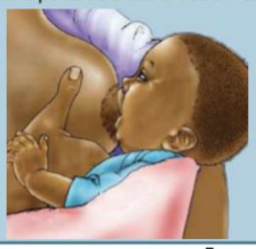
Verifique a boa pega e passe para o ponto 4

Ajude a mãe a posicionar bem o bebé.



4 Verifique: BOA PEGA

- A boca do bebé está bem aberta.
- O lábio de baixo do bebé está virado para fora.
- O queixo do bebé toca a mama da mãe.
- A mãe tem 4 dedos abaixo da mama e o dedo grande em cima (mão em "C").
- O bebé não faz barulho a chupar, as bochechas ficam cheias e pode se ouvir o bebé a engolir.



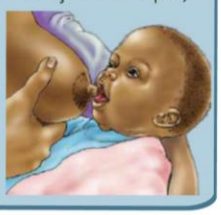
SIM / NÃO

Elogie à mãe e passe para a próxima página.

Demonstre para a mãe os reflexos orais do bebé:

1) Toque nas bochechas (o bebé vira a cabeça em direcção ao toque).

2) Ajude a mãe a estimular o bebé a abrir bem a boca. A mãe pode exprimir algumas gotas de leite para o bebé sentir o cheiro do leite materno e tocar o lábio do bebé com o mamilo.



NOTA: Caso o bebé não consiga pegar o peito, refira para a Unidade Sanitária mais próxima.

USAID DO POVO AMERICANO

Maternal and Child Survival Program
Programa de Saúde e Sobrevivência Materna e Infantil

REPÚBLICA DE MOÇAMBIQUE
Ministério da Saúde

MATERIAL DE APOIO PARA TRABALHADORES COMUNITÁRIOS DE SAÚDE QUE APOIAM O ALEITAMENTO MATERNO (PARTE 2)

1 Pergunte: O bebé parece ficar satisfeito (larga e mama sozinho, não chora) depois de mamar?

SIM

Elogie à mãe: Que bom!

Lembre a mãe os sinais de que a amamentação vai bem, ex.: O bebé troca a fralda 6 ou mais vezes por dia, ganha peso a cada mês, atinge os sinais de desenvolvimento para a idade.

Reforce a importância de voltar à unidade sanitária para as consultas de seguimento.

2 Pergunte: Há vezes em que o seu peito enche de leite, até doer ?

SIM

Explique:

- Não deixe passar muito tempo entre as mamadas.
- Tire o excesso leite manualmente (ordenha de alívio).
- Ponha panos limpos e quentes nas mamas, ou tome um banho com água morna, antes de tirar o leite.

NÃO

Explique: Que bom! Se isto acontecer, procure por mim para eu lhe ajudar.

Sinais de fome:

- Aumenta os movimentos dos olhos fechados ou abertos.
- Abre a boca, estica a língua e vira a cabeça para procurar a mama.
- O bebé fica agitado, mexe os olhos ou faz sons (acordado ou a dormir).
- Chupa ou morde as mãos, dedos, manta ou lençol, ou outro objecto que entra em contacto com a boca.

O choro é o último sinal !

NÃO

Explique que isto pode estar a acontecer porque:

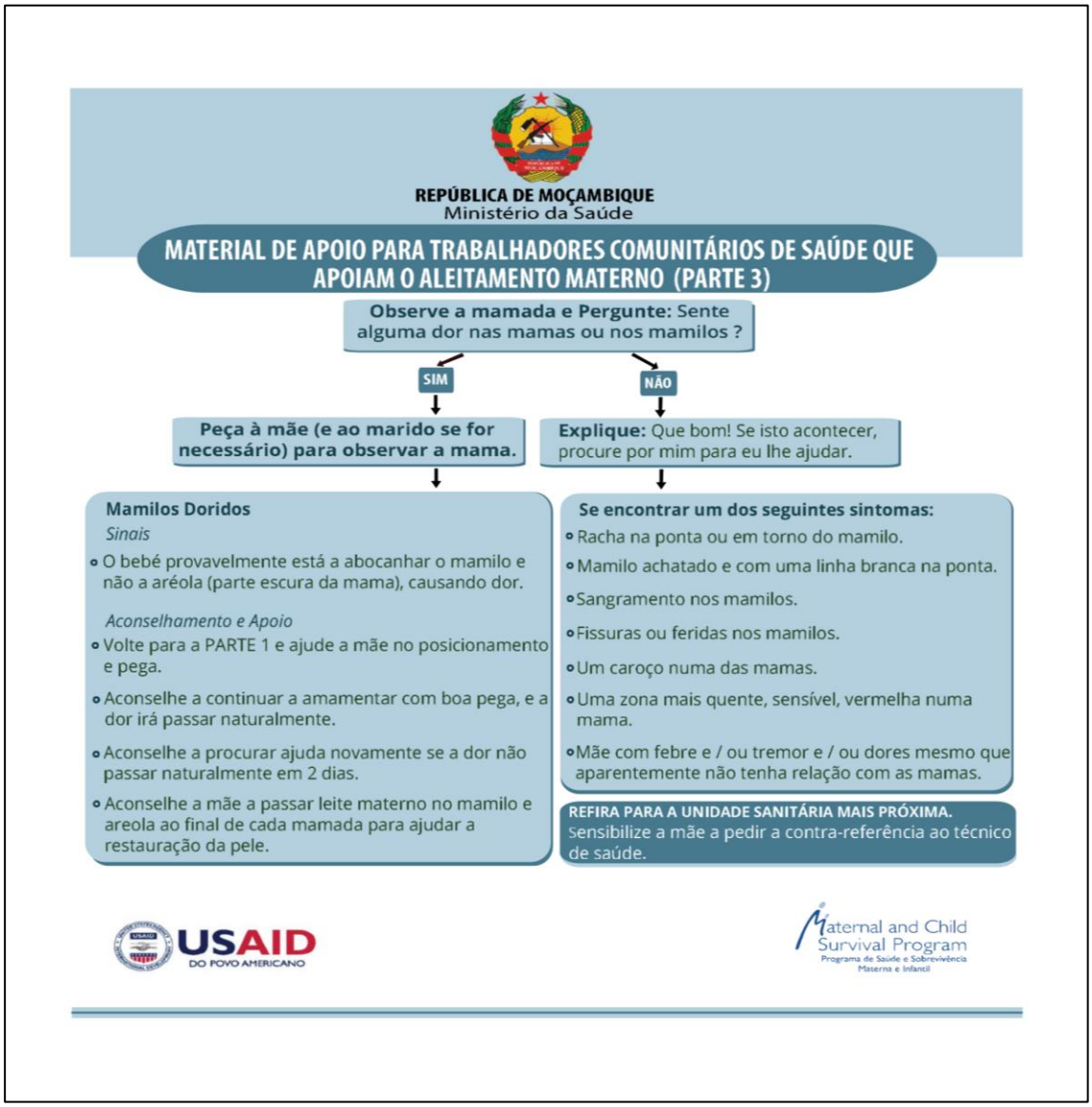
- O bebé não está numa boa posição. **Verifique o posicionamento (PARTE 1)**
- O bebé não está a pegar bem a mama. **Verifique a boa pega (PARTE 1)**
- O bebé não fica o tempo suficiente na mama. **Aconselhe a dar uma mama de cada vez, até ficar leve e macia. Se o bebé quiser, ofereça a outra mama até ele largar sozinho.**

Aconselhe à mãe:

- Amamente muitas vezes durante o dia e a noite (a cada 2-3 horas ou sempre que o bebé quiser) para aumentar a produção de leite.
- Coma regularmente. Aumente a quantidade de comida nas suas refeições e inclua 1-2 lanches entre as refeições.
- Beba muita água limpa e fervida ou tratada com certeza (pelo menos 8 copos por dia).
- Peça apoio da família para fazer as tarefas diárias, cuidar do bebé, e lidar com outras preocupações do dia-a-dia.
- Descanse o suficiente. Aproveite os intervalos em que o bebé descansa e sempre que possível tire uma soneca.

Lembre sempre à mãe que:

- **O leite materno nos primeiros 6 meses é tudo o que o bebé precisa para matar a fome e a sede.**
- **Beber só o leite materno durante os primeiros 6 meses faz crescer e protege.**


REPÚBLICA DE MOÇAMBIQUE
Ministério da Saúde
MATERIAL DE APOIO PARA TRABALHADORES COMUNITÁRIOS DE SAÚDE QUE APOIAM O ALEITAMENTO MATERNO (PARTE 3)
Observe a mamada e Pergunte: Sente alguma dor nas mamas ou nos mamilos ?
SIM
NÃO
Peça à mãe (e ao marido se for necessário) para observar a mama.
Explique: Que bom! Se isto acontecer, procure por mim para eu lhe ajudar.
Mamilos Doridos
Sinais
O bebé provavelmente está a abocanhar o mamilo e não a aréola (parte escura da mama), causando dor.
Aconselhamento e Apoio
Volte para a PARTE 1 e ajude a mãe no posicionamento e pega.
Aconselhe a continuar a amamentar com boa pega, e a dor irá passar naturalmente.
Aconselhe a procurar ajuda novamente se a dor não passar naturalmente em 2 dias.
Aconselhe a mãe a passar leite materno no mamilo e areola ao final de cada mamada para ajudar a restauração da pele.
Se encontrar um dos seguintes sintomas:
Racha na ponta ou em torno do mamilo.
Mamilo achatado e com uma linha branca na ponta.
Sangramento nos mamilos.
Fissuras ou feridas nos mamilos.
Um caroço numa das mamas.
Uma zona mais quente, sensível, vermelha numa mama.
Mãe com febre e / ou tremor e / ou dores mesmo que aparentemente não tenha relação com as mamas.
REFIRA PARA A UNIDADE SANITÁRIA MAIS PRÓXIMA.
Sensibilize a mãe a pedir a contra-referência ao técnico de saúde.
USAID
DO POVO AMERICANO
Maternal and Child Survival Program
Programa de Saúde e Sobrevivência Materna e Infantil

Maternity Health provider Job Aid

REPÚBLICA DE MOÇAMBIQUE
Ministério da Saúde

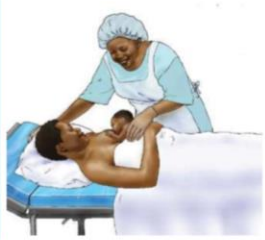
MATERIAL DE APOIO PARA PESSOAL DE SAÚDE QUE APOIA O ALEITAMENTO MATERNO NA MATERNIDADE E PARTEIRA TRADICIONAL

1. Apoie a mãe a colocar o seu bebé pele-a-pele logo após o parto e por pelo menos uma hora.

- O contacto pele-a-pele ajuda a acalmar a mãe e o bebé e ajuda a estabilizar o batimento cardíaco e a respiração do bebé.
- O contacto pele-a-pele promove o início da amamentação na primeira hora.

Explique a mãe:

- O bebé deve ficar junto a si para ele ficar quentinho e encontrar a mama facilmente.
- Iniciar cedo a amamentação ajuda o bebé a aprender a mamar bem.
- Iniciar cedo a amamentação ajuda a reduzir o seu sangramento após o parto.



2. Incentive a mãe a dar o colostro ao seu bebé.

- O colostro é muito rico em nutrientes e tem água para o bebé.
- O colostro transfere imunidade da mãe para o bebé, protegendo-o de doenças.
- O colostro ajuda a passar o mecónio, as primeiras fezes escuras e pegajosas.

Explique a mãe:

- Nestes primeiros dias vai sair um leite grosso, que pode ser um pouco amarelo ou de cor clara, que se chama colostro.
- O colostro tem muitas vitaminas e é bom para o seu bebé.
- O colostro é como a primeira vacina do bebé, que lhe protege de todas as doenças que a mãe já teve.
- O colostro ajuda a tirar as primeiras fezes escuras e pegajosas, por isso o bebé não precisa de tomar medicamentos tradicionais.
- O colostro sai em pequena quantidade nos primeiros dias. Isto é suficiente para o seu bebé, e já tem água para matar a sua sede.

3. Não dê alimentos pré-lacteos e desencoraje a mãe de dá-los ao bebé. Se o bebé ainda não iniciou a alimentação: é importante não dar outros alimentos ou líquidos além do leite materno pois podem dificultar a amamentação e causar doenças.

Se o bebé iniciou alimentação pré-lactea mas a mãe está em condições de amamentar, explique a mãe:

- O seu bebé não precisa de outros alimentos ou líquidos, só leite materno.
- Dar água ou outros líquidos pode trazer doenças para o bebé.
- Coloque o bebé ao peito sempre que ele quiser, pelo menos a cada 2 ou 3 horas, de dia e de noite.

Sempre que necessário dê ajuda prática à mãe para iniciar a amamentação.

USAID
DO POVO AMERICANO

Maternal and Child Survival Program
Programa de Saúde e Sobrevivência Materna e Infantil

4. Dê ajuda prática nas primeiras mamadas.

- Muitas vezes uma ajuda prática é melhor do que explicar muitas coisas, e mostra que o profissional está pronto para apoiar a mãe.
- Ajude a mãe principalmente se este é o seu primeiro bebé, se tem gémeos, ou se ela tem um problema prático evidente: está desconfortável, suja, cansada ou se já recebeu muitas informações.
- Ajude a mãe a reconhecer o temperamento do seu bebé e a aprender a melhor maneira de responder às necessidades dele.

Sinais de fome

- Aumenta os movimentos dos olhos fechados ou abertos.
- Abre a boca, estica a língua e vira a cabeça para procurar a mama.
- Faz sons suaves de gemido.
- Chupa ou morde as mãos, dedos, manta ou lençol, ou outro objeto que entra em contato com a boca.

Mantenha a mãe e o bebé juntos, dia e noite.

5. Ajude a garantir um bom posicionamento para a mamada ser confortável para a mãe e para o bebé.

Observe a mamada e verifique os seguintes aspectos:

- O corpo do bebé deve estar direito (cabeça, costas e rabinho alinhados).
- A cabeça pode estar ligeiramente esticada para trás.
- O corpo do bebé deve estar virado para o peito da mãe.
- O corpo do bebé deve estar encostado à barriga da mãe (barriga com barriga).
- Todo o corpo do bebé debe estar apoiado na mão e braço da mãe.
- A mãe deve estar confortavelmente sentada e com os pés apoiados.

Sempre que necessário dê ajuda prática.

6. Ajude a garantir uma boa pega para evitar dores nos mamilos e para o bebé mamar bem.

Observe a mamada e verifique os seguintes aspectos:

- A boca do bebé deve estar bem aberta (pode estimular a abrir bem a boca exprimindo algumas gotas de leite materno para o bebé sentir o cheiro e tocando o lábio do bebé com o mamilo).
- O lábio de baixo do bebé deve estar virado para fora.
- O queixo do bebé deve tocar a mama da mãe.
- A mãe deve segurar a mama em formato de "C", ter 4 dedos abaixo da mama e o dedo grande em cima a massagear a mama.
- Não se deve ouvir o barulho do bebé a chupar, mas pode se ouvir o bebé a engolir.
- As bochechas do bebé geralmente ficam cheias quando chupa.

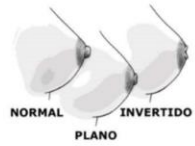
7. Observe as mamas da mãe e apoie se ela tiver mamilos planos ou invertidos.

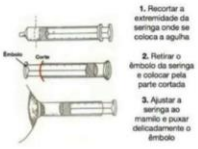
Explique a mãe:

- Pôr o bebé a mamar ao peito vai ajudar a puxar os mamilos para fora.

Dê ajuda prática:

- Ajude a mãe a posicionar o seu bebé nas primeiras mamadas. É importante dar essa orientação cedo
- Ajude a mãe a fazer o mamilo ficar mais saliente rodando-o entre os dedos antes de uma mamada para tornar a pega do bebé mais fácil.
- Pode usar uma seringa para ajudar a puxar o mamilo para fora, se necessário.





8. Aconselhe a mãe sobre como manter a saúde das mamas.

Explique a mãe:

- Quando o leite começar a descer, é possível que as suas mamas fiquem inchadas porque o bebé tem um estômago pequenino e não come muito a cada mamada.
- Quando as mamas incham por estarem cheias de leite pode sentir desconforto e, se não aliviar, isto pode gerar outros problemas mais sérios.
- É importante amamentar de ambas as mamas tantas vezes quanto o bebé quiser, de dia e de noite, e evitar intervalos longos entre as mamadas.
- Se as mamas incharem, ponha panos limpos e quentes nas mamas, ou tome um banho com água morna para ajudar o leite a sair. Depois, tire o leite manualmente (demonstre). Isto irá lhe aliviar.
- Se tiver dor nos mamilos ou nas mamas, se tiver feridas nos mamilos, se a pele das mamas mudar de cor, se sentir um caroço numa das mamas, se tiver febre ou qualquer outro problema com as mamas ou com a amamentação, vá à Unidade Sanitária logo que possível.

9. Aconselhe a mãe sobre como manter uma boa produção de leite.

Explique a mãe:

- Todas as mães são capazes de produzir leite suficiente para os seus bebés.
- Amamente muitas vezes durante o dia e a noite (a cada 2-3 horas ou sempre que o bebé quiser).
- Quando der de mamar, dê uma mama de cada vez até ficar leve e macia. Se o bebé quiser, ofereça a outra mama até ele largar sozinho.
- Aumente a quantidade de comida nas suas refeições e inclua 1-2 lanches entre as refeições.
- Beba muita água limpa e fervida ou tratada com certeza (pelo menos 8 copos por dia).
- Peça apoio da família para fazer as tarefas diárias e descanse o suficiente.

10. Apoie a mãe a amamentar em situações especiais.

Bebé com dificuldade para pegar a mama.

- Observe a mamada e identifique causa.
- Aconselhe e apoie a mãe no posicionamento e pega.
- Acalme o bebé e tente novamente, mas não force o bebé a mamar.
- Observe a mamada e identifique a causa.
- Incentive o contato pele-a-pele entre a mãe e o bebé em um ambiente calmo.
- Apoie na extracção do leite e ofereça com colher ou copo, se necessário.
- Tente novamente em meia hora.

Acordar um bebé sonolento que mama pouco.

- Retire as mantas e roupas pesadas para permitir a movimentação dos braços e pernas.
- Massageie com carinho o corpo do bebé e converse com ele.
- Evite cutucar ou aleijar o bebé com batidas na bochecha ou nos pés.
- Apoie a amamentar com o bebé numa posição mais vertical.
- Tente novamente em meia hora.

Acalmar um bebé que esteja a chorar.

- Os bebés podem chorar por fome, dor, fralda suja, solidão, cansaço e outras razões. Por isso, é importante oferecer apoio e desenvolver a confiança da mãe na sua capacidade de cuidar do seu bebé.
- Procure a causa do choro. Deixe o bebé confortável – fralda seca e limpa, mantas secas e não quentes demais.
- Coloque o bebé na mama. O bebé pode estar com fome ou sede e, às vezes, quer apenas chupar porque isso faz-lhe sentir-se seguro.
- Acaricie ou massageie gentilmente os braços, pernas e costas do bebé.
- Coloque o bebé no peito da mãe em contato pele-a-pele. O calor, o cheiro e o batimento cardíaco da mãe ajudarão a acalmar o bebé.
- Converse, cante e balance o bebé próximo a si.

Técnicas para oferecer o leite materno ordenhado

Copo: para bebés com dificuldade para sugar mas capazes de engolir.

Colher: para bebés que não conseguem controlar o fluxo e têm risco de aspiração.

Seringa ou conta-gotas: para quantidades muito pequenas de leite, por exemplo, o colostro.

Sonda nasogástrica ou orogástrica: para bebés que não consegum sugar e engolir.

Retirada directa para a boca do bebé: apropriado para encorajar o bebé a sugar e para bebés com fenda palatina.