

Insights for improving malaria, family planning, and maternal and child health outcomes in northwestern Nigeria through social and behavior change research

Breastfeeding

This brief provides rigorous evidence-based insights to implementers and researchers of social and behavior change (SBC) programs that seek to improve community knowledge, attitudes, norms and behaviors for improved health of pregnant and postpartum women. The brief focuses on key behaviors including early breastfeeding initiation within one hour of birth and exclusive breastfeeding for the first six months of life, while also uncovering the barriers and facilitators to the practice of these positive health behaviors. It is one of a series that presents findings from a Breakthrough RESEARCH study that uniquely captures data on a wide range of psychosocial drivers of behavioral outcomes in the areas of family planning, malaria, and maternal, newborn and child health, and nutrition. The results presented in this series will inform the improvement of women's health in Nigeria and help to achieve the objectives of the Nigerian Reproductive Health Policy,¹ as well as support global efforts to achieve the United Nations Sustainable Development Goals.²

Breakthrough RESEARCH and Breakthrough ACTION in Nigeria

Breakthrough RESEARCH and Breakthrough ACTION are USAID's flagship SBC programs. Breakthrough ACTION in Nigeria implements SBC programming in 11 states and the Federal Capital Territory (FCT) by targeting key psychosocial factors at multiple socioecological levels (e.g., individual, community, society) in order to improve health behaviors in the areas of malaria, family planning,

KEY POINTS

While nearly all women ever breastfed their youngest child, most women did not practice early and exclusive breastfeeding during the first six months. Low exclusive breastfeeding rates (<10%) were clustered in southwestern Kebbi.

SBC programs should consider focusing on the widespread practice of giving non-breastmilk liquids in the first three days after birth, which is not recommended, and to dispel the myths that the first breast milk (colostrum) immediately after birth is "bad milk" and shouldn't be given to the child.

Among the most important psychosocial influences for breastfeeding were a woman's awareness of breastfeeding's benefits, timing, and her confidence to exclusively breastfeed.

ANC4+ attendance had a direct positive influence on initiating breastfeeding within one hour of birth, but not exclusive breastfeeding, which suggests that ANC is a promising channel for SBC programs to promote breastfeeding.

Women commonly cited their own and spousal opposition as the main reasons for not exclusively breastfeeding. Further qualitative research with spouses and family members is needed to explore the nature of this opposition in order to provide deeper insights for how SBC programs may address it.

and maternal, newborn and child health plus nutrition (MNCH+N). Breakthrough RESEARCH in Nigeria conducts rigorous research to inform SBC program implementation in three of these program states (Kebbi, Sokoto, and Zamfara). Findings presented here are from a Breakthrough RESEARCH baseline study that will be used to inform SBC program adaption and scale-up in Nigeria.

Setting the context

Early and exclusive breastfeeding are critical behaviors for improving child survival and long-term health. It's well-established that immediately breastfeeding within one hour of birth lowers neonatal mortality risk, and exclusive breastfeeding for the first six months of life is critical for infants to achieve optimal growth, development, and health.³ However, in 2018, breastfeeding practices remained low with only 32 percent of children breastfed within one hour of birth in northwestern Nigeria and 29 percent exclusively breastfed for the first six months of life nationally, with likely lower rates in the northwestern region.⁴ Previous qualitative research from northwestern Nigeria suggests that barriers to appropriate breastfeeding include perceptions that colostrum is not pure and potentially harmful to the newborn.⁵ Water is often given to newborns, and solid foods are commonly introduced too early. Studies further indicate that early and exclusive breastfeeding practices are associated with wealth, maternal education, antenatal care attendance, facility delivery, and longer birth intervals.⁶⁻⁸

Factors including knowledge, norms, values, self-efficacy, and other influences may interact to spur healthy behaviors.⁹⁻¹¹ This research brief aims to describe different barriers to early and exclusive breastfeeding practices, quantify the importance of ideational factors on these key behaviors, and model the extent to which SBC programs may effectively change breastfeeding behaviors by targeting identified psychosocial influences.

Study methods

Results are based on the behavioral sentinel surveillance (BSS) baseline survey that was conducted between September and October 2019 in Breakthrough ACTION program areas in Kebbi, Sokoto, and Zamfara. Figure 1 summarizes the study methods.

FIGURE 1 BSS BASELINE SURVEY STUDY METHODS

 <p>Study population</p>	<p>Pregnant women and women with under-2s living within Breakthrough ACTION program areas in Kebbi, Sokoto and Zamfara states (not representative at state level)</p>
 <p>Study design</p>	<p>Cross-sectional and cohort components</p>
 <p>Sample size</p>	<p>3,032 pregnant women 3,043 women with a child under 2 years</p>
 <p>Sampling method</p>	<p>108 wards across 3 states Census of pregnant women Random selection of women with a child under 2 years</p>
 <p>Data analysis</p>	<p>Mixed-effects logistic regression models were used to derive predicted probabilities for ANC4+ (four or more visits) and facility-based delivery, controlling for pregnancy-related ideations and sociodemographic characteristics, including household wealth, age, education (woman and spouse), and employment (woman and spouse).</p>

Key results

Low and geographically clustered breastfeeding practices

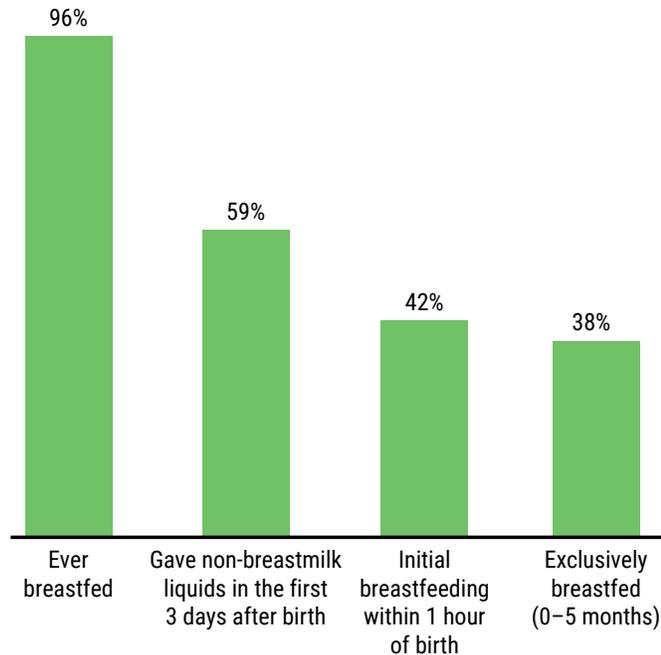
- While nearly all women reported ever breastfeeding their youngest child, only 42 percent initiated breastfeeding within one hour of birth, and only 38 percent of infants exclusively breastfed for the first six months of life. The widespread practice of giving non-breastmilk liquids to newborns in the first three days after birth contributes to low exclusive breastfeeding rates in this region and particularly southwestern Kebbi (Figure 2 and Map 1).

Programmatic implications

- ✓ Geographic tailoring of SBC messaging and activities locally is important. More research is needed to understand reasons for the geographic clustering of low exclusive breastfeeding rates in southwestern Kebbi.
- ✓ SBC programs should consider focusing on early breastfeeding practices as this will address the widespread practice of giving non-breastmilk liquids in the first three days after birth and to dispel myths that the first breast milk after birth is bad milk. A focus on provider behavior around breastfeeding promotion may also be needed.

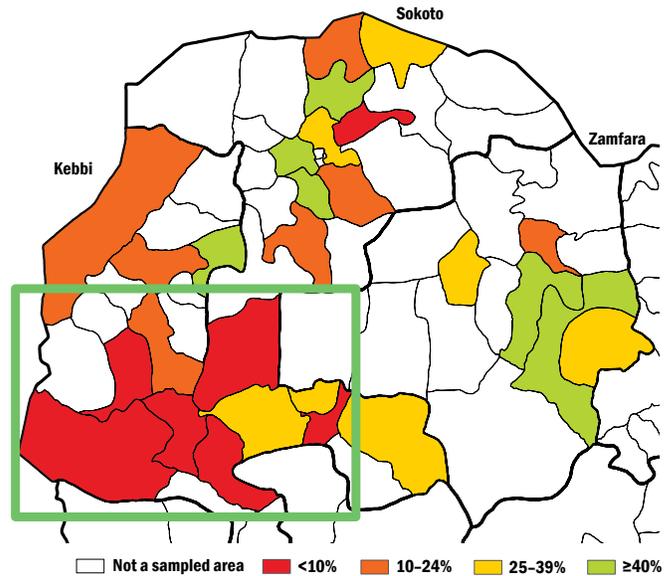
FIGURE 2 WHILE MOST CHILDREN WERE EVER BREASTFED, MOST DID NOT RECEIVE EARLY AND EXCLUSIVE BREASTFEEDING

Percentage of last-born children under two years who were ever breastfed, breastfed within 1 hour of birth, or given non-breastmilk liquids within the first 3 days after birth; Percentage of infants 0–5 months exclusively breastfed



MAP 1 LOW EXCLUSIVE BREASTFEEDING RATES ARE CLUSTERED IN SOUTHWESTERN KEBBI

Exclusive breastfeeding* among children 0–5 months by local government areas (LGA)



*Exclusive breastfeeding is defined in this study as infants aged 0–5 months who are currently breastfed who were not given any solid or semi-solid foods in past 24 hours and who were not given any non-breastmilk liquids in the first 3 days after birth.

Low awareness of benefits, common misperceptions, and personal opposition

- Nearly half (48%) of respondents were unsure or reported no benefits of breastfeeding to the mother. Almost two-thirds believed that women should breastfeed their child for 12–23 months, and only one in five (22%) knew that women should breastfeed for two or more years.
- While most women (85%) agreed that breastmilk contains essential nutrients for the first six months of life, about one in four (24%) still believed that breastmilk immediately after birth is bad milk.
- When respondents were asked who influences their decision to breastfeed, 60 percent reported their spouse and 34 percent said no one else. Moreover, among women who did not exclusively breastfeed their youngest child, 74 percent cited their own or spousal opposition as the main reason (Table 1). Yet, in regression analyses controlling for other factors, we found no statistical association between spousal influence and breastfeeding behaviors despite women commonly citing spousal opposition as a main barrier (Figure 3).

**TABLE 1 PERSONAL AND SPOUSAL OPPOSITION
MAIN STATED REASONS FOR NOT
EXCLUSIVELY BREASTFEEDING**

Among women who did not exclusively breastfeed her youngest child (n=1,903), percentage who cited certain reasons for not exclusively breastfeeding

	%
Respondent opposition	40
Spousal opposition	34
Not necessary	21
Inadequate milk	16
Fatalism (It's Up to God)	12
Religious or community leader opposition	4
Painful breastfeeding	1

Raising awareness about breastfeeding's benefits, timing, and efficacy are potentially important ways to promote breastfeeding (Figure 4)

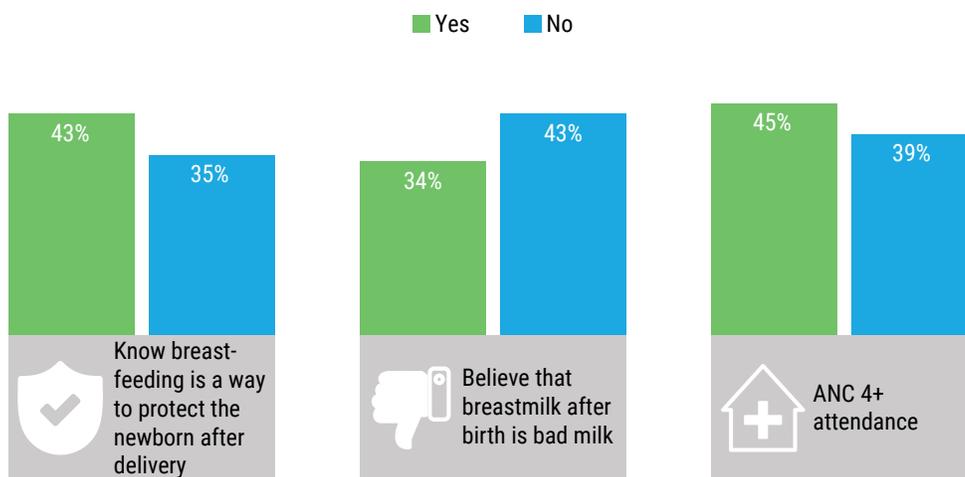
- Women who knew at least one breastfeeding benefit were 1.5 times as likely to exclusively breastfeed than those who did not.
- Women who knew that six months is the ideal age to introduce complementary foods with breastmilk were 1.4 times as likely to exclusively breastfeed.
- Women who knew that initiating breastfeeding within one hour of birth protects a newborn were 1.2 and 1.4 times as likely to initiate breastfeeding within one hour of birth and to exclusively breastfeed, respectively.

Programmatic implications

- ✓ **SBC programs should emphasize breastfeeding's benefits to both mothers and newborns and ensure mothers know how long to breastfeed and when to introduce complementary foods. Such awareness could help reduce personal and spousal opposition to exclusive breastfeeding that was reported as main barriers to exclusive breastfeeding.**

FIGURE 3 BREASTFEEDING-RELATED IDEATIONS ASSOCIATED WITH INITIATION OF BREASTFEEDING WITHIN 1 HOUR OF BIRTH

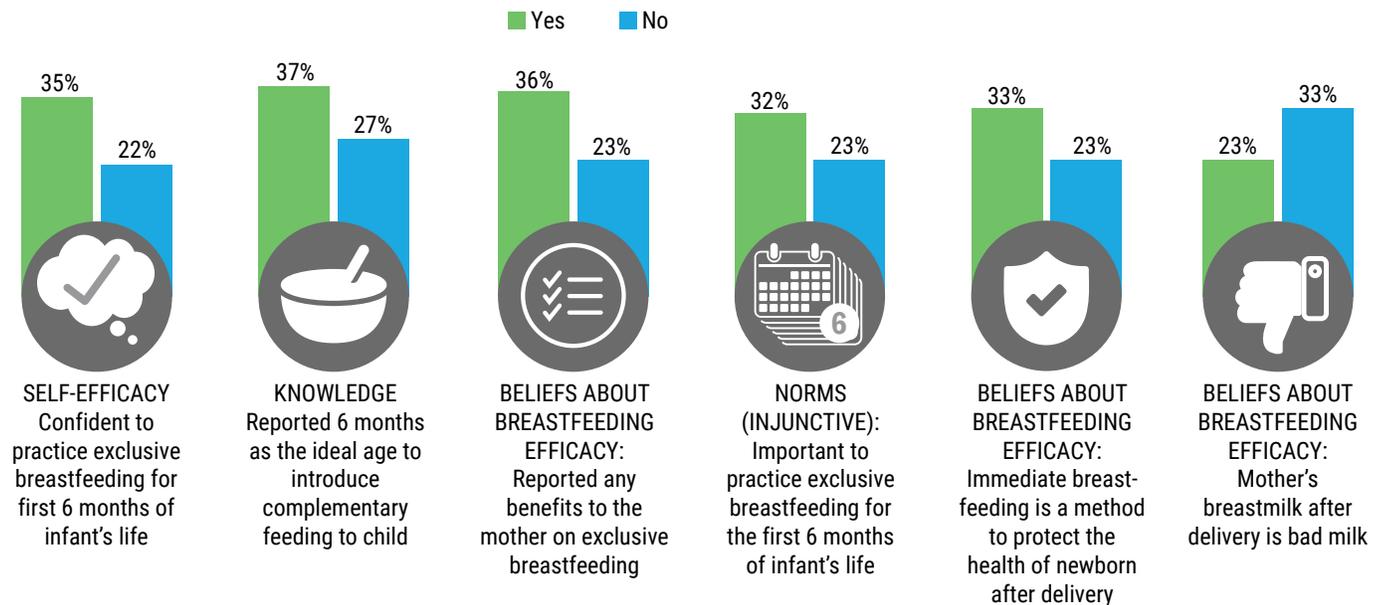
Predicted probabilities* of early breastfeeding initiation among last-born children under 2 years by ideational factor



*Predicted probabilities of early breastfeeding initiation were derived from mixed-effects logistic regression models adjusted for breastfeeding-related ideations (Annex 1) and socioeconomic characteristics including household wealth, woman's age, education (woman and spouse), and employment (woman and spouse). All ideations presented were significant at the <0.05 level.

FIGURE 4 BREASTFEEDING-RELATED IDEATIONS ASSOCIATED WITH EXCLUSIVE BREASTFEEDING FOR THE FIRST 6 MONTHS OF LIFE

Predicted probabilities* of exclusive breastfeeding** among infants aged 0–5 months by ideational factor



*Predicted probabilities of exclusive breastfeeding were derived from mixed-effects logistic regression models adjusted for breastfeeding-related ideations (Annex 1) and socioeconomic characteristics including household wealth, woman's age, education (woman and spouse), and employment (woman and spouse). All ideations presented were significant at the <0.05 level.

**Exclusive breastfeeding is defined in this study as infants aged 0–5 months who are currently breastfed who were not given any solid or semi-solid foods in past 24 hours and who were not given any non-breastmilk liquids in the first 3 days after birth

Reinforcing correct beliefs, antenatal care attendance, and mother's confidence also matters for breastfeeding promotion

- Women who believed that breastmilk immediately after birth (colostrum) is “bad milk” were 1.3 and 1.5 times less likely to initiate breastfeeding within one hour of birth and to exclusively breastfeed, respectively, than those who did not hold that belief.
- Women who felt confident that they could exclusively breastfeed their child for the first six months of life were 1.6 times as likely to do so than those who felt uncertain about their abilities to do so.
- Women who cited health providers as influencing their decision to breastfeed were 1.9 times more likely to exclusively breastfeed for the first six months of life than those without health provider support.
- Antenatal care may provide an important opportunity for stressing the benefits of early and exclusive breastfeeding. Women who attended antenatal care at least four times (ANC4+) were 1.2 times as likely to initiate breastfeeding within one hour of birth, while there was no significant relationship between ANC4+ and exclusive breastfeeding.

- Sociodemographic factors were not related to exclusive breastfeeding although wealth and maternal employment were significantly associated with early breastfeeding initiation.

Programmatic implications

- ✓ Knowledge alone will not raise breastfeeding rates. SBC programs must also focus on dispelling myths that breastmilk after birth is bad milk and help women build confidence to exclusively breastfeed for the first six months of life. More research is needed to understand the types of interventions that could support women's confidence to optimally breastfeed their infant.
- ✓ Antenatal care visits may be an important moment to address the psychosocial factors that inhibit early and exclusive breastfeeding practices. Engaging religious and community leaders, such as through Breakthrough ACTION's Advocacy Core Group Model, could also help shift norms around entrenched, cultural breastfeeding practices, and perceptions.

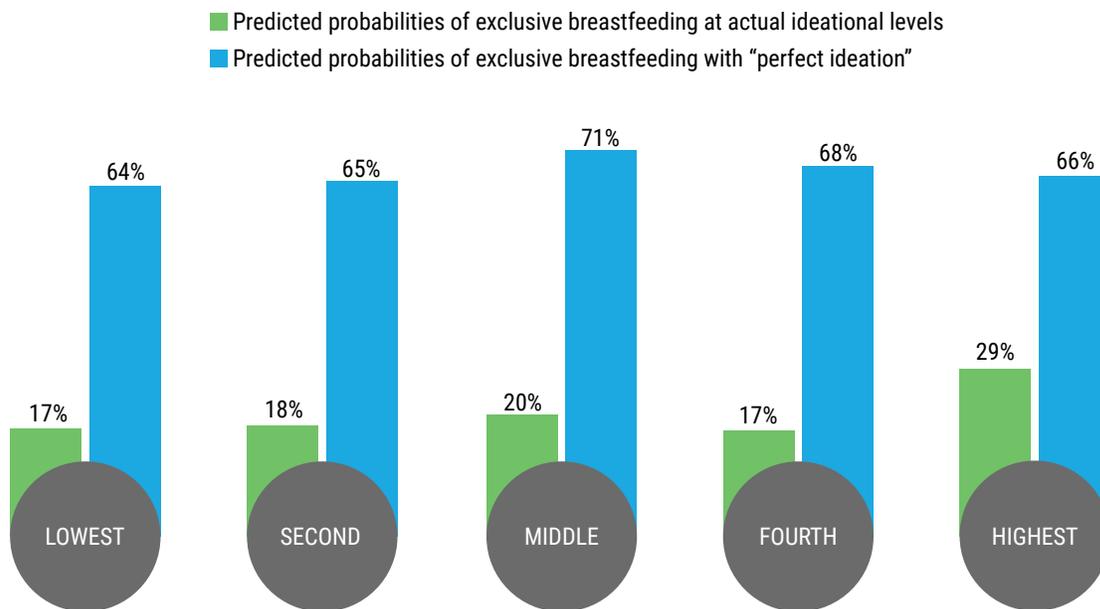
What is the potential contribution of SBC programs?

To estimate what SBC programs could potentially achieve in the absence of other changes (e.g., if the cost of services or other factors remain at their current levels), we conducted regression analyses assuming hypothetical scenarios in which every woman is confident that she can exclusively breastfeed, knows the benefits, timing and efficacy of exclusive breastfeeding, and does not believe that colostrum is bad milk (conceptualized as “perfect ideation”).

Figure 5 presents actual exclusive breastfeeding rates compared to results of simulations that predict exclusive breastfeeding assuming “perfect ideation, by wealth quintile. In the “perfect ideation” scenario, we assume the SBC program resulted in all women recalling any benefits of breastfeeding, knowing when to introduce complementary foods, knowing that immediate breastfeeding within one hour of birth is a way to protect the newborn, feeling confident to exclusively breastfeed, believing it’s important to exclusively breastfeed, and holding no misperceptions about colostrum as bad milk. In this scenario, exclusive breastfeeding could potentially increase from 38 percent to 66 percent—or a 74 percent relative increase from current levels in absence of other changes.

FIGURE 5 SIMULATION OF THE POTENTIAL EFFECTS OF “PERFECT IDEATION” ON EXCLUSIVE BREASTFEEDING BY WEALTH QUINTILES

Predicted probabilities* of exclusive breastfeeding** among children aged 0–5 months if all psychosocial influences significantly associated with exclusive breastfeeding are assumed to be positive (“perfect ideation”)



*Predicted probabilities of exclusive breastfeeding were derived from mixed-effects logistic regression models adjusted for breastfeeding-related ideations (Table 1) and socioeconomic characteristics including household wealth, woman’s age, woman’s regular attendance to community events, child’s sex, ANC4+ attendance, facility-based delivery, education (woman and spouse), and employment (woman and spouse). All significant ideational metrics significant at the <0.05 level were assumed to equal 1 to derive predicted probabilities for the “perfect ideation” scenario (or zero in cases of negative ideational influences).

**Exclusive breastfeeding is defined in this study as infants aged 0–5 months who are currently breastfed who were not given any solid or semi-solid foods in past 24 hours and who were not given any non-breastmilk liquids in the first 3 days after birth

Conclusions

The results indicate an important role for SBC programming in northwestern Nigerian and its potential to achieve substantial improvements in breastfeeding practices, even in the absence of other changes. To this end, findings point to the most important ideations for SBC programs to address in order to better target their activities that will lead to improved breastfeeding behaviors.

Women’s knowledge about breastfeeding’s benefits, timing, and efficacy were some of the most important ideations for increasing uptake of early and exclusive breastfeeding practices. Yet knowledge alone is not sufficient. Beliefs that immediate breast milk after birth is bad milk significantly reduced appropriate breastfeeding behaviors. Women must also feel confident to exclusively breastfeed

for the first six months of life in order to do so. ANC4+ was also associated with early initiation but not with exclusive breastfeeding. This may demonstrate the importance of SBC programs targeting providers to improve the quality and content of breastfeeding as a topic during health talks at ANC visits. Unlike other health behaviors, social influences such as spousal support were not related to breastfeeding practices despite women commonly citing spousal opposition as a main reason for not breastfeeding.

Simulations further suggest that SBC programs alone could potentially increase exclusive breastfeeding rates from the current 33 percent to 66 percent in northwestern Nigeria if they were successful in changing identified breastfeeding ideations in all women. Although it is not expected that SBC programs will be able to achieve “perfect ideation,” the simulations indicate what SBC programs could achieve in the absence of other changes.

Annex 1 Breastfeeding-related ideational metrics

DIMENSION	DOMAIN	QUESTION OR LIKERT-SCALE STATEMENT
Cognitive	Knowledge	In your opinion, what is the ideal age to begin introducing complementary food in addition to breastmilk?
		In your opinion, what are the benefits, if any, for mothers who exclusively breastfeed their infant for the first six months of life?
	Beliefs	What can a mother do to protect the health of her newborn baby immediately after delivery?
		Breastmilk contains all the nutrients a baby needs during the first 6 months of his/her life.
		A mother's breastmilk immediately after birth is bad milk.
Injunctive norms	It is important for mothers to only give their child breastmilk during the first 6 months after birth.	
Subjective norms	Most women in my community only give their infants breastmilk, and no water, for the first six months after birth.	
Emotional	Self-efficacy	How confident are you that you could exclusively breastfeed your child for the first six months of life?
		How confident are you that you could start a conversation with your husband/partner about breastfeeding your child?
Social	Social influence	Besides yourself, who else may influence your decision about whether to breastfeed or not?

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Our project turns evidence into action by providing thought provoking guidance to improve SBC policy and programming, with the goal of improving the cost-effectiveness of USAID's health and development strategies. Breakthrough RESEARCH catalyzes SBC by conducting state-of-the-art research and evaluation and promoting evidence-based solutions to improve health and development programs around the world. Breakthrough RESEARCH is a consortium led by the Population Council in partnership with Avenir Health, ideas42, Institute for Reproductive Health at Georgetown University, Population Reference Bureau, and Tulane University.