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Maternal and Child Survival Program

MCSP Nutrition Brief

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

July 2019

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MCSP Implementation Research Brief Series

Optimal breastfeeding practices reduce neonatal and child morbidity (i.e., respiratory infection and diarrhea) and mortality, and have demonstrated protective effects against obesity and diabetes.[1–5] In the last two decades, progress in exclusive breastfeeding (EBF) has been limited, as only 41% of infants are exclusively breastfed in low- and middle-income countries.[6] Lactating women may experience challenges to maintaining EBF for the first 6 months of an infant's life, as shown in a recent review that identified key barriers to EBF, including maternal perceptions of insufficient breast milk, early introduction of foods and liquids prior to 6 months of age, and lack of counseling on physical breast problems.[7] Yet these barriers are often not adequately addressed through infant and young child feeding (IYCF) programs and initiatives, and are not reflected in country investments and access to skilled lactation support.[7,8]

Study Questions

- What are challenges to EBF from the perspective of health providers and mothers?
- What is the quality of health provider counseling to address EBF challenges?
- How useful are provider job aids to improve counseling within routine health contact points?

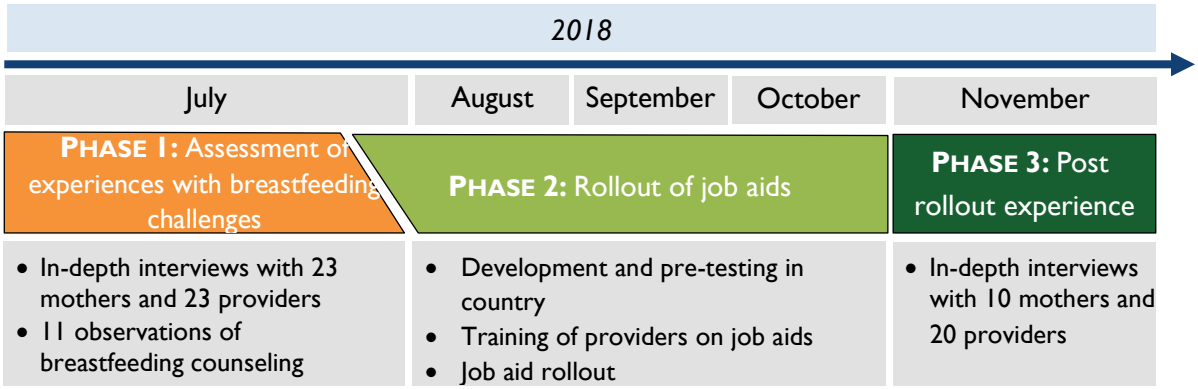
Background

While the Government of Mozambique prioritized EBF in its 2019 National IYCF Strategy, only 43% of Mozambican children under 6 months of age are exclusively breastfed. In the absence of skilled lactation support, challenges mothers experience with breastfeeding may inhibit initiation, exclusivity, and duration of EBF in the first 6 months of life. Further, there is insufficient evidence on how to strengthen health providers' competencies to address breastfeeding challenges in low- and middle-income countries. The US Agency for International Development (USAID)'s flagship Maternal and Child Survival Program (MCSP) conducted an implementation science study in Nampula, Mozambique, to 1) assess EBF challenges from the perspectives of health providers and mothers, 2) ascertain the quality of health provider counseling to address EBF challenges, and 3) gain an understanding of the usefulness of job aids to improve counseling within routine health contact points. This brief provides a summary of key study findings and recommendations to strengthen the provision of skilled lactation support and counseling in Mozambique.

Methods

This study was conducted in Meconta and Mogovolas districts, Nampula Province, in MCSP-supported areas from July–November 2018. 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. The study was conducted over three phases (Figure 1). In phase 1, the study team aimed to assess mothers' experiences with EBF challenges and counseling provided by facility- and community-based health providers to address these challenges. Forty-six in-depth interviews with mothers and providers, and 11 observations of breastfeeding counseling sessions were conducted in phase 1. In phase 2, provider job aids for use at childbirth, facility level (i.e., postnatal/child health visits), and community level were developed and piloted in Nampula. Health providers were trained on their use, and job aids were rolled out for a 3-month period. In phase 3, following rollout of the job aids, 30 in-depth interviews with mothers and providers were carried out to gain an understanding of the usefulness of the job aids in improving providers' identification of and counseling for barriers to EBF. Suggestions to improve the job aids from health providers and mothers were collected and incorporated into the job aids.

Figure 1. Description of study phases 1, 2, and 3



All study participants provided verbal informed consent for voluntary participation in the study. This study received approval from the National Committee of Bioethics for Health in Mozambique, PATH, and Yale University's Human Subjects institutional review boards.

Phase 1: Observation of Breastfeeding Counseling Sessions

As part of phase 1, direct observations of mother-provider individual breastfeeding counseling sessions were conducted to ascertain the type and quality of breastfeeding counseling skills of facility-based providers. Qualitative analysis of counseling observation data was conducted according to the breastfeeding counseling best practices and skills outlined in the World Health Organization (WHO)/UNICEF framework.[9]

Phase 2: Job Aid Development

MCSP worked with the Nutrition Technical Working Group in Nampula Province to develop three job aids (1) at childbirth, for use either at the health facility or community levels; (2) at postnatal and child health visits at health facility level; and (3) at community contact points during the first 6 months of the postnatal period. The job aids were developed in a flowchart format to guide health providers to (1) support mothers to use and practice various breastfeeding techniques for optimal latch and positioning, and prevent potential breastfeeding problems; (2) assess if the mother uses appropriate breastfeeding techniques; (3) identify and resolve common breastfeeding problems; and (4) advise on when to refer breastfeeding problems to facility level (community-based providers only). Illustrations were aligned with the Ministry of Health (MOH)'s IYCF counseling materials.

Findings and Conclusions

Phase 1: Pre-Job Aid Rollout Findings

Three major themes emerged from phase 1, prior to rollout of the job aids: (1) common challenges that impede EBF from perspectives of mothers and health providers, (2) type and quality of breastfeeding counseling and support at the community and facility levels, and (3) provider training, skills, and self-efficacy to address breastfeeding difficulties.

Common Challenges that Impede EBF from the Perspective of Mothers and Health Providers

Mothers and health providers unanimously knew global recommendations for EBF for the first 6 months of life, yet barriers to maintaining EBF emerged, including poor latch and positioning, perceptions of insufficient breast milk, and breast engorgement. Mothers and community-based health providers believe that during the first 2 days (i.e., the time when breast milk transitions from colostrum to transitional milk), some mothers do not produce any breast milk due to lack of understanding of delayed onset of lactation. Latching problems (e.g., baby not latching properly and sore nipples) and breast engorgement (e.g., swollen breasts) disrupted early initiation of breastfeeding within the first days of life, as described by community- and facility-based providers. Concerns surrounding insufficient milk continue until the infant reaches 3 and 4 months of age due to the perception that the infant is thirsty and hungry and must be satiated to sleep, which prompted early introduction of foods and liquids, such as porridge and water, before 6 months of age.

> "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

Improving maternal diet was reported as the main way providers recommended that mothers could address insufficient breast milk. Facility- and community-based health providers advised that mothers follow a healthy diet and consume fresh cassava, peanuts, beans, and fresh vegetables to help increase breast milk production. In addition, some health providers referred mothers with breast milk insufficiency to the National Institute of Social Action public program to receive infant formula. Infant formula was recommended, at times, to resolve reported breast milk insufficiency, regardless if infants were considered eligible for the program (i.e., children who are recovering from acute malnutrition or are unable to breastfeed, or due to mother's clinical condition or maternal death).

Type and Quality of Breastfeeding Counseling and Support at Community and Facility Levels

In-depth interviews and observations of breastfeeding counseling sessions revealed that breastfeeding counseling and support was weak at most routine health contacts. During antenatal care visits, women may attend group and/or one-on-one counseling, yet counseling was often limited to broad topics. Group education sessions on breastfeeding seldom included practical support for breastfeeding nor addressed common breastfeeding challenges and problems.

> "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"

> "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

During postnatal care and child health visits, mothers were exposed to group breastfeeding promotion talks, which aimed to motivate mothers to exclusively breastfeed. Health providers often prioritized growth monitoring and immunization during child consultations, and breastfeeding counseling was only provided if problems with infant weight gain were identified. Findings from breastfeeding counseling observations sessions revealed that if a mother did not ask about breastfeeding, it was not addressed during consultations, which were short in duration (1–10 minutes) and did not allow most health providers time to effectively counsel on EBF. Few providers assessed mothers' past or current experiences with breastfeeding, breastfeeding problems, and/or breastfeeding latch/positioning, even if a

mother was breastfeeding during the consultation. None of the facility-based providers gave practical support to manage breastfeeding problems. While community-based providers were noted as the main source of health advice for mothers when breastfeeding challenges arise, they mostly provide referrals for mothers to health facilities.

Provider Training, Skills, and Self-Efficacy to Address Breastfeeding Difficulties

The provision of practical support to address issues with breastfeeding positioning, latching, and other difficulties was not consistently reported. Health providers did not receive practical training in breastfeeding, signifying an important opportunity to strengthen breastfeeding counseling as part of the health care system. Facility-based health providers lacked pre-service training in breastfeeding skills, lactation topics, and counseling skills specific to breastfeeding.

> "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,

On the other hand, while community-based health providers had received some training in breastfeeding counseling, they lacked self-efficacy to manage breastfeeding problems, such as sore nipples or breast engorgement. Community-based health providers mostly identified problems and referred mothers to health facilities. Both facility- and community-based health providers expressed their desire to receive continuing education trainings to update their knowledge and skills in handling breastfeeding problems.

Phase 2: Provider Training and Rollout of Job Aids

In July 2018, 10 facility- and 17 community-based providers, and four maternal, child health, and nutrition focal points were trained on the job aids over 1 full day. In the morning, the classroom-style training was conducted for facility-based providers in Portuguese, and in the afternoon, the training was repeated in Macua, the local language for community-based providers. Facility-based providers included nutrition technicians, preventive medicine technicians, and maternal and child health nurses. Community-based providers included activists (community health workers who are generally trained and may receive incentives, usually paid through projects at the community level), traditional birth attendants, and a polyvalent agent (community health worker who is part of the national health system). Following the trainings, suggestions from participants and facilitators on how to improve the materials were incorporated, and materials were finalized and distributed in August 2018. MCSP district nutrition officers provided routine supportive supervision and mentoring on the use of the job aids during the rollout period.

Phase 3: Post-Job Aid Rollout Findings

Three themes emerged from the post-job aid interview on job aid use at facility- and community-level counseling: (1) job aid use and effect on counseling content and techniques for resolving breastfeeding problems, (2) effect of job aids on self-efficacy and motivation, and (3) improvements to job aids. The impact of the job aids on provider knowledge, skills, and motivation is illustrated in Figure 2. Following job aid rollout, providers reported improved assessment of breastfeeding technique and increased self-efficacy and motivation to identify and resolve EBF problems.

Job Aid Use and Effect on Counseling Content and Technique for Resolving Breastfeeding Problems

Facility- and community-based providers incorporated the job aids into counseling in individual and group settings. Many facility-based providers reported that the job aids reaffirmed their existing knowledge about breastfeeding problems and served as a reminder of key topics. This translated into providers counseling on more topics during sessions, including how to position the baby and obtain a good latch.

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.

Many facility- and community-based providers also described changes in their counseling technique. The majority of providers showed the job aids to mothers, which aided in their explanation of how to position and latch correctly, and improved 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. Both facility- and community-based providers relayed that the job aids helped to resolve breastfeeding problems, such as breast engorgement, which was the most commonly mentioned physical breast problem in phase 3. Both types of providers reported advising mothers experiencing breast engorgement to continue breastfeeding and to empty each breast to reduce swelling and prevent infection. The job aids helped to resolve perceptions of insufficient breast milk. Some providers reported that prior to the job aids, they primarily advised mothers to resolve insufficient breast milk by changing their diet. Afterward, they were able to demonstrate proper positioning and how to increase breast milk supply.

> "To demonstrate the latch … 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

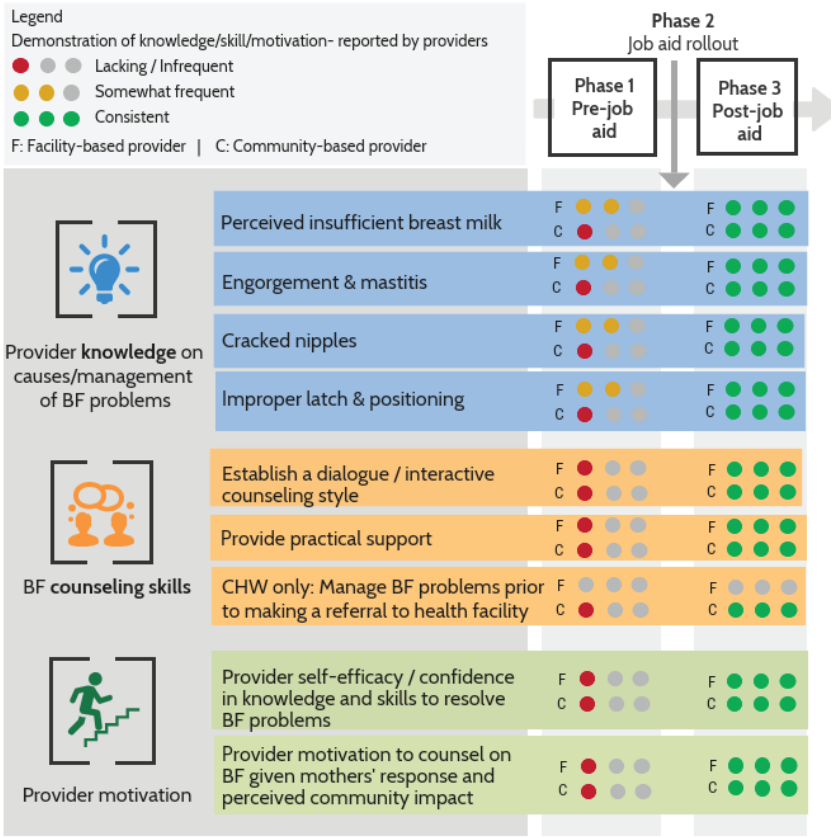
While the original intent of the job aids was to assist health providers in identifying and resolving breastfeeding problems, both facility- and community-based providers reported that the job aids also facilitated the prevention of various breastfeeding problems. Some facility-based providers described 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.

> "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."
> –Community-based provider, Meconta

Effect of Job Aids on 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 aid increased their credibility and gave them confidence that what they were saying was evidence based. They relayed 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 were more likely to follow their recommendations, which improved their self-efficacy and motivation, as they saw the effect the counseling had on their community. Providers were also motivated by seeing the improved child growth (i.e., weight gain) in their communities, which some attributed to their

Figure 2. Provider breastfeeding (BF) knowledge, counseling skills, and motivation pre-/post-job aid



improved counseling skills and knowledge. For some community-based providers, the increased knowledge and self-efficacy gained from the job aid enabled them to solve more breastfeeding problems with fewer referrals.

Study Limitations

This study had a few limitations. Breastfeeding counseling sessions observed in phase 1 may have occurred because providers were aware of the researchers' expectations to observe counseling sessions. Additionally, during phase 1 counseling observations and phase 3 interviews, given that mothers were approached about participating in the observation sessions before the beginning of their appointment, the research team was not able to identify which mothers would have breastfeeding problems. In phase 3, MCSP nutritionists selected health facility providers to participate in in-depth interviews, which may have introduced selection bias, as identified providers may have used the job aids frequently and/or liked the job aids. Finally, during phase 3, health providers working in maternity wards 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.

Program Implications

Facility- and community-based providers received limited practical training on management of breastfeeding problems, and they lacked specific skills and self-efficacy to help mothers resolve challenges prior to rollout of job aids. Providers' lack of knowledge on how to manage perceived insufficient breast milk led some providers to recommend infant formula. Building the capacity and skills of health providers at facility and community levels in lactation management, especially at childbirth and the first days following birth,[10] combined with strong monitoring of infant formula distribution, provided a unique opportunity to strengthen EBF counseling in this area of Mozambique. MCSP's findings suggest that job aids can be effective in supporting various cadres of health providers' capacity to provide skilled lactation support and counseling to breastfeeding women in Nampula, Mozambique. Key recommendations based on the results of this study are described below.

- **Update existing maternal and child health and nutrition guidelines and standards.** Feature breastfeeding challenges and problems in key guidelines (i.e., national antenatal care guidelines), standards, and supportive supervision tools for facility-based health providers to improve breastfeeding counseling during antenatal care, maternity/childbirth, postnatal, and child health services.

- **Update pre-service curricula.** Integrate breastfeeding counseling content in pre-service curricula for facility- and community-based health providers, and develop supportive supervision tools for community-based provision of nutrition services, including breastfeeding counseling [9,11]

- **Provide in-service training and supportive supervision for health providers, and integrate communication and motivational interviewing skills into on-the-job training.** Emphasize support for 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, latching, and insufficient milk). Incorporate listening and learning skills, build confidence and self-efficacy, train providers to give anticipatory guidance, and include provider behavior change to address cultural beliefs and attitudes on breastfeeding challenges into on-the-job training.

- **Update job aids to address study findings.** Address literacy and language barriers faced by the providers in the design of breastfeeding counseling trainings and associated materials, particularly at the community level. Address confusion and concerns for feeding recommendations for orphans, vulnerable children, children exposed to HIV, and women who believe their breast milk is insufficient. Clarify the use of infant formula—for whom and when.

- **Complement existing IYCF materials with job aids.** Validate and roll out job aids in complement to the MOH's adapted UNICEF Community-Based (C)-IYCF Counseling Package cards at a subnational and national scale. These tools can help strengthen the quality of breastfeeding counseling in both community and facility settings.[12,13]

- **Equip providers with skills in breastfeeding observation and practical support for mothers.** Equip health providers with skills to observe the interaction between mother and baby during routine consultations, address mothers' doubts about breastfeeding and care of the infant, and aid in supporting the baby's latch and positioning. Equip providers with skills to identify and manage common breastfeeding problems, and prevent future problems using a standard breastfeeding history form, which can aid in institutionalizing the practice of observation and assessment of breastfeeding technique.

- **Integrate the job aids with the Baby-Friendly Hospital Initiative (BFHI).** Promote early breastfeeding initiation and counseling on EBF in maternity wards through strengthening implementation of BFHI to include kangaroo mother care and respectful maternity care, given BFHI has waned in Mozambique (i.e., no health facilities or hospitals have been certified since 1998–1999, despite ongoing implementation of BFHI). Update local BFHI guidelines—Mozambique currently uses Brazil's BFHI guidelines[14]—as well as training, behavior change, and supportive supervision materials in line with recent WHO BFHI guidelines. Incorporate job aids for addressing breastfeeding problems into the BFHI package.[9]

- **Task shift to community-level health workers for comprehensive breastfeeding support.** This is a key strategy for improving EBF, outlined in the Social and Behavior Change Communication Strategy to Prevent Undernutrition in Mozambique and the IYCF strategy. This would help support providers who have excessive caseloads, lack time to counsel mothers, and/or lack privacy to counsel mothers individually at the health facility level.

- **Address early return to work by creating supportive workspaces, social networks, and communities.** Extending maternity leave to 18 weeks,[15] as recommended by the International Labour Organization, and establishing protection measures for women in the informal sector (i.e., enforcement of maternity leave, daycare centers) are important considerations for revisions of the Mozambique labor law.[16,17]

    - Create baby-friendly work spaces and build a supportive social network through community daycare centers in rural areas, such as Nampula, where many mothers work as farmers. Family members (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.

In the future, the findings from this seminal implementation science study on breastfeeding counseling could 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 to address IYCF challenges in sub-Saharan Africa. Furthermore, the development of lactation management protocols that aid providers in understanding the 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 early on after birth, so it is important to reach women with skilled lactation support in health facilities and the community.[10] These findings also call for addressing the excessive caseloads and time constraints of facility-based health providers through task-shifting to community health workers, who can support counseling through home visits and mothers' support groups. Several existing initiatives in Mozambique use community-based breastfeeding support groups led by community providers or mother-to-mother groups, overseen by health units, which can provide individual and group counseling and support, and aid in disseminating good practices in the community. Finally, Mozambique adopted the WHO Code of Marketing of Breastmilk Substitutes,[18,19] which protects and promotes breastfeeding through the provision of information on appropriate infant feeding and the regulation of the marketing of breast milk substitutes.

Acknowledgments

MCSP gratefully acknowledges USAID Washington and USAID Mozambique for their funding and support of the study. MCSP also thanks the Government of Mozambique, the MOH, and MCSP's research partner, Yale University School of Public Health. MCSP is grateful to the Mozambican mothers and health providers for their participation in this study.

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This brief is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the terms of the Cooperative Agreement AID-OAA-A-14-00028. The contents are the responsibility of the Maternal and Child Survival Program and do not necessarily reflect the views of USAID or the United States Government.