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KNOWLEDGE AND BELIEFS ON EXCLUSIVE BREAST FEEDING (EBF) OF NURSING MOTHERS IN BOLGATANGA MUNICIPALITY (GHANA)

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ABSTRACT

This study investigated the knowledge and beliefs of nursing mothers on exclusive breastfeeding (EBF) in the Bolgatanga municipality using a qualitative approach. A total of 12 nursing mothers recruited from the Bolgatanga Regional hospital were interviewed on their knowledge and beliefs on EBF. Results indicated that participants had basic and inadequate knowledge of EBF though their source of information was primarily from health personnel at the antenatal clinics. Participants' knowledge of EBF was fundamental since it did not include the benefits to the mother, the immunological and the neurological benefits to the baby, time of initiation of breastfeeding, frequency and pattern of breastfeeding, positioning of the baby and mother during breastfeeding. Most participants had positive perception of EBF since they reported that their babies had not fallen ill since they started breastfeeding. About half of the participants had heard of negative perceptions of EBF from others while the other half had heard of positive ones. Recommendations based on the findings of the study such as proper and intensified education of mothers on EBF and research involving husbands, mother-in laws, older woman who did not practise EBF themselves and various categories of nurses on knowledge and beliefs on EBF were made.

INTRODUCTION

Empirical evidence has shown that breastfeeding and more so exclusive breastfeeding (EBF) is an important predictor of health outcomes for both child and mother. For example, it has been established that infants who are not breastfed are exposed to increased risks of gastroenteritis, otitis media, lower respiratory tract infections, diabetes, obesity, sudden infant death syndrome and childhood leukemia (Stuebe and Bonuck, 2011) among other things. Based on the many benefits of breastfeeding and more so of EBF, the WHO (2001) has endorsed exclusive breastfeeding for the first 6 months of a baby's life. This evidence based recommendation has subsequently been adopted by many countries. However, many factors including lack of knowledge and norms and beliefs on EBF influence its effective implementation in many places. Despite its benefits, evidence shows that breastfeeding practices have declined world-wide (Swanson, Power, Kaur, Carter & Shepherd, 2005) and exclusive breast feeding does not seem to be the norm in most parts of the world. The low prevalence rates of breastfeeding seem to be greater in certain areas in Ghana. For example, in the Bolgatanga Municipality the exclusive breastfeeding rate was reported in 2011 to be as low as 0.21% (Municipal Health Directorate of Bolgatanga, 2011 report). This might be an indication of lack of knowledge of the health benefits of breast feeding or of maternal beliefs on EBF. Maternal knowledge and beliefs on EBF could affect breastfeeding intentions and breastfeeding duration since knowledge could shape attitudes and behavior. An understanding of knowledge and beliefs (perception) of mothers on EBF could therefore help in designing breastfeeding intervention programmes. It is thus important to understand maternal knowledge and beliefs on EBF. However, little research has focused on this in the Ghanaian context.

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Therefore, in the present study, we assessed knowledge and beliefs on EBF of nursing mothers in the Bolgatanga Municipality, the regional capital of the Upper East Region of Ghana using a qualitative approach, a type of methodology that has not been widely used though known to provide rich data.

Objective of the study

The objective of the study was to investigate the knowledge and beliefs of nursing mothers on EBF in Bolga Municipality.

Significance of the Study

The study will contribute to enriching current education programs on exclusive breastfeeding. In addition, the findings of the study will help shape policies on exclusive breastfeeding and assist mothers and the society to understand and support the practice of EBF. Thus helping in the attainment of MDGs 4 and 5 which stipulates;

1) a reduction by two thirds the mortality rate among children under five and
2) a reduction by three quarters the maternal mortality ratio respectively.

Benefits of EBF which include the prevention of postpartum hemorrhage as well as reduced risk of getting cancer of the breast and ovary will contribute to the attainment of MDG 5. Lastly, the study will provide the impetus for further research into the area of exclusive breastfeeding.

LITERATURE REVIEW

Knowledge of EBF

Breastfeeding information is very essential to the practice of exclusive breastfeeding since the mother's choice and decision depends on the source, content and her understanding of the information given to her. In Enugu-Nigeria, antenatal classes were the most informative about breastfeeding; despite midwives being the major source of such information, advice from doctors was evidently more popular (Aghaji, 2002).When mothers in Ghana were assessed about their knowledge of breast feeding in terms of duration, source of knowledge, importance of breast feeding as well as reasons for early weaning in their community, all (100%) mothers said breast milk was very important for every growing child. When asked about the duration of exclusive breast feeding, 51.0% of mothers responded to approximately 6months. The knowledge about duration of exclusive breast feeding was further supported by the argument that water should be given to a child and 67.0% of mothers responded to an average of 5months. Most mothers gained their information about breastfeeding from Child Welfare Clinic / Maternal and Child Health Clinic and from other health workers (75.0%) (Singh, 2010). In the urban area of Morogoro-Tanzania, the mothers who received information about breastfeeding from the health service personnel at an antenatal clinic breastfed exclusively and predominantly for a longer period whilst mothers who delivered at home and were informed about breastfeeding either by a traditional birth attendant or by a village health worker breastfed exclusively for a shorter duration (Shirima, Gebre-Medhin & Greiner, 2001). Alternatively, most mothers in Dhaka-Bangladesh had their advice about breastfeeding, mainly from friends or neighbors and via the media. Many had heard the term exclusive breastfeeding but only 32 (9%) of mothers in each group knew the correct meaning of the term (Haider, Ashworth, Kabir & Huttly, 2000). Another study in India set out to assess the feasibility, effectiveness, and safety of an educational intervention to promote exclusive breastfeeding for 6months. Findings indicated that educational interventions by peer counselors greatly improved the rates of exclusive breastfeeding (Bhandari, Bahl, Mazumdar, Martines, Black & Bhan, 2003). From previous studies, it is evident that most mothers received their breast feeding information from the antenatal and postnatal clinics. It is also clear that most researchers conducted their studies on knowledge, attitudes and practices of mothers on EBF with few embarking on intervention studies.

Beliefs/Perceptions

Exclusive breastfeeding from birth to 6 months is very important and is sufficient for every child. However, the most common cause of decline in exclusive breast feeding is mothers' perception about EBF (Singh, 2010). A study in Ghana by Awumbila (2003) revealed that most mothers use both breasts to feed their baby at a feed. The general perception was that both breasts have the same quantity and quality of breast milk. However, a quarter of the women, mostly in the urban area, perceived each breast as performing a different function. The left breast was perceived to provide food, while the right provides water. Hence the "food providing breast" must always be given to the child for longer periods than the "water providing breast". These women were mainly from ethnic groups whose origins are in Burkina Faso, Togo and Niger and have settled in Bawku. Hence this perception was more common among the migrant population of Bawku (Awumbila, 2003). Since perception and cultural practices are influential, the fact that these migrants ethnic groups live in Bawku may mean that the migrant groups may eventually influence the women of Bawku with their cultural practices, since people tend to copy the lifestyles of the people they live with.

Another study conducted in Zambia among rural and urban women showed that none of the urban mothers reported having expressed and discarded the colostrum. However, a focus group discussion among the rural women reported that a few of the mothers reported expressing the colostrum and discarding it (Fjeld, Siziya, Katepa-Bwalya, Kankasa, Moland, Tylleskär, & the PROMISE-EBF Study Group, 2008). Still in this study when mothers were asked to give their opinion about breastfeeding and pregnancy, there was disagreement as to whether or not 'bad/dirty milk' (term given to breast milk when pregnant) should be given. Some participants said it was acceptable just to squeeze out the 'bad' milk and then continue breastfeeding while others were of the view that colostrums should not be given. Some other participants reported that there was nothing they could do since the child needed the breast milk (Fjeld *et al*., 2008). This study utilised two collection tools, focus group discussions and interviews, which enabled it gather the rich and in-depth information it was able to collect. These tools were equally appropriate to achieving their aim of collecting baseline information on current infant and young child feeding practices, attitudes and knowledge using a qualitative approach.

MATERIALS AND METHODS

Research Setting

The present study was carried out in the Bolgatanga municipality which is the capital of the Upper East Region of Ghana. Bolgatanga municipality is the 18th biggest human settlement in the country with a total population of 147,864 people. The participants for this study were nursing mothers who attended postnatal clinic at the Reproductive and Child Health clinic (RCHC) of the Bolgatanga Regional Hospital which is a Baby Friendly Hospital. They were recruited from four communities in the Bolgatanga municipality namely Soe and Bukere representing Bolga urban, and Zaare and Yikene representing Bolga rural. The total RCH attendance from the beginning of the year till June, 2012 was 4116, comprising both new and old members.

Study Design and Sampling technique

To achieve the objective of this study, a descriptive qualitative approach was employed. Such a study basically provides in-depth knowledge that is holistic, incorporating contextual influences. (Larrabee, 2009). As such it is the most suitable approach to unearth the experiences of nursing mothers regarding factors that influence EBF.A purposive sampling technique was used to select participants. As the study sets out to explore the knowledge and beliefs of nursing mothers who on EBF, the following inclusion and exclusion criteria was used to purposively select the participants. The participant;

- Must be a nursing mother practicing EBF with a baby between the ages of zero to six months,
- Must be resident in any of the following communities in the municipality namely; Soe and Bukere representing Bolga urban and Zaare and Yikene representing Bolga rural.
- Must be the biological mother of the baby
- Must have an infant not older than 6 months of age at the time of the interview.

This selection criterion was made known to the nurses so they could assist in identifying the participants. Selection of participants was done on Tuesdays and Thursdays which were the postnatal clinic days. A number of visits were done on these weekly clinic days until the required sample size was obtained. On each visit, the researchers identified some potential participants. Upon identification, the purpose of the study was explained to the participant and an information sheet made available to the participant for further reading. A total number of 12 mothers participated in this study. Three mothers were selected from each of the four communities. Each participant was given the opportunity to choose a suitable venue for the interview. All twelve (12) mothers indicated that they wanted to be interviewed in their homes and so researchers collected addresses and phone numbers of all the participants of those who owned phones for ease of contact and arranged to interview them at their various homes.

Data Gathering Procedure

A semi-structured interview guide was used to collect in-depth information from each participant. These interviews were conducted personally by the researchers. All participants signed a consent form before the commencement of the interviews. Those respondents who could not sign were provided a stamp pad to thumb print. The interviews were audio taped. Each participant's demographic data was collected along with the interview data. Semi-structured interviews permit participants to respond freely to questions and also enable the researcher to get participants to describe and explain situations in a way that provides rich descriptive data. The questions posed by the researchers were based on factors associated with EBF, the benefits or problems they encountered with EBF among others. Participants were encouraged to express themselves freely on all questions raised. Probing questions were asked during the interviews to obtain maximum variation, richness, and depth of responses. Each interview session with a participant lasted between 45 to 60 minutes, whiles the data gathering was conducted within a period of two months. Each audio taped interview was transcribed after each session and the transcribed data reviewed to gain a proper understanding of each respondent's experiences. The transcribed data were later complemented with field notes. The audio taped interviews were transcribed verbatim into a note book and later typed. Labels were used to identify various participants on the transcribed data. These labels were 'P1' which stands for participant 1, then P2- for participant 2 up to P12. Participants were assured of maximum confidentiality.

RESULTS

Knowledge of EBF

All respondents were able to give at least, a basic explanation of EBF. They were able to mention the fact that the baby is to be breastfed on only breast milk for a period of six months, stressing that no water or other foods should be added as well as few benefits of EBF to the baby. The participants reported that they all acquired their knowledge of EBF from nurses at the antenatal clinic, although others mentioned that they heard it from friends or read about it on a poster, they still went for further clarification from nurses. As such a participant who is a teacher is quoted as saying

"In fact I saw a poster at the antenatal clinical on EBF. So I decided to ask the nurse all about it. She said it is a good practice and that when it is well done it helps the baby's immune system to fight diseases and that most of the children are always very intelligent. The nurse said I should give only breast milk for six months, no water, no gripe water and no koko."

Similarly, participant 12 who is a farmer also indicated

"The nurse said I should give my baby only breast milk for 6 months. I shouldn't add water. That when I do this, it will make my baby healthy and she will not easily fall sick".

A forty years old participant added that she was told to allow her baby to suckle one breast first, emptying it completely before changing to the next:

"The nurse said I should give my baby only breast milk without adding water, and that I should allow the baby to

suckle one breast completely before changing to the other because what usually comes first is water then followed by the food……"

Participant 4 continued by stating the following:

"……...after breastfeeding I should place my baby on my shoulder and gently tap her back till she belches. This will make my baby feel well".

Considering all the statements made by these participants, it is clear that the knowledge they had acquired was only basic knowledge even though their source of information was from the clinics. This is because it did not include the benefits to the mother, the immunological as well as the neurological benefits to the baby, time of initiation of breastfeeding, frequency and pattern of breastfeeding, positioning of the baby and mother during breastfeeding among others. This suggests that the information given by the health workers is not adequate and this could have serious consequences in future. Also if the information received from the nurses is scanty, one can only guess the depth of information that can be gotten from friends and relations. Most of the illnesses presented by mothers regarding their babies at the Out- Patient Departments in the various hospitals and health centers of the municipality are diarrhoea cases and babies between the ages of 0-6 months are not left out. As such, as part of the breastfeeding education given to mothers, they are asked to avoid given water to exclusively breastfed babies since the breast milk already contains water. In line with these teachings, two mothers were told the consequences of giving water to their babies.

"The nurses said that if I give water to my baby, he is likely to get diarrhoea".(Participant 9 a twenty year old and a mother of two)

However another a participant who never attended school, did not know her age, but was a farmer was given a different explanation. She said

"The nurse said that …….…….. but if I give water, air will enter into the baby's stomach, such that when I hit the abdomen it will produce a drum-like sound and my baby will have stomach discomfort"

Participant 12 seemed to have misunderstood the information given to her by the nurse. This is because during feeding as the baby opens and closes the mouth it swallows air which could cause abdominal discomfort if it is not let out through burping. So the abdominal discomfort does not just occur as a result of the baby drinking the water but could be due to the unwholesomeness of the water.

Opinions and benefits/problems of EBF

Opinions of participants were sought on how they felt about EBF as well as what they had heard their fellow mothers saying about EBF. The mothers' opinions were of essence because EBF is to some extend a new practice in our society although introduced years ago. In years past mothers their babies water and other feeds before they reached six months. Now that modern medicine has shown that EBF is a better practice than what was practiced, it is important to find out what our mothers opinions are regarding this "new" practice (EBF). When the participants were interviewed all except one gave positive opinions of EBF. These opinions were based on the fact that some of the participants had ever practiced EBF and had enjoyed its benefits. Some participants said

"In the case of my first born, I was advised by the old ladies to give water. So it came to a time my baby had some serious diarrhoea and I took him to the hospital. But in the case of my twins when I was introduced to EBF, they never had diarrhoea throughout the 6 months so that is why I am practicing it again".(participant is a thirty year old mother of four)

Participant 4, a forty three years old mother of five indicated as follows:

"I think it is good because I have practiced EBF on my 3rd child. I couldn't do it for the first two children because by then EBF was not introduced. Even in the case of my 3rd child we were asked to practice for 3 months which I did and saw that it was good".

Other participants also had positive opinions because they felt that since they started the practice none of their babies have fallen ill. They said

"I think it is good. So far after delivery my daughter has not falling sick and we don't have problems" (a first time mother from Soe, Bolga-urban).

"So far I think it is good and I'm still waiting for the six months to come then I'll introduce the water and see how it will be".(a first time mother with a baby with Cleft palate).

A participant from Yikene thought it was a good practice because the health authorities were introducing it and so they had no option but to accept it. She indicated

"I think it is a practice that will help us that is why the health workers have asked us to practice it. Right now if my baby is ill I will take him to the hospital, so if they recommend something I have to do it because they know best". (participant 12, a second time mother who is a farmer)

The only mother from Zaare who had a negative opinion about EBF, had had some fear instilled in her by the old ladies in her house regarding the wellbeing of her baby when she reaches six months. She lamented

"In fact when I had my first child I wanted to practice EBF but the old ladies in the house said that there is a certain lady who practiced EBF and her child grew well but when it was 6months and she introduced the water the child fell sick such that they moved from one hospital to the other and from one herbalist to the other to no avail. It took the child about a year and half before the child recovered. So the old ladies asked me what the nurses asked me to give to the baby at 6months before introducing the water. I said they didn't say. So the old ladies said something has to be given to the baby before introducing the water or else my baby will be sick just like the other child. Therefore I should give water to my baby which I did and the same fear has made me give water to this current baby".(participant 9, a twenty year old mother of two)

When the participants were interviewed on what they had heard other mothers saying about the practice, the opinions were equally divided as half of the mothers had heard positive comments about the practice whiles the other half had negative comments. Some positive comments reported were as follows:

"Most mothers are saying it is a good practice because it has made their children healthy".(participant 5, from Bukere, Bolga-urban)

"I have heard from some of my friends who have practiced EBF that it is a good practice…..". (participant 3, from Yikene, Bolga-urban).

"My senior sister's child is now grown. She practiced EBF and her child has never suffered from conditions like this convulsion that mothers are always running around with. So they are saying it is good". (participant 1, from Zaare, Bolga-rural)

"…….. but I have heard the women in the hospital saying it is a good practice, because formerly our mothers did not know about EBF so they did their own things, but now we are in modern times and should change accordingly". (participant 3, from Yikene, Bolga-rural)

The other reports that were negative were due to the fact that some mothers felt the nurses were not being honest with them regarding the introduction of water while others were being pressurized by some people who are against the practice of EBF to abolish the practice. Some of these reports include:

"I have heard from most women who have delivered saying that the nurses are deceiving us that we shouldn't give our babies water yet when they (nurses) deliver they give their babies water. So we should go ahead and give our babies water". (participant 10 from Bukere, Bolga-urban)

"Most mothers are saying it hasn't helped them because at 6months when you introduce the water the child develops problems. So most of us just go to sit at the clinic and listen but when we come home we give our babies water, because we started giving the water since childbirth and we can't stop now if the baby is thirsty or else the baby will cry a lot. In addition the old ladies have likened the breast milk to cow milk, they say it is just like you getting heart burns when you drink cow milk without drinking water it is the same with the babies because the breast milk is only milk and so if we breastfeed without adding water we are punishing the babies". (participant 9 from Zaare, Bolga-rural)

"……...there is a woman I know in the market who is always pestering me to give my baby water. So in order to stop her I told her that I will give my baby water when he is three months. Because it was as if she and her friends were condemning me because of the practice". (participant 11 from Soe, Bolga-urban)

The opinions and beliefs of the participants and those of the other mothers influenced the EBF practices of the participants, despite the knowledge that some participants have about EBF. One participant from Soe narrated how she was influenced to accept the practice of EBF.

"In fact at first I was discouraged because when we came home the baby was suckling too much and I couldn't sleep at night so I told my husband that when it is 3months I will stop. But he encouraged me and that I should try and continue. My mother also called and advised that I continue and that people are doing it and that it is very good. On the other hand others were saying that it is some one's research work that they just took it up and are forcing mothers to apply and so we should not punish our babies. Upon hearing this, I immediately called a midwife friend of mine to explain what I was hearing, so she said I should try and practice EBF and that it was very good. So on my next visit for postnatal I saw one woman and her baby looking healthy and when I enquired she said she was practicing EBF. Then I was now encouraged and so when I got home I informed my husband that I will continue". (participant 11 a teacher from Soe, Bolga-urban)

Most participants embraced the practice of EBF because of its psychological, economic, physical and health benefits to both mother and baby. One participant stated that she has peace of mind,another said that she has enjoyed good health while another said she has been strong since she has been practicing EBF. A teacher from Soe, Bolga-urban reported as follows:

"I am benefiting because, whenever we go to the market I don't carry any food with me because I have my breast milk to feed him anytime he is crying. Then again I don't buy any baby feeds such that I will wake up one day and say our food is finished and there is no money to buy. So for me it saves time and it's very economical. The only thing is for me the mother to eat well. Then again I wouldn't say let me cook for my baby etc" (participant11).

However some participants reported that they encountered problems which included bodily pains and sleeplessness. Two mothers stated categorically that

"As for me I can't really tell the benefits I've enjoyed". (participant 5 a hairdresser from Bukere, Bolga-urban)

And the other;

"I haven't seen any changes in me since I started practicing EBF".(participant 2 a JSS graduate from Zaare, Bolga-rural).

Regarding the babies, most mothers had reported immense benefits to their babies whereas few did not notice any benefits at all. Some of the benefits reported were the absence of diarrhea, babies being very active and increase in weight among others. One participant added

"My baby is extra active and his weight keeps increasing". (participant 11a graduate teacher)

However the few participants who had problems said

"I think my baby is not adding weight". (participant 5 a hairdresser)

While another said

"She hasn't been sick except now that she has diarrhoea and her stools are dark and I am told it is Piles (haemorrhoids). So I went and bought the drug for the treatment of the piles. I

don't know why my baby has diarrhoea, because I give my baby voltic water. When I gave birth she wasn't passing stool frequently and it used to be hard, but now it is very frequent and watery. I was also told that it is because we started putting warm water into the anus of the baby, now it has resulted in a sore in the anus and hence the passing of the frequent stools". (participant 9from Zaare, Bolga-rural)

All the above opinions and benefits, whether negative or positive will determine whether mothers will effectively practice EBF for the stipulated six months as prescribed by WHO or not.

Participants' understanding of when to introduce complementary feeding

After the interviews, participants were given the opportunity to ask questions. It was then discovered that most of their questions were centered on what to do when their babies turned six months. Some of their questions were as follows:

- *"So at 6 months, what do I do before giving the baby the feeds or even water?(participant 9 from Zaare-rural Bolga)*
- *At 6months do I give something before introducing the water?(participant 12 from Yikene-rural Bolga)*
- *When I give my baby water at six months, will there be any disturbances?(participant 10 from Bukere-urban Bolga)*
- *When I want to introduce water at 6months, do I have to use only voltic?(participant 8 from yikene-rural Bolga)*
- *When I start introducing the food, will that food I introduce be the baby's only food? (participant 11 from Soe-urban Bolga)*
- *Can I add lactogen to the porridge?"(participant 2 from Zaare-rural Bolga)*

Other participants wanted to know why they were being asked not to give water to their babies and also what benefits they stand to gain from EBF. All the above questions point to the fact that participants did not have clear instructions on what to do when their babies turned six months. Even though the researchers tried to address the concerns of the participants, the fact still remains that most mothers may also be confused and not sure of how to introduce water or complementary feeds when their babies turn six months.

It is evident from the findings that most mothers in the municipality are aware of the existence of EBF: however, they do not seem to grasp the whole concept of the practice. Most of their practices did not conform to WHO recommendations for the practice of EBF. It was common to find mothers giving their babies water before age six months yet claiming to be practicing EBF. The customs and beliefs surrounding breastfeeding/colostrum played a major role in the EBF practices of some of the participants even though others claimed they were none existent in their communities. These customs greatly influenced the opinions of the participants regarding the practice of EBF. A major support system (mother support group) which could have been very instrumental in the promotion of EBF was missing in the municipality. Since this group was not functioning and the nurses were not also embarking on home visits it weakened the EBF promotion system. These questions posed by the participants also indicated that a lot of teaching has to be done by nurses at the antenatal and post natal clincs on EBF. Finally, even though this study was conducted among two urban and two rural communities in the municipality, their responses to most of the issues raised were virtually the same. The only exceptions were in the case of the customs and beliefs of breastfeeding that those from the urban communities knew less about while their counterparts from the rural areas were well informed about. Also regarding the knowledge of EBF, few participants from the urban communities had a little detailed knowledge than those from the rural communities. All these experiences of a nursing mother whether at home or in the hospital have a great influence on her EBF practices.

DISCUSSION

Knowledge on EBF

Knowledge and beliefs on EBF can influence breastfeeding intentions and outcomes. The findings of the present study revealed that nursing mothers in the Bolgatanga municipality had only basic knowledge of EBF. Results showed that all participants could explain the fact that EBF had to do with breastfeeding the child on only breast milk for a period of six months, stressing that no water or other foods should be added. They were also able to state few benefits of EBF. All respondents indicated that their source of information was from the nurses at the antenatal clinics even though some few respondents mentioned friends and posters as the source. Even though majority of them had their information from the clinics, their knowledge about EBF is still basic and inadequate. This is because it did not include the benefits to the mother, the immunological as well as the neurological benefits to the baby, time of initiation of breastfeeding, frequency and pattern of breastfeeding, positioning of the baby and mother during breastfeeding among others. This suggests that the information given by the health workers is not adequate and this could have serious consequences in future. Also if the information received from the nurses is scanty, one can only guess the depth of information that can be gotten from friends and relations. The finding of the present study of the inadequacy of knowledge of EBF is consistent with that of Swanson *et al*. (2005) finding in Scotland suggesting poor knowledge of knowledge on breastfeeding. Secondly, the finding of the present study that most of the mothers received their information from the nurses is consistent with the findings of similar studies on EBF elsewhere. For example, it is consistent with the findings of Aghaji (2002) and Singh (2010) which found that most mothers had their information from the clinics and health workers such as the nurses, midwives and doctors.

Participants' beliefs / opinions on EBF

With regards to the beliefs of nursing mothers in the Bolgatanga Municipality on EBF, almost all participants interviewed except one had positive opinions of the practice. These opinions were based on the fact that some of the participants had ever practiced EBF and had enjoyed its benefits. Few participants had positive opinions and beliefs about the practice because of it's psychological, economic, physical and health benefits enjoyed by both mother and baby. They expressed confidence in EBF because their babies who

are being exclusively breastfed rarely fall ill. Some few mothers however express negative opinions of EBF. Regarding the perceptions of other people on EBF that participants had heard of, the findings of the present study revealed that about half of the mothers had heard positive comments about the practice of EBF whiles the other half had heard negative comments from other people. This finding is not surprising since majority of people in rural and urban populations are yet to fully understand and embrace the concept of EBF. Other previous findings have also revealed numerous socio- cultural factors militating against the complete acceptance and implementation of EBF in developed and developing countries.

Participants' understanding of when to introduce complementary feeds

The opportunity given to participants to ask questions brought to light some very important issues. Almost all the questions asked were centered on what the mother had to do when the baby turns six months. These questions indicated that participants were only aware that they had to breast feed exclusively for six months. It also means that either the nurses did not teach the participants what to do at six months or the participants did not pay attention when the nurses were teaching them at the clinics. Some of the participants had been told by their significant others to introduce "something" to their babies before giving them water or food complements and this resulted in some of these questions. Other participants did not know what complementary feeds to start with and whether they would have to combine with other feeds or continue giving just one particular feed. This situation needs to be brought to the attention of the health workers at the clinics and maternity homes/units for proper education to be done. So far from the literature gathered nothing of this nature has been discussed.

In conclusion it was evident that even though participants had knowledge of EBF from the clinics, their practices did not conform to WHO standards as such EBF was not effectively practiced. This phenomenon was partly due to inadequate knowledge received at the clinics and poor understanding of EBF by participants due to low educational level. The absence of the mother support groups and the lack of visits by nurse to the homes have immensely affected the promotion of EBF in the municipality. The customs and beliefs of breastfeeding were also found to dictate most participants' practice of EBF and this implied that most of the health education programs do not effectively address certain customs which negatively affect the practice of EBF. The questions posed by participants also indicated that they were not sure of what to do when their babies turned six months and so this will most likely determine how long they will exclusively breastfeed. These issues raised point to the fact that health workers in the Bolgatanga municipality must step up their "game" to increase the current 0.21% patronage of EBF.

Recommendations

Based on the findings of the study, the following recommendations are made:

- Based on the finding of the inadequate knowledge of nursing mothers on EBF, it is recommended that more education on EBF needs to be undertaken by the stakeholders involved. This education should go beyond teaching mothers on the duration of EBF to include for example the benefits to the mother, the immunological as well as the neurological benefits to the baby, time of initiation of breastfeeding, frequency and pattern of breastfeeding as well as positioning of the baby and mother during breastfeeding.
- Based on the questions participants asked during the focus group discussions indicating inadequate knowledge on complementary feeding when babies attain six months, nursing mothers as well as potential mothers should be educated by stakeholders on complementary feeding after the sixth month. This should include how to provide the child with balance diets to prevent childhood conditions such as marasmus and "Kwashiakor" since these conditions have been found to be mostly prevalence after exclusive breastfeeding.
- In the area of research, it is recommended that knowledge and beliefs on EBF of other significant others such as husbands, mother-in-laws, older women who did not breastfeed exclusively themselves and even various categories of nurses such as community health nurses and state registered nurses are explored since the decision to exclusively breastfeed is sometimes influence by one or more of these groups of people. In line with this, since most research on EBF in the past has been quantitative, more qualitative studies are required in this area so that mothers can express their own opinions of EBF, rather than quantitative studies where questionnaires are used and options provided to influence the responses of the mothers.

Conclusion

Malnutrition is estimated to be the underlying cause of 54% of mortality among children under five years (Central Board of Health Zambia, 2003). Appropriate feeding practices are of fundamental importance for the survival, growth, development, health and nutrition of infants and young children. It is argued that promotion of exclusive breastfeeding (EBF) is the most effective child health intervention currently feasible for implementation at population level in low-income countries (Jones, Steketee, Black, Bhutta & Morris, 2003). EBF could lower infant mortality by 13% and by an additional 2% were it not for the fact that breastfeeding may transmit HIV (Jones *et al*., 2003): however, in recent times, there has been a decline in EBF worldwide. In the Bolgatanga municipality, Ghana, EBF rate of 0.21% was reported by the Bolgatanga Municipal Health Directorate indicating the alarming nature of the situation hence the need for the present study which has made use of a qualitative approach which is best suited for exploring the knowledge and beliefs of nursing mothers since most of the studies conducted on EBF are quantitative studies and as such could not gather in-depth information on EBF. The findings include inadequate knowledge on EBF by participants, inadequate knowledge on when to introduce complementary feeding, a high influence of customs and norms of society on EBF, and a positive

perception of EBF among others things. Based on the findings recommendations are made for practice and research.

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