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Exclusive breastfeeding: an exploratory thematic analysis of the perspectives of breastfeeding mothers and significant others in the Tamale metropolis of Northern Ghana

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Abstract

Introduction Exclusive breastfeeding is widely recognized as the optimal way to feed infants due to its numerous health benefits for both the child and the mother. Despite its advantages, Ghana is still far from attaining World Health Organization (WHO) recommended rates. This study is aimed at exploring the knowledge attitude and practices, where the practices hinged on facilitators, barriers, and sociocultural perspectives of breastfeeding mothers and significant others on exclusive breastfeeding.

Methods This study employed an ethnographic thematic analysis framed by the socioecological model (SEM). Thematic analysis was paired with focus group discussions (FGDs). The study participants were recruited purposively by employing a snowball sampling technique with the assistance of community health volunteers. Three (3) FGDs were formed, with 10 participants in each group, to gather perspectives from breastfeeding mothers and significant others (partners and grandmothers) in three communities with Community-based Health Planning and Services (CHPS) compounds within the Tamale metropolis. With an interview guide, all FGDs were audio-taped, transcribed verbatim, and translated from local dialects to English. The emerging themes were used in writing a narrative account, guided by the principles of thematic analysis.

Results This study identified three thematic areas: knowledge of exclusive breastfeeding (EBF); attitudes toward EBF and practices of EBF (facilitators, barriers, and sociocultural practices). There was some knowledge disparity among lactating mothers despite the overall high knowledge and subpar attitudes of some mothers. The practice of exclusive breastfeeding was substandard. The major hindrances identified were cultural barriers propagated by partners/husbands and grandmothers; the belief that the weather here does not support EBF; and the need for spiritual herbs in infancy. Supportive healthcare providers helped increase the practice of exclusive breastfeeding.

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Some support also came from partners and husbands, and some mothers showed unique positive behaviors by exclusively breastfeeding.

Conclusion This study revealed that while exclusive breastfeeding education has been ongoing for decades, sociocultural norms still influence mothers to deviate from WHO recommendations. Public education is recommended to dispel misconceptions surrounding exclusive breastfeeding, develop a food galactagogue to help with breastmilk volumes and create a supportive environment that empowers mothers and families to make informed choices that optimize the health and well-being of both infants and mothers.

Keywords Exclusive breastfeeding, Focus group discussion, Ghana, Lactating mothers, Significant others

Introduction

Over many years, international organizations and countries have worked assiduously to mainstream and promote exclusive breastfeeding practices [1]. According to the definition by the World Health Organization (WHO), exclusive breastfeeding (EBF) is the situation in which an infant receives only breast milk from the mother for the first 6 months and no other solids or liquids except drops of syrups consisting of vitamins, minerals, supplements, or medicines [2]. However, due to the critical role that breastfeeding plays in child and maternal health, the United Nations Children's Fund (UNICEF) has developed and implemented several strategic initiatives that form a foundation for breastfeeding promotion, support and protection [3]. Also, deep-rooted sociocultural norms and the aspirations of significant others often influence diverse traditions, perspectives, and practices about exclusive breastfeeding worldwide, influencing the implementation of these initiatives. Such cultural nuances may affect the way communities perceive and practice exclusive breastfeeding. Despite the many efforts at enhancing breastfeeding, some women still experience difficulty with exclusive breastfeeding due to some of these sociocultural factors.

Globally, the exclusive breastfeeding rate has moved from 41% between 2013 and 2018 [4] to 48% from 2015 to 2021 still falling short of the WHA target of 50% by 2025 and a global target of 70% by 2030 [5]. The 2014 Ghana Demographic and Health Survey (GDHS) reported a 17% decrease in the percentage of children aged 0–5 months who were exclusively breastfed between 2008 and 2014 [6]. Subsequently, the Ghana Multi-indicator Cluster Survey (MICS) in 2018 [7] revealed a relatively lower EBF rate of 43%, an indication that the prevalence of EBF is on a downward trend. However, according to the Ghana Demographic Health Survey 2022, 53% of children under 6 months of age were exclusively breastfed [8] representing a paltry 1% increase from the 2014 rate (52%). GDHS and MICS rates are lower than the World Health Organization and UNICEF recommendations of 70% by 2030 [4, 5]. Various interventions have been implemented to improve EBF rates in Ghana [9]. These interventions aim to address/overcome obstacles within institutions that hinder EBF and encourage the adoption of safe breastfeeding practices in health facilities and workplaces. These measures include the implementation of the 1991 Baby-Friendly Hospital Initiative (BFHI) and the establishment of the BFHI Authority, together with the enactment of the Ghana Breastfeeding Promotion Regulation 2000 (Legislative Instrument [LI] 1667) [10, 11]. Furthermore, health professionals and the general public have access to Information, Education and Communication (IEC) materials and advocacy tools that have been specifically created for this purpose [9] All these factors may have accounted for the marginal increase in EBF rates from 52% [6]to 53% [8].

Although nurturing a newborn child through breastfeeding is a culturally ingrained and acceptable practice, breastfeeding in Ghana has faced unique challenges that could be attributed to urbanization, sociocultural and socioeconomic factors [12]. These factors may have contributed to the stagnated progress in increasing the EBF rates in Ghana. These challenges could be exaggerated within northern Ghana, due to the added effects of low educational levels [13, 14]. Northern Ghana has unique socio-cultural and economic characteristics, which often influence health practices, including exclusive breastfeeding (EBF) [15]. The region experiences higher rates of poverty, recording the highest multidimensional poverty (MPI) in Ghana, an MPI of 0.491 [16, 17]. Again, Northern Ghana has been reported to be among the regions with lower rates of EBF [18], and the highest underweight and anemia rates of children under five years [8]. The region's challenges, such as low educational levels, and high poverty rates intertwined with the socio-cultural beliefs and practices, unique to Northern Ghana contribute to the lower EBF rates. Mothers in a study who had tertiary education were less likely to breastfeed their infants exclusively [19] while in other studies mothers with informal education and/or lower education were less likely to exclusively breastfeed their infants [20, 21]. The cross-cultural consequences of different ethnicities might also have played a role in the stalled progress of increasing EBF rates in Ghana [22, 23]. The motivation for mothers to exclusively breastfeed is multifactorial [24]. It may include intrinsic factors such as personal

knowledge and previous experiences but also extrinsic factors such as cultural practice and the influence of significant others [25]. Such significant others may include partners of lactating mothers and grandmother(s) of the child [26]. Significant others refer to those persons who influence one's opinion or action [27]and in the case of this study, they were relatives (partners/husbands and grandmothers) of the breastfeeding mother whose opinion influenced the mother's ability and preparedness to adopt EBF. For example, in a typical traditional rural home, the entire decision-making process is at the behest of the husband/partner [28, 29] making it uncommon for the breastfeeding mother to unilaterally initiate any act that borders her health or that of the child without the consent of her partner. Significant others and close relatives usually represent the social support system to a nursing mother, they provide emotional and material support and perform household chores and duties relating to child care such that the lactating mother has ample time to breastfeed [30, 31]. Overall, the contribution of the partner/husband and the grandmothers play critical roles in influencing the health-seeking behavior of the mother during the child nursing period [32].

Several studies have been conducted in Ghana and many parts of the world on exclusive breastfeeding and many of these studies have focused on factors and barriers to exclusive breastfeeding [10, 33–35]. Some studies have examined the health outcomes of mothers who practiced exclusive breastfeeding and their children versus mothers who did not practice exclusive breastfeeding [36, 37]. while others have studied the potential role of husbands in breastfeeding decisions [30, 38–40]. However, some attempts have been made to investigate how the sociocultural practices, knowledge, attitudes and practices of families influence exclusive breastfeeding practices in Ghana [41–44]. This dearth of data is particularly pronounced in the literature that used qualitative approaches employing FGDs to investigate exclusive breastfeeding challenges. Therefore, unraveling the complex dynamics of breastfeeding using exploratory research would offer significant insights and first-hand observations from the actors involved. It would also allow us to immerse ourselves within these communities, and understand their beliefs, cultural contexts, attitudes and social support systems that influence this important stage of motherhood. Quantitative studies have provided valuable information on breastfeeding proportions/rates and associated factors [5, 8, 15, 45, 46], but few studies have explored the underlying cultural complexities that explain health-related behaviour and the reasons for observed challenges.

This qualitative study was aimed to explore the knowledge attitudes and practices, where the practices hinge on the facilitators, barriers and sociocultural perspectives of breastfeeding mothers, partners/husbands and grandmothers on exclusive breastfeeding. This study will contribute to a better understanding of how exclusive breastfeeding can be promoted.

Methods

Study design and setting This qualitative study utilized an ethnographic thematic analysis framed by the socioecological model (SEM), combined with an exploratory descriptive design, to investigate the perspectives of mothers of infants, their partners, and grandmothers. Focus group discussions (FGDs) were conducted within three communities hosting Community-based Health Planning and Services (CHPS) compounds in the Tamale metropolis.

Study population The study population included primary caregivers (breastfeeding mothers) of infants aged 0–6 months, partners/husbands of these mothers, and grandmothers of these infants. Participants were eligible if they were willing to participate, could communicate in the language used for the FGDs, and resided within the study area. Individuals who did not meet these criteria were excluded.

Sample size determination A total of 30 participants were included in the study, divided into three groups: 10 breastfeeding mothers, 10 partners/husbands, and 10 grandmothers. This sample size was determined based on the principles of qualitative research, which prioritize in-depth exploration over large sample sizes, as well as to avoid data saturation [47] [48].No participants declined participation; all approached individuals agreed to participate.

Sampling procedures Participants were recruited purposively using a snowball sampling technique, facilitated by community health volunteers. The purposive sampling strategy was employed to select initial participants who were primary caregivers (breastfeeding mothers), partners/husbands, or grandmothers of infants aged 0–6 months. These initial participants were identified based on their direct involvement in caregiving and their availability within the selected communities with Community-based Health Planning and Services (CHPS) compounds in the Tamale metropolis. The snowball sampling method was subsequently used to expand the participant pool. Initial participants were asked to refer other individuals who met the inclusion criteria and were also willing to participate in the study.

Data collection procedure FGDs were conducted by the first author, a nutritionist and public health expert, in the CHPS compounds selected by the participants, ensuring

a comfortable and familiar environment. Each FGD lasted approximately 30 min and they were conducted in the native language – Dagbani of which the researchers are Fluent in. An interview guide was developed and pilot-tested to ensure clarity and comprehensiveness, focusing on key areas of interest. The discussions were guided by the five levels of the socioecological model (SEM) [49]. The SEM considers five levels: individual, interpersonal, community, organizational, and societal. Guided by the SEM, the research team developed open-ended questions that addressed each of the five levels of influence. The interview guide was developed by a multidisciplinary team of experts, including public health specialists, sociologists, and local community health professionals. The team comprised three members (two females and one male), including two with PhDs and one who was a PhD candidate. All had substantial expertise in qualitative research, maternal and child health, and breastfeeding promotion. Their collective expertise ensured that the guide was culturally sensitive and scientifically rigorous. Community health volunteers approached participants and facilitated recruitment. The interview guide was pilot-tested to refine the questions for clarity, relevance, and comprehensiveness. A small sample of participants ($n=5$) for each group who met the study's inclusion criteria participated in the pilot test. These individuals were not included in the final study to avoid any potential biases. Feedback from participants in the pilot test helped refine question phrasing, ensure language suitability, and verify that questions accurately captured the intended information. Additionally, the pilot test enabled the research team to estimate the time needed for each focus group discussion (FGD). Participants were informed that facilitators were researchers exploring caregiver perspectives on infant health. Facilitators disclosed their research focus to build trust and encouraged an open dialogue. The Committee on Human Research, Publication, and Ethics approved the study under identification number: CHRPE/AP/102/24.

Table 1 Demographic characteristics of study participants

Demographic characteristics	No. of participants
Gender	
Male	10
Female	20
Age (Males)	
18–30	10
31–45	12
45–65	7
>65	1
Educational Level	
No education	15
Primary	11
Secondary	4
Occupation	
Farmer	16
Trader	14

Data quality assurance To ensure data quality, we implemented several measures. The interview guide was pilot-tested to refine questions and ensure they were clear and comprehensible. All facilitators were trained in qualitative research methods and the use of the interview guide to maintain consistency in data collection. No relationship was established prior to study commencement and no one else was present besides the participants and researchers. Field notes were taken to capture non-verbal cues and contextual information. Finally, the FGDs were audio-recorded, with participants' consent, and transcribed verbatim to preserve the accuracy of the data.

Data analysis

The data analysis was carried out by a team of three researchers, all with extensive experience in qualitative research and thematic analysis. The thematic analysis was conducted following the five steps outlined by Braun and Clarke [49]. Initially, the audio recordings were transcribed verbatim after conducting the FGDs across the three groups (breastfeeding mothers, partners/husbands, and grandmothers). Each transcription was saved and formatted as a separate Microsoft Word document. The formatted transcripts were then imported into NVivo software. Each transcript was assigned to its respective FGD group within NVivo and categorized under nodes representing each group. The data were then coded by the three researchers according to themes derived from the interview guide and the socioecological model. This coding process involved identifying significant passages of text related to each thematic area, which were then assigned to corresponding nodes in NVivo. The software's query functions were used to explore relationships and patterns within the data, facilitating an in-depth thematic analysis. No new themes emerged after analyzing the transcripts. In cases of disagreements, the team revisited the original transcripts and coded data to reassess the context and content.

Results

A total of thirty ($n=30$) participants were selected with more females (20) than males (10) ranging from 25 to 70 years. About half had never been to school, some had attained primary and secondary education and were either farmers or traders. See Table 1 for detailed demographic characteristics of the study participants.

Theme 1: knowledge of exclusive breastfeeding (EBF)

The majority of mothers described exclusive breastfeeding as providing only breast milk to infants from birth to six months of age. However, one mother suggested incorporating herbs for added strength and protection, by bathing the baby with herbal water and administering

small amounts orally. Another mother echoed this sentiment, emphasizing the importance of spiritual practices alongside medical care to ensure the child's well-being.

> *"I know we should give breastmilk for 6 months but I also know the only thing I can add is herbs to prevent bad things from happening to my son so that he will become strong."*
> *"Like my sister said we have spiritual beings walking around so when you do the hospital one you do the spiritual one too so it helps the child".*

Many mothers were familiar with the concept of breastfeeding on demand but were uncertain about the frequency of breastfeeding for infants under six months old. They commonly believed that babies cry when hungry and should be fed whenever they show hunger cues, such as crying or waking up from sleep.

"Babies always cry when they are hungry so anytime you see the child crying, they want to eat

> *Also, there are times they begin to stick out their tongue when hungry so if you see that are not doing anything you can let the baby breastfeed.*
> *When they sleep and wake up you realize the start sucking their thumb indicating hunger.*

Most mothers recognized the importance of breast milk for their children's overall health. They cited various benefits of exclusive breastfeeding, including improved intelligence, healthy weight gain, reduced illness, cost savings, and prevention of diarrhea. Some mothers also noted physical benefits for themselves, such as abdominal reduction.

> *It will help your stomach (abdomen) come down(reduce).*

"I don't already have enough money to buy formulae for my child if we were even allowed to give them. So I believe God decided to just make the breast milk perfect so we don't suffer".

Male involvement remains an important component of comprehensive maternal and child health care, especially during the child nursing period. Husbands/partners generally regarded breastfeeding as a typical role for women and thus relied solely on information and seldom reported directly from their wives or health professionals. A few of the partners explained EBF as the giving of only breast milk for the first 6 months of a child's life while others' opinions on exclusive breastfeeding included:

> *Every newborn baby is supposed to be breastfed until he or she is old enough to eat other foods.*
> *"I have always known this since time immemorial, every newborn baby is supposed to be breastfed until he or she is old enough to eat other foods.*
> *We have been educated by our health professionals to let our wives practice exclusive breastfeeding for 6 months.*

The majority of the partners of lactating women lacked an understanding of breastfeeding on demand and the recommended frequency of breastfeeding. Their observations indicated that babies were often fed in response to crying, particularly when the cry was intense, suggesting hunger. They also noted that mothers breastfed when they perceived their baby to be hungry.

> *From my observation, the child is mostly fed when he/she cries. Especially when the cry is so loud.*
> *My wife also breastfeeds the baby when she feels the baby is hungry.*

However, partners of lactating mothers generally had a fair understanding of the benefits of EBF for both the baby and the mother. They highlighted its significance in promoting the child's health, reducing the likelihood of illness, and supporting healthy growth. Some acknowledged that the timing of introducing solid foods varies based on the child's readiness, as determined by the mother's observation of her child's cues. Others recalled feeding their children solid foods in the first and second months of life, asserting that both they and their children thrived despite this practice:

> *"The time to start giving food was determined by the mother because some children want food early while others don't".*
> *Some of us were fed and also fed our children in the first and second months and look at us we are fine and our children have grown well and some are even important people now.*

Regarding breastfeeding frequency for infants under six months old, many grandmothers suggested feeding the baby when they cry, interpreting crying as a sign of hunger, or when the child displays hunger cues. One grandmother emphasized the intuitive connection between a mother and her child, stating that a mother can sense when her baby needs something, particularly when her breasts become engorged with milk. Failure to recognize these cues, according to this perspective, may indicate shortcomings in maternal care:

> *Mothers always know when their children want something, anytime your baby is hungry you will*

feel your breast paining. If the mother does not have these feelings, then she is a bad mother.

According to them the benefits of exclusive breastfeeding for the baby, as they have been informed, include reducing the likelihood of frequent illnesses and promoting overall health. To the mother, she will be healthy and the child too will be healthy. Ultimately one added

If you take care of your child well you will be happy and the child too will be happy.

Theme 2: attitude on exclusive breastfeeding (EBF)

Most mothers felt that breastfeeding on demand was too much of a work and a sacrifice:

If you are breastfeeding all the time, you cannot work and you won't get money.
That is not your only child so if you don't go and work how will you take care of the child and siblings?
So sometimes, the baby will be crying while in the market and someone wants to buy something, you leave him to sell and come back so he breastfeeds.
Sometimes when you come to the hospital with your husband, they take care of you first before others so it's a good thing.

The prevailing attitude among many lactating mothers towards exclusive breastfeeding hinged on their past experiences or attitudes of some significant others.

Exclusive breastfeeding it's not difficult for me because I have practiced it with my older children.
I want to breastfeed my baby all the time but my mother-in-law keeps saying it is because I don't want to do house chores that's why I am behaving in such a manner.

When asked about difficulties encountered with exclusive breastfeeding or breastfeeding on demand, the responses varied. While some mothers expressed confidence in their ability to exclusively breastfeed based on past experiences, others highlighted challenges, including difficulties in positioning taught by healthcare providers, grandmothers influence and concerns about meeting their own nutritional needs while breastfeeding.

There are a lot of difficulties because the way the nurses even show us to position the babies is difficult and they then go on to say we should breastfeed them all the time, we cannot do that if not we won't even eat.

I honestly want to practice exclusive breastfeeding so when the baby's grandmother is bathing him I stand there to make sure she doesn't give him any water but she begins to pass negative comments and even nicknames me 'madam'. I don't also want to have any issues with her so I move away.
I have seen children whose mothers did it and the children are looking beautiful so I decided to do it so my children will be beautiful and I am very confident I can do it.

When husbands were questioned about how external influences such as friends, family members, and social groups impacted their attitudes towards their partners practicing exclusive breastfeeding (EBF), many attributed the lack of support for EBF in society to widespread ignorance. However, they acknowledged that some friends provided positive encouragement and additional information on EBF, which influenced their perspectives. One participant emphasized the importance of knowledge in resisting external influences, suggesting that those with a strong understanding of EBF are less susceptible to outside pressures.

"If you know what you are about, I doubt anyone can influence you to do otherwise. People who are being influenced are those who have little information.

Regarding whether they observed their partners experiencing difficulties with EBF, most partners/husbands admitted limited awareness as they were not always present, and their wives did not always share such concerns. However, one participant mentioned a common challenge: the reluctance of some women to comply with the recommendation to exclusively breastfeed until six months, particularly regarding the prohibition of giving water to infants. Despite their awareness, husbands felt powerless to intervene, especially when traditional practices such as giving infants water mixed with bathing water persisted discreetly.:

"I have been informed it's until six months you give the child water but the women find it difficult to comply and we cannot do anything about it. The older women who bath the children give them some of the bathing water to drink. The bathing is not done in the compound or a place you can see so that you the husband will stop them. So, they do their thing and we mind our business".

They expressed their frustrations with health workers targeting only lactating mothers and not involving them. There are times we have encouraged mothers to practice

EBF a few mentioned and it was because of what we heard and observed:

> *They say the children shouldn't drink water until they are six months but mostly it's the lactating mothers who are told not us.*
> *I have seen the behavior of an EBF child to be different from those who were given food early. He will be a child but have an adult mind so it's good.*
> *I know they say we grandmothers are difficult but if you talk to me about something good, I won't ignore it. I have children like you so if you talk to me well, I will listen.*

Theme 3: practices

Facilitators of exclusive breastfeeding

In exploring the experiences of lactating women and their beliefs about maintaining or enhancing breast milk supply, a recurring theme emerged regarding the role of specific foods galactagogues). Participants shared their perspectives on the significance of dietary choices and the perceived impact on breast milk supply.

> *I drink tea or porridge especially "kanwa koko" or "mpanpa" it helps me a lot with breastfeeding.*
> *I eat foods that will increase my breast milk supply; so that when the child suckles and sleeps you can do your work. Some are hot Tuo Zaafi with groundnut soup, ice-kenkey especially "light" and soo many others.*
> *"Those women who like eating their foods cold reduce their breastmilk supply. When they prepare the food, you have to eat it immediately when it's hot but if you leave it to be cold and eat you won't get breastmilk.*
> *When I drink zim koom(millet drink) my breast becomes big(filled) and it even begins to pain me.*
> *I always have mpampa from morning to evening. I just add more water to it and drink. It works like magic.*
> *When I buy Soya milk drink 3 Ghana cedis and drink, my baby will get milk the whole day so I drink 3 Ghana cedis every day.*
> *Groundnut soup and hot Tuo Zaafi is also very good and helps a lot.*

Many mothers found themselves needing to work, leading to separation from their infants during the first six months. A significant number of mothers mentioned that they take their babies everywhere, especially to the market, eliminating the need to involve someone else. Additionally, some mothers indicated that they entrust their infants to their mothers-in-laws. Another participant also stated:

> *I go with his elder sister so when I am selling, she will be playing with him and when he is crying, she will bring him to breastfeed.*

Several participants also conveyed appreciation for the support they received from their partners in the context of exclusive breastfeeding. They highlighted various forms of assistance, such as a partner providing food for the mother and occasionally taking on the responsibility of attending to the baby during the night. One participant shared,

> *If I give birth and don't have enough breast milk flowing, I am mostly given tea (milo and nido mix) which my husband always ensures is provided. When I drink the tea, breast milk starts flowing immediately.*
> *At night sometimes the baby will be crying and I will be feeling very sleepy so times he is not so tired he comes to hold the baby small so I could get small sleep even though it's not always for long but he is trying.*

Most participants' decision to practice exclusive breastfeeding was influenced by the information provided by healthcare professionals during their prenatal visits:

> *"When I was pregnant and came to the hospital, the nurses talked to us about how good exclusive breastfeeding is".*
> *As it stands every single time, I attend weighing (child welfare clinic service), the nurses teach us how even to position our children so they can get enough breast milk and the bad things that will happen if we give them water for the first 6 months of life.*

On the other hand, another participant based her decision on observations of other mothers who practiced exclusive breastfeeding. She shared,

> *"We have seen children whose mothers did it, and the children are looking beautiful, so I decided to do it so my children will look fine too.*

The challenge of mothers needing to work and being separated from their babies raises questions about how to support exclusive breastfeeding. The responses from partners regarding their roles in this context are as follows:

"In my case, I have a motorbike so they call me when the baby is crying so I go to pick the baby and his caretaker to

the mother to breastfeed or the other way round when they are separated. When she's done, I send her back to work and go back to my work as well"

> *My wife said she could not take care of the baby alone since she needed to work which is true so I brought my sister's very hardworking daughter. She goes to work with my niece every day so she can care for him for my wife to work and when he's crying, she alerts my wife to breastfeed him.*

Another partner said:

> *"The children always want breastmilk, so there's little we can do to help because we do not have breasts."*

The partners acknowledged the inherent challenges of breastfeeding. They revealed it was one of the reasons they worked hard daily:

> *"We try to work hard to get enough money to provide food for the family.".*
> *I travel to the villages a lot so anytime I am coming back home, I try to buy more foodstuff from those places so my wife can eat well and breastfeed my child.*

Barriers to exclusive breastfeeding

The statements provided by some lactating mothers highlight some of the challenges that mothers may face. Some pointed out the challenge of individuals receiving contradictory guidance or conflicting advice, which can create confusion and uncertainty about the best practices for exclusive breastfeeding. This barrier may lead mothers to question whom to trust for reliable information.

> *"If someone tells you to do something and you know if you do it will improve the health of the child, then it is you they have helped. If they also advise you and it is not good for the child you don't have to listen to them again. But sometimes one person will say A and another person will say B and so it gets me confused as to what the right thing is".*
> *You see what my sister said it's true. There was a time someone told me to give only breast milk and when I met another person, she said I can give small water if my baby is thirsty so which is which.*
> *As for me my sister told me when the baby is sick and you go to the hospital, they will give the child water(infusion) so if the hospital people are doing it why can't we also give water you see she was right.*

Some also suggest that not all sources of advice are equally valued. While acknowledging the importance of nurses, it implies that advice from friends might not always align with health professionals' recommendations.

Others acknowledged the financial barrier bit of it. The husband's suggestion to introduce other foods may stem from economic challenges, making it difficult for the mother to afford a nutritious diet that supports exclusive breastfeeding. Financial constraints can limit access to resources necessary for maintaining optimal breastfeeding practices.

> *Sometimes our husbands will say we should give other foods because he does not have money to provide food so that the mother will eat well and produce enough breastmilk and he also does not have money to buy lactogen and other artificial feeds.*

The influence of grandparents and traditional beliefs were also mentioned. The insistence on providing water, despite contemporary recommendations against it during exclusive breastfeeding, illustrates how inter-generational beliefs and practices can pose a barrier to adopting evidence-based feeding practices.

"In some homes, the grandparents will be insisting that they should give water because the child is thirsty. Especially when the weather is hot they tell you to give the child water. They even go ahead to say they gave us water when we were babies and we didn't die so the children too will not die."

Additionally, some lactating mothers mentioned some advice they received from some healthcare providers that deviated from the exclusive breastfeeding guidelines.

> *Some of the nurses even advised me to give my child Nan 1 because I had gone through cesarean section and for a good 2 days breast milk did not flow.*

"After delivery, I produced very little milk and the baby too was crying because she was hungry, I was very frustrated and I even started crying. The nurse felt very sorry for me and allowed me to give water. I, however, didn't use any ordinary water but Voltic water".

A few of the participants shared that having financial resources would have allowed them to purchase. However, due to financial constraints, they are left with the option of breastfeeding.

"Yes, because if we had money, we would have also bought some of these formulae. They advertise it a lot and some people have also told me how good the formulas are. They say it's just like breast milk so if I had money as for me, I would have bought some and tried it."

> *Some of us like myself do not produce enough breast milk because my breasts are small so I could have relied on the other feeds which are exactly like breast milk but I don't have the money for it.*

Impact of sociocultural practices on EBF

Despite the knowledge of the benefits of exclusive breastfeeding, however, sociocultural practices that hinder mothers from exclusively breastfeeding their children were noted. Participants shared diverse perspectives on exclusive breastfeeding for the first six months of life:

> *Some people also believe that when a child is suddenly given water after six months it triggers convulsion.".*
> *A friend showed me a particular tea that is given to children and it is very good for children who are still very little say 0–6 months. Even adults also take it. That is what I use and give to my baby.*
> *My husband goes to see an elder who gives us herbs to help protect the child from evil from day 1.*

Older women responsible for bathing newborns, advocate giving water as a gradual introduction to food for infants. Others also pointed out a belief that practicing EBF has a potential negative consequence associated with maternal physique and the fact that breastfeeding is not for everyone

> *The old women responsible for bathing our newborns also give them water because they say it is a gradual way of introducing the child to food.*
> *Some think that you the mother will grow lean when you practice it.*
> *Naturally there are people God has blessed with plenty breastmilk so as for them they can practice exclusive breastfeeding but for we those who do not have enough of it we normally have to give water mostly Voltic water because it is very clean.*

Others also narrated that:

> *In my case, whenever the old woman comes to bath my child, I sit around to make sure she doesn't give him water. The woman started using some abusive words because she felt I was monitoring her. My child was taking time to sit and they said It's because I don't allow them to give him strong herbs to strengthen her bones. It got me scared and made me question the idea of exclusive breastfeeding. I am likely to allow them to give small herbs next time.*
> *"I also had a similar experience. I used lactogen for my child but later she became fed up with it. Then I was advised to use milk powder, I mixed it for her and she drank it all. I now carry it along everywhere I go".*

"Sometimes when our women have breast engorgement during the first time of delivery or inverted nipples, our local people tend to believe there are living things in the breast preventing the milk from flowing. In the end, they bring out some living things after a series of pulling of the breast. So, when it happens this way, we have to encourage the woman and family members on what to be supportive and educating them on how to help them on breastfeeding"

> *We have our local method of helping the women to get breast milk. Herbs are prepared for these women, which is taken first thing in the morning before anything.*
> *You see when you have small breasts you can produce a lot of breast milk but when you have big breasts you don't produce enough. So, you will see small women having big babies and big women having small babies.*

DISCUSSION

This study explored the knowledge attitudes and practices, where the practices hinged on the facilitators, barriers and sociocultural perspectives of breastfeeding mothers, partners/husbands and grandmothers on exclusive breastfeeding. Maternal knowledge and attitudes towards exclusive breastfeeding (EBF) are crucial for promoting this practice. This study revealed a diverse range of perspectives among breastfeeding mothers regarding EBF. Notably, most mothers described EBF as providing only breast milk to their infants for the first six months of age, aligning with WHO recommendations [1]. Similarly, a systematic review in East Africa found a high percentage (97.5%) of maternal knowledge about EBF [50]. However, in contrast, less than half of the women in another study believed that infants under six months should be fed exclusively breast milk [51]. Interestingly, this study highlighted differences in knowledge influenced by cultural beliefs. One mother mentioned incorporating herbs for spiritual protection, underscoring the impact of cultural practices on breastfeeding. This aligns with findings from an in-depth interview in Pakistan, where some women believed that the first feed for a newborn should be Ghutti [52]. Ghutti' is a herbal paste prepared from several herbs in Pakistan. Similar misconceptions and knowledge gaps have been previously reported [53]. To address this, we recommend the implementation of community-wide education campaigns that specifically target these groups. These campaigns should be culturally sensitive and leverage local influencers and health volunteers

to disseminate accurate information about EBF benefits and appropriate breastfeeding practices.

It was evident that a significant number of mothers in this study were familiar with the concept of feeding on demand but expressed uncertainty about the frequency of breastfeeding for infants under six months. Responses suggested a reliance on infant cues, such as crying or the availability of free time to determine feeding times. Another study by Tahiru and colleagues showed mothers who were breastfeeding their babies a certain number of times a day were only doing so based on the quantity of breast milk they thought they could produce [54]. In contrast, a community-based cross-sectional study in Efutu Municipal, Ghana revealed that exclusive breastfeeding frequency followed WHO recommendations and the Ghana breastfeeding policy [55]. In line with other studies [56, 57], the majority of mothers in this study consistently emphasized the importance of breast milk for their children's overall health. Notably, they attributed various benefits including enhanced intelligence, a plump and healthy appearance, reduced illness frequency and prevention of diarrhea. The observation of well-nourished children who underwent exclusive breastfeeding served as a powerful motivator for some mothers to also practice exclusive breastfeeding which is consistent with a study by Mulenga [58]. The breastfeeding women and significant others in this study specifically mentioned the role of EBF in reducing abdominal size as demonstrated in a study conducted by Nasrabadi and colleagues [59]. Exclusive breastfeeding in this study has become a practical and necessary choice, ensuring that infants receive the nutrition they need without straining the family's financial resources. Mothers described breast milk as "perfect," highlighting its importance, particularly in economically disadvantaged communities. This finding aligns with other studies that have reported similar conclusions [60–62].

While some mothers expressed concerns about the exhausting nature of breastfeeding on demand in this study, others emphasized practical challenges, such as the difficulty in balancing childcare with work responsibilities as reported in other studies [63, 64]. The perceived difficulties of exclusive breastfeeding varied; some mothers found it manageable due to past experiences, while others faced challenges related to nursing techniques and the need for external guidance. Education from health workers during antenatal services emerged as a significant influence, reinforcing the role of healthcare professionals in shaping maternal attitudes, as noted in other research [57, 65]. Most women in our study attributed their knowledge of EBF to antenatal health talks, consistent with the findings of other studies [51]. Additionally, another study revealed a significant increase in the prevalence of EBF when women received advice on EBF at healthcare facilities [66]. Given the pivotal role of healthcare providers in educating mothers about EBF, there is a need for enhanced training for these professionals. This training should focus on culturally sensitive communication, addressing common misconceptions, and providing practical breastfeeding support. Additionally, healthcare providers should be equipped to engage fathers and grandmothers in discussions about EBF to foster a supportive environment for mothers.

The views of their partners in this study significantly influenced the women's decisions regarding exclusive breastfeeding. Both the emotional and physical support provided by the partners played a crucial role in determining whether the women chose to exclusively breastfeed or not. However, it was evident that partners generally perceived breastfeeding as a typical role for women, relying primarily on information obtained from their wives or health professionals. This observation aligns with findings from previous studies [43]. While some partners/husbands defined EBF as the exclusive provision of breast milk for the first six months, others emphasized the historical understanding that all newborns should be breastfed until they are ready to consume other foods in this study. This indicates a high level of knowledge about EBF, similar to findings in other studies [67]. However, a lack of understanding among partners/husbands about breastfeeding on demand and the recommended frequency of breastfeeding for infants under six months was revealed. Despite this gap, the partners/husbands in this study demonstrated a fair understanding of the benefits of EBF for both the baby and the mother. They recognized its positive impact on the child's health, growth and the prevention of illnesses. The findings suggest that enhancing education and awareness among mothers and their partners could positively impact the attitude towards exclusive breastfeeding as shown in other studies [30, 59, 68].

In many societies around the world, older women are seen as owners of traditional knowledge and cultural history which has strong community significance [69] The influence that supportive grandmothers have on their daughters/daughters-in-law may increase breastfeeding outcomes [70] just as reported by Negin and colleagues [71] whose review found evidence that demonstrated that grandmothers had the capacity to influence exclusive breastfeeding. Most of them affirmed the traditional belief that breast milk is the primary food for a child until they can consume other foods [72]. However, one in this study emphasized that the timing of introducing other foods depended on the mother's judgment, as different children may have varying needs. They understood breastfeeding on demand as responding to a child's cries or other cues indicating hunger and emphasized that, in recognizing a child's needs, maternal intuition is key

as indicated in another study [73]. A mother's ability to sense her baby's hunger is considered a good motherly trait according to them. The benefits of exclusive breastfeeding, as conveyed by the grandmothers in this study included preventing frequent illnesses in children, promoting overall child health, and fostering a strong mother-child bond. Their encouragement stemmed from their observations of exclusively breastfed children. However, more also believed they and the children they raised were healthy and successful even though they were fed during the few months of birth which did not have negative consequences on them similar to what was reported in another study [42]. However in this study, they expressed willingness to support EBF if adequately informed, but they often feel excluded from educational initiatives aimed at lactating mothers. Their involvement is crucial, as their support can significantly influence the mothers' adherence to EBF [71, 74]. There is a need for comprehensive educational programs targeting not only mothers but also partners, grandmothers, and the broader community. These programs should address cultural misconceptions and emphasize the benefits of EBF, providing clear, evidence-based guidelines. Health education programs should incorporate cultural beliefs and practices, working with local community leaders and traditional healers to provide consistent messages.

This study also provided valuable insights into the facilitators of EBF and the various strategies adopted by mothers, families, community health workers, and midwives to support and maintain breastfeeding practices. Breastfeeding mothers' perspectives on the significance of specific foods in enhancing the breast milk supply reveals a strong cultural influence on breastfeeding practices. The mention of foods like "kanwa koko," "mpanpa," "hot Tuo Zaafi with groundnut soup," and drinks like "poha," "zim koom," "sobolo," and "Naasaa" reflects a belief in the nourishing properties of these items. This findings conforms with a study by Ali and others [75–77] who investigated special foods used to enhance breast milk production. This cultural practice has passed through generations, influencing dietary choices towards exclusive breastfeeding. Additionally, the emphasis on consuming food when hot suggests a belief in the connection between the temperature of food and its impact on breast milk supply. The exploration of options available to mothers who need to work and be separated from their infants emphasizes the creative strategies employed by these mothers. Taking babies to the market, entrusting them to grandmothers, bringing them to the workplace and involving older siblings in caregiving showcase the adaptability of lactating mothers in navigating work and breastfeeding responsibilities. Programs could advocate for policies that support breastfeeding mothers at workplaces, such as providing flexible work schedules, designated breastfeeding areas, and extended maternity leave. Community-based support groups could also be established to provide emotional and practical support to working mothers. The support from spouses in this study, as highlighted by partners/husbands providing food and sometimes attending to the baby during the night, exemplifies the importance of collaboration in promoting exclusive breastfeeding. The testimony of a partner/husband buying milk for the mother to enhance breast milk production underscores the vital role of husbands in contributing to the well-being of both the mother and the newborn as revealed in other studies [78–80]. The decision to practice exclusive breastfeeding is strongly influenced by the information provided by healthcare professionals during prenatal visits in this study. The acknowledgment of the positive outcomes observed in children whose mothers practiced exclusive breastfeeding serves as a motivating factor for some mothers. This dual influence of professional advice and real-life examples highlights the significance of both shaping attitudes and making decisions regarding exclusive breastfeeding. It was evident that mothers who work apart from their babies require a multifaceted support system. From facilitating physical closeness to recognizing the desire for breast milk and providing financial support, these roles underscore the collaborative effort required to promote and maintain exclusive breastfeeding in challenging circumstances.

With regard to these barriers, the challenge of balancing work responsibilities and breastfeeding is a recurring theme in this study. Breastfeeding mothers expressed concerns about the constant demand for breastfeeding which hinders their ability to work and earn money. The dilemma of having more than one child adds another layer of complexity, as mothers need to juggle childcare responsibilities for multiple siblings while working. Contradictory guidance and conflicting advice from different sources create confusion and uncertainty for mothers they added. The statement that suggests following advice only if it aligns with one's knowledge implies the challenge of navigating through various pieces of advice, potentially leading to a lack of trust in certain sources. The influence of friends and family, especially grandmothers, in promoting practices contrary to exclusive breastfeeding guidelines indicates the need for targeted educational interventions to align cultural beliefs with evidence-based feeding practices. Grandmothers' insistence on providing water, despite contemporary recommendations against it during exclusive breastfeeding, reflects deeply rooted inter-generational beliefs and practices. The challenge lies in reconciling traditional customs with evidence-based guidelines, requiring targeted educational efforts to shift cultural norms. Statements made regarding the insufficiency of breastmilk,

particularly in the initial days after delivery, underline biological constraints. These biological-related challenges emphasize the importance of providing adequate support to mothers during the postpartum period.

This study revealed the intricate sociocultural dynamics surrounding EBF, echoing findings from prior research [34, 81]. Within the community, a variety of practices emerged, including the utilization of herbal remedies, teas, and specific beverages recommended by elders and peers to support infant health. Partners/husbands, seeking protection for their children, turn to traditional herbs provided by "elders" (known as Kpema). The influence of intergenerational beliefs on infant feeding becomes apparent as older women, often responsible for newborn care, advocate for gradually introducing water as a precursor to solid foods. Additionally, the belief in this study that exclusive breastfeeding may lead to maternal physical changes, such as becoming lean or unattractive, contributes to some mothers' hesitancy to adopt this practice. In another study [82], exclusive breastfeeding was associated with losing weight, and sagging or shrinking breasts, leading to an unattractive physical appearance". In another study [82], exclusive breastfeeding was associated with losing weight, and sagging or shrinking breasts, leading to an unattractive physical appearance. Some mothers felt compelled to supplement breast milk with water, particularly Voltic water, due to perceived inadequacies in milk production and the child presumably "tasty". Challenges related to breastfeeding, such as breast engorgement, inverted nipples and local beliefs about obstructions hindering milk flow in this study, mirror findings from Aborigo and colleagues [81]. In such situations, local remedies, such as herbal treatments are taken first in the morning to address these difficulties. Establishing and promoting local breastfeeding support groups where mothers could share experiences, gain support, and receive practical advice from peers and professionals could provide emotional and practical support to these breastfeeding mothers.

Limitations

The findings are based on a specific geographical location and may not fully represent the diversity of cultural beliefs, socioeconomic status, and healthcare practices in other regions or countries. This was however minimized by including the participants from different Community-based Health Planning and Services (CHPS) compounds across the area ensuring that they represented a broad cross-section of the Tamale metropolis. The study's findings may also have been influenced by temporal factors, such as changes in healthcare policies, cultural norms, or socioeconomic conditions over time. A thorough literature review was done and included current data to contextualize our findings. While the study acknowledges the influence of partners/husbands and grandmothers on breastfeeding practices, it may not fully capture the depth and diversity of their perspectives. We, however, utilized purposive sampling and an iterative questioning process during the focus group discussions to capture the depth and diversity of their perspective. Probing questions were also employed to explore underlying beliefs and attitudes in greater detail. We also assured participants of the confidentiality and anonymity of their responses.

Conclusion

Exclusive breastfeeding education has been ongoing in the study area for decades, yet the knowledge, attitudes and practices of breastfeeding mothers and their significant others (partners/husbands and grandmothers) on exclusive breastfeeding revealed in the study are not promising. The findings revealed that long-standing sociocultural norms that influence mothers to deviate from the WHO recommendations, still persist in the study area. It is recommended that education will help dispel the misconceptions surrounding exclusive breastfeeding. The development of a food galactagogue by thoroughly determining its efficacy and safety will also help with breast milk volume. Developing and implementing these interventions while addressing their complexities would create a supportive environment that empowers mothers and families to make informed choices that optimize the health and well-being of both infants and mothers. For future research and interventions related to exclusive breastfeeding, academics should consider a mixed-method research design combined with culturally sensitive interventions to and scientifically grounded, ultimately leading to better health outcomes for both infants and mothers.

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Author contributions

RT, CA: conceptualize the work RT: contributed to the implementation of the research, analysis of the results and the writing of the manuscript CA, MA: were involved in reviewing and supervising the work. All authors read and accepted the final manuscript.

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Data availability

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.Data cannot be shared openly in order to protect study participant privacy.

Declarations

Ethics approval and consent to participate

This study was conducted in full compliance with the ethical standards and guidelines outlined in the Declaration of Helsinki. The Committee on Human Research, Publication and Ethics approved the study with the identification number: CHRPE/AP/102/2. Written informed consent was obtained from

the participants. Individuals who could not read and write had the informed consent document explained to them in a language they could understand and provided a thumbprint on the informed consent.

Consent for publication
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Competing interests
The authors declare no competing interests.

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