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Georgiana Esteves
estevesgeorgiana@gmail.com

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**Support or Interference: Relational Influences on Mother's Exclusive Breastfeeding
Practices in Ghana**

Georgiana Esteves
2022

2022 Master of Public Health
Yale School of Public Health

Thesis Readers
Dr. Rafael Pérez-Escamilla
Dr. Amber Hromi-Fiedler

Support or Interference: Relational Influences on Mother's Adherence to Exclusive Breastfeeding in Ghana

Abstract

Childhood malnutrition is a challenge that needs to be understood as a global health threat. Exclusive breastfeeding (EBF) is recognized as the best practice to improve a child's growth and cognitive development in the first months of life. The World Health Organization recommends EBF until 6 months. Mothers need family support to adhere to EBF practices. This study aimed to understand the interpersonal level relational influences of fathers, grandmothers, and other family members on the mother-child dyad adherence to EBF practices, as well as document community and societal influences on EBF. This study took place in the Central Region of Ghana in three districts: South Assin, Komenda Edna Eguarfo/Abirem (KEEA), and Gomoa East. We used a qualitative design to analyze 30 semi-structured in-depth interviews with mothers (adults and teens), fathers (adults and teens), and other caregivers of a child younger than 1-year-old. Findings showed that family relational influences on a mother's exclusive breastfeeding were not happening in isolation as the family members' EBF knowledge and behaviors were influenced by health professionals, community and church members, and societal and environmental characteristics. Fathers' presence had a protective effect on the mother-child dyad. Fathers built their knowledge on healthcare professionals' recommendations. Grandmothers were key to sharing household and child-caring chores, and their beliefs were influenced by cultural and social norms and community members. Fathers' and grandmothers' support was essential to mothers' adherence to practice EBF, thus the inclusion of these family members in prenatal and postnatal care should be encouraged. Campaigns to improve EBF must target mothers, fathers, and grandmothers with information about the benefits of EBF and responsive feeding to mitigate misinformation and improve adherence to best practices.

Acknowledgments

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I would also like to thank the Ghanaian research team for their work within the community, their feedback, and their trust. Also, a special thanks to the participants in this study's interviews for sharing their stories.

I would like to thank my family, especially my parents that gave me support for this journey in such uncertain times, with all the barriers to overcome while moving to a different country in the middle of a pandemic. They never questioned my decisions and were always there for me. I would also like to thank my partner for his support and patience last year.

I am grateful for the opportunity to contribute to the knowledge about exclusive breastfeeding, a delicate and important maternal and child health issue in lower-income countries.

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Introduction

Childhood malnutrition is a challenge that needs to be understood as a global health threat. In 2020, the World Health Organization (WHO) estimated that 149 million children younger than 5 years were stunted and 45 million were wasted^{1,2}. Malnutrition from gestation to 24 months of age is associated with high infant morbidity and mortality³. Moreover, children's malnutrition is associated with nearly half (45%) of young children's deaths². Sub-Saharan Africa is the only region that had an increase in the number of stunted children between 2000 and 2018 when the number increased from 50.3 million to 58.8 million¹. Ghana, which is located in West Africa, remains a country with a high burden of child malnutrition. In Ghana, 19% of children are stunted and 5 % are wasted^{1,4}. Since 1994, Ghana's government has implemented programs to improve maternal-child public health through diverse approaches including breastfeeding support. Recently the Becoming Breastfeeding Friendly initiative was implemented to help identify key gaps in national breastfeeding policies and programs⁵.

WHO strongly recommends breastfeeding to start within an hour of birth to reduce neonatal mortality². WHO also recommends exclusive breastfeeding (EBF); i.e., feeding infants only with breast milk without water, other fluids, or solids⁶, throughout the first six months of life as it has positive child health and development effects including decreased risk for diarrhea and respiratory infections and better child cognitive development⁷⁻⁹. Breastfeeding has many advantages over breast milk substitutes (BMS) including that breast milk is readily available and affordable, provides immunologic protection with antibodies and oligosaccharides, plus gives an optimal amount of energy, nutrients, and other bioactive substances for proper infant growth and development^{10,11}. Hence, it is discouraging that Ghana's Demographic Health Survey (DHS) shows that only 56% of mothers initiate breastfeeding within the first hour after birth^{5,12} and that EBF rates declined from 63.7% in 2008 to 52.3% in 2014 and then to 43% in 2017^{6,7,12}.

WHO and UNICEF recommend caregivers follow responsive feeding practices with their infants, including the proper identification of hunger and satiety cues^{13,14}. Best infant feeding practices that

combine the right foods, including breastmilk, with responsive feeding practices are key for improving children's health, growth, and cognitive development¹⁵.

Adherence to recommended infant feeding practices is influenced by cultural beliefs, the family structure, caregivers' level of education, employment status, access to healthcare, social context, and interpersonal support from family including the child's father⁶⁻⁸. These relational influences between family members and the dyad, occur in the context of an individual's social connections and environments¹⁶. The social-ecological model depicts these relations in four levels: individual, interpersonal, community, and societal, highly interconnected with each other¹⁶.

At the interpersonal level, fathers and grandmothers may be in close proximity to the mother/child dyad during the first 6 months of life. Family members are a source of influence in the child's feeding practices¹⁷; they provide informational, emotional and instrumental support¹⁸. Research shows that fathers can have a strong influence on the mother's agency for EBF¹⁹. In Ghana, father's higher age, higher education, and desire for children have been associated with improving the mother's capability for EBF¹⁹. A child's grandmother has also been found to play a key role in influencing EBF, either by supporting or undermining it, sometimes by offering other liquids and foods to the infants against the mothers' wishes²⁰. Additionally, the lack of personal EBF experience by grandmothers and great-grandmothers and the perception that young infants need non-breast milk foods to develop well undermine EBF practices²¹. Fathers and close family members can offer different types of support (informational, instrumental, and emotional) and empower the dyad to optimal infant feeding practices from birth.

The community level of the social-ecological model includes the influence of healthcare workers on infant feeding practices, including EBF, through the information and message they give parents before and after birth²¹. The societal level covers cultural beliefs, social norms, socio-economic, and environmental factors. Evidence shows that EBF is undermined by misconceptions about infant thirst and the widespread belief that infants need to receive water or other fluids including infant formula for faster weight gain²¹. Moreover, baby behaviors are misinterpreted as readiness for food precipitating the

inclusion of other fluids²¹. The ingrained belief across cultures that breast milk is not sufficient to meet the needs of young infants may reinforce social-cultural pressure to introduce water and other liquids besides breast milk since very early on in life²². In spite of the recent release of robust evidence-based international infant and young child feeding guidelines¹³, there is still a huge gap between the EBF recommendation and actual infant feeding practices observed across world regions.

For the reasons mentioned above, there is a need to understand the influences of family members in the decision-making process on whether a mother EBF or not. Hence, the objective of this study was to understand the interpersonal level relational influences of fathers, grandmothers, and other family members on the mother-child dyad adherence to EBF practices, as well as document community and societal influences on EBF. This study is based on an analysis of qualitative data collected for the formative phase of a larger collaborative study funded by UNICEF Ghana, 'Using Trials of Improved Practices (TIP) to Strengthen Infant and Young Child Feeding Programming (IYCF)'. Outcomes from this research will inform the co-design of a counseling intervention on best infant feeding practices, strongly focusing on EBF, in the context of responsive feeding in Central Ghana.

Methods

Setting

This study took place in three selected districts, South Assin, Komenda Edna Eguarfo/Abirem (KEEA), Gomoa East in the Central Region of Ghana where 60% of mothers breastfed within one hour of birth and 90.6% within one day post-partum⁵. Between 78.4% and 84% of mothers BF exclusively for the first month of life, but the prevalence drops to 53.1% by the third month and 32.6% by the fifth month^{5,23}. It has been reported that a third (33.6%) of children start complementary feeding between 4 and 5 months of age⁵. The Central Region has 46.9% of children living with both parents, 33.3% living with their mother only, 5% living with their father only, and 14.9% with other caretakers⁵. Also, the prevalence of teenage pregnancies is 21.3% higher than the national rate (14%) and the perinatal mortality rate is high at 46/1000 pregnancies⁵.

Study design

This study used a qualitative approach to analyze semi-structured in-depth interviews previously collected as part of a larger multiphase study intended to identify and address barriers and facilitators to best practices of infant feeding. The rationale was based on the social-ecological model with concentric highly interconnected spheres -representing the individual, interpersonal, community, and societal levels- influencing individual behavior through relational influences^{16,24,25}.

The in-depth interviews included open-ended questions about infant and young child feeding (IYCF) focusing on: a) factors driving EBF, b) the introduction of complementary foods, c) meal frequency, d) diet diversity, e) responsive feeding, f) family support, and g) influences on recommended IYCF beliefs.

Participants and sample size

Study participants were mothers (adults and teens), fathers (adults and teens), and other caregivers of a child younger than 1-year-old who were involved with feeding the child. Participants were recruited by the research coordinator at the Child Welfare Clinics (CWC) and in the communities through local community health volunteers. Due to the COVID-19 pandemic, a safety protocol for interviews was developed and followed strictly. Purposive sampling²⁶ was used to include diverse ethnic groups and took into consideration the differences between coastal, inland, urban and rural settings.

In total 52 in-depth interviews were conducted with teen mothers (n=12), adult mothers (n=12), teen fathers (n=4), adult fathers (n=12), caregivers (n=12) in nine towns/villages across the three Central Region districts (Dutch Komenda, Elmina, Nsuta, Ojobi, Nyanyano, Kissi, Assin South, Achiasi and Abrobraeano). Interviews were coded until information saturation was attained. All family described in this paper was anchored in relationship to the index child. In two interviews where mothers and fathers answered together, the person providing each answer was clearly identified in the transcript.

Ethical considerations

Permission for conducting the study was obtained from regional and district level offices and formal ethical approval was obtained, prior to implementation, from the Ghana Health Services Ethics Review Committee. All participants provided their signed informed consent after receiving a clear explanation of the study and their rights as participants. Following the interview, participants received GHC 10 cedis (equivalent to \$1.30 dollars) in cell phone credits for participation.

Data collection and Data Analysis

The interviews were recorded in the local language (Twi), translated to English by a trained bilingual staff member, and transcribed. Data were de-identified to guarantee the anonymity of participants.

The analysis used a ground theory approach based on inductive conceptual coding^{27,28}. Hence, coding reflected the content from collected data and not the researchers' a priori points of view. The analysis was made in 5 steps: transcript reading, codebook development, coding, analysis and conceptual framework, discussion with local research team. Three researchers (GE, AH, RF) read 5 transcripts, one from each group, to identify and discuss major themes and sub-themes based on the information from the interviews and began to develop the codebook. The same process was conducted three more times to develop a consensus codebook. The consensus codebook themes and subthemes were grouped by level of the socio-ecological model, and IYCF practices. The IYCF best practices operational definitions were based on the WHO definitions of EBF and other recommended IYCF behaviors, including age of introduction of complementary foods. For adherence to IYCF best practices, the dyad was considered to EBF if not offered water, BMS, or other foods or liquids for six months; non EBF if the infant was offered any other liquids; complementary feeding (CF) if the infant was offered solid food; and responsive feeding (RF) if the infant was fed taking into account perceptions of hunger, satiety, and involved stimulating and loving interactions with the baby. All interviews were coded using the consensus codebook until information saturation was reached. The interviews were coded using the software NVivo® 12 Pro. Saturation was the point when no new themes or sub-themes emerged from

subsequent interviews' coding. Saturation was achieved after coding 30 interviews. The lead researcher (GE) read 5 more interviews (Total=35) to confirm that information saturation had been reached. Relational influences were considered supportive if they reinforced dyad's adherence to EBF and interfering if they weakened the dyad's adherence to EBF.

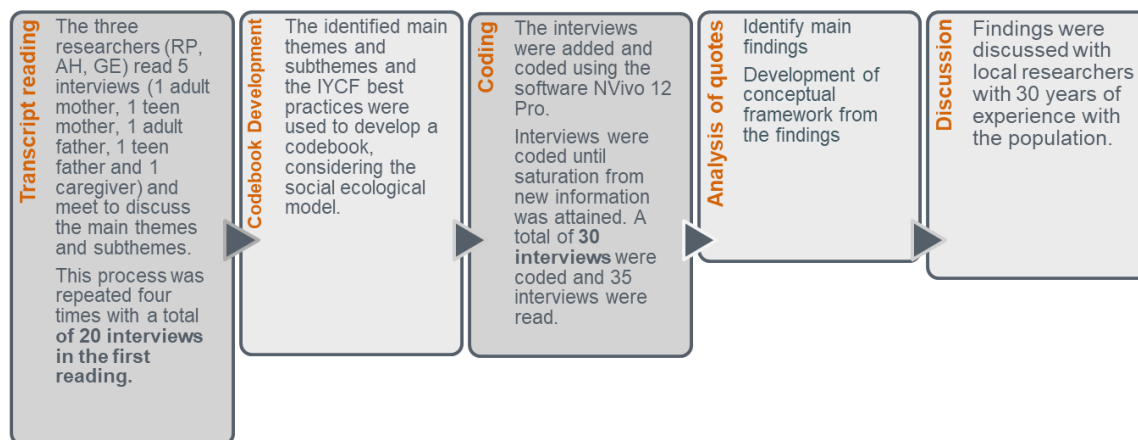


Figure 1. The process of developing and coding the interviews until information saturation was reached

The findings were analyzed and a relational conceptual framework was developed by three researchers (GE, AH, RF) based on the previously discussed interconnected levels of the socio-ecological model (Figure 2)¹⁶. The main EBF themes identified at the *interpersonal level* were family members: *father, grandmothers, female relatives* (aunt and elderly females), *expanded family* (grandfathers, other relatives); and at the *community level*, these were non-family members such as *health professionals*, and *church* and other *community* peers. The subthemes were *support quality, support styles, and attitudes*. The *quality of support* included *instrumental* (i.e., monetary, material, chores, and caregiving to the child); *emotional*; *informational* (source of knowledge); and *beliefs*. *Support styles* included *authoritarian or not following the mother's (parent's) wishes* (ignoring the mother and/or the father or actions not considering the mother's wishes, decision, or opinion), *absent* (not present or participating), *partner involvement* (participating side-by-side with the mother), *protective* (creating protection around the dyad), *normative or traditional* (following the traditional male/female roles). *Attitudes* were defined as *proactive*

and *passive*. At the *societal level*, the themes were *social norms, cultural beliefs, financial means, infrastructure, and advertisements*. There were no subthemes identified in this level.

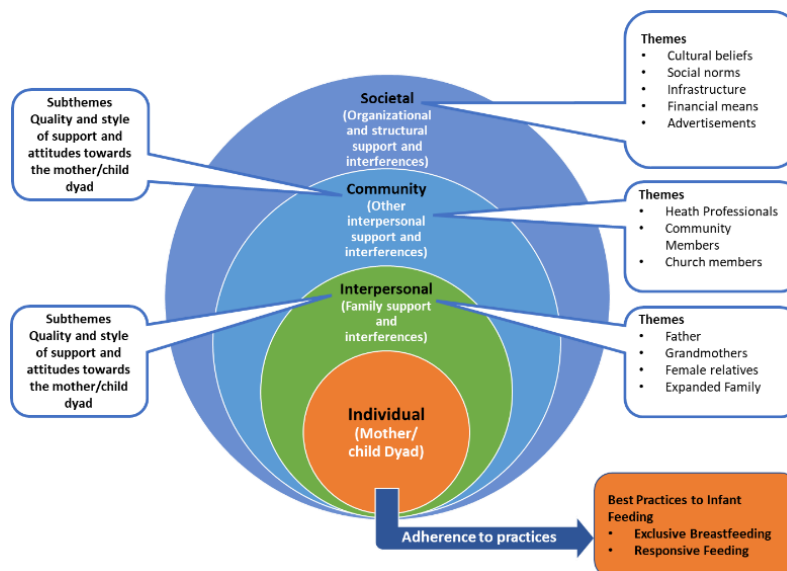


Figure 2. Conceptual framework based on the social-ecological model of relational influences, based on themes and subthemes identified on the interviews¹⁶

Findings were then presented, discussed, and confirmed with the study's Ghanaian collaborators who have almost two decades of work experience with maternal and child health within these communities.

Results

General results

Overall, mothers, fathers and caregivers demonstrated knowledge about EBF practices, agreeing with the recommendation that the child should be fed only breastmilk during the first 6 months. Interview findings indicated that the introduction of water, BMS, or solid food ranged from the first day of life to 7 months. Respondents were well aware of sanitation and hygiene practices such as cleaning the breast before feeding the baby and keeping the environment clean and felt that they were positively associated with the child's health, which seemed to be consistent with social norms and healthcare providers'

instructions. Interviewees seemed to be aware of what is referred to as responsive feeding practices. The association between crying and hunger, stopping sucking the breast when satiated, playing when the child is not hungry, and singing while feeding the baby. In particular, the recognition of the need for nurturing interactions such as singing and playing while feeding became more noticeable when talking about complementary foods.

Relational influences interconnection between the social ecological model levels

Findings showed that relational influences within the family (i.e., mothers, fathers, grandmothers, and other family members) were not happening in isolation as the family members' IYCF knowledge and behaviors were influenced by health professionals, and community and church members. As shown in our expanded framework (Figure 3), within the interpersonal level, family members influenced each other with knowledge, beliefs, and attitudes. The community level had strong but distinct influences on the knowledge and beliefs of both fathers and grandmothers. Healthcare professionals had more influence on fathers, while community members had more influence on grandmothers. Lastly, the societal level cut across all other levels, influencing the individual, interpersonal, and community levels.

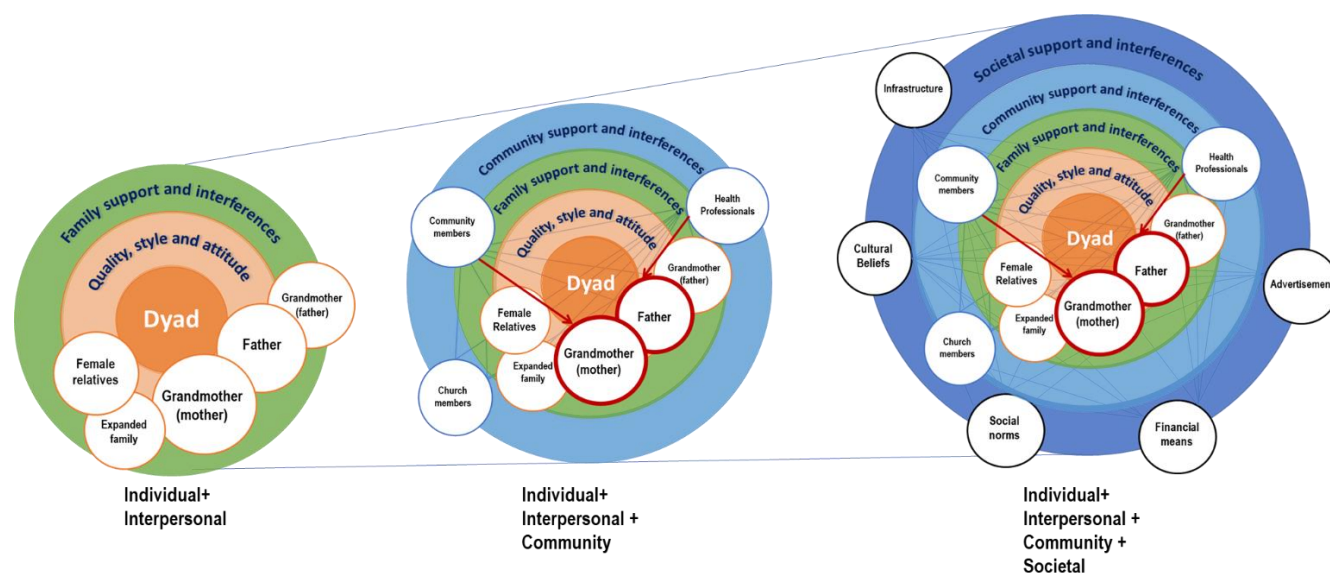


Figure 3. Relational Influences between the social-ecological levels¹⁶

Each level of the social ecological model adds complexity to the interpersonal level relational influences on the dyad

Individual

The individual level focused on the mother/child dyad (Table 1). Mothers played an important part in adhering to EBF. Mothers had informal jobs, such as farming and selling and stopped to work after giving birth. Mothers were proactive in requesting financial help from fathers and grandmothers as illustrated by this quote.

“If I don’t have money, I would ask my mother (grandmother)... I will work my way out and get some money... If I don’t get some, I will ask the child’s father... He will get some.”

Teen mother Interview 02

Maternal beliefs about breastfeeding and determination to EBF were key elements for successful BF outcomes. Specifically, mothers with strong beliefs about the benefits of EBF adhered more frequently to EBF if they had interpersonal support. The child played an important role as crying was referred to as a reason for a mixed feeding, including offering other fluids to the child. In that matter, the support from family members was crucial to maintaining EBF.

Table 1. Individual level relational influences on EBF in Ghana - themes, subthemes and illustrative quotes

INDIVIDUAL - DYAD		
Themes	Subthemes	Quote
Mother	Caregiving	“I feel frustrated and don’t know why he is crying. He is always crying. When he is lying down, he can cry and does not sleep anymore. I breastfeed him for a long time until the day breaks. In the morning, my head aches. Then I went to buy the food.” Adult mother Interview 21
	Proactive	“If I don’t have money, I would ask my mother (grandmother)... I will work my way out and get some money... If I don’t get some, I will ask the child’s father... He will get some.” Teen mother Interview 02 “In my house, when people give birth, they start feeding the children at three months, they expect you to start feeding the child but I didn’t give my child food.” Teen mother Interview 13
	Knowledge	“When I return from school, I clean myself and clean the tip of my breast. Otherwise, the sweat on my body will make it taste salty... The child can suck dirt from the nipple.” Teen mother Interview 05 “Yes. It is breastmilk only that I know they say we should give to the child if the child is not yet 6 months and so when they get to the 6 months, then you give them food and water... Yes, it’s the nurses that told me.” Older Mother Interview 07 “When I breastfed the child, he was still crying. So that was when I knew that the breast milk was not enough for him, then I gave him food in addition. When I gave him the food in addition, then he stopped the crying.” Older mother Interview 28
	Beliefs	“About 3 months. That was when I give water to the child... Oh for me, I thought maybe the child is thirsty. That was why I give to the child.” Adult mother Interview 07

Interpersonal

The interpersonal level was comprised of the family members (i.e., father, grandmothers, female relatives, and expanded family) and their support style, quality, and attitudes towards the dyad. At this level, the relational influences were strong in promoting or hindering the adherence to EBF (Table 2).

Nonadherence to EBF was displayed through the introduction of water, BMS, solid food introduction, sometimes rooted in specific beliefs. Support from close family members was necessary to help the maternal/child dyad adhere to EBF. Sometimes family members interfered with the mother's wishes to practice EBF, instead of supporting them. Support style that had a positive influence on EBF was protective. The support style authoritarian or not following the mother's/parent's infant feeding wishes had negative influence on EBF. The support quality with the most influence was driven by sound knowledge, followed by instrumental support related to household chores, finances, and caregiving.

Fathers, regardless of age (i.e., teen or adult), created a protective barrier around the dyad. Their presence mitigated the potential negative impact of other family members who interfered with breastfeeding practices by offering other liquids and foods earlier than recommended. In some interviews, fathers had an authoritarian style towards the mother. Fathers were a source of instrumental support, mostly financial and material related to the child's basic needs, such as food and medical care. In agreement with this finding, the absence of the father facilitated the interference from relatives who undermined EBF by offering water and other liquids to the infant. Fathers also provided emotional support and received knowledge and examples from other generations. The following quotes illustrate the different types of support for EBF offered by fathers.

Protective

"As for them, they can't take any decision from me because I have given birth to my child... I have learned about breastmilk that is given to the child before the 6 months and how it helps the child. So, you can't come to tell me to give the child food when the child is not to 6 months."

Adult father Interview 14

Emotional

"if the mother give birth and you let her, you let a lot of pressure on her ... When it's like that, she will not even get the breastmilk for the child to be able to have access to it until the 6 months...So as a father, you have to help the mother."

Adult father Interview 38

Caregiving

"If the child was crying, and if I notice was disturbing the mother a lot, and if she was giving breast milk and the child, wasn't breast feeding and, doing something like that, I myself can take the baby and carry the baby on my chest, and I can walk around, with the child"

Teen father Interview 43

Authoritarian

"They come! I gave her a strong warning that she should do what I want for the child. When the child is sick, I will be the one to pay the hospital bills; I gave her a strong warning."

Adult Father Interview 16

Knowledge

"So, they (grandparents) explain to me it (take good care) involves a child's feeding, how the child moves the body in the other. let's say if you're going to bath the child and you have to massage the child before bath and the child and other things."

Teen father Interview 45

Grandmothers of the infant, mainly the mother's mother, were important sources of support during the first 6 months. They cared for the mother and the child, did chores around the house, and provided financial, and material resources. They were a relevant source of infant feeding sound knowledge. Also, grandmothers' personal beliefs not aligned with EBF, negatively influenced mother's adherence to EBF. However, some grandmothers had a do not following the mother/parents' wishes support style by offering water, infant formula, and food before 6 months.

Not following the mother's wishes

"That's what I said, even if the child is a day old, I can give him water. The day they were discharged from the hospital, I bought bottled water for them. He has been drinking it till he grew up. When we go to the hospital, we are told not to give it to them, but we don't follow it."

Grandmother Interview 09

Beliefs

"Please for my grandchild, when we brought the child home from the facility, my child, that's the mother of my grandchild was a first-time mother so her breast although did contain some milk, the milk wasn't enough."

Grandmother Interview 19

Knowledge

"No, these days, we don't give children water unless they are 6 months old and above. When they are 6 months and above, you can give food and water. If they are not, you don't give them."

Grandmother Interview 10

Chores

"I said the grandmother (mother) was here... Because if even for the child, the mother is not ready to sweep around. The mother of the child's - the baby's mother, the grandma is around and can do all the chores. So, she'll also be free."

Adult father Interview 14

Other female relatives, mainly mother's sisters, also provided support to the dyad during the first year of the child's life by helping with chores and caregiving. In some instances, both grandmothers and aunts of the infants even breastfed the child in the absence of the mother.

"My sister has given birth. Maybe if I am not there and then the baby is crying, she is able to breastfeed the baby. They know what the nurses said so they are able to breastfeed him. When I return, then I go for the baby."

Older mother Interview 22

Expanded family members (i.e., grandfathers and great grandmothers) weren't mentioned often, but findings showed that grandfathers were important, taking care of the infant, serving as an example for fathers, and proving support for EBF. On the other hand, findings confirmed that some family members went around the mother's and father's wishes for EBF by offering other liquids to the child.

"You would see that it was not we ourselves who gave water to the baby. It is I or my father or my in-law who forced her to give the baby water and so on. She was trying her best to breastfeed the child for six months"

Aunt Interview 23

Table 2. Interpersonal level relational influences on EBF in Ghana- themes, subthemes and quotes

INTERPERSONAL - Fathers, Grandmothers, Female Relatives and Expanded Family		
Themes	Subthemes	Quote
Father	Protective	"As for them, they can't take any decision from me because I have given birth to my child. And for me also, what I know, the little that I have learned about breastmilk that is given to the child before the 6 months and how it helps the child. So, you can't come to tell me to give the child food when the child is not to 6 months. Because I have learned a little about that breastfeeding." Older father Interview 14
		"Like somebody telling you they are twins. And that the breastmilk will not be enough for them. The mother will struggle. Or, ah heh. So, they'll tell you to give the child food. But I know what will be helpful for the children. And so, I wasn't paying attention to what they had to say." Older father Interview 14
	Absent	"For water they give some to the child because as for water, it is we humans are alive, water is our life, so for water the child takes a lot... For the water to me, the day that, they gave birth to the child, the day that they delivered the child that was when they started giving water." Teen father Interview 43
		"Okay, at times when my wife is going to 'maternity' (post-natal) I go with her. When we go, the nurses educate them on it... Okay, from birth to six months, we didn't give him water, only breast milk until he was six months." Adult father Interview 16
Partner	"Oh, but normally when I'm home - usually the children are too. If only I am home. Then maybe she picks one and I pick one... I don't go to any other place. Ah heh. So, we have time for them." Adult father Interview 14	
Financial	"He is the one who buys and brings food for the child. When he realized that the breast started producing milk, then he stopped." Teen mother Interview 05	
	"With the child's father, he often sent me money every day (...) In the afternoon I may not get the money to buy food. So, I may have to breastfeed the child and wait till evening." Teen mother Interview 11	

	Caregiving	<p>"if the child was crying, and if I notice was disturbing the mother a lot, and if she was giving breast milk and the child, wasn't breast feeding and, doing something like that, I myself can take the baby and carry the baby on my chest, and I can walk around, with the child" Teen father Interview 43</p> <p>"so we have the child's smaller bowl and spoon, so when you give it to the child, the child is able to eat it, gradually." Teen father Interview 43</p>
	Emotional	"if the mother give birth and you let her, you let a lot of pressure on her ... or if you're not paying attention to the mother or something like that. When it's like that, she will not even get the breastmilk for the child to be able to have access to it until the 6 months...So as a father, you have to help the mother. For the 6 months, all that you can do to help the mother so the child gets the 6 months breastmilk, you have to help out with it" Adult father Interview 38
	Beliefs	"When we gave the baby water, you realize that he was light weighted. When we were giving him water, we realized that his weight changed a bit. Because the water added to his weight" Adult father Interview 18
	Authoritarian	"They come! I gave her a strong warning that she should do what I want for the child. When the child is sick, I will be the one to pay the hospital bills; I gave her a strong warning." Adult Father Interview 16
Grandmother	Knowledge	"No, these days, we don't give children water unless they are 6 months old and above. When they are 6 months and above, you can give food and water. If they are not, you don't give them." Grandmother Interview 10
	Not following mother/parents' wishes	<p>"That's what I said, even if the child is a day old, I can give him water. The day they were discharged from the hospital, I bought bottled water for them. He has been drinking it till he grew up. When we go to the hospital, we are told not to give it to them, but we don't follow it." Grandmother Interview 09</p> <p>"My mother. On the very day I came from the hospital, she went to buy the baby food in a can for the child... The child was one week old then they gave it the Lactogen. She didn't tell me why (she did it)." Teen mother Interview 02</p> <p>"I showed it (breastmilk wasn't coming) to my mother. But she didn't say I should take it to hospital... Because of my mother's actions that's why I could not go." Teen mother Interview 05</p>
	Authoritarian	"When she gave birth, if the breast milk was coming, I wouldn't have allowed her to give him food until six months." Grandmother Interview 06
	Financial	"Even if there is no money, my mother gives me money to go and buy food for the baby" Older mother Interview 21
	Caregiving	<p>"When I go to the church, I give the baby food. When he is crying, I breastfeed him, otherwise he will keep crying" Grandmother Interview 24</p> <p>"When my grandchild is hungry, the way he will cry; he will cry for you to know that he is hungry. That way you will know that he is hungry. As soon as he eats, you will see him playing." Grandmother Interview 06</p>
	Chores	"I said the grandmother (mother) was here... Because if even for the child, the mother is not ready to sweep around. The mother of the child's - the baby's mother, the grandma is around and can do all the chores. So, she'll also be free." Adult father Interview 14
	Caregiving	"He is a child. Any time she leaves him with me, I take good care of him. He plays and eats well. When I realize that he is crying, I leave whatever I am doing, if I have to feed him, I do so and he sleeps. If he has to breastfeed, I take him to his mum to do that and bring him back. In the evening, I take him back." Grandmother Interview 09
	Beliefs	<p>"Please for my grandchild, when we brought the child home from the facility, my child, that's the mother of my grandchild was a first-time mother so her breast although did contain some milk, the milk wasn't enough." Grandmother Interview 19</p> <p>"...there are some children that it seems the breastmilk isn't enough for them. They will cry for a long time; even after breastfeeding, the breast milk doesn't satisfy them, so they still cry. In that case, you are supposed to give NAN to the child or Lactogen because porridge gives them too much phlegm" Grandmother Interview 06</p> <p>"in the beginning, when she gave birth, when I (grandmother) go to the farm, by 12noon, I come back to cook for her. I prepare palm nut soup and I and Turkey berries to it to enhance breast milk production, still there was little milk." Grandmother Interview 06</p>
Female relatives	Knowledge	<p>"At first, when we give birth, we can give them food, but that was in our days. One of my children in Accra gave birth and when I went there, I wanted to give her water and my child said no, these days, we don't give water to the children unless they are six months. When they are six months, you can give them water and give them food. When she said that, I kept it in mind." Grandmother Interview 06</p> <p>"Please, what I know is breastfeeding and maybe for the children ... NAN maybe if their mother is not around. If the mother is not around then we give (Nan)." Aunt Interview 01</p> <p>"My sister has given birth. Maybe if I am not there and then the baby is crying, she is able to breastfeed the baby. They know what the nurses said so they are able to breastfeed him. When I return, then I go for the baby. " Older mother Interview 22</p> <p>"I was talking to one of my children a while ago. When she gave birth to her second child, she didn't give her food until six months, the child seldom falls sick, he seldom falls sick. The child looks good, her skin is different. She was telling me, 'aunty, do you know that this thing we are told to do for the children is very helpful. I didn't give her food; I didn't give her water till six months. Look how good she looks; she looks very beautiful, it's surprising. She is very intelligent.'" I said, yes, this thing makes a child very intelligent, they hardly fall sick. Hence, it is very beneficial." Grandmother Interview 06</p>

	Caregiving	"Me, the children when they're tired and sleepy, I look at their behavior and I notice it. And when they are hungry too - when I look at them then I know." Aunt Interview 01
	Beliefs	"He is able to take in breast milk. So, when he takes in the breast milk, he can then drink the water in addition. I can't say that he should take in only the breast milk, otherwise he will be light weighted." Aunt Interview 23
Expanded family	Partnership, Instrumental (caregiving) and Emotional Knowledge	"The moment you put the child on the bed, the child will cry. So, we had to carry the child always. When I carry the child and I'm tired than the mother will take over. When her mother was tired then her father will also, that is my husband will also take over. We will take turns like that throughout the night till the morning. And we didn't want to give something like water to the child." Grandmother Interview 19
		"They asked me why I was not breastfeeding the child. And I said it wasn't like that, but it's my breast which rather had an issue that's why the child was crying that way. Then they said that if that be the case, then we should go and buy NAN 1 and mix with hot water into liquid form and give it to the child." Teen mother Interview 05
		So they (grandparents) explain to me it (take good care) involves a child's feeding, how the child moves the body in the other. let's say if you're going to bath the child and you have to massage the child before bath and the child and other things." Teen father Interview 45
	Not following mother/parents' wishes	"You would see that it was not we ourselves who gave water to the baby. It is I or my father or my in-law who forced her to give the baby water and so on. She was trying her best to breastfeed the child for six months" Aunt Interview 23 "I was in Apam on a fishing expedition on the sea (...) (When he came home) They said they've given the child porridge to eat (...) No (He did not agree). I couldn't do anything about it (...) Because they were giving it already. If I do anything, it will not reverse it." Teen father Interview 25
	Financial	"For the family members, if you even go to them, they are even in more financial stress than you are. They will not get some for you" Adult father Interview 38

Community

The community level consisted of healthcare providers mostly nurses, and other community and church members (Table 3). Healthcare providers were an important source of EBF knowledge including providing education on not offering water or other food until the infant reached 6 months, and proper hygiene practices before breastfeeding. Fathers reported adhering to the information coming from nurses, who had more influence over the fathers than the grandmothers did. Nurses provided support in moments of stress, such as when the child was crying, and the family was insecure about breastfeeding. In a few cases, the nurses were closer to the family than some relatives, answering questions by phone. In one situation, a nurse even directly shown the grandmother how to prepare the infant formula, attitude not supportive to EBF. The growth monitoring appointment was cited as a major source of knowledge.

Knowledge

"so the nurses made us understand, that for every child, if the child isn't six months and above, the child is not supposed to be fed heavy food, and so heavy food too, is like, for those six months and above but there are six months and below it is breast milk they are supposed to be offered"
Teen Father Interview 43

"So, she (the nurse) told me I should go and buy the Voltic and come and show it to her and she will teach me how we will do it before we will give it to the child. So, we went to buy and took the water also to her and she taught us how to do it. She warmed the water with a heater in a cup then she taught us how you will do it for the child"
Grandmother Interview 19

Other community members appeared to influence infant feeding practices but not as strongly as healthcare professionals and family members. Neighbors or people in the community were a source of financial support, and were a source for keeping the compound clean, or otherwise they would notice. Also, there was concern about neighbors' and church members' thoughts about the family when the child was crying too much, increasing the urgency to stop the child from crying and maybe adding other liquids to the diet. As illustrated in the quotes below, they were also a source of knowledge and beliefs related to breastfeeding.

Financial

"If I don't have money, then I will go and borrow. Yes, I will go and borrow. I'll ask a neighbor. I don't have money now, please, can you lend me something so I can offer to the child."

Grandmother Interview 10

Knowledge

"I was talking to one of my children a while ago. When she gave birth to her second child, she didn't give her food until six months, the child seldom falls sick, he seldom falls sick. The child looks good, her skin is different. She was telling me, 'aunty, do you know that this thing we are told to do for the children is very helpful. I didn't give her food; I didn't give her water till six months. Look how good she looks; she looks very beautiful, it's surprising. She is very intelligent.'" I said, yes, this thing makes a child very intelligent, they hardly fall sick. Hence, it is very beneficial."

Grandmother Interview 06

Supervisor

"When we go to church, and the baby cries, we are able to breastfeed the baby. When the baby is crying, the pastor says you should take care of the baby."

Grandmother Interview 24

Table 3. Community level relational influences on EBF in Ghana- themes, subthemes and quotes

COMMUNITY - Healthcare Professionals, Community Members, Church Member		
Theme	Subtheme	Quote
Healthcare professionals	Knowledge	"so the nurses made us understand, that for every child, if the child isn't six months and above, the child is not supposed to be fed heavy food, and so heavy food too, is like, for those six months and above but there are six months and below it is breast milk they are supposed to be offered" Teen Father Interview 43
		"If he is less than six months, you have to give him breast milk until he is six months... Please when we go to the hospital during pregnancy we are told (EBF). After birth also, when we go for weighing, they teach us these things." Grandmother Interview 09
		"All of these are written on the weighing card, so I got the information from it. And then time to feed the child and the kind of food to give to the child" Teen mother Interview 11
		"So, the child is crying every time in the night. And the nurse had said we should continue and give the breast milk that it will get to a stage that the child will stop." Grandmother Interview 19
		"When we went to the nurses, they said the breast milk protects the baby. It makes them get good health and strength" Grandmother Interview 24

“I took one of the nurses’ number. I call her in some cases and tell her this is happening to the skin and she said we shouldn’t heed to what anyone says. We should continue with that for six months.” Adult father Interview 16

“One of the nurses even used her child as an example that the child is very strong and has become intelligent. It is very important; the nurses have been trained for this and they know the effects it has; hence, we shouldn’t listen to what anyone says. That’s what motivated us to practice the six months’ education.” Adult father Interview 16

“Since I go to school, I was advised (healthcare professionals) that when I return from school, I shouldn’t breastfeed the child straightaway but rather wash the tip of the breast and press out the old breast milk that is in the breast before breastfeeding the child. This is because it can make the child experience diarrhea.” Teen mother Interview 05

“So, she (the nurse) told me I should go and buy the Voltic and come and show it to her and she will teach me how we will do it before we will give it to the child. So, we went to buy and took the water also to her and she taught us how to do it. She warmed the water with a heater in a cup then she taught us how you will do it for the child” Grandmother Interview 19

Community members	Knowledge	“A certain woman taught me... She lives at Komenda, and she taught me... She told me to give the child lactogen and breast milk.” Teen mother Interview 02
	Supervisor	“You have to sweep your compound, wash all your dishes, wash all your dirty clothes, and fold them up properly to be kept. When people come by, then they’ll be like “This woman she maintains hygiene. She’s good.” And comments like that. If you don’t do your things that way, every day, people will be insulting you or the environmental health people will come and deal with you.” Grandmother Interview 09
	Financial	“If I don’t have money, then I will go and borrow. Yes, I will go and borrow. I’ll ask a neighbor. I don’t have money now, please, can you lend me something so I can offer to the child.” Grandmother Interview 10
Church members	Supervisor	“When we go to church, and the baby cries, we are able to breastfeed the baby. When the baby is crying, the pastor says you should take care of the baby.” Grandmother Interview 24
	Knowledge	“When I attend church, and the child is crying, I go out and find a place to sit, then feed the child. Sometimes when you breastfeed the child, he is not satisfied, so you have to maintain the situation that same way and bring the child home.” Teen mother Interview 05
		“When you go to church, they teach on these things. When the young men and women go to church, they can listen to these things, and when we the mothers also go, we can listen to these things and advise the children who are involved in these things.” Grandmother Interview 12

Societal

The societal level was populated by cultural and social norms, financial resources, marketing, and physical and technological infrastructure. Overall, we found strong infant feeding cultural and social norms in relationship to the traditional role of female and male relatives. Gender inequity was clearly documented as women were responsible for taking care of the house and keeping it clean. The maternal grandmother strongly influenced infant feeding decisions in the first semester of the child’s life. Their expectation was that the mother should be strongly focusing on the baby during this time. Other female relatives, mainly the mother’s sisters, were expected to support their siblings during this period, even with breastfeeding. Grandmothers, mostly mother’s mother, are expected to care for the mother in these first months after giving birth.

“But you see, when a woman gives birth, it is her mother that comes to take care of the baby. So, when someone gives birth, it’s not everyone who has strength to cater for the baby after giving birth, unless another person comes to help. So, the mother of the woman who comes to help”
Adult father Interview 18

Societal beliefs strongly interfered with EBF practices. For example, water was often introduced because of the belief that infants get thirsty if they don’t receive it. In some instances, water was also

associated with helping the infants reach satiety and helping them with weight gain. Another common belief was that breastmilk was not enough to satisfy child hunger. This belief was particularly true for first-time mothers. Interestingly, if the grandmother herself had perceived insufficient breastmilk, it was assumed that her daughter wouldn't have enough breastmilk either. Thus, offering infant formula in the first 6 months of life was often considered necessary.

“He is able to take in breast milk. So, when he takes in the breast milk, he can then drink the water in addition. I can't say that he should take in only the breast milk, otherwise he will be light weighted.”

Aunt Interview 23

The need for financial resources was also an important factor determining breastfeeding practices. Mothers had informal jobs, such as farming and selling, and most stopped working after giving birth. The ones that had to work to earn an income subsequently had to leave the child with relatives making it challenging for her to EBF. Breastfeeding was seen as a money saving practice. Both fathers and grandparents were expected to give financial support to the dyad during the child's early years. Financial resources were associated with food security for the child. Specifically, the lack of financial resources had a negatively affect the quality and amount of food offered to the child, as well as a reduction on meal frequency. The attendance to appointments was not impacted mostly by the economic hardships, however, some respondents reported receiving care near home or seeking advice in the community. These appointments were identified as an important source of knowledge on how to care for the child.

The naming of the child involved a ritual in which the baby was given or spread in the baby's mouth a mix of liquids varying from water and honey to Coca-Cola and alcohol. The ritual happened as part of the naming ceremony which could take place at different ages across children and was not necessarily associated with the routine introduction of other liquids such as water.

“With the child naming (happened with one week), they put alcohol in the baby's mouth and the other things they brought. Then they name the baby with either the father's name or the mother's name...It does not worry me...They put a little in the baby's mouth then it licks”

Grandmother Interview 24

Indeed, most respondents indicated that the child was exposed to water before the naming ritual, or that the event did not lead to routinely offering water and other liquids to the baby.

Breastmilk substitutes (BMS) were perceived as good as breast milk. Indeed, fathers and caregivers did not associate marketing advertisements of BMS with the consumption of infant formula. It is important to note however that “NAN 1” and “Lactogen”, which are infant formula brands, were used as the term to refer to BMS. Additionally, the infant cereal brand “Cerelac” and mineral water brand “Voltic” were also commonly mentioned during the interviews. The water available in the houses was reported not suitable for infant use, therefore it was common to use mineral water for preparing BMS.

*“NAN 1 is similar to breast milk. It doesn't contain much sugar.”
Teen mother Interview 05*

Breastfeeding-friendly physical infrastructure such as a private room or space for breastfeeding, was mentioned twice as being relevant to breastfeeding support in churches. Also, a mother attending school mentioned having limitations for breastfeeding during school hours.

*“In my church, we have a small room that if you have a child, you can go there and do everything for the child. So that's where we go.”
Teen mother Interview 11*

Table 4. Societal relational influences on EBF in Ghana - themes and quotes

SOCIAL- cultural beliefs and social norms, infrastructure, financial means, advertisements	
Themes	Quote
Social norms	<p>“Well for anyone, when your relative comes to visit you, he or she would help you. That's not a big problem. But you see, when a woman gives birth, it is her mother that comes to take care of the baby. So, when someone gives birth, it's not everyone who has strength to cater for the baby after giving birth, unless another person comes to help. So, the mother of the woman who comes to help” Adult father Interview 18</p> <p>“Oh, as for that (hygiene), as a woman, once you wake up, the first thing that you do once you wake up is to sweep around to put your house in order. You wake up early and do all that before you attend to your child.” Aunt Interview 01</p> <p>“For us, the work that we do, when we're going, the mother doesn't go with us. She doesn't go with us because of her child. The interpretation is that she should stay at home and take care of her child. And so she doesn't go with us. Even if she will be going, it's only because, once the child has eaten in the morning, we are going there to carry food stuff back home. If I'm going to the farm to work, then the mother does not go with me.” Grandmother Interview 10</p> <p>“Maybe when I give birth, my mother would say that let's give water to the baby right away. But when we go to the hospital, the doctor would say let's not give him water. If you don't do it ... In case something bad happens in the future, she would say that she told you earlier on but you didn't do it. She would say that you did not show her respect.” Aunt Interview 23</p> <p>“There's no effect of it but looks like in the past, they would use an alcoholic drink to do it but now they use water and soft drinks like Coke and the others. That is what they used to do it. And as for that, it didn't bother me in any way.” Adult mother Interview 07</p> <p>“With the child naming (happened with one week), they put alcohol in the baby's mouth and the other things they brought. Then they name the baby with either the father's name or the mother's name...It does not worry...They put a little in the baby's mouth then it licks” Grandmother Interview 24</p>

	"No she got pregnant while going to school. ... she would leave the baby behind and the parents will take care of the baby so, when they are on break, when she would ask for permission to go and attend to the baby and return to school... it reduced the breast feeding because, she will leave the child behind and go to school" Teen father Interview 43
Cultural Beliefs	"...there are some children that it seems the breastmilk isn't enough for them. They will cry for a long time; even after breastfeeding, the breast milk doesn't satisfy them, so they still cry. In that case, you are supposed to give NAN to the child or Lactogen" Grandmother Interview 06 About 3 months. That was when I give water to the child... Oh for me, I thought maybe the child is thirsty. That was why I give to the child." Adult mother Interview 07
Financial means	"If you are not ready, don't give birth so you'll be able to take good care of the child... You see, when the child arrives, the child will pass through a lot of strife's and troubles, must live from the parents. And it is true that you may not be doing well economically all the time. There's some people that can actually take care of children but along the line, some challenges may arrive financially. And when that happens, then they need to be helped." Aunt Interview 01 "How it was able to help us. It is able to preserve money. Because for the children, there are some people that, if they are there and they haven't done the 6 months exclusive, the food that they're supposed to buy for that 6 months - that can even become something else. So that money that you use to buy food for the child, then you can save it somewhere." Adult father Interview 14 "There are even some because when they give birth they don't have a husband or the man isn't supporting, work activities that they will not even be able to perform they will have to accept to do it because if they don't go to do some form of work, they themselves will be hungry and when they are hungry too, it will affect the baby or the child." Adult father Interview 38 But my sister for instance, because she doesn't have time - see, that sometimes she comes to the market. That's why she would bring the child to me. At home, to take care of the child." Aunt Interview 01
Advertisement	"Watching the advert that they do, you will see that their some children when they give to them you see that the child will be playing well." Teen father Interview 45 "NAN 1 is similar to breast milk. It doesn't contain much sugar." Teen mother Interview 05 "they show it on the TV for us to see how healthy the children are after taking that and so when the nurse told us, we didn't also object." Grandmother Interview 19
Infrastructure	"In my church, we have a small room that if you have a child, you can go there and do everything for the child. So that's where we go." Teen mother Interview 11

Discussion

The findings from this study emphasized that family support strongly influenced maternal adherence to EBF. The father and the grandmother were the main relatives influencing the mother during this period. These findings are consistent with previous evidence documenting the influences fathers and grandmothers have on infant feeding practices, underscoring the need for their inclusion in interventions promoting EBF¹⁸. Indeed, involving fathers and other family members has been recommended by WHO to help improve early childhood nutrition¹³. However, these interpersonal relational influences are not isolated, as the individuals are immersed in a multi-level and multi-directional relational influence. Thus, it is necessary to consider the environments enveloping the family.

Traditional gender norms were present throughout the interviews. These gender norms have been shown to propagate gender inequities including differences in mothers' and fathers' education, uneven division of labor in the family including household chores and caregiving, power of the decision on the number of children, allocation of financial resources, with consequential impacts on the child's health^{17,29}. Indeed, within the Central Region in Ghana, 67% of women had secondary school in comparison to 82.4% of men. While the employment rate in the region was similar between women and men (74.5% vs

79.3%, respectively), the type of work differed where 18.9% of men were employed in professional/technical or managerial work while only 7.6% of women worked in such valued positions⁵.

Consistent with our findings, the literature points out that fathers are a source of informational, financial, material, and emotional support¹⁸. Our study specifically found that fathers played an important role in protecting the mother/child dyad from interference by other interpersonal relationships, mostly from other family members interference with optimal infant feeding practices by offering other fluids to the child. Fathers provided financial and material support to their families. These findings were similar to those from Acheampong et al.⁷ who found that partners influence maternal EBF behavior through their approval of the practice.

Gender dynamics bring concerns about an imbalance between mother and father power. Mothers, like the ones in our study, with informal jobs, such as farming and selling at the market, are expected to stay at home and take care of their children which may be a positive influence on EBF, however, in turn, reduces income for the household, strengthening the fathers' influence and power, as fathers are the main providers for the family. The display of an authoritarian style of interaction towards the mother/child dyad is a symptom of power imbalance, although there was no mention of intimate partner violence or other forms of harmful behavior, there is a risk of intimate partner violence which harms women physically and emotionally and with consequences on the child's health²⁹. It is relevant to bring awareness to this, as a study in Ghana found that 17% of fathers in Ghana supported wife-beating¹⁹. The father's role in protecting the dyad from others' influences cannot isolate the mother or overpower the mother's wishes. While designing counseling that includes fathers, these issues should be addressed, and father's support should be aligned with mothers' wishes and not overpowering them.

Fathers were strongly influenced by healthcare providers' recommendations in building their knowledge and positive perception of EBF. Then, fathers supported mothers in following EBF practices. These relational influences between levels are consistent with a previous study where the healthcare professionals' EBF recommendations were associated with fathers' supporting EBF³⁰. Thus, the multilevel relational influences must be considered in interventions to increase adherence to EBF. The

presence of fathers during prenatal and postnatal healthcare visits is key to supporting the mother in deciding to EBF and maintaining the decision.

The influences across different social ecological model levels were different for fathers and grandmothers. While fathers listened to healthcare professionals and followed their instructions, grandmothers were strongly influenced by their own infant feeding experiences and community members' beliefs. Grandmothers were the main caregiver for the dyad during first months of life, and this was a strong social norm. Grandmothers were expected to care for the mothers' health and recovery from birth, shared the household chores, and provided financial and emotional support.

Previous studies have found that grandmothers' with previous experience with breastfeeding and other successful examples of female relatives and nurses breastfeeding influence positively EBF²¹. In our study, this was not consistently reported but it was present in some interviews with good experiences of EBF supporting EBF and good experiences not EBF negatively influencing adherence to EBF. The grandmothers perception of a positive association of EBF with a strong and healthy child reinforces the adherence to EBF. Other female' EBF good examples impacted grandmothers' support for EBF.

Community members from church and neighborhood influences grandmothers' knowledge or beliefs about EBF. Grandmothers' attitudes shaped on these misconceptions interfered with mothers' adherence to EBF. Beliefs about the need of adding water while breastfeeding and that breast milk does not contain enough nutrition for the child have been reported in other studies with Ghanaian mothers^{21,23}. Qualitative research with mothers in Northern Ghana identified similar beliefs about babies being thirsty and that adding water to the diet helps with weight gain²³. These beliefs are present in all levels of relational influences, not exclusively in the community. To target these beliefs, future interventions need to include community members identified as key influencers.

A common ritual in Ghana is the naming the child ceremony when some preparation with water or other fluids, including alcohol or Coca Cola, is spread on the baby's lips. In our study, this practice was not perceived to interfere with breastfeeding practices. Previous studies have reached different conclusions on the influence of these rituals on mothers' adherence to EBF, with some concluding that

they do interfere with breastfeeding²¹ and others that they do not as the exposure is minimal in terms of frequency and amounts^{31,32}.

A major concern identified in our study is the perception that mothers, fathers, and caregivers had that BMS were similar to breastmilk, that BMS were good for the child's health. The fact that they used BMS brand names as the generic term for BMS shows how much exposure to BMS advertising their community had in the past or still have. Further research is needed to fully understand the marketing tactics used by the BMS industry to win the hearts and minds of Ghanaian women.

Our findings indicate that addressing the family as a whole to support optimal EBF practices is warranted. Indeed, the use of family systems designed for infant nutrition programs has intensified¹⁸. Interventions to improve male engagement in LMIC to support EBF have been tested with successful results; intervention strategies have included health education delivered to men's groups, counseling for couples, or breastfeeding support groups for men, and inclusion of fathers in prenatal and postnatal care¹⁷. WHO recommends community-based interventions to address these misconceptions to improve knowledge about EBF and demystify wrong beliefs^{13,23}. Therefore, the difference between the fathers' and grandmothers' relational influences they receive from society and give to the dyad is a key finding to design future interventions.

There are a few limitations to this study. First, the study was conducted in the Central Region, which may limit the generalizability of some of the findings. However, as mentioned above, some of the findings in this study are consistent with findings from other regions²³ suggesting that some results are generalizable. Second, the interview guide for this study was originally designed to identify barriers and facilitators to IYCF, not to specifically evaluate maternal support and familial influences on the mother to EBF. In spite of this, the richness of the findings shows that support systems for EBF across layers of the social-ecological model were very much in the minds of respondents when answering to general IYCF questions. Lastly, the interviews were translated from the native language, Twi, into English. During the translation of interviews to English, some information may be lost or changed. However, our translator

was a well-trained and a native Twi speaker with formal training in nutrition, which minimized this limitation.

Conclusions

Findings from this study reinforces the importance of familial support, primarily fathers' and grandmothers' support, for the mother to practice EBF. The father's involvement with the dyad and his participation during prenatal and postnatal care should be encouraged and considered during the design of EBF counseling sessions and interventions. Grandmothers' care for the child and sharing the household chores with the mother are key for supporting nurturing caregiving, including EBF, during infancy. However, future interventions need to fully take into account that some grandmothers' beliefs and experiences can interfere with maternal adherence to EBF. Grandmothers and other family relatives EBF knowledge and attitudes, and willingness to support it are influenced by different levels of the socio-ecological model. Moving forward it is key for initiatives to focus on community level behavior change communication campaigns to demystify beliefs among influential relatives about breast milk quality, child thirst, and BF benefits for child growth and development. Moreover, such campaigns must also target mothers and fathers themselves with the inclusion of information about responsive feeding, especially how to recognize hunger and satiety cues in infants and how to respond to infant fussiness and crying without jeopardizing breastfeeding³³.

Conflicts of Interest

All authors declare that they do not have any conflict of interest.

References

1. Joint-malnutrition-estimates-2019.pdf. Accessed January 6, 2022. <https://www.unicef.org/media/60626/file/Joint-malnutrition-estimates-2019.pdf>
2. Infant and young child feeding. Accessed November 18, 2021. <https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding>
3. Anin SK, Saaka M, Fischer F, Kraemer A. Association between Infant and Young Child Feeding (IYCF) Indicators and the Nutritional Status of Children (6–23 Months) in Northern Ghana. *Nutrients*. 2020;12(9):2565. doi:10.3390/nu12092565
4. Yawson AE, Amoafu EO, Senaya LK, et al. The lancet series nutritional interventions in Ghana: a determinants analysis approach to inform nutrition strategic planning. *BMC nutrition*. 2017;3(101672434):27. doi:10.1186/s40795-017-0147-1
5. Ghana Demographic and Health Survey. Accessed October 12, 2021. <https://dhsprogram.com/pubs/pdf/FR307/FR307.pdf>
6. Yeboah JY, Forkuor D, Agyemang-Duah W. Exclusive breastfeeding practices and associated factors among lactating mothers of infants aged 6–24 months in the Kumasi Metropolis, Ghana. *BMC Res Notes*. 2019;12:689. doi:10.1186/s13104-019-4723-0
7. Acheampong AK, Ganga-Limando M, Aziato L. Perceived enablers of exclusive breastfeeding by teenage mothers in Ghana. *S Afr Fam Pract (2004)*. 2020;62(1):5108. doi:10.4102/safp.v62i1.5108
8. Nukpezah RN, Nuvor SV, Ninnoni J. Knowledge and practice of exclusive breastfeeding among mothers in the tamale metropolis of Ghana. *Reprod Health*. 2018;15:140. doi:10.1186/s12978-018-0579-3
9. Kramer MS, Chalmers B, Hodnett ED, et al. Promotion of Breastfeeding Intervention Trial (PROBIT): a randomized trial in the Republic of Belarus. *JAMA*. 2001;285(4):413-420. doi:10.1001/jama.285.4.413
10. Lassi ZS, Rind F, Irfan O, Hadi R, Das JK, Bhutta ZA. Impact of Infant and Young Child Feeding (IYCF) Nutrition Interventions on Breastfeeding Practices, Growth and Mortality in Low- and Middle-Income Countries: Systematic Review. *Nutrients*. 2020;12(3):E722. doi:10.3390/nu12030722
11. Pérez-Escamilla R, Martinez JL, Segura-Pérez S. Impact of the Baby-friendly Hospital Initiative on breastfeeding and child health outcomes: a systematic review. *Maternal & Child Nutrition*. 2016;12(3):402-417. doi:10.1111/mcn.12294
12. Aryeetey R, Harding K, Hromi-Fiedler A, Pérez-Escamilla R. Analysis of stakeholder networks for breastfeeding policies and programs in Ghana. *Int Breastfeed J*. 2020;15:74. doi:10.1186/s13006-020-00311-x
13. World Health Organization. *Nurturing Care for Early Childhood Development: A Framework for Helping Children Survive and Thrive to Transform Health and Human Potential*. World Health Organization; 2018. Accessed April 16, 2022. <https://apps.who.int/iris/handle/10665/272603>

14. Pelto GH, Armar-Klemesu M. Balancing nurturance, cost and time: complementary feeding in Accra, Ghana. *Maternal & child nutrition*. 2011;7 Suppl 3(101201025):66-81. doi:10.1111/j.1740-8709.2011.00351.x
15. Egyir BK, Ramsay SA, Bilderback B, Safaii S. Complementary Feeding Practices of Mothers and Their Perceived Impacts on Young Children: Findings from KEEA District of Ghana. *Maternal and child health journal*. 2016;20(9):1886-1894. doi:10.1007/s10995-016-1994-0
16. Golden SD, McLeroy KR, Green LW, Earp JAL, Lieberman LD. Upending the Social Ecological Model to Guide Health Promotion Efforts Toward Policy and Environmental Change. *Health Educ Behav*. 2015;42(1_suppl):8S-14S. doi:10.1177/1090198115575098
17. Yourkavitch JM, Alvey JL, Prosnitz DM, Thomas JC. Engaging men to promote and support exclusive breastfeeding: a descriptive review of 28 projects in 20 low- and middle-income countries from 2003 to 2013. *J Health Popul Nutr*. 2017;36:43. doi:10.1186/s41043-017-0127-8
18. Martin SL, McCann JK, Gascoigne E, Allotey D, Fundira D, Dickin KL. Engaging family members in maternal, infant and young child nutrition activities in low- and middle-income countries: A systematic scoping review. *Maternal & Child Nutrition*. 2021;17(S1):e13158. doi:10.1111/mcn.13158
19. Kyei-Arthur F, Agyekum MW, Afrifa-Anane GF. The association between paternal characteristics and exclusive breastfeeding in Ghana. *PLoS One*. 2021;16(6):e0252517. doi:10.1371/journal.pone.0252517
20. Kavle JA, LaCroix E, Dau H, Engmann C. Addressing barriers to exclusive breast-feeding in low- and middle-income countries: a systematic review and programmatic implications. *Public Health Nutrition*. 2017;20(17):3120-3134. doi:10.1017/S1368980017002531
21. Nsiah-Asamoah C, Doku DT, Agblorti S. Mothers' and Grandmothers' misconceptions and socio-cultural factors as barriers to exclusive breastfeeding: A qualitative study involving Health Workers in two rural districts of Ghana. *PLoS One*. 2020;15(9):e0239278. doi:10.1371/journal.pone.0239278
22. Diji AKA, Bam V, Asante E, Lomotey AY, Yeboah S, Owusu HA. Challenges and predictors of exclusive breastfeeding among mothers attending the child welfare clinic at a regional hospital in Ghana: a descriptive cross-sectional study. *International breastfeeding journal*. 2016;12(101251562):13. doi:10.1186/s13006-017-0104-2
23. Adda L, Opoku-Mensah K, Dako-Gyeke P. "Once the child is delivered, he is no more your baby," Exclusive Breastfeeding experiences of first-time mothers in Kassena-Nankana Municipality, Ghana - a qualitative study. *BMC Pregnancy Childbirth*. 2020;20:575. doi:10.1186/s12884-020-03272-5
24. McLeroy KR, Bibeau D, Steckler A, Glanz K. An Ecological Perspective on Health Promotion Programs. *Health Education Quarterly*. 1988;15(4):351-377. doi:10.1177/109019818801500401
25. Organisation mondiale de la santé, ed. *Rapport Mondial Sur La Violence et La Santé*. Organisation mondiale de la santé; 2002.

26. Pope C, Mays N. Qualitative Research: Reaching the parts other methods cannot reach: an introduction to qualitative methods in health and health services research. *BMJ*. 1995;311(6996):42-45. doi:10.1136/bmj.311.6996.42
27. Chapman A, Hadfield M, Chapman C. Qualitative research in healthcare: an introduction to grounded theory using thematic analysis. *J R Coll Physicians Edinb*. 2015;45(3):201-205. doi:10.4997/JRCPE.2015.305
28. Nowell LS, Norris JM, White DE, Moules NJ. Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*. 2017;16(1):1609406917733847. doi:10.1177/1609406917733847
29. Kraft JM, Wilkins KG, Morales GJ, Widyono M, Middlestadt SE. An Evidence Review of Gender-Integrated Interventions in Reproductive and Maternal-Child Health. *J Health Commun*. 2014;19(sup1):122-141. doi:10.1080/10810730.2014.918216
30. Atkinson L, Silverio SA, Bick D, Fallon V. Relationships between paternal attitudes, paternal involvement, and infant-feeding outcomes: Mixed-methods findings from a global on-line survey of English-speaking fathers. *Maternal & Child Nutrition*. 2021;17(S1):e13147. doi:10.1111/mcn.13147
31. Neves PAR, Vaz JS, Ricardo LIC, et al. Disparities in early initiation of breast feeding and prelacteal feeding: A study of low- and middle-income countries. *Paediatric and Perinatal Epidemiology*. n/a(n/a). doi:10.1111/ppe.12871
32. McKenna KM, Shankar RT. The Practice of Prelacteal Feeding to Newborns Among Hindu and Muslim Families. *Journal of Midwifery & Women's Health*. 2009;54(1):78-81. doi:10.1016/j.jmwh.2008.07.012
33. Vilar-Compte M, Pérez-Escamilla R, Orta-Aleman D, et al. Impact of baby behaviour on caregiver's infant feeding decisions during the first 6 months of life: A systematic review. *Maternal & Child Nutrition*. n/a(n/a):e13345. doi:10.1111/mcn.13345