

Influencing women's attitudes and intentions to enhance exclusive breastfeeding in Kenya:
Value of health education and peer counseling

Beryne M. Odeny

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Committee:

Dr. Carey Farquhar

Dr. Rose Bosire

Dr. James Pfeiffer

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School of Public health – Department of Global Health

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Table of Contents

Abstract.....	4
Background.....	6
Methods	8
Study design.....	8
Theoretical/ conceptual framework	9
Data analysis	11
Results.....	12
Discussion	27
<i>Conclusion</i>	30
References.....	31

University of Washington

Abstract

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Beryne M Odeny

Chair of the Supervisory Committee:

Dr. Carey Farquhar MD, MPH

Department of Global Health

Background: Exclusive breastfeeding (EBF) rates are low in Kenya. Knowledge of the motivators and deterrents of EBF can facilitate development of strategies to promote EBF. We use the 'Theory of Planned Behavior' (TPB) to understand factors and identify strategies that influence women's beliefs, attitudes, perceived power, intentions and actual practice of EBF.

Methods: We conducted 22 focus group discussions with women and men enrolled in a before-and-after trial to determine whether intensified breastfeeding counseling enhanced EBF. The constructs of TBP were used to deductively identify prominent themes.

Results: Findings indicate that breastfeeding is not a problem; rather the exclusive part of it is challenging. Reasons for not exclusively breastfeeding: lack of education; compliance with

cultural norms; and negative beliefs and attitudes to breastfeeding. Access to health education, peer counseling, desire to prevent infant HIV transmission, and male partner support motivate women to exclusively breastfeed.

Conclusions: Consistent with the constructs of TPB, strategies that foster favorable beliefs and attitudes toward EBF ultimately promote women's intentions to practice EBF. Introducing interventions that enhance positive attitudes toward EBF could potentially increase EBF practice.

Key words: Exclusive breastfeeding (EBF), Theory of Planned Behavior, attitudes, intention

Background

Sub-Saharan Africa is home to 91% of the estimated 3.4 million children infected with HIV globally (1). Mother to child transmission (MTCT) of HIV during pregnancy, birth, or breastfeeding, has been implicated in 90% of pediatric HIV infections (2). In Kenya, approximately 37,000 to 45,000 infants are infected annually. Breastfeeding (BF) accounts for approximately one third of these pediatric infections in the absence of interventions to prevent transmission (3, 4). While breastfeeding predisposes to MTCT of HIV, withholding breast milk has detrimental effects on infant nutrition and health (5). Exclusive breastfeeding (EBF) – infant feeding with only breast milk (4) – is associated with nutritional benefits, improved immunity, and lower mortality among HIV exposed infants in resource-poor settings where formula feeding is not feasible (6, 7). Use of antiretroviral prophylaxis in addition to EBF significantly reduces risk of HIV transmission, making EBF a safe option where replacement feeding is not possible (8-10).

The benefits of EBF are also experienced by children of HIV- uninfected women (11). Even in the absence of HIV, children who are not adequately breastfed are more likely to suffer from malnutrition and acute infections (12, 13). As such, EBF has been recognized as the optimal infant feeding choice for infants (14). In line with WHO guidelines, current Kenyan infant feeding guidelines recommend EBF for the first six months of life (4).

Despite its immense benefits, EBF practice is low (15). In Kenya, rates vary between 30% at 3 months and 3.6% at 6 months (11, 16, 17). Mixed feeding (MF) is the cultural infant feeding practice and refers to breastfeeding with addition of fluids, solid foods, and/or non-human milk (15, 18). In HIV exposed infants, MF significantly increases risk of HIV transmission and reduces HIV-free survival compared to EBF (7, 10). Among HIV unexposed infants, MF is also

associated with increased morbidity and mortality (12, 13). Thus, promoting EBF should be a priority concern for public health providers in Kenya.

Low EBF rates have been attributed to a number of barriers. Some barriers include maternal attitudes, beliefs, experiences, cultural practices, maternal employment outside the home, food insecurity, and lack of access to health education due to understaffed or untrained health providers (19-28). Paucity of accurate breastfeeding knowledge in broader community settings also compounds individual-level barriers to EBF (26),(29).

Despite these challenges, it has been demonstrated that women can successfully exclusively breastfeed when motivated. Maternal counseling, health education, and greater community awareness increase odds of EBF practice (25, 27, 29, 30). Rates have been increased to as high as 50% at 6 months (31). Emotional support and counseling from peer counselors – HIV positive women who have had successful EBF – also enhances EBF practice (19, 20, 24, 32, 33).

Knowledge of EBF challenges is essential to development of successful breastfeeding strategies in addition to understanding the utility of peer counseling in infant feeding in Kenya. Our aim is to use the ‘Theory of Planned Behavior’ (TPB) model to understand contextual deterrents and motivators of EBF in Kenya. TPB has been used to understand and predict health behavior and provides a useful guide to development of evidence-based behavior change interventions. It emphasizes the role of perceived power, perceived control of behavior, societal norms, individual attitudes, and behavioral intentions in practice of prescribed behavior (34-36). In resource poor settings, women’s attitudes have been shown to be more predictive of breastfeeding intention than societal norms (36). We hypothesis that individual-level interventions including health education and peer counseling will positively influence women’s attitudes,

intentions, and practice of EBF even in the presence of contrary societal norms regarding infant feeding.

Using the knowledge gained we will compile an inventory of successful and potential EBF strategies that optimize available resources to address infant feeding challenges in Kenya.

Through focus group discussions, we will explore: 1) women's and male partners' beliefs and attitudes towards EBF; 2) barriers to EBF; 3) women's and men's suggested strategies for promoting EBF; and role of peer counseling.

Methods

Ethical review

This study is nested within part of larger ongoing before-and-after study which received prior ethical approval from the Ethical Review Committees of the Kenya Medical Research Institute (KEMRI) and the Human Subjects Division at the University of Washington.

Study design

Between 2009 and 2012, we recruited pregnant women, nursing mothers, and male partners into a qualitative study as part of a before-and-after study; to determine whether intensified breastfeeding counseling enhanced exclusive breastfeeding among mothers. The study was conducted in four city council clinics in Nairobi, Kenya. The qualitative study was conducted at two time points: before and at the end of the intensified counseling intervention.

Setting

This study was conducted in four major city council clinics within Nairobi, Kenya - Kangemi, Riruta, Baba Dogo, and Kayole II. Clinics were selected based on the densely populated low to middle income populations they serve. The clinics also service high numbers of HIV-infected

and uninfected women of low to medium socioeconomic status and were therefore considered to be representative of other public clinics within the city of Nairobi.

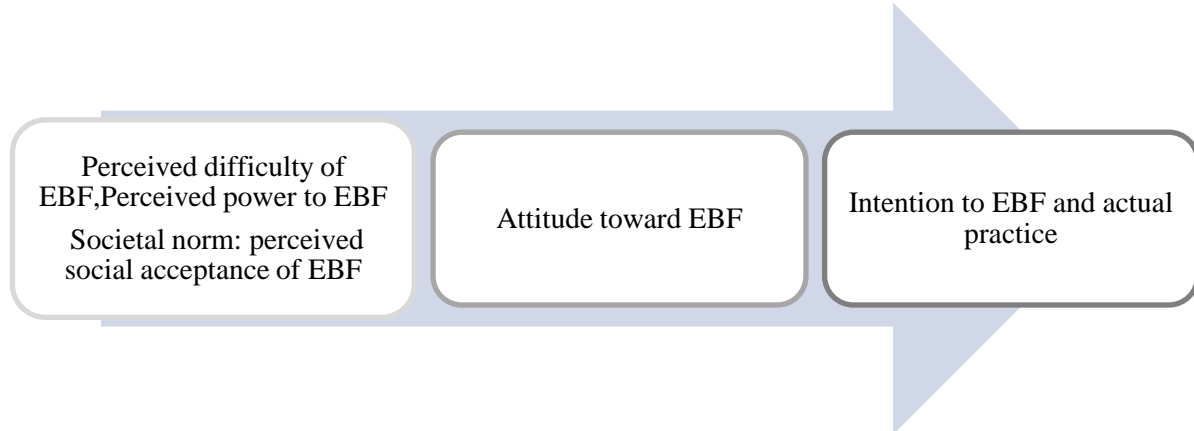
Subjects

We selected women participants in the parent trial through quota sampling for focus group discussions (FGDs). They had to be antenatal clinic or postnatal clinic attendants. We recruited male partners of women attending the clinics by convenience sampling; those who were available for interview sessions. Both men and women had to be over 18 years, able to speak English or Kiswahili, and provide written consent.

Theoretical/ conceptual framework

TPB served as the conceptual framework for analysis of qualitative data obtained from focus groups and determining promising EBF-enhancing interventions. This model states that behavior is dictated by individual intentions and perceived control over the behavior. TPB is comprised of six constructs: *individual attitudes*, degree to which one has a favorable or unfavorable evaluation of the behavior; *behavioral intention*, motivational factors influencing a behavior; *subjective norms*, perceived social acceptance of a behavior; *social norms*, customary codes of behavior in a community; *perceived power*, perceived presence/absence of factors that facilitate practice of behavior; and *perceived behavioral control*, perceived ease or difficulty of performing the behavior (37). These constructs are useful in predicting and influencing nursing women's practice of EBF. Our intervention primarily focuses on altering women's attitudes (beliefs), perceived power, and perceived behavioral control over EBF with an end to enhance their EBF intentions and ultimate practice (Figure 1).

Figure 1: Theory of Planned Behavioral: Applied to promotion of Exclusive Breastfeeding



Instrument development

Directed by our study objectives, our focus group guide was designed to probe for information on eight topics: prevalent infant feeding practices; factors that influence infant feeding decisions; women’s perceptions of hindrances to achieving EBF goals; strategies for dealing with hindrances; timing and precipitating circumstances for MF; perceptions and attitudes toward EBF; motivators and deterrents for behavior change; and health services and patterns of use. Topics and questions were written in English and translated in Kiswahili. Applying TBP constructs, we theorize that responses to these questions will reveal women’s perceived social acceptance of EBF, perceived power and difficulty to EBF, and attitudes to EBF intentions. Furthermore, we postulate that this knowledge will facilitate our understanding of how effective strategies work and further development of EBF-promoting interventions.

Data collection

We conducted 22 FGDs each consisting of six to eleven participants (Table 1). We did six FGDs with HIV seropositive women before the intervention. The remaining 16 FGDs were done at the end of the intervention and were conducted among HIV seropositive women, HIV seronegative women, and male partners. Women’s groups were composed of women with same HIV-1

infection status to maintain confidentiality. Due to fewer numbers, male FGDs had a mix of both HIV seropositive and seronegative men.

Participants gave written consent to participate and were assigned identification numbers.

Demographic information was collected on a separate form. Trained social scientists and research assistants conducted the FGDs. All FGDs were taped on digital recorders and notes were written. Written notes were compared with tape recorded notes to fill in missing data.

These notes were translated to English by the investigators, back-translated to Kiswahili by a linguistics expert, and finally validated by comparing with original transcripts.

Table 1: Distribution of focus group discussions at beginning of control and at the end of intervention

Participant categories	Number of focus groups		Total focus groups per category
	Beginning of control	End of intervention	
HIV seropositive women	6	6	12
HIV seronegative women	0	0	5
Male partners (HIV positive and negative)	0	0	5
Total number			22

Data analysis

English transcripts were imported into ATLAS.ti software for analysis. Transcripts were summarized and organized by time point (before or after intervention), participant characteristics, and clinic. These data were coded and analysis was guided by the constructs of the Theory of Planned Behavior. Themes were identified a priori and deductively identified during data analysis. One primary person coded the data and a second coder cross-checked the codes and themes. From these broad themes and sub-themes were identified.

Results

Participant characteristics

A total of 153 women and men participated in 22 FGDs. A summary of their socio-demographic characteristics is presented in Table 2.

Table 2: Demographic characteristics of focus group participants

Participants	HIV positive women	HIV negative women	Male participants
Number (%)	82 (54%)	41 (27%)	30 (19%)
Mean age (years)	26	25	34
Married (%)	78%	100%	100%
Christian (%)	99%	100%	100%
At least high school education (%)	57%	71%	71%
Earn >\$3.50 per day (%)	39%	12%	92%

We established four broad themes: perceived difficulty to exclusively breastfeed; negative beliefs about EBF; promoting favorable attitudes to EBF; and intention to exclusively breastfeed and actual practice. These themes reflect the challenges and barriers faced by women, how women overcame them, what they were not able to overcome, and women's suggestions of effective strategies. Each broad theme is further distilled into sub-themes. The overarching theme is: intention to exclusively breastfeed and actual practice.

1. Perceived difficulty of EBF

This is directly related with the challenges and deterrents to EBF experienced by women. Of note, women expressed that breastfeeding was not a problem; rather it was the exclusive part of it which seemed difficult to achieve. Mix feeding infants \leq 6 months was a societal norm. The

following sub-themes provide a breakdown of factors that contribute to perceptions of EBF as difficult and challenging.

a. Lack of appropriate breastfeeding health education (H/ED)

Before receiving intensified breastfeeding counselling, a substantial proportion of women reported inaccurate statements about infant feeding. One major reason for this was paucity of H/ED targeting breastfeeding. A positive shift toward more accurate statements regarding EBF was noted at the end of the intervention thus, lack of education was a major barrier to EBF. This predisposed women to negative societal influences and practices that undermined EBF.

“Things like water can be given at after one month for a HIV-positive mother and if HIV-negative, she can introduce water after two weeks” –HIV-positive woman

“Some people don’t have such information that we are getting here. Maybe the husband or the wife is not informed. If one of you doesn’t know something like this, you will stumble.” – Male partner

Some women thought H/ED was not necessary. They felt that HIV-infected women were the ones who needed H/ED to learn how to remain healthy while preventing transmission to their babies. This made attending H/ED stigmatizing:

“They (HIV-negative) just ignore health education because they feel that everything is fine.” – HIV infected woman

Compared to HIV-seronegative women, HIV-seropositive women received more attention from health providers. The underlying assumption was that HIV-seronegative women did not need as much health-related programming including EBF H/ED because they were not sick.

“I have never heard them talk about infant feeding.” – HIV seronegative woman

“In most cases the people who are talked to are the ones who are HIV-positive.” – HIV seropositive woman

Clinics, especially rural and private, were not equipped to provide breastfeeding education.

“Those clinics upcountry do not have these teachings.” – HIV-positive woman

“I delivered my first child (in a private clinic) and they did not tell me anything. They just gave me the baby.” – HIV-negative woman

b. HIV and stigma

It emerged that EBF practice was perceived as an indication of HIV infection. Some HIV-negative women were labelled as HIV-infected when they opted to EBF. This was a deterrent to EBF for both HIV-negative and HIV-positive women and was perpetuated by lack of accurate knowledge on EBF. This enhanced the perception that EBF was difficult to achieve especially for those who lived with others.

“They say that you were told to breastfeed exclusively because you are sick and on medication.” – HIV negative woman

c. Economic challenges

Women also felt that financial constraints made it difficult to practice EBF. Women expressed that access to sufficient nutritious foods was necessary for breast milk production. Thus, budgetary allocation to support maternal nutrition had an effect on a woman’s perceived ability to breastfeed. This was especially a concern when the male partner was the primary bread winner and the woman had minimal control over the household budget. As shown in table 2, a majority of women depended on their male partners for household expenses and this is likely to have implications on how much money is allocated to food.

“The economy is tough. It is very expensive, sometimes you breastfeed the baby the whole night. So you have to have money to feed well for the baby to breastfeed.” – HIV positive woman

“Lack of money is what makes babies to be introduced to other foods early.” – HIV positive woman

Women associate working away from the home with increased difficulty in EBF. Most did not refer to options for working women such as expressing breast milk:

“I cannot breastfeed for six months because I want to go to work.” – HIV negative woman

d. Motivation to comply with societal norms

Women reported that external pressure from family and friends to mix feed was a significant challenge. There is a general sense of community ownership of a baby thus, women encountered a barrage of advice and pressure to mix feed as was societal practice. For some women, EBF could have led to social rejection and disagreement with important family members. Without accurate breastfeeding education and support, women were inclined to comply with societal infant feeding norms.

“You dare not disagree with your mother-in-law. You want to protect your place in that house.” – HIV positive woman

2. Negative Beliefs and perceived negative consequences of EBF

Some reasons why women opt to mix feed are driven by false beliefs and perceived negative consequences of EBF. These include: starvation of the baby; inadvertent disclosure of maternal

HIV status; loss of maternal freedom to work outside the home; and loss of energy or poor maternal health. Supporting quotes are outlined in table 3.

a. Starvation of the baby

Some women are convinced that EBF was not sufficient to satisfy their babies. Frequent crying was an indication of hunger not sated by EBF. Therefore, women gave their babies other foods to prevent hunger. There was also external advice from family and friends to mix feed to prevent starving their babies.

“The disadvantage of exclusive breastfeeding is that the baby is going to disturb you.” –

HIV positive woman

“They even quarrel that you’re starving the baby.”- HIV positive woman

b. Inadvertent disclosure of maternal HIV status

Due to lack of knowledge, many women do not know that EBF should be practiced by all women regardless of HIV status. Those concerned about disclosure of their HIV status with practice of EBF opt to mix feed so as to fit in with other women. This was especially the case for first time mothers who were more vulnerable to the advice from women with infant feeding experience, the “experts” in the community.

“...when I came back I found she was backbiting me saying that I exclusively breastfeed

because I am HIV positive.” – HIV positive woman

“People say that those who breastfeed for six months are infected with HIV. You try to tell such a person that even if you are negative you have to breastfeed for six months.

They believe anyone breastfeeding for six months is positive”- HIV positive woman

c. Loss of freedom to work outside the home

Women were thought that EBF required infant feeding on demand and would prohibit work outside the home. This was a concern for those who did not know how to express breast milk and were the primary breadwinners.

“Those six months to most mothers is a burden. Most of them are not comfortable with sitting in one place. So she is tied down by these six months. It becomes a restriction she must comply with.” – Male partner

d. Loss of energy and poor health

Some women expressed that EBF required ample supplies of food in order to maintain constant production of breast milk. Without access to sufficient food, some reported loss of weight and low energy levels when they exclusively breastfed. A summary of related quotes are listed in table 3.

Table 3: Negative Beliefs and perceived negative consequences of Exclusive breastfeeding

Beliefs/consequences	Quotes
Starvation of the baby	<i>“They even quarrel you that you are starving the baby hungry and before you know it you will find yourself giving the baby other foods.” “I just found myself doing it. There was a time at night when H/ED was crying so much... I decided to give him food because H/ED was feeling hungry...”</i>
Inadvertent disclosure of maternal HIV status	<i>“I found she was backbiting me, that I exclusively breastfeed because I’m HIV positive.”</i>
Loss of freedom to work outside the home	<i>“Those six months are a burden... She is tied down. It becomes a restriction.” “Like me, I just used to stay in the house. I never used to go anywhere.” “If the baby has not taken porridge he/ she cries a lot but if the baby has taken porridge he/ she doesn’t disturb.”</i>
Loss of energy and poor maternal health	<i>“They breastfeed until you become very thin... the baby can breastfeed eight times in a day.” “Mine could breastfeed until I start feeling dizzy, so that is what made me to start giving water early.” “When the child starts to breastfeed, I draw the breast back because of pain.”</i>

3. Promotion of favorable attitudes toward EBF

This theme relates to factors that enabled women to overcome the previously mentioned challenges and barriers to EBF. While women encounter significant challenges, these are not insurmountable. Strategies that increase perceived power and control over infant feeding, reduce perceived difficulty of EBF and promote favorable maternal attitudes toward EBF could significantly motivate their intentions and practice of exclusive breastfeeding. The following sub-themes represent strategies women claim aided them to succeed in EBF.

a. Health education and peer counselors

Health education (H/ED) is instrumental in altering women's EBF attitudes. Learning the value of EBF and how to achieve it, motivates women to EBF. It increases women's perceived power and behavioral control over EBF making it easier to exclusively breastfeed. Women are empowered to make firm decisions and are more willing to make sacrifices such as applying for unpaid leave or even quitting their jobs for more accommodating employment.

“When you remember what the doctor said, you just make a decision to persevere.” –

HIV positive woman

“I told my husband I needed to apply for three months unpaid leave to breastfeed and he agreed.” – HIV positive woman

When women receive H/ED, they desire to continue learning more. However, they are more likely to accept it from sources they trust especially healthcare providers. Furthermore, peer educators are highly appreciated by women because they are able to relate with their lived experiences. Thus, health facilities should be equipped with personnel and material to support women with H/ED.

“We would appreciate having peer counselors who are in the same state as ours. They can understand us better.” – HIV positive woman

“They (peer counselors) keep very close track of us.” – HIV positive woman

“I think the closest person you can talk to is the doctor.” – HIV positive woman

In situations where women were under overwhelming external pressure to mix feed, some actively avoided individuals with negative influences on their attitudes. For example, they would temporarily avoid physical encounters with family and/ or friends or lie that they are mix feeding. Through similar mechanisms they were able to succeed in maintain healthy attitudes and motivation to breastfeed.

“I was forced to stay away from my relatives because if I stayed in the same house they could have convinced me not to breastfeed.” - HIV positive woman

“So, I normally cheat him that I am giving the baby other foods.” – HIV infected woman (husband insists on mixed feeding)

b. Prevention of mother to child transmission of HIV (PMTCT)

HIV-infected women stated that the desire to prevent maternal transmission of HIV promote EBF once they accessed accurate H/ED. They have constant interaction with health providers for chronic care thus greater access to breastfeeding education. They are also motivated to adhere to health advice as they feel they and their children are more susceptible to illness compared to HIV negative counterparts.

“You see if you are HIV positive, you must listen carefully to the doctor’s instructions so that you don’t infect the baby. But if you are negative then you can continue with your life as you wish.” – HIV positive woman

c. Evidence promotes EBF

Experiencing the benefits of EBF reinforces positive EBF attitudes and motivation to adhere to recommended practice. Women are motivated to discover that EBF prevents frequent childhood illnesses which result in time costs away from home and work should the baby be hospitalized. Likewise, seeing the negative consequences of mixed feeding deters women from mix feeding. Women who received H/ED learnt of the negative consequences of mixed feeding. Thus, caution to apply recommended practices was instilled in them and majority opted for EBF to keep their babies healthy.

“When you see the condition of sick children, you realize that it is important to adhere to what you’ve been taught.” – HIV negative mother

“You can see a baby who is one year old and some months and if you compare him to another one who is four months old, the one who is four months old looks bigger.

Sometimes when we are being taught, we are shown those children practically.” – HIV negative mother

“If you see that, you will decide to struggle so that at least your baby can have a good life” – HIV negative mother

“You know it is good to tell someone something which she can see, if it is your baby, she should see your baby is healthy and doesn’t fall sick often. That motivates.” – HIV positive mother

d. Supportive role of men

Men provide a source of emotional, social, and financial support for women. They stated that they make a number of sacrifices to ensure a conducive environment for EBF. Some worked

extra jobs or longer hours to provide enough resources for their wives to stay at home and exclusively breastfeed their babies.

“As men we should find the best way. If even the mother has to stop working then let it be and you work much harder as a man for the sake of your child.” – Male partner

“It was tough. I worked at night and during the day I did a construction job.” – Male partner

4. Intention to EBF and actual practice

Increased access to H/ED, experiencing the health benefits of EBF, and a desire to prevent infant HIV transmission promotes women’s intentions to EBF. Having the intention to exclusively breastfeed empowers women to make choices that favor practice of EBF. For example, choosing between work outside the home or staying at home to exclusively breastfeed. Some women temporarily or permanently left their jobs to spend more time with their babies. Other choices made by women include keeping away from negative influences or opting to breastfeed even when they felt physically drained.

“It is difficult. I have grown thin because of breastfeeding; it requires that you have money to feed well.” – HIV negative woman

“After giving birth I had to stop working to breastfeed the baby. I ventured into business of selling mitumba (secondhand clothes).” – HIV positive woman

“I never left my child behind. My burden everyday was my baby.”- HIV positive woman

a. Overwhelming challenges

However, despite the motivation and intention to practice EBF, there are insurmountable challenges and barriers that require more than individual-level strategies to overcome. These

include: paucity of community knowledge on EBF, as women are sometimes coerced by family and friends to mix feed; lack of H/ED in rural and private clinics; lack of conducive work policies for nursing women; lack of access to food; and maternal illness.

b. Suggestions of effective strategies

Compulsory Health education: Women felt that education should be given to all women regardless of HIV status, all men, and the broader community. While H/ED is necessary, a lot of caution is needed in its packaging and delivery so that it does not wear out listeners but instead appeal to them. Women and men are concerned about the duration of education sessions and want diverse health topics to be addressed by health providers (table 4).

“They (HCPs) are supposed to educate us. They should continue educating us.” – HIV positive woman

“It is not a must to be taught about HIV. There are so many diseases surrounding us.” – Male partner

“The teaching should be well thought out and take limited time. We don’t like sitting for three or four hours. But two hours or one hour is fine.” – Male partner

Table 4: Topics on which women requested more teaching

Topic requested	Quotes
Management of breast problems	<i>“A mother may have a cracked nipple... a nurse will direct you on what to do.”</i>
Family planning	<i>“Are there family planning pills for people who are breastfeeding and those who are not breastfeeding?”</i>
Expressing breast milk	<i>“We were told that you can express the breast milk and put it in a bottle, so I was just wondering; if you put the milk in a bottle won’t the milk get cold, so how will the baby drink it?”</i>
Maternal nutrition	<i>“As mothers, we need to eat foods that give you milk.”</i>
Weaning process	<i>“I would need education on how I can introduce the baby to other foods.”</i>

Peer counselors: are instrumental in encouraging EBF. Women identify peer counselors as being readily available to spend more time counseling and educating on EBF.

“We would appreciate having peer counselors who are in the same state as ours. They can understand us better.” - HIV positive woman

Supportive healthcare providers: Women felt that supportive HCPs provide continual motivation to exclusively breastfeed. Health providers are identified as trustworthy however, women are more open to providers who show concern, patience, and a caring attitude.

“The doctors should ensure that they are close to the mothers, even allowing them to talk to them when they are lonely.” – HIV positive woman

Support groups: Support groups are a source of continual encouragement to EBF. However, these are mainly for HIV-positive women and not much emphasis has been given to support groups for HIV-negative women.

“Most of them are HIV positive and everyone talks about their challenges. You get encouragement; it cuts off stigma and you realize that life must continue.” – HIV positive woman

Mobile technology: Women said that calls and text messages were useful educational tools and reminders to EBF.

“The nurse will call you... She keeps track of you.” – HIV positive woman

Media: Radio, television, and internet can be used to promote and educate on EBF. Media is powerful because it can shape women’s infant feeding decisions. Some men suggested that radios in public transport vehicles could play educational messages. Others suggested introduction of short educational clips right before prime time news.

“Instead of playing pop music, the radios in matatus (public transportation vehicles) should play useful messages such as benefits of breastfeeding.” – Male partner

Food assistance: This was cited as a potential strategy. Nursing women have greater nutritional demands which require more resources than previously needed. It was felt that some form of food assistance can greatly enhance motivation to EBF.

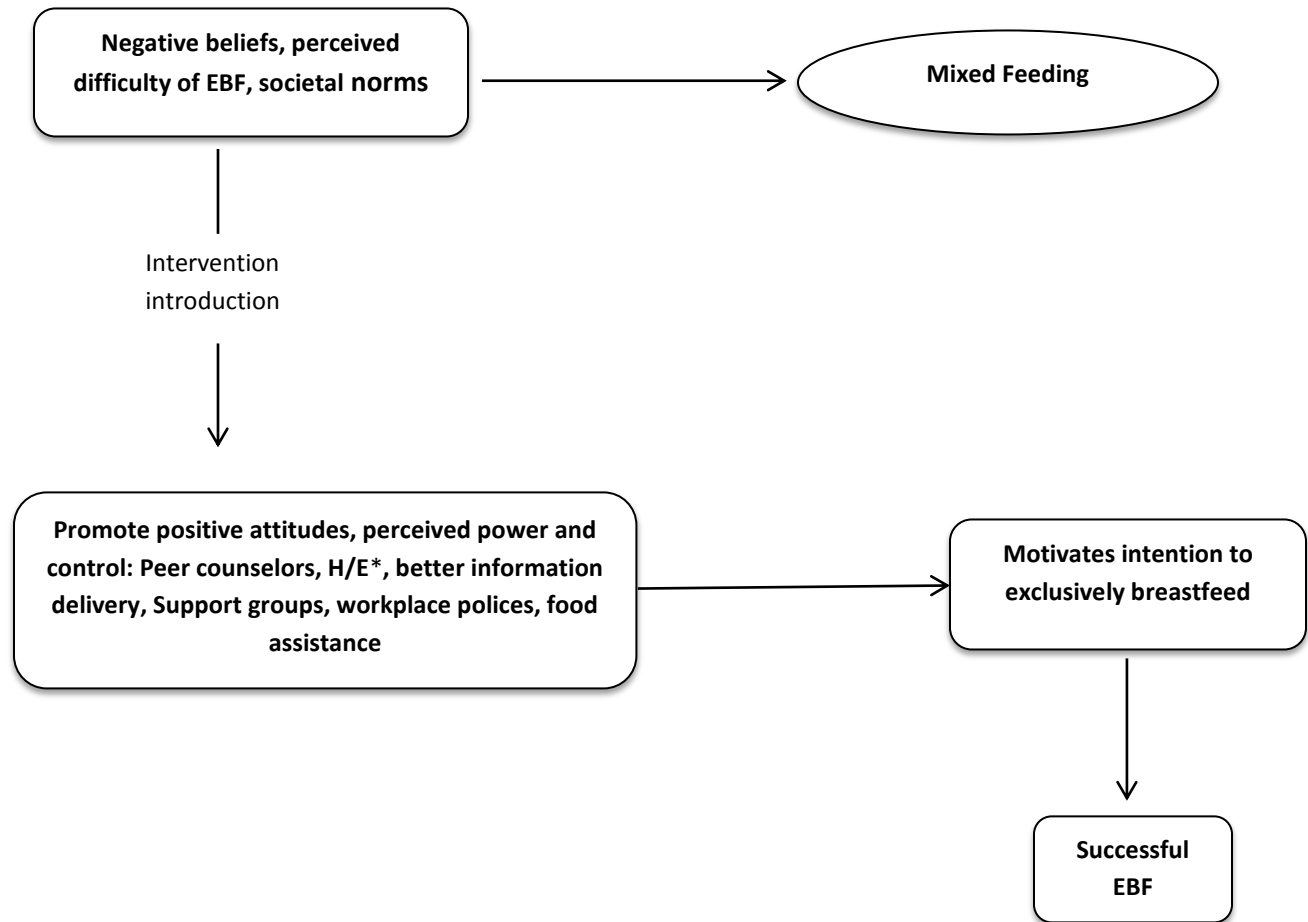
“Lack of food is the cause of this problem. Based on the current cost of living, breastfeeding is problematic. If the government can help with provision of something for mothers to feed on to produce breast milk, we will be ok.” – Male partner

Work place policies: Policies that support six months of EBF are a long-term solution for working mothers. For example, policies allowing women to have up to six months of maternity leave and those that promote set up of nursing rooms in work places.

“I suggest that maternity leave be extended to cover the six months even one year.” – HIV negative woman

Figure 2 shows how prominent themes relate to each other. Figures 3 and 4 show the distribution of prominent themes among HIV seropositive women at the beginning and end of intervention respectively.

Figure 2: Interaction and flow of prominent themes



* Health education

Figure 3: Distribution of prominent themes at the beginning of intervention: HIV seropositive women

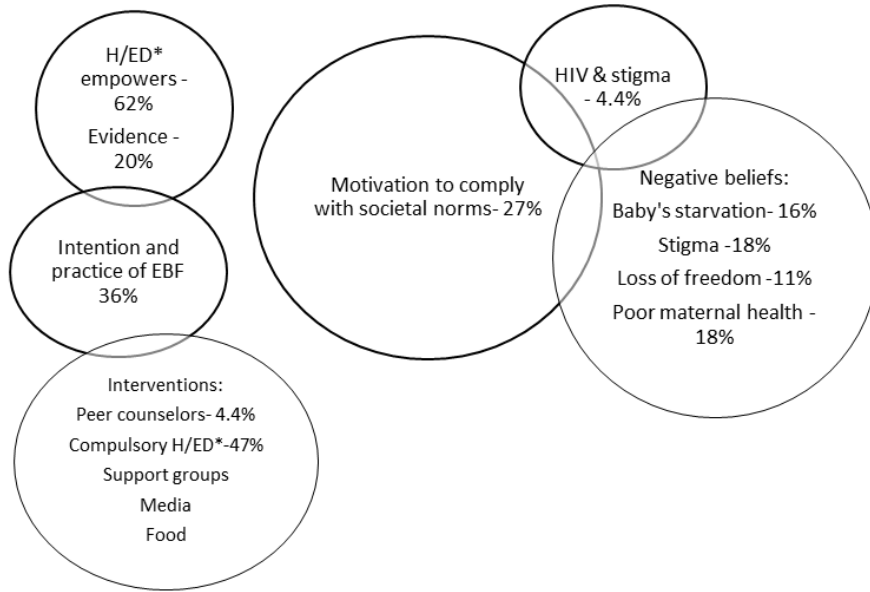
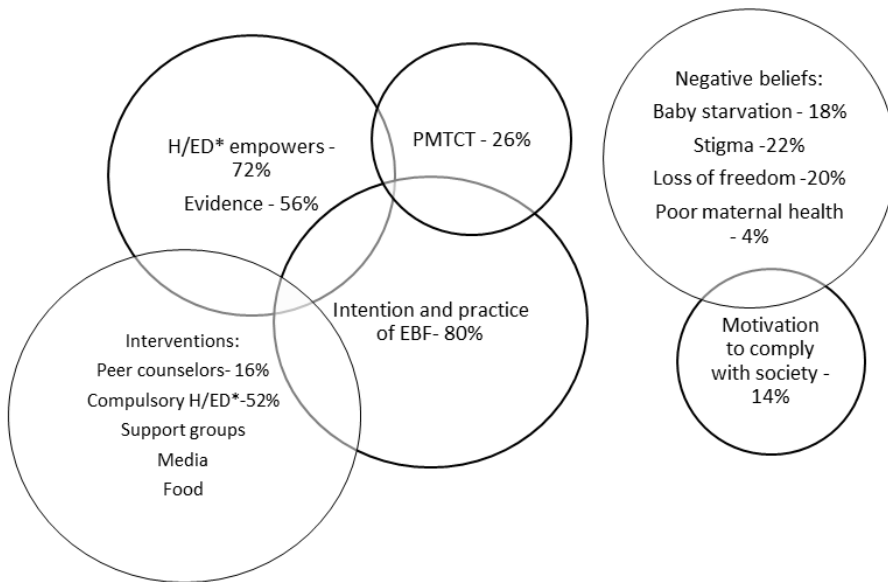


Figure 4: Distribution of prominent themes at the end of intervention: HIV seropositive women



*Health education

Figure 3 and 4 illustrate the shift from perceived difficulty of EBF and negative beliefs to increased perceived power and positive attitudes towards breastfeeding. By the end of the intervention, women mentioned the importance of health education and peer counselling at a higher frequency and there was less emphasis on the desire/ motivation to comply with community norms. Additionally, the theme of intention to EBF was more prominent post-intervention.

Discussion

In this paper, alongside challenges and barriers to EBF, we present strategies that women identified as being highly effective in promoting EBF. Focus group discussions revealed that breastfeeding is not a problem; rather it is the exclusive part of it which is challenging. Though breastfeeding is highly prevalent, it is common cultural practice to give babies additional foods i.e., mixed feeding. There is a general sense of communal responsibility in nurturing infants. Thus, the decision to avoid mixed feeding is not without setbacks as it not only depends on a woman's choice, but also her family and immediate community.

We found that successful development of EBF-promotion strategies could be enhanced by understanding what influenced women's perceived difficulty of EBF, their beliefs and attitudes toward EBF, and how these motivate their intentions to practice EBF. The main theme in which all previously discussed themes converge is 'intention to exclusively breastfeed and actual practice'. Health education, evidence of EBF benefits, use of peer counseling, desire for PMTCT, support from male partners, and avoidance of negative influences address some of the underlying attitudes, beliefs, and deterrents to EBF.

Through intensified counseling – by peer counselors and health providers – women receive continued H/ED on topics such as EBF being for all women regardless of HIV status, how to

express breast milk, and preparation of cheap nutritious food for mothers. H/ED positively influences women's intentions and practice of EBF. Illustrative examples include women quitting or changing their jobs, secluding themselves from negative influences to achieve EBF for the recommended six months. Evidence of the benefits of EBF further reinforces the effect of H/ED on EBF practice. Women reported observed benefits of EBF like healthy infant growth and development, and absence of acute recurrent infections.

Although H/ED is offered in a number of facilities, gaps still remain in extent of coverage, target population, content, and mode and timing of H/ED delivery.

- First, coverage of all pregnant or nursing mothers with H/ED is still suboptimal with some facilities not offering necessary education. Rural clinics – which are mostly understaffed - and private clinics tend to lack H/ED. Targeting these clinics with resources such as peer counselors, trainings for health providers, and provision of educational material could narrow the coverage gap. Peer counselors have been identified as an invaluable resource especially in understaffed clinics where they bridge the gap between health providers and women. Unfortunately, where peer counselors are present they primarily serve HIV-infected women and not the HIV-negative women. This is of great concern because children of uninfected women are still at high risk of morbidity and mortality if mothers are not educated and empowered to adopt EBF.
- Second, the perception that HIV-negative women and men are not-at-risk could result in less H/ED focus on them. This is an unsafe attitude because HIV-negative women are still at risk of becoming HIV-infected and if they do, pose a higher transmission risk to their infants during acute infection. It is necessary to deliberately target HIV-negative

women and male partners with EBF-related messaging. Furthermore, there is need to demystify the relationship EBF and HIV by enlightening people on EBF facts.

- Third, the mode and timing of H/ED delivery and other demands on their time pushes it lower on women's and men's priority list. H/ED should be delivered conveniently and swiftly. This can be done through posters/pamphlets as alternative mechanisms for information delivery, and clients made aware of their availability. Phone calls or text messages, public transport media, and brief information sessions in work sessions were suggested avenues for information delivery.
- Forth, the content of H/ED sessions also needs to be responsive to women's concerns and needs. Table 3 provides a list of discussion topics women were interested in: management of breast problems; family planning; expressing breast milk; maternal nutrition; and weaning.

We also determined that there are a number of challenges which individual-level interventions may not adequately address. These include: paucity of community knowledge on EBF; lack of H/ED in rural and private clinics; lack of conducive work policies for nursing women; lack of access to food; and maternal illness. It is possible that public health programs which only target individual counseling without addressing broader societal beliefs may not be sufficient in the long run. There is need to consider broader structural interventions that go beyond individually tailored strategies to change beliefs, perceived power, attitudes, and intentions to EBF. Long term structural interventions include: integrating infant feeding education in primary education, modifying work place policies (longer maternity leaves and provision of nursing rooms where possible), encouraging male partner support, enhancing food access to pregnant women, and standardizing ANC and postnatal health education for all women regardless of HIV status. The

list of interventions suggested above could act as a guide for development of current EBF promotion activities.

Limitations: We found that while intensified individual counseling and health education are able to address personal level barriers to EBF they cannot address structural barriers (community norms, primary education, male involvement, work place policies, financial constraints, and food access). Another limitation is this analysis was done on secondary data thus, we were not able to use member checking to share our interpretation of results with participants for validation of our findings. Finally, most participants were men and women who attended clinic and had received H/ED. Thus, the possibility of selection bias arises as they may be significantly different from others who don't attend clinic.

Strengths: This study attracted participants who were willing to talk. They were able to interact freely with interviewers making it easier to obtain rich data. We also used an evidenced-based theory approach to explore major barriers and facilitators of EBF.

Conclusion

Individual-level interventions are useful in enhancing EBF practice. H/ED and peer counseling still remain central to EBF promotion. However, more remains to be done to improve content and efficient delivery of H/ED not only to HIV-positive women but also male partners and HIV-negative. Support groups, mobile technology, and media coverage of EBF could also tremendously enhance women's capacity to exclusively breastfeed. Even with favorable maternal attitudes and intentions to EBF, there are insurmountable challenges that women experience. These require additional structural interventions and call for greater collaborative efforts between MOH and relevant stakeholders to harness locally available strategies and technologies to promote EBF.

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