MCSP Nutrition Brief

Addressing Barriers to Exclusive Breastfeeding: Evidence and Program Considerations for Low- and Middle-Income Countries

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Background

Despite numerous global initiatives on breastfeeding, trend data show that exclusive breastfeeding (EBF) rates have stagnated over the last two decades (Victora et al. 2016; UNICEF and WHO 2009). In low- and middle-income countries (LMICs), only 37% of children less than 6 months of age are exclusively breastfed (Victora et al. 2016). Optimal breastfeeding practices have long been known to reduce neonatal and child mortality and morbidity, including respiratory infection, diarrhea, and otitis media, and growing evidence indicates that breastfeeding may be protective against obesity and diabetes (Victora et al. 2016; Black et al. 2008). Breastfeeding has maternal benefits, contributing to birth spacing, and longer durations are associated with reductions in ovarian and breast cancer (Victora et al. 2016). Although some countries have made gains in EBF, early initiation and exclusive breastfeeding rates in many countries are disappointing (IFPRI 2015; IFPRI 2016; UNICEF 2016). A recent United Nations Children's Fund (UNICEF) report notes that 43% of breastfed newborns are fed liquid or foods other than breastmilk during the first 3 days of life, which can delay early initiation of breastfeeding and lead to difficulties establishing breastfeeding (UNICEF 2016). In addition, most infants are introduced to other foods or liquids too early, prior to the recommended 6 months of age, often due to cultural practices and beliefs, such as breastmilk being insufficient nourishment for young children (UNICEF 2016; Kavle et al. 2015). Addressing challenges to EBF is essential to reaching the World Health Assembly target to "increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%" by 2025 (WHO 2016), specifically in USAID's ending preventable child and maternal deaths (EPCMD) priority countries (USAID 2016).

Early initiation of breastfeeding is defined as the proportion of children put to the breast within the first hour of birth and ensures the infant receives colostrum (WHO 2008).

Exclusive breastfeeding under 6 months of age is defined as the proportion of children, 0–5 months of age, fed only breastmilk, with the exception of oral rehydration solution, vitamins, minerals, and/or medicines (WHO 2008).

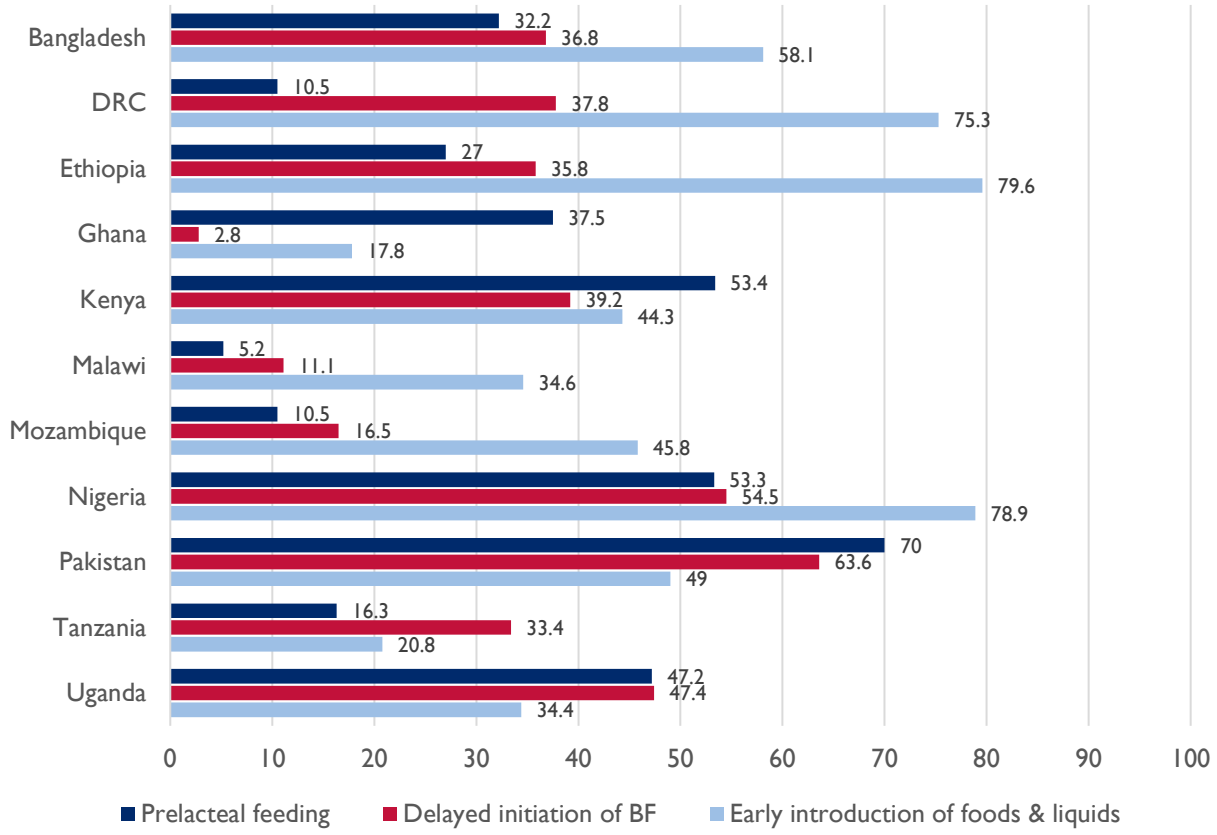
Scope of the Problem

What are key barriers to EBF in the first 6 months of life? How prevalent are these barriers?

Analysis of available Demographic & Health Survey (DHS) data reveals three key barriers that impede EBF: 1) prelacteal feeding; 2) delayed initiation of breastfeeding, beyond 1 hour after childbirth; and 3) early introduction of foods and liquids. Prevalence of prelacteal feeding varies widely across countries from 5.2–70%, and up to 64% of newborns are not put to the breast within 1 hour of childbirth (see Figure 1). Early introduction of foods and liquids prior to 6 months of age is a common practice in all countries (see Figure 1).

MCSP conducted a systematic review of barriers to EBF and identified 4,798 records, of which 48 articles were included in the final review, following application of review criteria. Sixteen barriers to EBF were identified and divided into three sections: prenatal barriers, birth through the first day, and through the first 6 months.

Figure 1. Prevalence of prelacteal feeding, delayed initiation of breastfeeding, and early introduction of foods and liquids in the first 6 months
Children 0–23 months of age, DHS 2005–2014*§



* Delayed initiation of breastfeeding (BF) refers to children who started BF >1 hour after childbirth

§ Prelacteal feeding refers to children given something other than breastmilk during the first 3 days of life

Key findings from systematic review on barriers to breastfeeding

What are key maternal barriers to EBF practices?

- **Lack of or late attendance at antenatal care:** Antenatal care (ANC) offers an opportunity to counsel women on EBF. Five studies found a positive association between ANC attendance and EBF practices. In Nigeria, a study found that women who attended any ANC visit were two times more likely to practice EBF than those who did not (36.4% versus 18.2%, respectively) (Ugboaja et al. 2013), and in Kenya, women attending four or more ANC visits had a 3.86 times greater likelihood of practicing EBF than women who attended fewer than four ANC visits (Matovu et al. 2008).

- **Poor knowledge of EBF:** Women may be more likely to practice EBF if they have knowledge of EBF, defined as awareness of the definition, recommended duration, and health benefits of EBF. Three studies found a positive significant association between maternal knowledge and EBF practice. In Ethiopia, mothers with low knowledge of breastfeeding "best practices" had 3.4 times higher odds of non-exclusive breastfeeding than mothers with high knowledge of breastfeeding "best practices" (Egata, Berhane, and Worku 2013), and in Tanzania, mothers with "good" breastfeeding knowledge had a 2.15 times higher odds of EBF compared with those with poor knowledge (Maonga et al. 2016).

- **Maternal health and attitudes**—defined as personal frustrations, confidence in one's ability to breastfeed, stress, and maternal illness—may impact EBF practices. Six studies examined the relationship between maternal health and attitudes regarding desire and ability to breastfeed and EBF practices. In the Democratic Republic of Congo (DRC), women who described being "not confident" with their ability to breastfeed were more likely to cease EBF than those who reported being "very confident" (Babakazo et al. 2015). Up to one-third of mothers in Pakistan, Nigeria, and Ghana reported ceasing breastfeeding for their own physical or mental health, indicating breastfeeding was a stressful, frustrating, and painful experience (Ugboaja et al. 2013; Adeyinka et al. 2008; Sohag and Memon 2011).

- **Lack of intention to practice EBF:** Two studies examined the relationship between having a plan to exclusively breastfeed and EBF practices. In Ethiopia, women with a prenatal plan to exclusively breastfeed had a 3.75 times higher likelihood of practicing EBF than those who did not (Seid, Yesuf, and Koye 2013). In the DRC, women who had no planned length of EBF were 2.9 times more likely to discontinue EBF than those who planned to practice EBF for at least 6 months (Babakazo et al. 2015).

What are key barriers to initiating and maintaining EBF within the first day of life?

- **Deliveries outside of the facility:** Nine studies found a significant and positive association between delivery in a health facility and EBF practices. In Ethiopia and Uganda, women had a two to three times higher likelihood of practicing EBF if they delivered in a health facility or health unit than those who delivered at home or elsewhere, respectively (Seid, Yesuf, and Koye 2013; Sseyonga, Muwonge, and Nankya 2004). In agreement with these study findings, a study in Nigeria showed that women who delivered outside of a health facility were 2.6 times more likely to not exclusively breastfeed (Ogunlesi 2010).

- **Delivery by cesarean section:** Five studies found that mothers were about two to 11 times more likely to exclusively breastfeed following vaginal birth in comparison to mothers who delivered through cesarean section (Chandrashekhar et al. 2007; Matovu et al. 2008; Sharma and Kanani 2006; Seid, Yesuf, and Koye 2013; Sseyonga, Muwonge, and Nankya 2004). A large study in Nigeria found that women who delivered by cesarean section were 29% less likely to EBF than those who delivered vaginally (Onah et al. 2014).

- **Delayed initiation of breastfeeding beyond 1 hour after birth:** Five studies found a positive association between early initiation of breastfeeding, and continued EBF at 6 weeks, 10 weeks, and 6 months after birth. A cohort study conducted in India revealed that women who initiated breastfeeding more than 1 hour after birth were at 1.8 times higher risk of ceasing EBF by 6 weeks (Raghavan et al. 2014).

- **Prelacteal feeding:** Seven studies examined prelacteal feeding and EBF practices. Observational data reveal that glucose water, infant formula, honey, cow or buffalo milk, and water were cited as common prelacteal feeds (Joshi et al. 2014; Egata, Berhane, and Worku 2013; Engebretsen et al. 2010; Onah et al. 2014; Susiloretni et al. 2013; Meshram et al. 2012). In Nigeria, when breastmilk was given as a first feed, women had a 3.4 times higher likelihood of EBF compared to infant formula as a first feed (Onah et al. 2014).

- **Discarding of the colostrum:** Two studies found a significant association between providing or discarding colostrum and the likelihood of EBF. In Ethiopia, discarding colostrum was associated with non-EBF during the first 6 months (adjusted odds ratio [AOR]=1.78; 95% CI, 1.09–4.94) (Tamiru et al. 2012). In Nepal, women who fed colostrum had a 27.2 times greater likelihood of practicing EBF for 6 months compared to those who gave other foods as a first feed ($p<0.001$) (Chandrashekhar et al. 2007). Reasons for discarding colostrum included the receipt of advice from elders, as well as the perception that it is not good for health, that the child could get sick, and that colostrum is difficult for the child to digest (Meshram et al. 2012).

What are major barriers to continuing to exclusively breastfeed throughout the first 6 months of life?

- **Lack of maternal employment protections** may limit the ability to breastfeed, especially for women without maternity leave, who work long hours outside the home, and/or perform physical labor, and have no workplace protections or support. Five studies found a positive association between non-employment and EBF. A study from Nigeria found that women who returned to work had a 52% lower likelihood of EBF than those who did not ($p<0.05$) (Olayemi et al. 2007). Studies in Ethiopia and Tanzania showed that women who were unemployed or were housewives had a two to ten times higher likelihood of EBF (Seid, Yesuf, and Koye 2013; Setegn et al. 2012; Safari, Kimambo, and Lwelamira 2013).

- **Perceptions of poor infant health** can be interpreted by mothers as cues in regards to her decision and/or ability to exclusively breastfeed. Cross-sectional studies reported infant behaviors as reasons for not exclusively breastfeeding, including infant gaining insufficient weight, colic, suckling difficulties, and perceptions that infants were not satiated by breastfeeding (Suresh et al. 2014).

- **Perceptions of insufficient breastmilk:** Five studies provided observational data on insufficient breastmilk. In Kenya, women who believed they could produce enough breastmilk were 3.9 times more likely to practice EBF than women who did not hold this belief (Matovu et al. 2008). Insufficient breastmilk or inadequate breastmilk secretion were cited as primary reasons for ceasing to exclusively breastfeed and introducing other foods and liquids, such as porridge and fruit, as a means to satiate infants and to calm cries of hunger or fussiness (Afiyanti and Juliastuti 2012; Østergaard and Bula 2010; Maman et al. 2012; Suresh et al. 2014; Mahmood et al. 2012).

- **Perceived inadequate maternal nutrition** and EBF practices were described in five studies within the context of household food insecurity and the ability to purchase food or the lack of staple foods (i.e., maize) for a period of time. Qualitative data described maternal perceptions of the linkage between "eating well" and "sufficient amounts of food" with breastmilk sufficiency (Engebretsen et al. 2010; Kimani-Murage et al. 2015).

- **Breastfeeding problems**, such as mastitis, breast engorgement, and cracked or inverted nipples, can cause severe pain, which can cause difficulties with breastfeeding. Two cohort studies found a significant negative association between breastfeeding problems and likelihood of EBF. In the DRC, mothers with breastfeeding problems during the first week postpartum were 1.5 times more likely to cease EBF during the first 6 months than mothers without breastfeeding problems (Babakazo et al. 2015). Similarly, in Nepal, breastfeeding problems were significantly associated with cessation of EBF (Karkee et al. 2014).

- **Counseling on breastfeeding** was reported to be significantly and positively associated with EBF in four studies. Two studies in Ethiopia reported that mothers who were counseled during ANC, delivery,

and/or postnatal care by health providers on infant feeding practices had a greater likelihood of exclusively breastfeeding (Seid, Yesuf, and Koye 2013; Sharma and Kanani 2006). In Nepal, a study examined the effect of types of breastfeeding advice on cessation of EBF and found that mothers who received the advice "*breastfeeding on demand*" and "*not to provide pacifier or teats*" were less likely to cease EBF practice before 6 months (Khanal et al. 2015).

- **Family and community support for EBF:** The social and cultural environments in which women reside may impact their ability to practice EBF. Seven qualitative studies indicate that grandmothers have an influential role in infant feeding practices, either providing advice on early introduction of foods or actively feeding the infant during the first 6 months, with or without maternal consent. In Nepal, having friends who exclusively breastfed had a positive impact on the EBF of Nepalese women (Chandrashekhar et al. 2007). Reasons for not practicing or discontinuing EBF included: it not being culturally acceptable, husband refusing to allow EBF, or receipt of advice from elders to discontinue. Social support was identified to aid in continuing EBF in Nigeria and Ghana (Ugboaja et al. 2013; Adeyinka et al. 2008).

Global Guidelines and Country Actions

How have global actions, strategies, and guidelines addressed barriers to exclusive breastfeeding?

There have been several key global actions and guidelines that address barriers to EBF.

- In 1981, the **International Code of Marketing of Breast-milk Substitutes** was developed and endorsed by the World Health Organization (WHO) to set forth restrictions on the marketing of breastmilk substitutes among mothers, health workers, and health care systems, as well as to better ensure that mothers worldwide are encouraged to breastfeed. Many countries have made numerous provisions of the code into law, including the DRC, Egypt, Guatemala, Malawi, and Nigeria (WHO, UNICEF, and IBFAN 2016).
- The **Innocenti Declaration on the Protection, Promotion and Support of Breastfeeding** was produced and adopted by WHO and UNICEF in 1990 for improving the health of infant and young children through optimal nutrition.
- In 1991, the **Baby-Friendly Hospital Initiative (BFHI)** was launched as a global effort for improving the role of maternity services in health facilities and in communities to enable mothers to breastfeed babies through the 10 specific steps of successful breastfeeding (see Table 1).

Table 1. Ten Steps to Successful Breastfeeding

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within a half-hour of birth.
5. Show mothers how to breastfeed and how to maintain lactation, even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breastmilk unless medically indicated.
7. Practice rooming-in—allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

- The International Labour Organization's "**Maternity Protection Convention 183**" addresses maternity leave and benefits for breastfeeding mothers in the workplace (ILO 2000). The convention guarantees 14 weeks of maternity leave paid at 66% of previous earnings and allows women the right to one or more daily breaks to breastfeed their children (IFPRI 2016).

- The **Global Strategy for Infant and Young Child Feeding** (IYCF) was developed by WHO and UNICEF to revitalize efforts to promote, protect, and support appropriate IYCF (WHO 2003). It builds upon previous initiatives, such as the Innocenti Declaration and the BFHI, and addresses the needs of all children, including those living in difficult circumstances, such as infants of mothers living with HIV, low-birth-weight infants, and infants in emergency situations.

Have countries taken action to recognize and address barriers to exclusive breastfeeding?

An analysis of 25 LMIC policies was conducted (see Table 2 for EPCMD[1] and Feed the Future[2] countries). While all countries addressed the importance of EBF in national nutrition policies, few programs are in place to specifically address barriers to EBF, such as prelacteal feeding, physical breastfeeding problems, and counseling on breastfeeding. Ten countries incorporated BFHI as part of the national policy, 10 countries include workplace support for breastfeeding, and 17 countries have policies for breastmilk substitutes.

Table 2. Low- and middle-income countries with policies, strategies, and guidelines that address barriers to exclusive breastfeeding

Countries	Early initiation of breastfeeding	EBF through the first 6 months of life	Breastmilk substitute policies	Workplace support	BFHI as a national strategy
Bangladesh*±	X	X	X	X	X
Burma	X	X	X		
Chad	X	X			
DRC*		X		X	X
Ethiopia*±	X	X	X	X	X
Ghana*±	X	X	X	X	X
Guinea	X	X			
Haiti*±	X	X			
India*	X	X	X	X	
Indonesia*	X	X			
Kenya*±	X	X	X	X	X
Laos PDF		X	X		
Liberia*±		X	X	X	
Malawi*±	X	X	X	X	X
Mali*±	X	X	X		
Mozambique	X	X	X		
Nepal*±	X	X	X	X	
Niger		X			
Nigeria*	X	X	X		X
Sierra Leone	X	X	X		
Tanzania*±	X	X	X		X
Uganda*±	X	X	X	X	X
Yemen*		X			
Zambia*±	X	X			X
Zimbabwe	X	X	X		

*EPCMD country

±Feed the Future country

[1] USAID Maternal and Child Health programs focus on 25 countries that represent more than 70% of maternal and child deaths. The 25 priority countries were chosen based on the magnitude and severity of maternal and child deaths, country commitment, USAID Mission capacity, and potential opportunity to integrate programs and leverage investments.

[2] Feed the Future, the U.S. Government's global hunger and food security initiative, supports approaches to address the root causes of hunger and poverty by transforming countries' agricultural sectors to grow enough food to sustainably feed their people.

Nine LMICs have specific policies or guidelines for IYCF that address barriers to EBF, yet more progress is needed. Some examples of key LMIC actions include:

- **India:** The National Guidelines on Infant and Young Child Feeding 2004 address several barriers to breastfeeding, including early initiation of breastfeeding, EBF through the first 6 months of life, regulation of marketing of breastmilk substitutes, workplace support for breastfeeding mothers, value of the colostrum, and appropriate counseling on breastfeeding.

- **Kenya:** Kenya is at the forefront of initial actions to address barriers to EBF. The 2013 National Strategy on Infant and Young Child Feeding addresses early initiation of breastfeeding, EBF through the first 6 months of life, regulation of marketing of breastmilk substitutes, workplace support for breastfeeding mothers, and counseling on breastfeeding at the health facility and community levels. Actions to address barriers to EBF include: ensure that policies and legislation supportive of IYCF are enacted and implemented; improve optimal breast and complementary feeding practices and knowledge; enforce the Code of Marketing Breast-milk Substitutes into law; develop norms on standards of IYCF counseling; establish support systems in workplaces and at the community level; and expand baby-friendly initiatives.

- **Malawi:** The Infant and Young Child Nutrition Policy and Guidelines 2003–2020 discusses multiple barriers—such as early initiation of breastfeeding, EBF through the first 6 months of life, regulation of marketing of breastmilk substitutes, workplace support for breastfeeding mothers, counseling on breastfeeding to exclusive breastfeeding, and attendance at ANC visits—and provides strict guidelines to adherence of the Malawi Employment Act 199, which enforces employers to allow working mothers paid maternity leave and cater to the needs of their babies at the workplace.

Programmatic Considerations

How can barriers to exclusive breastfeeding be addressed within the context of infant and young child feeding programming?

Early and exclusive breastfeeding, as part of optimal IYCF practices, are critical to prevent all forms of malnutrition during the first 2 years of life and are an important component of USAID's 2014–2025 Multi-sectoral Nutrition Strategy and reaching EPCMD goals. IYCF programs should address barriers that impede immediate and exclusive breastfeeding during the first 6 months of life, including perceptions of insufficient breastmilk, and discourage prelacteal feeding and early introduction of foods and liquids, which can displace and disrupt EBF.

Illustrative key interventions to address barriers to exclusive breastfeeding

- **National level**
  - Provide and enforce workplace support for breastfeeding, including on-site child care, breastfeeding rooms, and maternity leave for working mothers.
  - Provide employers with global guidance on key actions to support breastfeeding in the workplace, to enforce country policies on paid maternity leave, as well as to facilitate a supportive working environment for breastfeeding (UNICEF 2016; WABA 2008; ILO 2010).
  - Enact legislation on and regulate marketing of breastmilk substitutes, per the WHO International Code of Marketing of Breast-milk Substitutes and enforce monitoring.
  - Enact legislation on paid maternity/paternity leave and breastfeeding breaks and enforce employer compliance.
  - Ensure adequate funding for interventions to support breastfeeding.

- **Health facility level**
  - Provide baby-friendly support, counseling, education, and special training of health staff (such as nurses and physicians) on breastfeeding barriers (Sinha et al. 2015).
  - Protect, promote, and support breastfeeding through the implementation and strengthening of the 10 steps of successful breastfeeding and BFHI.
  - Since health providers (such as nurses, midwives, physicians, and nutritionists) in health care facilities play a critical role in counseling on early initiation of breastfeeding and EBF at delivery, they should be equipped with the necessary skills to address difficulties with breastfeeding (such as latching), and to manage breastfeeding problems (like engorgement and mastitis) during ANC, postnatal care and well-child visits through the first 6 months.
  - Strengthen health workers' knowledge on initiating, establishing, and maintaining EBF for the full duration of 6 months, including hand expression.
  - Equip health workers with counseling skills to address difficulties with initiation of and exclusive breastfeeding, including addressing misperceptions and cultural beliefs and clarification on use of formula.
  - Address practices surrounding cesarean and normal deliveries, which may create barriers to EBF, including no skin-to-skin contact, separation of mother and infant, and delayed initiation of breastfeeding (Ahluwalia, Li, and Morrow 2012; Zanardo et al. 2010; Chapman 2014).
  - Address postpartum fatigue, pain, and complications associated with cesarean delivery in relation to breastfeeding behaviors, which can contribute to early cessation of EBF (Fein, Mandal, and Roe 2008). Encourage specific and proactive breastfeeding plans and counseling for mothers and families who have undergone C-section.
  - Encourage and support rooming-in of mother and infant, discourage use of formula for satiating hunger, and support early initiation of breastfeeding for women who have undergone C-sections, as well as skin-to-skin for all women.
- **Family and community levels**
  - Improve and sustain breastfeeding support through strong engagement at the household and community levels.
  - Integrate facility-level services with community-level ones through strong implementation of the tenth step of the WHO/UNICEF 10 steps to successful breastfeeding through strategies like the Baby-Friendly Community Initiative, which can be a key aspect of sustaining gains in breastfeeding achieved in maternity wards through the postpartum period, such as in Kenya. This initiative can provide support for proper attachment, positioning, and optimal breastfeeding, and address any problems with breastfeeding, which may aid in improving confidence and self-efficacy (Kenya Ministry of Health, USAID MCSP, and UNICEF 2016).
  - Utilize community-led interventions, such as mother-to-mother support groups, participatory women's groups, and peer counseling, which have been shown to provide the quality, content, and frequency of counseling needed for positive impact on EBF (Sikander et al. 2015; Younes et al. 2015).
  - Mobilize community-based women's groups, whose members can identify and prioritize problems, generate ideas for problem-solving, relay messages on importance and benefits of EBF, and develop feasible strategies to negotiate key behaviors, as well as aid mothers with creating a plan for EBF (Younes et al. 2015).
  - Involve family members (such as fathers, grandmothers, and other relatives) who can influence when, what, and how babies are fed. Mothers are better able to breastfeed when they have the support of their families though positive encouragement and the sharing of household responsibilities (UNICEF 2016).

Conclusion

In order to achieve gains in EBF, and reach World Health Assembly targets of *increasing the rate of EBF in the first 6 months up to at least 50%* by 2025, cultural and health systems barriers that impede EBF should be addressed. Improving knowledge and counseling skills of health workers at the health facility and community levels to address breastfeeding problems, and increasing support for breastfeeding at the community level, are needed. In addition, key actions are needed to support legislation and regulations on marketing of breastmilk substitutes, as well as paid maternity leave and breastfeeding breaks for working mothers in LMICs.

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