SCHOOL OF PUBLIC HEALTH, COLLEGE OF HEALTH SCIENCES
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FACTORS INFLUENCING EXCLUSIVE BREASTFEEDING PRACTICES AMONG MOTHERS IN ASUOGYAMAN DISTRICT, EASTERN REGION GHANA

BY

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DECLARATION

I Nobiya Theresa Babero, declare that except for the references of other people's work, which I have appropriately acknowledged, this work is the result of my own original research. This dissertation has not been presented elsewhere, either in whole or partially, for another degree.

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DEDICATION

I dedicate this work to my husband Mr. Benedict Nobiya and my children, Anthony, Anita, Hector and Henry who gave me wonderful support, encouragement and inspiration to pursue this course successfully.

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ABSTRACT

BACKGROUND: Exclusive breastfeeding has been known to contribute to child survival. Despite the high rates of exclusive breastfeeding on discharge from health facilities in the Asuogyaman District, nursing mothers often discontinue the practice at home and resort to inappropriate infant feeding practices. There has been no recent study on the factors influencing exclusive breastfeeding practices in the Asuogyaman District.

The study sought to describe the exclusive breastfeeding practices and identify the factors that influence decision of the mother to comply with the recommended breastfeeding practices.

METHODS: A cross sectional study was carried out from 17th to 23rd June 2008; A triangulation of qualitative (FGD, IDI and observation) and quantitative (structured questionnaires) research methods were used to describe the factors that influence breastfeeding practices among nursing mothers in the Asuogyaman District. A total number of 400 mothers attending child welfare clinics with infants aged between 3 months to 9 months were randomly selected and interviewed using a structured questionnaire. This was complimented with three focus group discussions: one with mothers, one with fathers of infants and another with nurses. Other techniques used were: In-depth interviews with grandmothers, TBA's and health workers; Observation of breastfeeding practices of mothers in the VRA hospital was also carried out.

Descriptive statistics was used to describe proportions; and univariant and logistic regression analysis were done to explore factors influencing the decisions of the mothers to breastfeed exclusively.

RESULTS: Out of 400 mothers interviewed, initiation of breastfeeding within I hour of birth was 31.5%, and within I day was 85%. The overall exclusive breastfeeding rate was 62%, for infants under six months, it was 68% and for those above 6 months, it was 57.9%. Colostrum was given by 87.5% of mothers and a prelacteal food was 15.5%. Common prelacteal foods were water 27%, Coconut water 23.7%, glucose water 20.3% and infant formula 13.6%. By logistic regression analysis, the level of education of the mother and place of delivery were factors that mostly influenced her decision to breastfeed exclusively.

CONCLUSION: Despite higher rates of initiation and exclusive breastfeeding, practices such as prelacteal feeds and introduction of complementary foods are of great concern in the Asuogyaman District.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

BFHI	Baby Friendly Hospital Initiative
DHMT	District Health Management Team
EBF	Exclusive Breastfeeding
FGD	Focus Group Discussion
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GINAN	Ghana Infant Nutrition Action Network
GSCP	Ghana Sustainable Change Project
GSS	Ghana Statistical Service
IDI	In-depth Interview
JSS	Junior Secondary school
MOH	Ministry of Health
NMIMR	Nogouchi Memorial Institute for Medical Research
RCH	Reproductive and Child Health
SSS	Senior Secondary School
TBA	Traditional Birth Attendant
UNICEF	United Nations Children Educational Fund
USAID	United States Agency for International Development
WABA	World Alliance for Breastfeeding Action
WHO	World Health Organization
VRA	Volta River Authority

OPERATIONAL DEFINITIONS OF TERMS

BOTTLE FEEDING- Feeding infants and young children with milk formula from a bottle with artificial teat.

BREASTFEEDING- Giving the mothers' breast to the baby to suckle to feed on the breast milk.

COLOSTRUM- The first yellowish breast milk that flows after delivery for the first three days.

EARLY INITIATION- Putting baby to breast to start suckling as soon as the baby is born (preferably within the first 30 minutes to 1 hour after delivery).

EXCLUSIVE BREASTFEEDING- feeding infants with only human milk, without giving water or other fluids with the exception of medicines or micronutrient supplement drops.

PRELACTEAL FEEDS- giving infants other fluids (other than human milk) during the immediate postpartum period, until the breast milk of the mother begins to flow.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Breast milk is the natural food for a baby and contains all the required nutrients in the right proportions to stimulate optimal growth and development of children, especially during the early months of life (Liamputtong, 2002; Lawrence, 1999). The unique antibody and immunoactive protein profile in breast milk, together with a rich supply of micronutrients, enhances infant immunity against infections (American Academy of Paediatrics, 2005).

Breastfeeding has socio-economic benefits such as reduced cost of health care, elimination of the need to purchase infant formula, and it serves as convenient and readily available nourishment for the infant anytime and anywhere. For low income economies, the outlined benefits can translate into reduced national health care costs, and reduced absenteeism from work because parents are more likely to show up at work rather than spend time to seek medical help for sick children (WHO, 2000; Kramer et al., 2001).

Beyond infant growth and health outcomes, breastfeeding reduces risk of maternal hemorrhage postpartum (Sobly, 2004), facilitates uterine involution, reduces the risk of ovarian cancer (Am-Sofi et al., 2001) and serves as contraception when exclusive breastfeeding (EBF) is practiced during the early postpartum period.

Exclusive breastfeeding (EBF) describes the practice in which infants receive only breast milk as nourishment, and no other liquid or solid foods are given except for drops or

syrups consisting of vitamins, mineral supplements, or medicines (Labbock, 2000). EBF is an important public health intervention for its role in promoting child survival. Breastfeeding promotion is a key child survival strategy (Karen, et al., 2004) and there is therefore a strong global interest in promoting optimal breastfeeding. The Innoccenti Declaration (WHO/UNICEF,1990), the Baby Friendly Hospital Initiative (WHO/UNICEF, 1991), the International Code on Marketing of Breast Milk Substitutes (WHA, 1981) and the Global Strategy on Infant and Young Child Feeding (WHO, 2001) are some of the international efforts that seek to promote optimal feeding of infants and young children, particularly during the early months postpartum.

EBF is known to promote child survival by reducing acute respiratory infections and diarrhea deaths (Arifeens, et al., 2001; Bhandari et al., 2003; WHO Collaborative Team, 2000). It is estimated that a global increase of 8% EBF rate reduced infant mortality by over one million during the first 6 months of life (UNICEF, 2000).

The Global Strategy of World Health Organization (WHO) on Infant and Young Child Feeding emphasizes the need for comprehensive national policies on infant and young child feeding, including guidelines on ensuring appropriate feeding of infants in exceptionally difficult circumstances, and these should be country specific (WHO/UNICEF, 1989, 1992, 2003). World Breastfeeding is celebrated in the first week of August each year to raise awareness on the critical role played by breastfeeding in protecting and nurturing young children. All these efforts are intended to save millions of lives of children, thus addressing the Millennium Development Goal 4 of reducing death in children under 5 years of age by two-thirds from 1990 to 2015.

In Ghana, efforts to promote breastfeeding have been supported by the Ghana Infant Nutrition Action Network (GINAN) in collaboration with the World Alliance for Breastfeeding Action (WABA) as well as the Ministry of Health (MOH) and the Ghana Health Service (GHS). Ghana has adopted the Baby Friendly Hospital Initiative (BFHI) and drafted a National Strategy on Infant and Young Child Feeding as a guide to promoting appropriate breastfeeding and subsequent complimentary feeding (MOH, 2005). All public-managed health facilities are encouraged to ensure the practice of baby friendly hospital initiative approach. The Ghana Health Service (GHS) in line with international standards by WHO, recommends that all women exclusively breastfeed their infants for the first six months of life and then introduce appropriate complimentary foods at 6 months while continuing to breastfeed for 24 months.

Despite the stated international, national and local efforts to promote breastfeeding, EBF remains low. Nationally representative surveys have reported that only 54% of children in Ghana, below 6 months are exclusively breastfed (GSS, 2006). The main factors associated with poor breastfeeding practice are socio-cultural, maternal and infant-related as well as health system-related.

Socio-cultural factors include socio-economic status of the mother, educational level of the mother, influence from friends, family members (especially grandmothers, mothers in-law, husbands), use of the services of traditional birth attendants for delivery, and harmful perceptions and cultural beliefs (Joanna et al., 2006). Maternal and infant factors include age of mother, parity, breastfeeding experience (Suneth et al., 2007) as well as health status of the mother at birth. Others include mode of delivery (normal vaginal

delivery or caesarian section), engorged breast, sore nipples and the level of attendance at antenatal clinics by the mother. Some infant factors include the health status of the infant at birth, congenital malformations such as cleft palate, and premature infants.

Health system factors include poor access to health facility, inadequate health education and advice from the health workers, medical procedures such as bathing babies soon after delivery before baby suckles, and personal values and attitude of health staff (USAID /GHS, 2006)

1.2 Statement of the Problem

The nation-wide surveys indicated above were not designed to capture the depth of socio-demographic determinants of breastfeeding behavior. There is therefore the need for studies that examine peculiar socio-cultural norms that determine breastfeeding practices. Such studies can be useful for District Health Management Teams (DHMTs) in addressing child survival issues. There have previously been no in-depth studies of breastfeeding behaviour in the Asuogyaman district in the Eastern region of Ghana. Anecdotal health facility accounts suggest that although many women leave the maternity ward breastfeeding exclusively, the practice is quickly dispensed with shortly thereafter. For the purposes of informing breastfeeding interventions in the district, an in-depth inquiry into the determinants of breastfeeding behaviour is needed.

1.3 Justification of the Study

Reports from the DHMT indicated high EBF rates among mothers on discharge from the health facilities in the Asuogyaman District at an average rate of 98% for the past three years (Asuogyaman District Annual Reports, 2003-2006). However a study by the DHMT in 2004 in 4 communities (Dzidzorkope, Dodi Asantekrom, Mangoase and Abume) revealed low EBF rates, with the highest of 49% in Dzidzorkope and the lowest of 10% in Abume. These rates were below the national average level of 53%. There have been no studies on the factors that influence EBF practices of mothers after discharge from the hospital in the Asuogyaman District.

The results of this study will provide evidence-based information on factors influencing EBF practices and provide data to support implementation and management of the BFHI. The findings will also be relevant in designing appropriate behaviour change communication messages in the socio-cultural context of the Asuogyaman district to facilitate behaviour change. Lastly the study will give opportunity to the researcher to acquire knowledge and develop skills of research in breastfeeding which can be applied to other areas of research in the future.

1.4 Objectives of the Study

1.4.1 General Objective

To investigate and describe breastfeeding practices for infants between 3 months to 9 months of age and factors influencing them in the Asuogyaman district.

1.4.2 Specific Objectives

1. To determine the prevalence of EBF among infants 3 months to 9 months of age in the Asuogyaman District.

2. To investigate and describe maternal knowledge and perception on optimal infant feeding recommendations.

3. To identify and describe health service support for EBF promotion.

4. To investigate and describe the influence of family members, friends, and other support networks on breastfeeding behaviour.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Definitions of Breastfeeding Behaviour

Breastfeeding is defined as the mammalian practice of feeding the young with milk from the mammary glands of the mother. In humans, it is both a biologic as well as a behavioral activity influenced by diverse socio-cultural and psychological factors (Chandrashekhar, et al., 2006). Research has shown that human milk alone can sustain normal growth and meet the nutritional requirements of infants during the first 6 months of life (American Academy of Paediatrics, 2005). However, the optimal outcomes associated with breastfeeding can be achieved when appropriate breastfeeding behaviour is practiced. Appropriate breastfeeding practices have been identified as timely initiation of breastfeeding (preferably within one hour postpartum), feeding with colostrum, no introduction of pre-lacteal foods including water, exclusively breastfeeding during the first 6 months of life, breastfeeding on demand and timely complementation with appropriate foods at 6 months (Labbock, 2000)

WHO recommends that infants should be exclusively breastfed for 6 months (WHO, 2001). EBF is the feeding of infants with only breast milk from the mother or a wet nurse and allows the infant to receive vitamin and mineral supplements, or medicines (WHO, 2004; Labbock, 2000). This definition requires that no other liquid or solid from any source enters the mouth of the infant.

Other related definitions of breastfeeding are:

- Almost exclusive breastfeeding which allows occasional taste of other liquids, traditional foods, vitamins, medicines and so on.
- Full breastfeeding which includes both exclusive and almost exclusive breastfeeding. In full breast feeding the infant receives expressed breast milk in addition to breastfeeding (Labbock, 2000).
- Bottle-feeding implies that the infant receives liquid or semi solid foods from a bottle with a nipple or a teat**.**

2.2 Current Breastfeeding Knowledge and Practices in Ghana

A nationally representative study in 2003 indicated that nearly all women (97%) in Ghana initiated breastfeeding of their infants and the mean duration of breastfeeding was 23 months. However, only approximately 53% of babies under 6 months were breastfed exclusively (GSS, NMIMR and ORC Macro, 2004). This rate was again observed in 2006 (GSS, 2006) in children under 6 months. Children 0-3 months old had a higher EBF rate of 65%, and girls were less likely to be breastfed exclusively than boys.

The national average rate of infants who were breastfeeding within 1 hour of birth in 2003 was 46%. Central Region had the lowest rate of 14%, whilst Upper East Region reported the highest rate of 86%. For those mothers who initiated breastfeeding within 1 day, the national rate was 75% (GSS, NMIMR and Macro, 2004). In 2006, the proportion of infants that were breastfed within 1 hour of birth ranged between 17% in the Eastern

Region to 46 % in Greater Accra. For infants who started breastfeeding within 1 day of birth, Brong Ahafo Region had the lowest rate (63%) whilst the Upper East Region again had the highest rate of 83% (GSS, 2006).

Women with secondary education and higher were more likely to breastfeed their children within 1 hour of birth (49%) than those with no education (36%). Other mothers initiated pre-lacteal feeding mostly during the first 3 days of birth in anticipation of the flow of breast milk.

Complementary feeding was introduced early, thus 38% of newborns under 2 months received supplementary foods or liquids other than breast milk. The mean EBF rate for Ghana was estimated at 2 months. Bottle feeding rate was 12 % and reached its peak by age 4-5 months. (GSS, NMIMR and ORC Macro, 2004).

There were various beliefs and reasons for inappropriate breastfeeding practices among mothers in Ghana. In a study in Kintampo in the Brong Ahafo Region of Ghana, mothers had mixed beliefs about colostrum; some delayed breastfeeding for the first 2 days to wait for the flow of the "good milk" because colostrum was perceived as harmful to the baby. Others however expressed colostrum and fed it to their babies instead of putting the babies to breast to suckle (Tawiah-Agyeman et al., 2005, unpublished research). Other studies indicated that both cultural practices and information provided by the health workers influenced breastfeeding practices. These practices, especially those implicating health workers, were related to unrealistic attempts to promote breastfeeding (WHO, 1998).

This is consistent with other studies in Ghana and elsewhere that have reported that colostrum was considered to be dirty and should not be used to feed the baby (Adjei and

Schubert, 2004; Odoi-Agyarko and Brew, 2008).** Traditional beliefs in some parts of Africa encourage discarding colostrum, with the notion that it is dangerous to the health of the baby. In view of this, some women rather introduce pre-lacteal feeds during the first three days of birth before the flow of the "good milk" (Tawiah-Agyeman et al., 2005). Some mothers, especially younger ones, believe that breastfeeding will make their breasts flabby and thus spoil their figures (Shaw and Wallace, 2002).

Institutional data from health facilities in the Asuogyaman District indicated that upon discharge from the maternity ward, EBF rate was high, almost 100% (DHMT Annual Report, 2007). Though there has not been any extensive community study on the prevalence of EBF in the Asuogyaman District, available data from exit interviews conducted for mothers at child welfare clinics (CWCs) in 4 communities in 2004, indicated the following: Dzidzorkope had the highest rates of 49% EBF at 3 months, 18% at 4 months and 20% mixed feeding. This was followed by Mangoase where EBF rate was 20% at 3 months, 4% at 4 months and 2% mixed feeding. Dodi Asantekrom recorded 18% exclusive breastfeeding at 3 months, 8% at 4 months and 5% mixed feeding. Abume had the lowest EBF rates of 10% at 3 months, 1% at 4 months and 5% mixed feeding (DHMT, Asuogyaman, 2004). This implied that exclusive breastfeeding was far below the national rates by 5% by the time the infant reached 3 months and decreased further by 4 months. Mixed feeding practices were also prevalent in these communities.

2.3 Initiation of Breastfeeding

The 4th step of the 10 steps to successful breastfeeding recommends early initiation of breastfeeding which suggests that the infant should be placed "skin-to-skin" with the mother within the first half-hour following delivery. During this time, mothers should be assisted with positioning and attachment by the midwife. In the case of a mother who had delivered by caesarean section, breastfeeding should commence within an hour after she is able to respond. Breastfeeding should begin before any routine procedure such as bathing, weighing, umbilical cord care and administration of eye medications is performed (Lawrence, 1999).

Breastfeeding initiation within the 1st hour of delivery can save over 1 million neonatal deaths (WHO 54th Health Assembly, 2001).About 13% to 15% of all under 5 deaths in developing countries can also be prevented globally by breastfeeding appropriately (Jones et al., 2003). Breastfeeding is recommended to continue for a year or longer but many women perceive that breast milk alone is not enough for the daily requirements of the baby much sooner than the 6 months, so optimal breastfeeding practice is compromised. Another research finding indicated that the initiation of breastfeeding within the 1st hour of birth stimulates the breast to start producing milk immediately, because the suckling reflex of newborns is at its peak within twenty to thirty minutes after delivery. Thus failure to feed the infant immediately results in rapid diminishing of the reflex, which reappears adequately forty hours later (Gupta, 2007). This is referred to as the "the fourth stage of labour" and includes putting the baby to breast after birth and ensuring the intake of colostrum by the neonate. This therefore calls for the initiation of breastfeeding right from birth in the delivery room itself to within 1 hour after delivery.

A study conducted in Ghana concluded that promotion of early initiation of breastfeeding had the potential to make a major contribution to the achievement of the child survival MDG; 16% of neonatal deaths could be saved if all infants were breastfed from the 1st day, and 22% if breastfeeding started within the 1st hour (Karen et al., 2006). The researchers reported a 2.5 fold reduction in risk of death of babies who survived the 2nd day, and initiated breastfeeding on the 1st day of life (early initiation) compared to those who initiated after the 1st day of life (late initiation).

Breastfeeding promotion programs should emphasise early initiation as well as exclusive breastfeeding**.** This has particular relevance for sub-Saharan Africa, where neonatal and infant mortality rates are high, but most women already exclusively or predominantly breastfeed their infants. A study found that 30% of mothers did not initiate breastfeeding on the day of birth and their infants had a double risk of neonatal deaths compared to those who initiated on the 1st day (Tawiah-Agyeman et al., 2005). In this same study, some mothers breastfed their babies on the 2nd day without giving anything for the 1st day, but the majority of mothers gave varieties of fluids on the 1st day in anticipation of breast milk flow the next day. These fluids included glucose water, evaporated milk, shea butter dissolved in hot water, coconut water and milo beverage among others.

2.4 Benefits of Exclusive Breastfeeding

Breastfeeding has numerous benefits for children, women, families and society at large. Appropriate breastfeeding practices have been found to be of fundamental importance for the survival, growth, development, health and nutrition of infants (Hill et al., 2001). It is estimated that more than 1 million infant deaths can be prevented if all babies are

exclusively breastfed for the first six months of their life (UNICEF/WHO, 1999). Several studies have demonstrated that breast milk can protect infants against diarrhea, cough, colds and other common illnesses (Bang et al., 2005; Arifeen et al., 2001; Quigley et al., 2007).

Breastfeeding is one of the behaviors that have been proven to have direct links to reducing infant mortality by providing adequate nutrition for growth and immune factors against infections. Breastfeeding is associated with higher IQ scores and better school performance resulting from increased cognitive development (McGill University, 2008; CBCNews.ca, 2008). Others include decreased risk of obesity later in life, reduced risk of sudden death syndrome, childhood cancers, juvenile onset of diabetes, ulcerative colitis, Hodgkin's disease and other chronic digestive diseases (Arifeens et al.,2005*)* There are also decreased incidences and severity of allergies, enhanced visual, motor and oral development and better emotional development (Klya, 2007).

Breast milk contains appropriate amounts of essential nutrients needed for infant growth and development (WHO/UNICEF, 2002). In addition, the nutrients in breast milk are more easily digested and absorbed compared to that of breast milk substitutes. For example, the protein profile in breast milk is different from the milk in formula and is more easily digested.

Breast milk has antibodies which help protect infants from bacteria and viruses and help to fight off infection and disease (Bang et al., 2005). Human milk has less risk of contamination since it does not need preparation before feeding to the infant. Breastfeeding reduces morbidity and mortality during the first few months of life (Bahl

et al., 2005) by providing immunity against infections and immunological conditions such as haemophilus influenzae, meningitis, asthma and other respiratory illnesses, diarrhoeal diseases, ear infections/otitis media (Arifeens et al., 2001), urinary tract infections, and necrotizing enterocolitis. (WHO, 2000)

A study in the United Kingdom (Quigley et al., 2007) showed that an estimated 53% of diarrhea hospitalizations could have been prevented each month by EBF and 31% by partial breastfeeding. Similarly, 27% of lower respiratory tract infection hospitalizations could have been prevented each month by EBF and 25% by partial breastfeeding. It was concluded that exclusive and prolonged breastfeeding protects against severe morbidity in contemporary United Kingdom thus a population-level increase in exclusive, prolonged breastfeeding would be of considerable potential benefit for public health. Similar studies in Ghana have also demonstrated multiple benefits of exclusive breastfeeding to both mother and child (Aidam et al., 2005; Tawiah-Agyeman, et al., 2005).

There are numerous health benefits of breastfeeding to the mother, including weight and fat loss; reduced risk of breast, ovarian and uterine cancers; as well as osteoporosis. Others include faster recovery after childbirth due to decreased postpartum bleeding, increased uterine involution, less post partum depression, and faster return of the uterus to pre-pregnancy weight. EBF prevents ovulation and thus delays the risk of pregnancy by a nursing mother who exclusively breastfeeds her baby. EBF and frequent nursing, especially at night, increases amenorrhea (Richard, 2004). Longer birth spacing due to lactation amenorrhoea eventually leads to improved maternal and child health. The uterus of the mother has time to prepare adequately for the next pregnancy, due to reduced risk of pregnancy from the lactation amenorrhoea.

Early breastfeeding enhances bonding, increases the chances of mothers to have successful breastfeeding and longer duration of breastfeeding (WHO, 2003).

For the family, economic benefits accrued from lower medical care expenses as well as no expense on milk formulas, and decreased absenteeism from work for those in the formal employment sector can save family lots of money (Lulie et al., 2005).

Society as a whole also benefits from breastfeeding because babies are healthier and eventually grow up to be healthy adults and therefore make up for a more productive work force in the future. Family expenses on formulas and medical expenses will reduce and this can save the society and nations in general, huge amounts of money that can then be used for other equally beneficial programmes (Breastfeeding Task Force of Greater Los Angeles, 2005). Other benefits are the potential for reduced health insurance premiums, decreased social costs of morbidity and mortality, reduced waste of natural resources including water and decreased garbage and pollution.

2.5 Consequences of Suboptimal Infant Feeding

Suboptimal infant feeding refers among other things to the practice of early introduction of other foods (sometimes in addition) to breast milk for infants under 6 months (Kathryn et al., 2003). It is known to have contributed to the deaths of 1,600 infants annually in Ghana, two-thirds of which occurred during the neonate period (GSS, NMIMR and ORC Macro, 2004). A global ecological risk assessment of deaths and years of life lost due to suboptimal breast-feeding among children in the developing world revealed that diarrhoeal disease and lower respiratory tract infections accounted for 55% and 53% respectively for the first six months of infancy; 20% and 18% for the second six months;

and 20% for all-cause deaths in the 2nd year of life (Lauer et al., 2006). The authors therefore concluded that 1.45 million lives are lost worldwide (117 million years of life) due to suboptimal breast-feeding in developing countries.

Lancet Series on child and newborn survival in 2003 and 2004 have also estimated that exclusive breastfeeding for the first 6 months can reduce by 13-15% all child deaths, if coverage levels are increased to near universal (Lawn et al., 2004; Gareth et al., 2003).

2.6 Health Services Support for Breastfeeding Promotion

2.6 .1 Baby Friendly Hospital Initiative (BFHI)

The WHO and UNICEF initiated the BFHI in 1991 with the aim of promoting appropriate infant feeding practices in health institutions. The BFHI is a global strategy to actively involve health workers and health facilities in promotion of appropriate breastfeeding practices. The initiative involves removal of institutional barriers to appropriate breastfeeding practice and promotes adherence to the international code on marketing of breast milk substitutes. The initiative has measurable impact, which is, increasing the likelihood of being exclusively breastfed for the first six months of life (WHO, 2004).

Baby friendly health facilities are guided by the 10 steps for successful breastfeeding which are:

1) Each facility should have a written breastfeeding policy that is routinely communicated to all health care staff.

2) Train all health care staff in skills necessary to implement this policy.

3) Inform all pregnant women about the benefits and management of breastfeeding

4) Help mothers initiate breastfeeding within half hour of birth..

5) Show mothers how to breastfeed and how to maintain lactation even if they should be separated from their infants.

6) Give newborn infants no food or drink other than breast milk unless medically indicated.

7) Practice rooming-in that allows mothers and infants to remain together-24 hours a day.

8) Encourage breastfeeding on demand.

9) Give no artificial teats or pacifiers (also called dummies or soothers) to breastfed infants.

10) Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital (UNICEF/WHO, 2004).

BFHI in different countries have demonstrated remarkable successes in improving EBF rates. In Cuba where 49 of its 56 hospitals and maternity facilities are baby friendly, EBF rate at 4 months almost tripled in 6 years from 25% in 1990 to 72% in 1996 (UNICEF, 1996). In the Central Hospital of Libreville in Gabon, the implementation of the BFHI resulted in reduction of cases of neonatal diarrhea by 15%, dehydration by 14 % and mortality by 8% (UNICEF, 1996) Similarly, in China where there are about 6,000 baby friendly hospitals, EBF in rural areas rose from 29% in 1992 to 68% in 1994 (UNICEF, 1994). Initiation of breastfeeding within the first 2 hours of birth coupled with a strong mother to mother support group concept (step 10) increased the monthly clinic EBF rate from 20% to over 60%.

In Ghana, the BFHI has resulted in increase in the number of baby friendly hospital facilities from 158 in 2005 to about 270 in 2007 (GHS, 2007).

2. 7 Influences from Family Members and Social Networks of Mother

Breastfeeding is more than a way to feed a baby; it becomes a lifestyle and a behaviour that must be learned. Even though it is the baby's mother who can provide breast milk, it is helpful for the mother and the baby if the father, family, or significant others encourage this healthy relationship (American College of Nurse-Midwives, 2002). The woman's partner and family members, and/or significant others can be an important source of emotional support while the mother is breastfeeding the baby. This enhances the mother's confidence to successfully breastfeed.

Several studies indicate that grandmothers significantly influence breastfeeding practices of nursing mothers. Lulie et al. **(**2005) indicated that cessation of EBF by the mother within the 1st month was significantly associated with maternal or paternal grandmothers who advised their daughters/daughters in-law to give water or tea as well as other milk products. In the study, non-daily contact with the maternal grandmother was a protective factor for maintaining breastfeeding until 6 months.

Another study in Lesotho however indicated that grandmothers encouraged exclusive breastfeeding in line with what the health professionals advocated (Almroth et al., 2000). A comparative study in Natal, State of Rio Grande do Norte, reported that the prevalence of exclusive breastfeeding was significantly lower among children who lived with their grandmothers in the family as compared with those children who lived with families where the grandmothers were absent (Susin et al., 2005).

A study which tested the influence of social networks to predict health-related knowledge by including information about the composition of an individual's personal network,

including his/her socio-economic or demographic characteristics, showed that network variables add significantly to the mothers knowledge of breastfeeding (Fannie and Thomas, 2006).

In Ghana, family members such as grandmothers and mothers' in-law, husbands, peers and other social networks perpetuate socio-cultural practices which have both negative and positive influence on exclusive breastfeeding (USAID/GHS, 2006). For instance, a woman's decision to breastfeed may be influenced by the perceived or actual attitudes of the child's father, other family members, friends, and the amount of support she may have to carry her decision through (WHO 1998). This is in line with the theory of reasoned action which states that a person's attitude towards behaviour consists of a belief that that particular behavior leads to a certain outcome and an evaluation of the outcome of that behavior. If the outcome seems beneficial to the individual, he or she may then intend to or actually participate in a particular behaviour (Ajzen and Fishbein, 2005). Also included in one's attitude toward behaviour is their concept of the subjective norm which is about a person's perception of what others around them believe that the individual should do. In its purest essence, subjective norm is a type of peer pressure. Whether or not a person participates or intends to participate in any behaviour is influenced strongly by the people around them. These people may include friends or a peer group, family, co-workers, church congregation members, community leaders and even celebrities (Berton, 2008).

Desk reviews and formative research conducted by the MOH in collaboration with Ghana Sustainable Change Project (GSCP) indicated that health workers, mothers, and grandmothers directly influence breastfeeding and complementary feeding (GSCP/GHS,

2006). The fathers also influence exclusive breastfeeding since they take decisions in the household and mostly are the breadwinners. Traditional birth attendants (TBAs) also have great influence on whether a baby will be exclusively breastfed or not since they are closer to the woman and offer advice on child care (Bhandari et al., 2003).

Other factors that influence exclusive breastfeeding practices and the timely initiation of breastfeeding include the place of delivery and assistance at delivery by professional health workers (Dearden et al., 2002; Chien and Tai, 2007). In their studies, mothers who delivered in a MOH facility in Guatemala were more likely to initiate breastfeeding earlier than those who delivered in private facilities.

Socio economic status, which is linked with the mother's employment and educational status influence the decision of the mother to breastfeed exclusively or not (Agambodi et al., 2007; Borade et al., 2006; Adiam et al., 2005).

There have been a lot of educational campaigns by WHO, UNICEF, the MOH/GHS and breastfeeding advocates through health workers on the importance of colostrum; however some cultures in Africa, including Ghana, still consider colostrum as being dirty and therefore discard it (Tawiah-Agyeman et al., 2005; (Adjei and Schubert, 2003). A study conducted in Accra indicated that lactation counseling increased breastfeeding rates in Ghana (Aidam et al., 2005).

Some maternal and infant factors surrounding birth influence EBF practice. For example, difficult labour due to cephalo-pelvic disproportion or caesarian sections may make the infant too weak to suckle immediately, thus inhibiting early initiation of breast feeding. A study by Chien and Tai (2007) examined the effect of method of delivery and timing of

breastfeeding initiation on the prevalence of breastfeeding at 1 month and 3 months after delivery using a national sample from Taiwan. The results showed that women with cesarean delivery had lower odds of breastfeeding at 1 and 3 months after delivery. Also, those who had assisted vaginal delivery had lower odds of breastfeeding at 3 months after delivery than women with unassisted vaginal delivery. Congenital malformations in infants such as cleft palate and severe tongue tie also affect the suckling capabilities of infants (Borade and Hanumante, 2006)

2.8 Breastfeeding and HIV/AIDS

According to WHO, about 1.6 million children are born to HIV/AIDS-infected women each year mainly in low income countries. The risk of HIV/AIDS transmission through breastfeeding is estimated around 10-20% (WHO, 1998). To ensure a balance against risks of morbidity and mortality when infants are not breastfed, the WHO recommends that all HIV infected mothers should receive counseling about the risks and benefits of feeding options. Where replacement feeding is not possible, the infants should be breastfed exclusively for 6 months and continue with complimentary feeding until 24 months.

Most mothers can breastfeed with no problems; however some lack skills in breastfeeding which make some mothers feel less capable of breastfeeding their babies even though they would have liked to. The skill of breastfeeding is an art and needs to be learned by mothers especially those breastfeeding for the first time or primiparous women (Genna, 2008).

Psychologically, breastfeeding establishes a bond between the mother and baby and the baby learns to trust others. The increased maternal-child bonding can lead to better parenting and may even decrease the incidence of child abuse (Else-Quest et al., 2003)

2.9 Sources of Breastfeeding Information

Most women reported that they got advice on breastfeeding from the health facility by the midwife (Aidam et al., 2005). Advice was also given occasionally at the antenatal clinic, and by friends and family members. The study by Aidam et al. (2005) revealed that mothers beliefs on having wrong type of milk (colostrum) and the practice of giving no breast milk on the first day of delivery was still a problem. The study also indicated that some women were willing to change their initiation behaviour if given the advice; and some indeed had beliefs that facilitated early initiation. The problem however was that advice on breastfeeding was given mainly by the midwife at the time of birth but there was little documentation on who gave advice at home. This therefore calls for the need to identify community practices that influence breastfeeding. The high antenatal clinic attendances in the Asuogyaman District can be an excellent channel for advice on breastfeeding.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Type of Study

A cross sectional study design was used to conduct the current study.

3.2.0 Location of Study

The study was conducted in the Asuogyaman District of the Eastern Region of Ghana. The district covers an area of approximately 1,507 sq kilometers with the district capital in Atimpoku. The District shares boundaries to the north with the Afram Plains, to the south with North Tongu District, to the west by Manya Krobo District and the east by East Kpando District. The topography of the district comprises undulating highlands namely Krobo Kyei Bulu, Adomi, Tatabum and Kpegyei. The district is surrounded by a lot of water bodies such as the Volta River, Volta Lake, Rivers Adabo, Baware, Opotoku, Anyinase and Bubuakan. The major settlements are located on either sides of the Volta Lake (Asuogyaman District Assembly Report, 2007).

Residents of the district are predominantly farmers and the major food crops they grow include maize, cassava and plantain. The occupation of the settlements along the Volta River is fishing, and the women are mostly petty traders. The main ethnic groups are the Anums, the Akuamus, and the Bosos. There are other settler ethnic groups such as the Krobos, Ewes and some few from the northern parts of Ghana (Asuogyaman DHMT Report, 2007).

3.2.1 District Population

The estimated total population of the district for the year 2008 was 84,852. Women in the fertile age were estimated at 19, 516. There are four sub-districts namely Atimpoku/Secnhi, Akuamufie/Apegusu, Adjena /Jakiti and Num/Boso. Akosombo township is part of the Atimpoku/Senchi sub-district (DHMT, 2007). Table 1 below describes the population distribution according the sub-districts.

Table 3 1: Estimated District population, 2007

Sub-district	Population	Percentage
Atimpoku/Senchi/Akosombo	20,364	24
Akosombo	13,756	16
Akuamufie/Apegusu	20,364	24
Anum Boso	17,819	21
Adjena/Gyakiti	12,728	15
TOTAL	**84,852**	**100**

Source: DHMT Annual Report, 2007

3.2.2 Health Delivery Systems

The District is served by one referral hospital which is privately owned and managed by the Volta River Authority (VRA). The Atua Government Hospital and Peki Hospitals are also close to some communities in the district. There are 4 government health centres, 10 reproductive health units, 4 private clinics, 4 functional Community Health Promotion Services (CHPS) zones and 58 outreach centres. Other community based services include:

25 community based growth promoters in 10 communities, 75 TBAs and community based volunteers.

The 10 top health conditions of the district for the past 3 years include malaria, upper respiratory tract infection, diarrhea, hypertension, rheumatism and joint pains, skin diseases, acute eye infection, pregnancy and related complications, hypertension and gynaecological conditions.

3. 3 Study Variables

3.3.1 Dependent variables

The dependent variables were related to appropriate breastfeeding behaviour which included:

1. EBF for 6 months
2. Early initiation of breastfeeding (i.e. within one hour of delivery)
3. Knowledge and perception of the mother on exclusive breastfeeding, such as the recommended infant feeding practices and importance of breastfeeding to the infant
4. Exclusive breastfeeding practices.

3.3.2 Independent variables

These included socio-demographic data such as

1) Educational level of the mother
2) Age of mother
3) Occupation of the mother
4) Parity of the mother

5) Marital status of the mother

6) Religion of the mother

7) Ethnicity of the mother

Other explanatory variables were:

1. Cultural beliefs about exclusive breastfeeding, which refer to the norms and beliefs of the society.

2) Family support for breastfeeding from peers, mothers in-law or the woman's own mother, sisters and her husband or partner.

3) Community networks including breastfeeding support groups and other mother to mother support groups, women's groups and other associations or clubs that promote breastfeeding practices.

4) Place of delivery, which is the facility or site where the mother gave birth to the infant.

5) Community-based growth promoters, who are volunteers who receive special training from the professional health workers to carry out growth promotion and counseling services to mothers in the community.

6) The environmental factors such urban or rural dwelling of the mother were other explanatory variables which may influence exclusive breastfeeding practices of the mother.

3.4 Study Population

The study population comprised women in their fertile age and the target group was mothers with infants between 3 months to 9 months of age who attended CWCs in the Asuogyaman District. This target group was selected because most infants under 3

months are exclusively breastfed (GSS, NMIMR and Macro, 2004). The problem of non-exclusive breastfeeding typically begins after 3 months (DHMT, 2004) when many mothers would return to work, either formal or non-formal. Other targeted populations for the study included: TBAs, grandmothers, fathers, pregnant women at the antenatal clinic and health workers.

3.6 Sampling

3.6.1 Sample Size

The sample size of 375 was calculated using the STATCALC function in EPI INFO software for Windows (version 3.3.2). Using the estimated district population of 84,852 (DHMT, annual report, 2007), 23% was assumed to constitute women in fertile age group (WIFA), that is 19,516. This number was plugged into the STATCALC function in EPI INFO software to calculate the sample size. The following indicators were applied in the sample size estimation procedure: exclusive breastfeeding prevalence rate of 53%, with a margin of error of 5% at 95% CI. Population figures were obtained from the Asuogyaman DHMT.

3.6.2 Sampling Method

Data collection was carried out in all the 4 sub-districts in Asuogyaman. A clinic-based approach was used to collect the data because almost all infants (98%) attend the immunizations and growth monitoring sessions at the Child Welfare Clinics during infancy especially for the first 9 months (Asuogyaman District Health Reports, 2007). A

highly representative sample can thus be obtained by conducting clinic-based study in the Asuogyaman District.

3.6.3 Sampling Procedure

The respondents were selected proportionally based on the sub district population size and the questionnaires were distributed accordingly as follows:

- Akosombo was 16% of the district population was allocated 64 questionnaires
- Atimpoku/Senchi was 24% of the District population and was given 96 questionnaires
- Akuamufie/Apegusu was 24% of the District population and was allocated 96 questionnaires
- Anum Boso was 21% of the population also had 84 questionnaires
- Adjena was 15% of the District population and thus received 60 questionnaires.

With the exception of the of the VRA Hospital outreach clinic which was purposefully selected, the remaining health facilities were randomly selected by writing their names on pieces of paper and randomly picking one after the other to obtain the health facilities to be included in the study. In all, 10 health facilities were selected. Each health facility was assigned a number of questionnaires based on the number allocated to each sub district, proportional to the population size. The facilities that were randomly selected include:

- Atimpoku, South Senchi and Senchi Ferry RCH clinics in the Atimpoku/Senchi sub-district,

- Mangoase, Apegusu and Frankadua RCH clinics in the Akuamufie /Apegusu sub-district,
- Anum and Boso RCH clinics in the Anum/Boso sub-district.
- Adjena RCH clinic in the Adjena/Jakiti sub-district.
- VRA Hospital RCH clinic which is held outside the hospital premises.

The interviewers went to the selected health facilities on their Child Welfare Clinic days and waited a distance away from where the clinic activities were ongoing. The nurses were given prior information and mothers were informed about the ongoing exercise. The nurses introduced the interviewers to the mothers. Exit interviews were conducted using the structured questionnaires (see appendix A) as the mothers were going home after having received their services. Every 3rd mother was selected and if the infant's age was between 3 months to 9 months, the mother was interviewed to recall breastfeeding practices from birth. If the infant was not within the target group to be interviewed there was no interview, but the next 3rd mother would then be interviewed. Where the researchers did not obtain the number of infants required, they followed the nurses to their outreach child welfare sessions until they got right the number of infants.

In-depth interviews were conducted for two senior nurses; one from VRA Hospital and the other from Apegusu RCH. Focus group discussions were also held for 10 nurses, 9 nursing mothers and 8 fathers (with infants between 3 months and 9 months). In-depth interviews were also carried out with 2 TBAs and 3 grandmothers.

Observations were also carried out at the VRA Hospital antenatal clinic and the obstetrics/gynaecology ward. The researcher sat in during antenatal clinic sessions, observed and recorded all activities using a check list. In the gynaecology ward the researcher participated in the routine ward activities whilst observing the practices of breastfeeding of mothers, and the support given by the midwives.

3.8 Data Collection Techniques and Tools

3.8.1 Quantitative Data

Trained interviewers collected data during the period of 17th June to 23rd June 2008.

3.8.1.1 Inclusion Criteria

All healthy infants aged between 3 months and 9 months attending child welfare clinic were included in the study. Interviewers randomly selected every 3rd mother with an infant fulfilling the inclusion criteria of age 3 months to 9 months to reduce the probability of introducing biases.

3.8.1.2 Exclusion Criteria

Infants with specific feeding problems were excluded because they were not in the population target of exclusive breastfeeding promotion. Some of the exclusion criteria were:

1) Cleft palate deformities
2) Very sick babies from chronic diseases
3) Babies delivered by caesarian section and assisted vaginal deliveries.

Exit interviews were conducted for all selected participants using a pre-coded structured questionnaire. The local language was used for data collection. Information concerning breastfeeding practices was obtained from mothers based on recall by the mothers. Data was collected on background variables, socio economic variables, and age of mothers, knowledge and perception of breastfeeding of the mothers, the social networks of the mothers, their marital status and education levels. Others included level of support mothers received from home, the sources of information about breastfeeding and cultural beliefs.

3.8.2 Qualitative Data

A qualitative aspect of the study consisted of in-depth interviews (IDI) and focused group discussions (FGD) using discussion guides and observation (see appendix C). Groups of between 8 to 10 people were constituted for the FGDs to facilitate effective discussions.

Three focused group discussions (1 for fathers, 1 for nursing mothers and 1 for nurses) were held separately to elicit their views on EBF to compliment the structured questionnaire which was mainly for women and facility-based.

In-depth interviews were conducted for 2 TBAs, 3 grandmothers and health workers from the government clinics and the VRA Hospital.

For the qualitative study, knowledge and perception of the mothers, and EBF practices were enquired about, including influences from their family members, social networks or "significant others." The purpose of the discussions was not disclosed to the participants.

The recorder took down notes whilst the discussions were going on. The principal investigator got an interpreter to translate the questions that were asked and the responses

were recorded on a video tape recorder and in a notebook. The data was transcribed and organized according to themes.

For the observation in the VRA hospital the researcher sat in during 3 antenatal clinic sessions and recorded all activities observed using a check list. She also participated in the routine ward activities in the Obstetric and Gynaecology ward whilst observing and recording the breastfeeding practices of mothers and the support offered by the nurses to ensure timely initiation, positioning and fixing of the babies to the breast. This information was later summarized according to the themes.

3.9 Quality Control

Interviewers were recruited from the 3 ethnic groups with a minimum educational qualification of Senior High School to facilitate understanding of the questions in both English and the local dialects. The questionnaire was translated into the local languages during the training and translated back into English for better understanding. An intensive training was carried out to the understanding of all interviewers 2 days.

One research assistant and 7 interviewers were trained in 2 days to administer the questionnaires. Pre-testing of questionnaires was carried out in the New Senchi RCH unit which was not part of the study area. The necessary corrections were made before finalizing the questionnaire. To ensure that infants selected for the interview were within the right target group, interviewers were given calendar of dates with effect from the interview date, that is, infants born between 17th June 2007 and 17th March 2008; and instructed to write the date of birth of the child being interviewed on top of each questionnaire. This was later cross checked by the principal investigator for accuracy.

Interviews were conducted in the local languages-Twi, Ewe and Krobo. Interviewers were paired according to language groups as and when necessary and depending on the location of the health facility (1 Twi speaking and 1 Ewe speaking interviewer paired). One interviewer was dropped due to language problems. The research assistant understood all the three main languages, so he went round with the principal investigator to check the accuracy of the interviews and responses.

All completed questionnaires were checked in the field by the principal investigator to resolve all queries. Each questionnaire was then given a number and then filed by their study identification numbers before data entry. Two questionnaires per facility were randomly picked and interviews repeated later in the woman's home, in the presence of the principal investigator, to ensure that the interviews were properly conducted.

Data was entered using EPI INFO software for Windows and simple frequencies were used to check completeness of the questionnaires.

For the observation in the VRA hospital, the investigator was introduced by the hospital superintendent as an MPH student attached to the hospital for orientation without disclosing the purpose of the orientation. The researcher used participant and non participant approaches to obtain the data from the gynaecology ward and the antenatal clinic respectively.

3.9 Data Processing and Analysis

A database was created in EPI INFO version 3.3.2 and data was entered in EPI INFO for Windows. Simple frequency tabulations and duplicate listings were used to check for completeness and consistency of the data. The data was then exported to Microsoft Office

Excel 2003. The analysis was performed using Stata for Windows (Statacorp, College Station, Texas). The outcomes of interest were EBF practices and factors influencing these practices. Proportions were reported for categorical variables. The continuous variable for the ages of the mothers were categorised for easy analysis.

To examine the factors associated with EBF, a simple logistic regression model was used to describe socio-demographic characteristics. Variables that were found to be significant were further included in a multivariable logistic regression model to determine their independent effects. The p values were calculated. Tables were used to represent the prevalence of particular breastfeeding practices such as initiation of breastfeeding within 1 hour and within 1 day, exclusive breastfeeding for the first 6 months of life, knowledge of the mother and advice mothers received during pregnancy.

Qualitative data on the FGD and IDI interviews was downloaded from the audio-video camera and played back to compare the information with the written records. The information was then transcribed, incorporating all notes and background of respondents. Simple codes and sub codes were identified and used in the transcript and recoded according to themes. The information was checked for consistencies and inconsistencies and then interpreted using quotes from the in-depth interviews, focused group discussions and participant observation. The information was then presented in quotes as verbatim from the responses given.

The data from the observation was organised according to themes and the frequency of activities recorded to assess the implications on exclusive breastfeeding.

3.1 Pre-Test or Pilot Studies

Questionnaires were pre-tested in New Senchi RCH unit, which did not participate in the study. Ten questionnaires were pre-tested and information obtained was used to fill in the gaps and make necessary changes or modifications. New questions were added and unclear questions deleted. The corrected questionnaire was then finalized and photocopies made and distributed to the interviewers.

3.1.1 Ethical Considerations/Issues

The study received ethical approval from the GHS Ethical Committee. The VRA Hospital authorities granted permission. In addition, participants in both the quantitative and qualitative arms were given written consent forms to either sign or thumb print indicating their consent. Participation was only on voluntary consent from all participants. Clear explanation was given for participants to opt out or stop at any point during the process of interview.

The interviewers requested permission from the mothers who were breastfeeding after having explained the study to them. Permission was also sought from the community leaders before the focused group discussions and in-depth interviews were held in communities.

3.1.2 Limitations of the Study

Due to limited financial resources and time constraints, a cross sectional study was used instead of longitudinal study, which would have studied breastfeeding behaviour of the mothers over time. The clinic-based approach of the study could influence the responses

from the respondents, because being within the health facility premises, mothers might have felt obliged to give the 'right' answers. This was however checked by re-interviewing some mothers who were randomly selected during the clinic-based interviews (two mothers per site) in the presence of the principal investigator to ensure the questions were correctly administered. In addition, focused group discussions and in-depth interviews were conducted in two communities to compliment the answers from the structured questionnaires and to explain the reasons for some practices. Recall bias may also be present because mothers may not remember some of the breastfeeding practices during the early days of delivery. Additionally, mothers who did not attend the Child Welfare Clinics during those periods were automatically excluded.

CHAPTER FOUR

4.0 RESULTS

4.1 Socio-Demographic Characteristics of Respondents

A total number of 400 respondents comprising mothers with infants between 3months to 9 months of age were recruited and interviewed in the study.

Table 4.1 is a summary of the distribution of respondents by age, educational level, employment status, parity and place of delivery of the respondents. The ages of respondents ranged from 15 to 50 years. The majority of respondents (110; 27.5%) were within the ages of 20 to 24 years, followed by the 25 to 29 age group (104; 26.0%). The 30 to 34 age group formed 19.8% (79) whilst the 35 to 39 age group was 10.5% (42). Those under 20 years and above 40 years were 13.3% (53) and 3.0% (12) of the respondents respectively.

Table 4 1: Socio-Demographic characteristics of nursing mothers in Asuogyaman District, 2008

Background characteristics	Number of nursing mothers (n=400)	Percent
Mother's Age (Years)		
15-19	53	13.3
20-24	110	27.5
25-29	104	26.0
30-34	79	19.8
35-39	42	10.5
40-50	12	3.0
Mother's Education:	400	100.0
None	59	14.8
Primary	76	19.0
Middle/JSS	165	41.2
SSS/Vocational	81	20.2
Tertiary	19	4.8
Employment Status:	400	100.0
Not employed	208	52.0
Employed	192	48.0
Parity	400	100.0
1	149	37.5
2	104	26.2
3	70	17.6
4	32	8.1
5+	42	10.6
Place of Delivery:	400	100.0
Government Hospital	130	32.6
Maternity Home/Private Hospital	35	8.8
Own Home	78	19.6
TBA Home	73	18.1
VRA Hospital	84	21.1

4.2 Breastfeeding Practices of Nursing Mothers in Asuogyaman District for the First 6 Months of Life

The operational definition of exclusive breastfeeding for this study refers to percentage of infants above six months who were given water at six months as well as percentage of those less than six months who had not yet been given water at the time of the interview.

Table 4.2 shows the practice of exclusive breastfeeding of infants during the first six months of life under the following variables: sex of the child, age of the mother, her educational status, employment status, parity and place of delivery.

Table 4.2: Percentage of living infants aged 3 to 9 months who were exclusively breastfed by background characteristics, and baby friendly status of the facility Asuogyaman District, 2008

Background characteristics	Percent exclusively breastfed	Number of children	P Value
Sex of child:			0.08
Male	65.6	195	
Female	60.6	203	
Mother's Age (Years)			0.69
15-19	57.7	53	
20-24	65.5	110	
25-29	69.8	104	
30-34	47.8	79	
35-39	62.8	42	
40-50	86.4	12	
Mother's Education:			<0.01
None	45.8	59	
Primary	50.0	76	
Middle/JSS	64.8	165	
SSS/Vocational	70.8	81	
Tertiary	73.7	19	
Employment Status:			0.06
Not employed	69.2	208	
Employed	55.7	192	
Number of children:			0.35
1	58.4	149	
2	70.2	104	
3	61.4	70	
4	59.4	32	
5+	64.3	42	
Facility's Baby-friendly Status:			0.38
Baby-friendly	66.5	185	
Not Baby-friendly	59.5	215	
Total	**62.8**	**400**	

Table 4.3 shows EBF practices among urban and rural dwellers.

Urban dwellers were more likey to breastfeed (70%) than their rural counterparts (59.5%). On the other hand, urban dwellers were less likely to introduce prelacteal feeds (9.4%) than the rural women (16.7%)

Table 2.3: EBF by child's age in months, rural or urban dwelling and giving of colostrum and prelacteal feeds in the Asuogyaman District, 2008

EBF	Rural	Urban	Total
Infants less than 6 months	59.5 %	70.0%	68.1%
More than or equal to 6 months	59.1%	57.6%	57.9%
Given colostrom	85.7%	96.9%	87.5%
Given prelacteal foods	16.7%	9.4	15.5%
Bottle feeding	6.7%(3)	93%	11.4%

Table 4. 4 describes the logistic regression of factors influencing EBF. The results revealed that place of delivery and the level of educationof the mother were crudely associated with with the liklihood of EBF (p-values of 0.01 and 0.0001 repectively). However when the mothers education and place of delivery (which were found to be crudely associated with EBF) were adjusted, the crude effect of level of education diminished (pvalue = 0.64), while the adjusted effect of place of delivery remained very strong (p value = <0.0001).

Table 4.4: Logistic Regression of Factors Influencing the Practice of Exclusive Breastfeeding of Nursing Mothers in Asuogyaman District, June 2008

	Crude Odds Ratio		Adjusted Odds Ratio	
Background characteristics	**Odds Ratio**	**P-value**	**Odds Ratio**	**P-value**
Mother's Age (Years)		0.31		
15-19	1		1	
20-24	1.45	0.27	1.20	0.65
25-29	1.51	0.23	0.94	0.89
30-34	0.83	0.60	0.35	0.57
35-39	1.38	0.45	0.47	0.23
40-50	1.53	0.52	0.39	0.32
Mother's Education:				0.64
None	1		1	
Primary	1.18	0.62	0.43	0.89
Middle/JSS	2.19	0.01	0.73	0.27
SSS/Vocational	3.62	<0.01	0.93	0.07
Tertiary	3.32	0.04	0.52	0.32
Number of children:		0.98		
1	1		1	
2	0.54	0.19	0.37	0.34
3	1.06	0.84	1.28	0.01
4	0.86	0.72	0.93	0.07
5+	1.04	0.91	1.17	0.03
Place of Delivery:				<0.0001
Government Hospital	1			
Mat Home/Private Hosp	0.74	0.47	0.29	0.41
Own Home	0.28	<0.01	0.14	< 0.01
TBA Home	0.20	<0.01	0.11	< 0.01
VRA Hospital	1.02	0.95	0.52	0.94
Child Sex				
Male	1.0			
Female	0.70	0.81	0.4	0.03

4.3 Initiation of Breastfeeding within an Hour of Birth and 1 Day of Birth

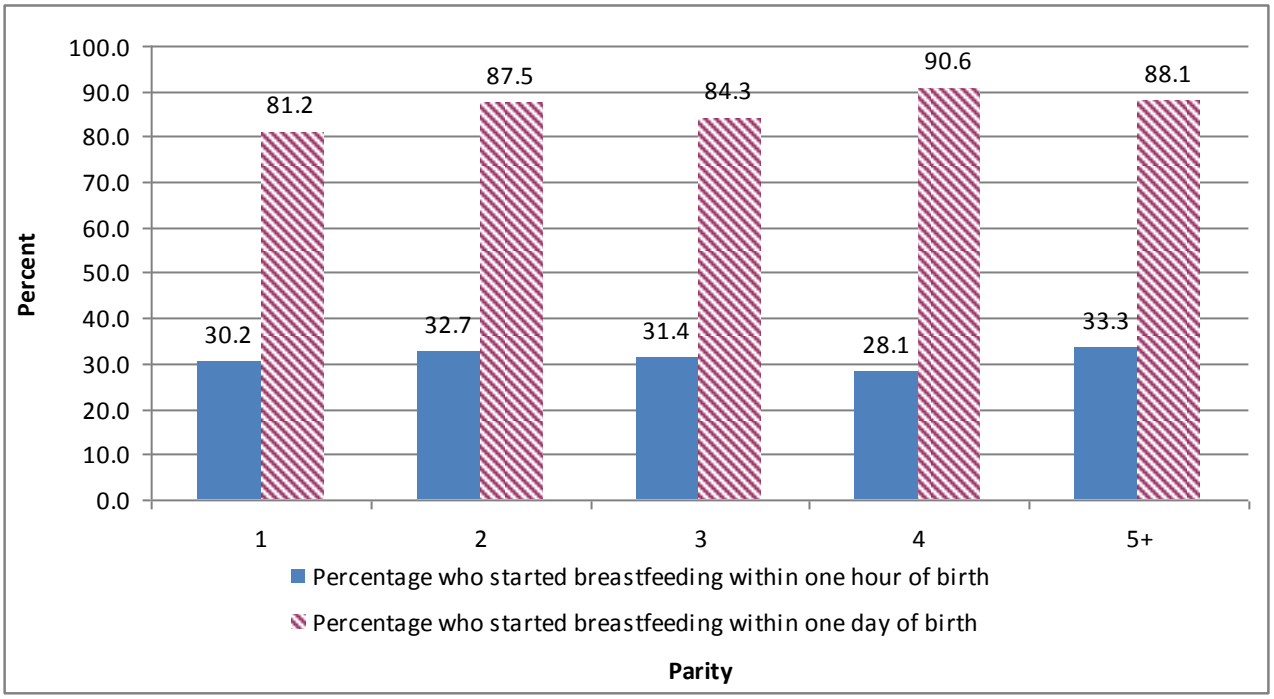
From the study, the percentage for initiating breastfeeding within 1 hour was 31.5% and within 1 day was 85%. A higher percentage of mothers between ages 25 to 29 (90.4%) were more likely to breastfeed within 1 day of birth than the 15 to 19 age group. The 30 to 35 age group however were the highest (38.1%) to initiate breastfeeding within 1 hour of birth.

Breastfeeding within 1 hour of birth increased with the mothers educational level, thus mothers with higher education especially the tertiary level formed 52.6% of the respondents who breastfed within 1 hour of birth. The SSS/Vocational level formed 39.5% (likelihood ratio p -value 0.01), followed by Middle School/Junior Secondary School level of 33.3%, then Primary level of 21.1% and lastly the non-educated at 20.3%. Initiation within one day however showed mixed results. The higher prevalence was among those mothers who attained the SSS/Vocational level of education (90.1%), the next were mothers who had Primary level education (89.5%), followed by the Middle/Junior Secondary School group (85.5%), then the Tertiary level (79%), and the least was among the non-educated (72.9%).

Figure 4.1 below indicates percentage of mothers who breastfed their children within one hour or one day.

Mothers with four or more children were more likely to breastfeed within one day than those with their first child. However, for breastfeeding within the first one hour, women with four children were rather the least likely to breastfeed and the highest number to breastfeed was reported by those who had five children and more.

Figure 4.1: Percentage of nursing mothers who breastfed their children within 1 hour or 1 day of birth by parity, Asuogyaman District, 2008



4.3.1 Difficulties Some Mothers Face with Exclusive Breastfeeding

Out of the 400 mothers interviewed, 38.5% reported that socio-cultural practices were major difficulties in trying to practice exclusive breastfeeding. The second biggest difficulty was the pressure from others to give infants water (28.5%), followed by mothers having to stop work to cater for the baby (27.5%). Another 18.8 % reported that infants were not satisfied with breast milk alone, and 17.5% indicated that they did not have the necessary home support for EBF.

4.4 Mothers Knowledge and Perception about Recommended Infant Breastfeeding Practices

Concerning the knowledge of mothers about breastfeeding practices, 8 out of 10 were given advice during pregnancy on infant feeding. Similarly, 8 out of 10 women knew about exclusive breastfeeding during the first 6 months of life. There appears to be an increase in the percentage of mothers who were given advice during pregnancy on infant feeding by age group from 62.3% in the 15-19 age group, peaking at the 30-34 age group (88.5%), followed by a decline 78.6% and 75% in the 35- 39 and 40-50 age groups respectively.

Mothers' levels of education also seem to influence the knowledge of EBF during the first 6 months, with about 85% and 84 % at Secondary and Tertiary levels respectively practicing EBF compared to 62.7% among the non-educated. Similarly, a higher proportion of 90-100% of respondents with Secondary and Tertiary levels of education were given advice during pregnancy.

The place of delivery and person who assisted the mother at delivery had positively influenced the percentage who knew about EBF during the first 6 months of birth and percentage of mothers who were given advice during pregnancy. Interestingly, the percentage of mothers who knew about the recommended EBF practices during the first 6 months was almost the same for those who were given advice by midwives (82.1%) and those given advice by the family members (82.4%).

4.5 Support of Health Services in Breastfeeding Promotion

From the study, it was observed that 4 out of the 10 health facilities (40%) in the Asuogyaman District were designated as baby friendly. This is higher than the national average of about 270 (18.5%).

All nurses in both baby friendly and non baby friendly health facilities were trained in lactation management in the year 2007.

Community based growth promoters were present in 10 communities (2 per community) offering counseling and growth promotion services to mothers in the communities. They were trained by the nurses and their activities were regularly monitored.

Though the present study found that about 40 % of deliveries were conducted by the TBA's and neighbours, most mothers relied more on advice from the nurse/midwife than other service providers. About 62.5 % deliveries were done in the health facilities and 62.3% of deliveries were conducted by midwives as against 24.7% by TBAs and 13% by family members and neighbours at the time of study.

An observation in the VRA Hospital from 14th to 18th July showed that the nurses gave talks on different topics each month to antenatal mothers for about 30 minutes duration. During the period that the researcher was in the hospital, the topic discussed was family planning. There was therefore little or no information given on EBF during the month of June to antenatal mothers. Five pregnant women were randomly selected and asked about the last time they were given education on EBF and 3 out of the 5 said they were given a talk on EBF the previous month. There was an average of 55 mothers to 3 nurses and a trainee from the Kintampo Rural Health Training School.

The attitude of the nurses was polite even though they were very busy and therefore spent little time on focused antenatal care.

In the gynaecology ward, the breastfeeding policy was modified to the ward's situation and displayed on the front wall of the main ward, whilst another one was displayed on the wall at the back of the ward. Out of 11 babies observed in the ward, rooming-in was practiced by all mothers and all babies were being exclusively breastfed. Out of all the babies observed, 3 were delivered by caesarian section, 2 were premature, 1 was severely hypoxic at birth and 5 were normal deliveries. The mode of delivery and condition of the baby was no barrier to EBF. Even the baby with hypoxia was fed with breast milk through the nasogastric tube and later by cup and spoon. There was no sign of feeding bottles or baby formula in the ward. However, routine practices of bathing the baby and mother before breastfeeding were still practiced. This information was obtained through observation and reports by 3 mothers interviewed in the ward. This could interfere with the critical period of breastfeeding in the first thirty minutes after delivery.

In a focused group discussion with 8 nurses comprising midwives and community health nurses, they were well informed about EBF. However, 80% of these nurses could not correctly state up to 4 of the steps for EBF.

The focused group discussion results indicated that nurses were of the opinion that most mothers breastfeed their babies exclusively. The reasons for mothers not breastfeeding from the nurses' perspectives were laziness of mothers to wake up in the night to breastfeed and busy work schedules such as trading. which prevented them from having enough time to breastfeed their babies exclusively. Some mothers also had the perception that the breast milk alone was not enough for the baby especially after 3 months of age.

All the nurses (100%) said the mothers complained that the babies become thirsty so they gave them water to cool the throat. The box below quoted what a nurse said:

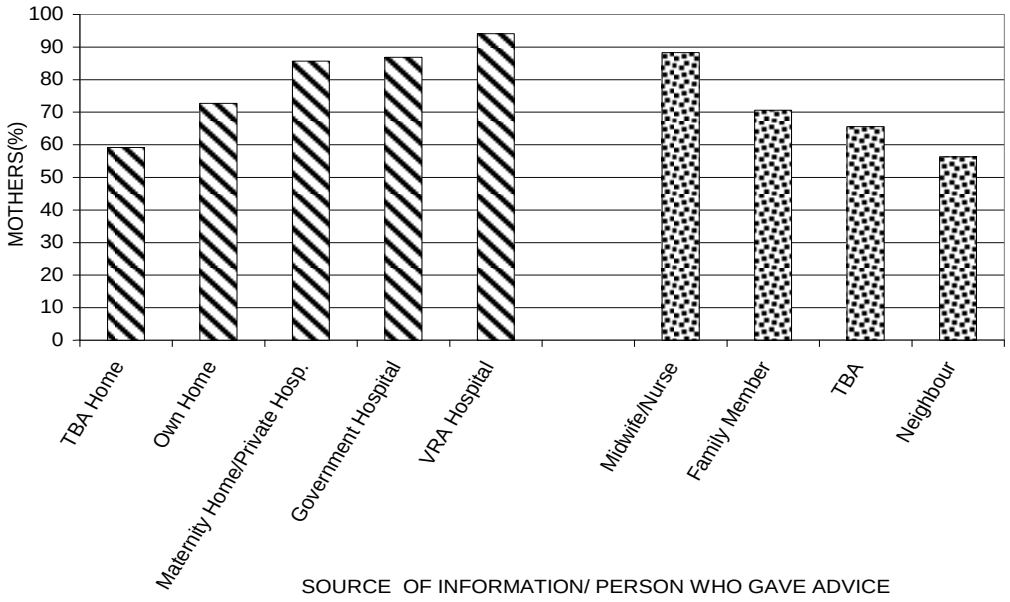
> *"As for us we give the advice but we cannot always be with them all the time. Even in the communities where mother support groups exist, the mothers ask them when they become nurses to advise them.*
> ***A nurse from Dodi Asantekrom***

This statement confirms a study by (Laroia and Sharma, 2006) which indicated that though mothers may receive guidance from health care professionals, relatives and peers have an important influence on their breastfeeding practices.

On sources of information on breastfeeding, results indicated that over 94% of those mothers who attended the VRA Hospital received information on breastfeeding from the Hospital, whilst 88% of those who attended the public institutions received their information from the government health centres and reproductive health units. About 87% got their information from the maternity homes/private hospitals. Lower percentages got information from TBAs as compared to their own homes. This directly corresponds with the people who gave advice. More mothers got information from the nurse midwife as compared to TBAs and neighbours.

Figure4. 2 show a comparison of where mothers get advice and the person who gave them advice on breastfeeding.

Figure 4.2: Place where mothers got Information and persons who gave information about Breastfeeding to Mothers in Asuogyaman District, June 2008



4.6 Influences from Family, Friends and Social Support Network

During pregnancy and after delivery, mothers often receive information from different sources such as their own mothers, the mothers in-law, friends and relatives in addition to the information they receive from a health facility.

The results of this study showed different forms of influences from family members, friends and social network members. A higher percentage of mothers (68%) said they relied on the nurse/midwife for information on breastfeeding followed by the mothers of the nursing mothers (18%) and their mother in-laws (4%). Friends and traditional birth attendants had little influence on breastfeeding information.

These were supported by reports of the desk review by the MOH that most family members such as grandmothers and mother in-laws, husbands, peers and other social networks perpetuate socio-cultural practices which have both negative and positive influences on EBF (USAID/GHS, 2006). For instance, the decision of a woman to breastfeed may be influenced by the perceived or actual attitudes of the father of the child, other family members, friends, and the amount of support she may have to carry her decision through (WHO 1998).

Even though most mothers (68%) said they rely mostly on the nurses for information on breastfeeding, a focused group discussion with grandmothers and fathers of infants who were breastfeeding at the time of the survey indicated that the mothers knew what answers the nurses wanted, so when they were asked whether they are practicing EBF, they answered yes. The fathers' group however indicated that some of the mothers did not breastfeed exclusively but told the nurses that they were practicing EBF.

Out of 115 mothers who had started work at the time of interview, 85.2% said either their own mothers or mothers in-law were helping them care for their infants. The neighbours in this study constituted a significant group (13%) who helped to care for infants while their mothers were at work. Unfortunately, this group was not often considered as an important social network for the mother. Others who also helped with child care were 78 in number; out of this number, care of the child by the mother herself featured prominently (79.5%). This was an indication that the mother was overloaded with work, and this can influence the decision of the mother to breastfeed exclusively.

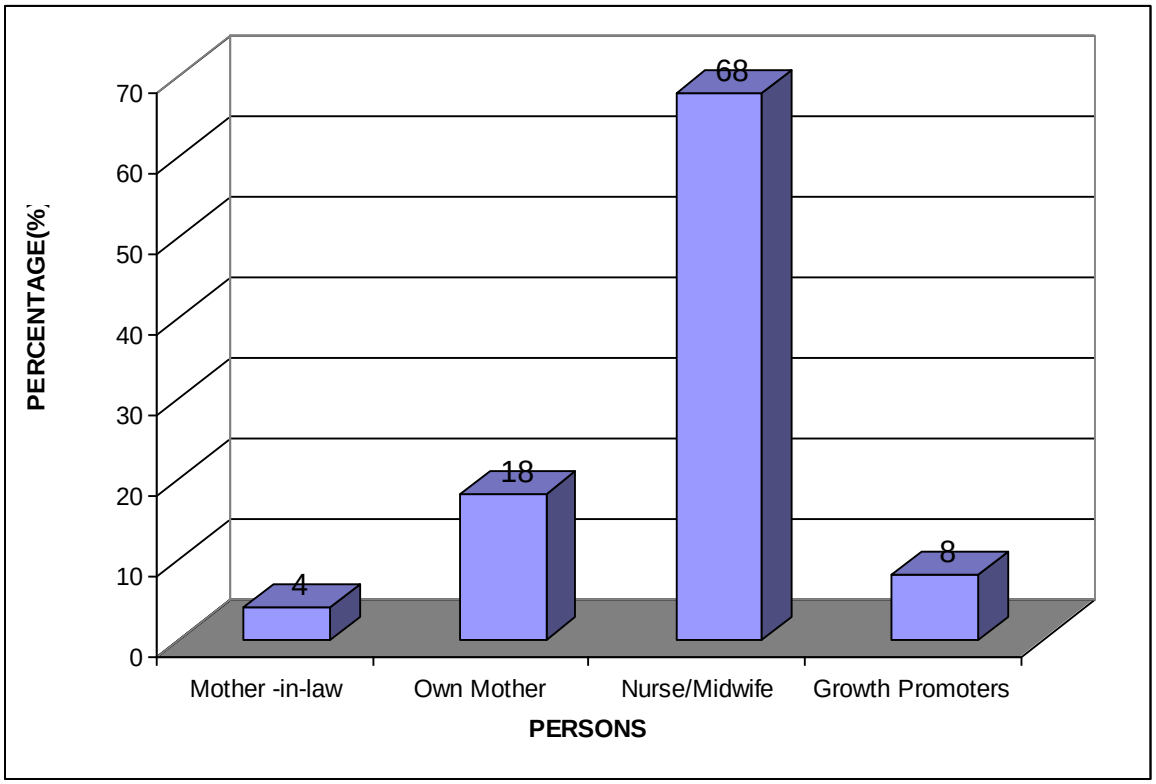
Mothers said the major difficulty they faced was pressure from others to give water (38.5%). A focused group discussion with mothers confirmed that grandmothers and

neighbours in particular were the most who exert pressure on them to give water to the child.

> *"It is our mothers who give the water to infants and say that the nurses are deceiving us. If the nurses themselves did not drink water when they were infants will they grow up to this time? Some of the nurses are just small girls who know nothing about child care."*
> ***A mother in small London Community, near Atimpoku.***

Figure 4.3 shows the persons that mothers mostly relied on for information on breastfeeding. Almost 7 out of 10 women said they relied more on the midwife/nurse for information on breastfeeding information followed by the maternal grandmothers (18%), growth promoters (8%) and mothers' in-law (4%).

Figure 4.3 Persons Breastfeeding Mothers In Asuogyaman District Relied On Mostly For Information Pertaining To Breastfeeding-June 2008



CHAPTER FIVE

5.0 DISCUSSION

Despite the fact that EBF rates were high on discharge from the hospital/health facility, mothers gave up the practice when they returned home. The study aimed at describing the factors that influence exclusive breastfeeding practices among nursing mothers in the Asuogyaman District.

This session is on the findings of the study in relation to other studies and in line with the objectives of this study under the following themes:

1) Breastfeeding practices
2) Family and friends
3) Social network support for breastfeeding
4) Mothers' knowledge and perceptions on breastfeeding
5) Health services support for breastfeeding promotion.

5.1 Socio –Demographic Characteristics

Out of the 400 mothers interviewed, 247 (62.8 %) infants between 3 to 9 months were either exclusively breastfed for six months or currently breastfeeding exclusively if below six months. Males were slightly more likely 195 (65.5 %) to be exclusively breastfed than females 203 (60.6 %).

The results showed that the older the mother, the better performance in exclusive breastfeeding, except for the age 30 to 34 year age which rather showed a decline. The highest rate was among mothers within 40 to 50 age group12 (86.4%), followed by the 25 to 29 age group 104(69.8%), then 20 to 24 110(65.5%). The 35 to 39 year group formed

42 (62.8%), and the 20 to 24 were 110(62.5%) and the 15 to 19 years formed 53(57.7%) the least was the 30 to 34 year group.

As indicated by the results of this study, members of the 15 to 19 years 53(57.7%) group were less likely to breastfeed exclusively; there is the need to train them to acquire skills in breastfeeding through special programmes to target them for breastfeeding counseling.

Considering the educational level of the mother, the prevalence of exclusive breastfeeding appears to increase as the mothers education goes higher. Mothers with no education were the lowest of (45.8%) to breastfeed infants exclusively followed by those with primary level of education (50%), then (64%) within the middle/JSS, (70.8%) of the vocational/SSS level and the highest of (73.7.1%) for the tertiary education levels.

Only 14.8% of respondents have never been to school. Most of the respondents have had at least primary education with the majority 145 (41.2%) having Middle School/JSS level of education.

This very high literacy rates had positive implication for health education campaigns and must have accounted for the increased breastfeeding rates in Asuogyaman District. Other characteristics examined were religion, marital status, ethnic group, parity and age of the mother. This study found no relationships between religion, marital status, and ethnicity and exclusive breastfeeding. There were however relationships with parity and the age of the mother which were not statistically significant (P value =0.35 and 0.69 respectfully). This is contrary to a study by (Agambodi et al., 2007) who found relationships between ethnicity, parity and religion with exclusive breastfeeding practices. Another study by Xu et al. (2006) also found differences in breastfeeding practices among different ethnic groups in Xinjiang, PR China.

According to employment status, mothers who were employed were less likely (55.7%) to exclusively breastfeed their children than those who were not employed (69.2 percent).

Concerning parity, there were differences between the different groups with mixed results. Those with only one child had the lowest rate of excusive breastfeeding rate of 58.4% as against the highest of 70.2% for those with two children

Baby friendly status of the facility as compared to exclusive breastfeeding showed a slight difference of 185 (66.5%) exclusive and 216(64.8%) for non exclusive breast feeding. The non-baby friendly facilities include both health facilities and home deliveries by either neighbours or traditional birth attendants, hence the probability of higher exclusive breastfeeding rates within the health facilities itself is possible.

5.2 Exclusive Breastfeeding Practices and Initiation

The present study found the rates of EBF in the study area to be 62% while non exclusive breastfeeding was 38%. This is higher than the national exclusive breastfeeding rates of 53% as reported by the Ghana Demographic and Health Survey (GDHS) in 2004. The results however were an improvement as compared to the 2004 survey conducted in 4 rural communities of the Asuogyaman District in 2004, which reported 49% as the highest EBF rate and 10% as the lowest EBF rate. This high rate may be due to the recent efforts and concentration by the GHS on education on EBF for the past 3 years; coupled with designation of 4 health facilities as baby friendly, and expansion of Reproductive and Child Health (RCH) units in the District. The District has also trained all midwives in charge of RCH centres in EBF and also taken an initiative to award community members who are committed to mother and child issues including EBF.

Almost all the mothers studied were still breastfeeding ((98.2%) and more than half (62%) of mothers in the Asuogyaman District practice EBF for infants under 6 months. At exactly 6 months however, a higher percentage (68%) were EBF. This rate was higher than the national figure of 53% as reported in the GDHS for 2003 and 54% for the 2006 MICS (Multiple Indicator Cluster Survey). This could be attributed to policy changes in the MOH with emphases on High Impact Rapid Delivery (HIRD) and community Integrated Management of Childhood Illnesses (IMCI) that transcends down to the districts for implementation. The Asuogyaman District is currently implementing the IMCI. However, these results still show a drop of about 38% as against the 98.2% practice reported on discharge from the hospital/health facility after delivery. The WHO and MOH recommends 6 months for EBF. Early initiation of breastfeeding in the study area within 1 day was higher (31.5%) than the Eastern Regional rate of 17%. The national rate of initiation of breastfeeding within 1 hour was 46%. Delivering at the health facilities was strongly associated with early initiation (p value = 0.0001). This is confirmed by studies done by Aidam et al. (2005), Dearden et al., (2002), and, Chien and Tai (2007). In their separate studies, mothers who delivered in MOH facilities were more likely to initiate breastfeeding earlier than those who delivered in private facilities. The results from this study do not necessarily imply that the mothers who deliver in the health facilities continue with EBF for 6 months as compared to the deliveries conducted in the homes of the mothers themselves and the homes of TBAs. Bottle feeding was practiced by some nursing mothers (11.4%) especially those in urban Akosombo township and among the elites by social status. Some mothers perceive bottle feeding as fashionable

and that bottle feeding portrays a high social status of the individual. Some of the reasons for mothers using feeding bottle in this study included:

- The perception that breast milk was not enough for the baby
- The child refuses to suck the mother's breast
- The bottle was used for giving only water to the child and also only when the mother was going out in public such as to attend church services.

Most working mothers had only 3 months maternity leave and therefore returned to work at the time when the baby was not yet 6 months. In view of this, they were compelled to express breast milk for the babies while away from home working. Research has shown that mothers experienced difficulties in expressing breast milk for the baby while away from home. This study however found that only 3.8 % of all nursing mothers found expression of breast milk as a difficulty. Some of the reasons why mothers in the study area discontinued with EBF were:

- The breast milk was not enough
- The infant cried after suckling
- Pressure from others to give water
- The infant refused the breast milk
- Cultural reasons.

Those exerting most influence on mothers' decision to introduce pre-lacteal foods and early complimentary feeding, especially water, were grandmothers and neighbours. Compliance to early initiation of breastfeeding and EBF by mothers was significantly influenced by health workers and community based volunteers.

In a study by Spear (2006), it was shown that 22.6% of adolescent mothers breast fed for 6 months or more. This study obtained similar findings in the Asuogyaman District which indicated that teenage mothers were the least likely group to continue exclusive breastfeeding (57.7%). This therefore calls for more efforts to be concentrated on the teenage mothers to change their attitude positively towards breastfeeding.

In this study, about 4 in 10 deliveries were conducted at home either by TBAs or neighbours, and a higher percentage of these did not comply with the recommended feeding practices (See figure 4.5). During an in-depth interview with older women in "Maame Water" village, they said that infants were given pre-lacteal foods in anticipation of the breast milk to prevent them from dying:

> *"When a mother delivers, culturally we put "shea" butter oil in warm water and give to the infant to drink to let baby have free bowl movement and get rid of the black thick stools that come first. As for the mother, there are "medicine" men in the community who know how to let the breast milk flow. They sit the mother down in front of a mortar and pour water in the mortar then pound the water for the woman to watch. This will let her breast milk to flow.*

5.3 Mothers Knowledge on Recommended Infant Feeding Practices

The general assumption is that when the mother is given advice during the antenatal and postnatal periods, she would have adequate knowledge about the recommended infant feeding practices which would automatically influence her breast feeding behaviour. The results in the present study indicate that 8 out of 10 mothers were given advice by either the health worker or herown mother or TBA. A similar number of 8 out of 10 also had

knowledge about appropriate breastfeeding practices. The knowledge of EBF was high in the 30 to 34 year group (88.5%) and lowest in the 15 to19 year group (62.3%). This could be due to experience from the older mothers from previous breastfeeding practices as compared to the teenage and younger mothers with no previous breastfeeding experience. This study however recorded a decline in EBF rates among the 30 to 34 year group; this could also be attributed to complacency in this group after having gained the needed experience in breastfeeding.

Formal education had influence on the behaviour of the mothers during pregnancy and consequently improved knowledge on recommended infant feeding practices. The rates for those who sought advice were 90% in SSS/Vocational level group and 100% for Tertiary level group as compared to 62.7% in the non-educated group. Knowledge on exclusive breastfeeding was also higher in the educated than the non-educated. This was probably due to the opportunity for the educated mothers to understand the benefits of health talks that were given at the clinic, reading about pregnancy and childcare or from other multiple sources as compared to their illiterate colleagues who had no additional access to breastfeeding information. There is also the possibility of cost element of accessing health care which could be financially inaccessible to the non literate mothers, most of whom were unemployed.

The educated mothers were less likely to comply with negative socio-cultural influences and social pressures about breast feeding practices

The focus group discussions with the various groups indicated a high knowledge on EBF. Some older women thought exclusive breastfeeding was a good idea and they should strive to stop their old practices and take this concept up.

5.4 Health Service Support System

The BFHI advocated by the MOH is a strategy to get all health workers involved in breastfeeding promotion. There were 4 baby friendly facilities at the time of the study, representing 40% coverage in the Asuogyaman District. All midwives and community health nurses from both baby friendly and non baby friendly facilities have been trained in lactation management since 2007. Mother to mother support groups were being formed at the time the study. As at the time of this study, the district had about five mother to mother support groups.

Health workers have been known to significantly influence the breastfeeding practices of mothers, whether young or old. The present study found that almost all community members and the mothers themselves saw the health workers as the most reliable source of information and would therefore rely more on them for advice and assistance at delivery (See figure 4.3). However a study by Peterson et al. **(**2007) revealed that adolescent mothers' satisfaction was dependent on their perceptions of a nurse's ability to deal with them humanely. They expected nurses to have practical experience in exclusive breastfeeding to share with them. Other expectations were politeness, respect and dealing with each of them as individuals and not as a group of nursing mothers expected to behave in same way. In another study, Spear (2007) revealed that some nurses had inadequate knowledge on nutritional differences between breast milk and infant formula and also appeared to impose their ideas about breastfeeding. That study implied that nurses saw young mothers as not being matured and therefore not likely to breastfeed successfully. In the present study it was observed that at the antenatal clinic in the VRA Hospital, both adolescent mothers and the adults were treated in the same manner without

any special attention to the pregnant adolescent mothers. General health education was given to all mothers before starting the routine clinic activities. The workload prevented the nurses from practicing focused antenatal care and having time for detailed individual counseling.

The knowledge, attitude and beliefs of health professionals also influence the decision of the mothers to breastfeed exclusively or not. An in-depth interview with 3 nurses revealed that some had experienced situations where the mothers could not produce breast milk despite the early initiation. Others too actually did not produce sufficient breast milk after 4 months of delivery. They also thought the EBF concept could not be generalized for all nursing mothers because of isolated cases of mothers like these mentioned. They however admitted that those mothers who perceived themselves as being affluent in town were the ones practicing bottle-feeding with the reason that they had to go to work or attend to other urgent business away from home. This was not however supported with in this study.

A senior nurse who had a refresher course in the lactation management for the past five years said:

> *"We practice exclusive breastfeeding, however sometimes when we see that the baby is showing signs of hypoglycaemia and the milk is not yet flowing, we give 10% dextrose orally with a spoon and cup. Otherwise, we advise the mother to buy "nani" an infant formula, which is like the breast milk for the infant to prevent hypoglycaemia.*

This statement is not appropriate because such beliefs and mental models of health

workers will jeopardize the whole concept of EBF as it would encourage those mothers to believe that they would not be able to produce breast milk. A further research into this belief is however needed to disprove the thoughts of the midwives.

5.5 Influences from Family Members and Social Network of Mothers on Exclusive Breastfeeding

The study found that the grandmother (nursing mother's own mother) had much influence (18%) as compared to mothers in-law (4%), because nursing mothers relied on them for information on breastfeeding. The peers of the mother had no significant influence in this study. However, a few of the respondents (26.8%) belonged to mother to mother support groups or other clubs that promote breastfeeding practices. Out of this group, 84.7% reported having received advice on breastfeeding as against 15.3% who did not receive any advice. This suggested that being a member of a support group increased the chances of the mother to receive advice on breastfeeding than not being a member. This result supports the findings by Aidam et al. **(**2005).

The in-depth interview with older women however indicated that there were still cultural practices that hinder EBF. This was confirmed in the indeph interview with granmothers and TBA's, where some of them acknowledged that in the rescent past, they used to advice mothers to discard the colustrum but now they have stopped because the nurses say it is good.

> *"If you have lost something you cannot go back and pick it. I have delivered 13 children and used to discard the colustrum because it was not white we thought it was dirty. But now I should listen and change for the better. I will encourage those who are now delivering to take the advice of the nurses".* ***A grand mother from "Maame Water" village.***

The grandmothers in an in-depth interview said they cannot be so wicked to a little child because every human being and even animals drink water. So when the babies are in their care they give them water. One of them however said her daughter is so strict on her so she does not dare give water or any food to her grandchild. I quote:

> *"As for these days young girls they say that we are old fashioned and have "dead" ideas about child care, so anything I say about my grandchild the mother always disagrees with me. Who am I to insist? "eh" with a frown on her face. They know better than us"*
> ***A grandmother in "Small London"***

The focused group discussion with the fathers indicated that they were interested in breastfeeding practices of their wives and more especially when they should resume sexual activities and family planning. The health personnel in the district could build upon this mental model of the men in the communities as a window of opportunity for health education campaigns on EBF and other health issues targeting the men, to raise awareness on the need for their involvement with reproductive and child health issues.

When the men were questioned as to whether their wives practiced EBF, these were some of the responses:

"The nurses come, call our women, and talk to them alone. So we do not know what they tell them. If we know, then we can check to see if our wives are doing the right thing". ***Yaw Sarfo, Akuamufie***

"What food can I give to my wife to make her get enough milk so that the baby can drink only the milk for six months that the nurses are talking about"? ***Eric Adjei, Akuamufie***

"Exclusive breastfeeding is very good, because my wife is practicing exclusive breastfeeding, our baby is now 8 months old, but he has never fallen sick since birth. He looks quite strong too. Let us listen to what the nurses are saying. It is good for our children. ***Anthony Amponsah, Akuamfie.***

"Madam, we are happy for this interaction, but we need more of such interactions. You should organize a forum for all the community members and talk to all of us". ***Frank Ose Akuamufie****.*

"The amount of fees they collect for deliveries is high especially caesarian section. When my wife had an operation, the charge was GHC300 and I had no money so my father had to pay. Because of this our wives cannot go to hospital, so they deliver at home so they don't know all this the nurses are saying about child care and exclusive breastfeeding". ***Ebenezer Bonsu, Akuamufie***

During an in-depth interview with 4 nursing mothers, 3 of them (75%) revealed that most women were beginning to be interested in EBF because they had seen the benefits of EBF in other people's children and they were determined to adopt the practice. However, some still had strong feelings that infants needed additional food to supplement the breast milk because the infants appeared not to be satisfied with the breast milk alone.

"I have delivered three children, and the first two I did not practice exclusive breastfeeding. The children often fell sick, so when I observed that my own sister who was practicing exclusive breastfeeding had a healthy child who was not falling sick like mine, I resolved to breastfeed my baby. As for this baby no one can convince me not to breastfed exclusively. Seeing is believing"
A nursing mother at Apegusu, RCH centre*.*

"My baby is a boy , and you know boys like food and suck too much. So at four months he was always crying so I had to give him "kooko"then he stooped crying".
A senior Administrative officer, Akosombo

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSION

The study sought to investigate the factors influencing EBF practices of nursing mothers with infants aged 3 to 9 months.

EBF rates were high among nursing mothers on discharge from the health facility; however the average rates declined from almost 100% to 62 % by 6 months. There was however a marked improvement in the general EBF rates in the Asuogyaman District. The general knowledge among mothers on EBF was high, and both mothers and most community members believe that EBF was good for their children. The educational level of the mother and place of delivery had a strong influence on EBF among mothers in the Asuogyaman District (p values of 0.01 and <0.0001 respectively). However, there were still some inappropriate breastfeeding practices resulting from pressure on mothers to give water to their children mostly from the grandmothers, and a widely held belief about babies not being satisfied with breast milk alone after 4 months of age. With the introduction of free antenatal care and delivery services coupled with the BFHI, more women are likely to deliver in the health facilities with its intended benefits of improving the rates of EBF.

However, to achieve these there is need for intense health education involving everyone especially the men who are mostly the bread winners. There is also the need to promote female education beyond the Primary and JSS levels for a greater impact on child health indicators. There is the need for health workers to adopt multiple strategies with

diversified interventions to further increase appropriate infant feeding practices among mothers in the Asuogyaman District.

FUTURE RESEARCH

Based on the findings of this study, I strongly recommend the following research topics in future.

1. Why are EBF rates in Asuogyaman District higher than the regional and national, considering the fact that it is a predominantly rural district?
2. Perceptions of the health workers on the belief that some mothers cannot produce adequate milk and that some babies get hypoglycaemia if they are not given any alternative food whilst awaiting the flow of milk.
3. Community practices that influence breastfeeding practices
4. An evaluation of the impact of the baby friendly hospital initiative

6.2 RECOMMENDATIONS

This section proposes some recommendations to help further improve exclusive breastfeeding practices in the Asuogyaman District.

DISTRICT HEALTH MANAGEMENT TEAM

In order to improve exclusive breastfeeding practices, the DHMT needs to:

- The DHMT should ensure that all nurses participate in refresher training in lactation management with emphasis on putting baby to breast for the first 30

minutes to maximise the critical period that the baby is ready to suckle; and also consider training lay counselors in the communities to promote breastfeeding

- The DHMT should build on the high knowledge on exclusive breastfeeding of mothers and community members and conduct a formative research to guide the development of culturally specific and acceptable interventions on behaviour change communication on exclusive breastfeeding targeting both men and women
- The DHMT should intensify education on the need for deliveries in the health facilities which ultimately impacts positively on exclusive breastfeeding as indicated in the findings of this study.
- There is the need intensify male involvement in reproductive and child health issues and especially on exclusive breastfeeding through community meetings.

DISTRICT ASSEMBLY

- To support women and children departments to advocate more on girl child education beyond the primary level since girls' education translates into better child health practices including EBF.
- To enact bye-laws on baby friendly work places and support the DHMT to operationalise the community based services programme in the district

RELIGIOUS ORGANISATIONS

- To promote exclusive breastfeeding through the women groups in the church.

NON GOVERNMENTAL ORGANISATIONS

- To promote girl child education for better child care and increased exclusive breastfeeding rate as indicated in the results of this study.
- Establish Community Baby friendly initiatives in collaboration with the health professionals and integrate exclusive breastfeeding into ongoing activities.

COMMUNITY LEADERS

- To support health workers in promoting breastfeeding in their communities
- To encourage the formation of community baby friendly initiatives such as mother support groups and father support groups

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APPENDICES

Appendix A: Data collection instrument

FACTORS INFLUENCING EXCLUSIVE BREASTFEEDING AMONG NURSING MOTHERS WITH INFANTS THREE –NINE MONTHS IN ASUOGYAMAN DISTRICT

1.1	Questionnaire number ----------
1.2	Date of interview dd/mm/yyyy
1.3	Interviewers name
1.4	Name of Sub-district ----------
1.5	Name of health facility----------
1.6	Name of person being interviewed----------

SECTION A:BACKGROUND INFORMATION		
No	**QUESTION**	**CODE**
1	How old are you ? ----------	**Q1AGE**
2	What was your highest level of education? Never attended----------1 Primary----------2 Middle/JSS ----------3 Secondary School (SSS)----------4 Vocational----------5 Tertiary/University----------6 Other (specify)----------7	**Q2EDU** ☐
3	Years of education ----------	**Q3YEDU** ☐
4	What was your occupation before delivery Farming----------1 Trader----------2 Government employed----------3 Private employed----------4 Self employed----------5 Unemployed----------6	**Q4OCCBD** ☐

	Other (specify)----------7	
5	Are you currently working ? Yes----------1 No----------2	**Q6CWK** ☐
6	Marital status of respondent: Married----------1 Living with partner----------2 Single----------3 Divorced----------4 Widowed----------5 Other ----------6	**Q6MRS** ☐
7	How many children do you have? One----------1 Two----------2 Three----------3 Four----------4 Five and above----------5	**Q7HMCN** ☐
8	If married or in a relationship, what is your husband's highest educational level ? Never attended school----------1 Primary----------2 Middle/JSS ----------3 Secondary School (SSS) ----------4 Vocational----------5 Tertiary/University----------6 Other (specify)----------7	**Q8HEDU** ☐
9	What work does your husband do for a living ? Farming----------1 Trader----------2 Government employed----------3 Private employed----------4 Self employed----------5 Unemployed----------6 Other (specify)----------7	**Q9HWK** ☐
10	What is your religion ? Catholic----------1 Anglican----------2 Methodist----------3 Presbyterian---------- 4	**Q10REL**

	Other Christian---------- -5 Moslem----------6 Traditional/Spiritualist----------7 No Religion----------8 Other Specify ----------66	☐
11	Which ethnic group do you belong to ? Akan----------1 Ga/Dangme----------2 Ewe----------3 Krobo----------4 Other Specify----------88	**Q11ETHN** ☐
	SECTION B: MOTHERS KNOWLEDGE AND PERCEPTION	
12	How old is (name child) ----------	**Q12AGECD** ☐
13	What is the recommended infant feeding practice during the first six months: Exclusive breastfeeding----------1 Mixed feeding----------2 Other----------3 Don't Know----------66	**Q13RCIF** ☐
14	How many times did you visit ANC before delivery ? Once----------1 Two times----------2 Three times----------3 Four times----------4 Don't Know ----------88	**Q14NANCV** ☐
15	When you were pregnant with (name child) were you given any advice /education on infant feeding? Yes ----------1 No ----------2 **If no Skip go to Q 16** Don't know ?----------88	**Q15ADVIF** ☐
16	If yes, who does it most ? (choose one starting from the one who does it most) Midwife/Nurse----------1 Traditional birth Attendant----------2 Mother in-law----------3 Own mother ----------4 Other (specify) ----------88	**Q16WGADM** ☐

17	Where were you given the advice mostly ? Goverment Clinic----------1 Private clinic----------2 Hospital----------3 TBA home----------4 Own Home----------5 Others (specify)----------6	**Q17WGAD** ☐
18	Where did you deliver (name child) ? Home----------1 Maternity home ----------2 Public Hospital----------3 Private Clinic----------4 Other (Specify)----------5	**Q18WDEL** ☐
19	Who helped you to deliver (name) ? Midwife/Nurse----------1 TBA----------2 Family member---------3 Neighbor----------4 Other ----------5	**Q19WHDEL** ☐
	SECTION C: MOTHER'S BREASTFFEDING BEHAVIOUR	
20	During the first three days after delivery, before milk started flowing regularly,was (name) given anything to drink other than breastmilk ? Yes----------1 No----------2 **If no, skip go to Q21**	**Q20FDTDY** ☐
21	If yes, what was given to (name) before your milk began flowing regularly ? Water----------1 Tea ----------2 Koko----------3 Milo----------4 Glucose water----------5 Shea butter in water ----------6 Infant formula ----------7 Other ----------8	**Q21WMG** ☐
22	How long after delivery did you put (child name) to breast ? Immediately (30 minutes)----------1 Within 1 hour----------2 Day one----------3 Day two----------4 Day three----------5 Day four and above----------6	**22DB**
23	How soon after delivery did your breast milk start flowing?	**Q23BMFL** ☐

	First day----------1 Second day----------2 Third day----------3 Four days and above----------4	
24	Did you feed (child name) with the first yellow milk that flowed? Yes ----------1 No----------2	**Q24YM** ☐
25	Are you currently breast feeding child name? Yes-------1 No-------2	**Q25CBF** ☐
26	How old was (child name) when you started giving other foods/fluids in addition to breast milk ? ----------	**Q26AGCFD**
27	How old was (child name) when you started giving water in addition to breast milk ?	**Q27WT**
28	How old was (child name) when you started giving multivitamins ?	**Q28AGMVT**
29	Do you feed (child name) using feeding bottle ? Yes----------1 No----------2 **If no, Skip go to Q31**	**Q29BF** ☐
30	If yes, why ? Mother dead----------1 Mother sick----------2 Mothers milk not enough----------3 Other Specify----------77	**Q29RBF** ☐
	SECTION D CHILD HEALTH	
31	Has (child name) been ill with fever during the last 2 weeks ? Yes----------1 No ----------2	**Q31CIFV** ☐
32	Has child been ill with diarrhea during the last 2 weeks ? Yes ----------1 No ----------2	**Q32CIDH** ☐
33	Have you taken (child name) to the hospital or clinic because child was sick? Yes----------1 No ----------2	**Q33CHPT** ☐
	SECTION E SUPPORT NET WORKS	
34	Have you started work after delivery ? Yes ----------1	**Q34STWK** ☐

	No----------2 **If no, skip go to Q 35**	
34	If yes, who is helping you to care for (child name) Mother in-law/own mother----------1 Friend ----------2 Neighbor ----------3 Other (specify)----------77	**Q34WHCC** ☐
35	Describe your breastfeeding experience ? Difficult ----------1 Painful----------2 No problems----------3 Other (Specify)----------4	**Q35DBF** ☐
36	What are some of the difficulties you face in exclusive breast feeding of (name of child) Economic----------1 Lack of home support----------2 Stopped work----------3 Employed (on three months maternity leave)----------4 Squeezing enough milk for baby whilst away to work--------5 How to refuse giving child water----------6 Baby is not satisfied with breast milk alone ?----------7 Pressure to give child water----------8 Cultural practices (give example) ----------9 Other----------88	**Q36DF** ☐ ☐ ☐ ☐
37	What beliefs, taboos and cultural practices that makes practicing exclusive breastfeeding difficult ? Naming Ceremony ----------1 Rituals (giving herbal water)----------2 Baby given water to drink before or during bathing of baby---------3 Other ----------88	**Q37BTCP** ☐
38	Who do you rely on mostly for information on breastfeeding? Own mother----------1 Mother in-law ?----------2 Friends----------3 Midwife/Nurse----------4 Mother support groups----------5 Community Based Growth Promoters----------6 Other (Specify)----------7	**Q38RBFIF** ☐
39	Do you belong to any community group/association? Yes ----------1 No----------2	**Q39CGP** ☐
40	If yes, does the group give information on breastfeeding? Yes----------1 No----------2 Don't know -----3	**Q40GINF** ☐

41	What does your culture say about breastfeeding within one hour after delivery ? It is not good for the child----------1 It is good for the child----------2 Mother and baby must bath before breastfeeding----------3 Mother and baby must rest before breastfeeding----------4 Rituals must be performed before breastfeeding----------5 Breast must be washed to clear the dirt ----------6 Discarded first milk that flow because it is not good for the baby--------7 Don't know----------66	**Q41CULBF** ☐ ☐ ☐ ☐ ☐
42	Who does the community consider to be the most knowledgeable in infant feeding ? TBA----------1 Grandmothers----------2 Community Based Growth promoters----------3 Other (specify)----------66	**Q42WCKBF** ☐
	SECTION F: OBSTETRIC HISTORY	
43	What was your mode of delivery? Vaginal Delivery----------1 Caesarian Section ----------2	**Q43MDDEL** ☐
44	Did you have difficulty in attaching infant to breast after birth ? Yes----------1 No----------2	**Q44DATB** ☐
45	For how long did you breastfeed your last child before you delivered (name) child ?	**Q45DRBF**

END OF INTERVIEW.

Appendix B: Health Workers Checklist

Q NO	QUESTION	CODE
1	Total Number of Women attending the PNC/ANC----------	NMW
2	No Nurses attending to women ----------	NMN
3	List of activities performed by clinic 1. 2. 3.	LOACT
4	Gave talk on Child Care/Family Planning 1.Yes 2. No	GT
5	Total Duration of Talk ----------minutes --------seconds	DUR
6	Duration of Talk on infant feeding ----------	DURIF
7	List of topics highlighted in the talk: 1 2 3 4 Report quotes if possible Report inaccurate for: 1. 2. 3. 4.	TOPC
8	Infant feeding information : A Exclusive: 1.Mentioned 2. Not mentioned B Burping: 1.Mentioned 2. Not mentioned C Attachment: 1.Mentioned 2.Not mentioned D Positioning: 1.Mentioned 2. Not mentioned E Timely complementaryfeeding:1.Mentioned 2.Not mentioned F Quality of complementary food: 1.Mentioned 2. Not mentioned	INFINF
9.	Describe attitude/body language of nurse with women: Respectful----------1 Disrespectful----------2 Cordial----------3 Not cordial ----------4	ATDN
10	Describe verbal communication: Respectful----------1 Disrespectful----------2	VBCMN

APPENDIX C FGD/IDI GUIDE

I am a student of the University of Ghana and as part of my course, I am conducting a study to find out how mothers in the community practice breastfeeding and the factors that influence their breastfeeding practices. You are invited to participate in the study.

Your participation in the study will take about 45minutes and it will involve you and some of your colleagues who will come together for a discussion. If you do not feel comfortable with any question, you can refuse to answer it. You may also decide to withdraw from the study if at any point in the discussion if you do not feel comfortable to continue.

The discussion will be recorded but this will not be shared with anybody. The information that you will give me in this discussion shall be treated as confidential and shall only be used for the purpose of this study.

If you have questions regarding your participation in the study, you may contact the District Director of Health Services, Mrs Irina Offei, or Principal Investigator of the study, Mrs Theresa Nobiya Babero or call **0243111384**.

Do you agree to participate in the study?
Yes…….1
No……..2

If yes, proceed with discussion.

FOCUS GROUP DISCUSSION WITH GRAND MOTHERS

SECTION A: KNOWLEDGE AND PERCEPTIONS OF BREASTFEEDING

1. What do you think about breastfeeding?
2. How long should it take a mother to initiate breastfeeding? Why
3. How long should a mother breast feed her baby with only breast milk before introducing him or her to other foods? Why?

4. Should mothers give the first yellowish fluid that comes out of the mother's breast after delivery? Why?
5. Do you think mothers in your community practice exclusive breastfeeding? Why?

SECTION B: BREAST FEEDING PRACTICES

1. What does your culture say about breast feeding
2. What are the cultural taboos and beliefs about breastfeeding in your community
3. When should a baby stop breastfeeding?
4. When a child is born what food/fluid is given to him/her before the breast milk start flowing?
5. In your culture who is considered knowledgeable about breastfeeding and should give information on breastfeeding?
6. What are your views about breastfeeding practices in your community?
7. Would you encourage your daughter or daughter in-law to breast feed exclusively?

SECTION C: SOCIAL NETWORKS OF MOTHERS

1. Who gives information on breastfeeding practices to mothers? Why?
2. What kind of information do those people give to mothers?
3. Who do you think should be responsible for providing information on breastfeeding to mothers? Why?
4. Who does the culture say should give information on breastfeeding to young mothers? Why?
5. What are your general views on the breastfeeding practices of mothers in your community?

FOCUS GROUP DISCUSSION FOR FATHERS
SECTION A: KNOWLEDGE AND PERCEPTIONS OF BREASTFEEDING

1. What do you think about breastfeeding?
2. How long should it take a mother to initiate breastfeeding? Why
3. How long should a mother breast feed her baby with only breast milk before introducing him or her to other foods? Why?
4. Should mothers give the first yellowish fluid that comes out of the mother's breast after delivery? Why?
5. Do you think mothers in your community practice exclusive breastfeeding? Why?

SECTION B: BREAST FEEDING PRACTICES

1. What does your culture say about breast feeding
2. What are the cultural taboos and beliefs about breastfeeding in your community

3. When should a baby stop breastfeeding?
4. When a child is born what food/fluid is given to him/her before the breast milk start flowing?
5. In your culture who is considered knowledgeable about breastfeeding and should give information on breastfeeding?
6. What are your views about breastfeeding practices in your community?
7. Would you encourage your wife to breast feed exclusively? Why?

SECTION C: SOCIAL NETWORKS OF MOTHERS

1. Who gives information on breastfeeding practices to mothers? Why?
2. What kind of information do those people give to mothers?
3. Who do you think should be responsible for providing information on breastfeeding to young mothers? Why?
4. Who does the culture say should give information on breastfeeding to mothers? Why?
5. What are your general views on the breastfeeding practices of mothers in your community?

INDEPTH INTERVIEW WITH TBA's

1. Do you give advice to pregnant women on breastfeeding?
2. What advice do you give them ?
3. What do you do immediately the baby is born? Such as bathing, resting
4. When does the baby start sucking?
5. Do you encourage mothers to give the yellow milk that flow first before the rest of the milk start flowing normally? Why?
6. What difficulties do you face as a TBA in your community ?

Appendix D: Consent Form for Participants

Request for Consent to Participate in a Research Study

Study Title: Factors influencing exclusive breastfeeding among mothers in Asuogyaman.

Introduction: I am a student from the School of Public Health, University of Ghana; I am working with the District Director of Health to understand breastfeeding behaviour among mothers in the Asuogyaman District.

You are invited to participate in this survey voluntarily. Some questions relating to breastfeeding behaviour and the knowledge of factors affecting breastfeeding will be asked for you to answer. Your participation will not take more than 45 minutes . You may not have direct benefit from participating in this study, however, the information obtained will be used to improve infant feeding practices among women in your community.

There are no risks involved in taking part in the study. All information that you will be provide will be treated as confidential and reference would not be made to you by name. Your participation is voluntary, you may refuse to participate or answer any question included in the questionnaire if you are not comfortable.

Contacts: if you have any questions regarding the rights as a participant in this study, you may contact the Director of Asuogyaman Health directorate or you may contact the principal investigator Mrs Theresa Babero Nobiya on telephone number 0243111384 or email tessnob@yahoo.com.

Sign/Thumbprint…… Investigator's Sign…….

Date…… Date……

APPENDICES

Appendix A: Data collection instrument

FACTORS INFLUENCING EXCLUSIVE BREASTFEEDING AMONG NURSING MOTHERS WITH INFANTS THREE –NINE MONTHS IN ASUOGYAMAN DISTRICT

1.1	Questionnaire number ----------
1.2	Date of interview dd/mm/yyyy
1.3	Interviewers name
1.4	Name of Sub-district ----------
1.5	Name of health facility----------
1.6	Name of person being interviewed----------

SECTION A:BACKGROUND INFORMATION		
No	**QUESTION**	**CODE**
1	How old are you ? ----------	**Q1AGE**
2	What was your highest level of education? Never attended----------1 Primary----------2 Middle/JSS ----------3 Secondary School (SSS)----------4 Vocational----------5 Tertiary/University----------6 Other (specify)----------7	**Q2EDU** ☐
3	Years of education ----------	**Q3YEDU** ☐
4	What was your occupation before delivery Farming----------1 Trader----------2 Government employed----------3 Private employed----------4 Self employed----------5 Unemployed----------6	**Q4OCCBD** ☐

	Other (specify)----------7	
5	Are you currently working ? Yes----------1 No----------2	**Q6CWK** ☐
6	Marital status of respondent: Married----------1 Living with partner----------2 Single----------3 Divorced----------4 Widowed----------5 Other ----------6	**Q6MRS** ☐
7	How many children do you have? One----------1 Two----------2 Three----------3 Four----------4 Five and above----------5	**Q7HMCN** ☐
8	If married or in a relationship, what is your husband's highest educational level ? Never attended school----------1 Primary----------2 Middle/JSS ----------3 Secondary School (SSS) ----------4 Vocational----------5 Tertiary/University----------6 Other (specify)----------7	**Q8HEDU** ☐
9	What work does your husband do for a living ? Farming----------1 Trader----------2 Government employed----------3 Private employed----------4 Self employed----------5 Unemployed----------6 Other (specify)----------7	**Q9HWK** ☐
10	What is your religion ? Catholic----------1 Anglican----------2 Methodist----------3 Presbyterian---------- 4	**Q10REL**

	Other Christian---------- -5 Moslem----------6 Traditional/Spiritualist----------7 No Religion----------8 Other Specify ----------66	☐
11	Which ethnic group do you belong to ? Akan----------1 Ga/Dangme----------2 Ewe----------3 Krobo----------4 Other Specify----------88	**Q11ETHN** ☐
	SECTION B: MOTHERS KNOWLEDGE AND PERCEPTION	
12	How old is (name child) ----------	**Q12AGECD** ☐
13	What is the recommended infant feeding practice during the first six months: Exclusive breastfeeding----------1 Mixed feeding----------2 Other----------3 Don't Know----------66	**Q13RCIF** ☐
14	How many times did you visit ANC before delivery ? Once----------1 Two times----------2 Three times----------3 Four times----------4 Don't Know ----------88	**Q14NANCV** ☐
15	When you were pregnant with (name child) were you given any advice /education on infant feeding? Yes ----------1 No ----------2 **If no Skip go to Q 16** Don't know ?----------88	**Q15ADVIF** ☐
16	If yes, who does it most ? (choose one starting from the one who does it most) Midwife/Nurse----------1 Traditional birth Attendant----------2 Mother in-law----------3 Own mother ----------4 Other (specify) ----------88	**Q16WGADM** ☐

17	Where were you given the advice mostly ? Goverment Clinic----------1 Private clinic----------2 Hospital----------3 TBA home----------4 Own Home----------5 Others (specify)----------6	**Q17WGAD** ☐
18	Where did you deliver (name child) ? Home----------1 Maternity home ----------2 Public Hospital----------3 Private Clinic----------4 Other (Specify)----------5	**Q18WDEL** ☐
19	Who helped you to deliver (name) ? Midwife/Nurse----------1 TBA----------2 Family member---------3 Neighbor----------4 Other ----------5	**Q19WHDEL** ☐
	SECTION C: MOTHER'S BREASTFFEDING BEHAVIOUR	
20	During the first three days after delivery, before milk started flowing regularly,was (name) given anything to drink other than breastmilk ? Yes----------1 No----------2 **If no, skip go to Q21**	**Q20FDTDY** ☐
21	If yes, what was given to (name) before your milk began flowing regularly ? Water----------1 Tea ----------2 Koko----------3 Milo----------4 Glucose water----------5 Shea butter in water ----------6 Infant formula ----------7 Other ----------8	**Q21WMG** ☐
22	How long after delivery did you put (child name) to breast ? Immediately (30 minutes)----------1 Within 1 hour----------2 Day one----------3 Day two----------4 Day three----------5 Day four and above----------6	**22DB**
23	How soon after delivery did your breast milk start flowing?	**Q23BMFL** ☐

	First day----------1 Second day----------2 Third day----------3 Four days and above----------4	
24	Did you feed (child name) with the first yellow milk that flowed? Yes ----------1 No----------2	**Q24YM** ☐
25	Are you currently breast feeding child name? Yes-------1 No-------2	**Q25CBF** ☐
26	How old was (child name) when you started giving other foods/fluids in addition to breast milk ? ----------	**Q26AGCFD**
27	How old was (child name) when you started giving water in addition to breast milk ?	**Q27WT**
28	How old was (child name) when you started giving multivitamins ?	**Q28AGMVT**
29	Do you feed (child name) using feeding bottle ? Yes----------1 No----------2 **If no, Skip go to Q31**	**Q29BF** ☐
30	If yes, why ? Mother dead----------1 Mother sick----------2 Mothers milk not enough----------3 Other Specify----------77	**Q29RBF** ☐
	SECTION D CHILD HEALTH	
31	Has (child name) been ill with fever during the last 2 weeks ? Yes----------1 No ----------2	**Q31CIFV** ☐
32	Has child been ill with diarrhea during the last 2 weeks ? Yes ----------1 No ----------2	**Q32CIDH** ☐
33	Have you taken (child name) to the hospital or clinic because child was sick? Yes----------1 No ----------2	**Q33CHPT** ☐
	SECTION E SUPPORT NET WORKS	
34	Have you started work after delivery ? Yes ----------1	**Q34STWK** ☐

	No----------2 **If no, skip go to Q 35**	
34	If yes, who is helping you to care for (child name) Mother in-law/own mother----------1 Friend ----------2 Neighbor ----------3 Other (specify)----------77	**Q34WHCC** ☐
35	Describe your breastfeeding experience ? Difficult ----------1 Painful----------2 No problems----------3 Other (Specify)----------4	**Q35DBF** ☐
36	What are some of the difficulties you face in exclusive breast feeding of (name of child) Economic----------1 Lack of home support----------2 Stopped work----------3 Employed (on three months maternity leave)----------4 Squeezing enough milk for baby whilst away to work--------5 How to refuse giving child water----------6 Baby is not satisfied with breast milk alone ?----------7 Pressure to give child water----------8 Cultural practices (give example) ----------9 Other----------88	**Q36DF** ☐ ☐ ☐ ☐
37	What beliefs, taboos and cultural practices that makes practicing exclusive breastfeeding difficult ? Naming Ceremony ----------1 Rituals (giving herbal water)----------2 Baby given water to drink before or during bathing of baby---------3 Other ----------88	**Q37BTCP** ☐
38	Who do you rely on mostly for information on breastfeeding? Own mother----------1 Mother in-law ?----------2 Friends----------3 Midwife/Nurse----------4 Mother support groups----------5 Community Based Growth Promoters----------6 Other (Specify)----------7	**Q38RBFIF** ☐
39	Do you belong to any community group/association? Yes ----------1 No----------2	**Q39CGP** ☐
40	If yes, does the group give information on breastfeeding? Yes----------1 No----------2 Don't know -----3	**Q40GINF** ☐

41	What does your culture say about breastfeeding within one hour after delivery ? It is not good for the child----------1 It is good for the child----------2 Mother and baby must bath before breastfeeding----------3 Mother and baby must rest before breastfeeding----------4 Rituals must be performed before breastfeeding----------5 Breast must be washed to clear the dirt ----------6 Discarded first milk that flow because it is not good for the baby--------7 Don't know----------66	**Q41CULBF** ☐ ☐ ☐ ☐ ☐
42	Who does the community consider to be the most knowledgeable in infant feeding ? TBA----------1 Grandmothers----------2 Community Based Growth promoters----------3 Other (specify)----------66	**Q42WCKBF** ☐
	SECTION F: OBSTETRIC HISTORY	
43	What was your mode of delivery? Vaginal Delivery----------1 Caesarian Section ----------2	**Q43MDDEL** ☐
44	Did you have difficulty in attaching infant to breast after birth ? Yes----------1 No----------2	**Q44DATB** ☐
45	For how long did you breastfeed your last child before you delivered (name) child ?	**Q45DRBF**

END OF INTERVIEW.

Appendix B: Health Workers Checklist

Q NO	QUESTION	CODE
1	Total Number of Women attending the PNC/ANC----------	NMW
2	No Nurses attending to women ----------	NMN
3	List of activities performed by clinic 1. 2. 3.	LOACT
4	Gave talk on Child Care/Family Planning 1.Yes 2. No	GT
5	Total Duration of Talk ----------minutes --------seconds	DUR
6	Duration of Talk on infant feeding ----------	DURIF
7	List of topics highlighted in the talk: 1 2 3 4 Report quotes if possible Report inaccurate for: 1. 2. 3. 4.	TOPC
8	Infant feeding information : A Exclusive: 1.Mentioned 2. Not mentioned B Burping: 1.Mentioned 2. Not mentioned C Attachment: 1.Mentioned 2.Not mentioned D Positioning: 1.Mentioned 2. Not mentioned E Timely complementaryfeeding:1.Mentioned 2.Not mentioned F Quality of complementary food: 1.Mentioned 2. Not mentioned	INFINF
9.	Describe attitude/body language of nurse with women: Respectful----------1 Disrespectful----------2 Cordial----------3 Not cordial ----------4	ATDN
10	Describe verbal communication: Respectful----------1 Disrespectful----------2	VBCMN

APPENDIX C FGD/IDI GUIDE

I am a student of the University of Ghana and as part of my course, I am conducting a study to find out how mothers in the community practice breastfeeding and the factors that influence their breastfeeding practices. You are invited to participate in the study.

Your participation in the study will take about 45minutes and it will involve you and some of your colleagues who will come together for a discussion. If you do not feel comfortable with any question, you can refuse to answer it. You may also decide to withdraw from the study if at any point in the discussion if you do not feel comfortable to continue.

The discussion will be recorded but this will not be shared with anybody. The information that you will give me in this discussion shall be treated as confidential and shall only be used for the purpose of this study.

If you have questions regarding your participation in the study, you may contact the District Director of Health Services, Mrs Irina Offei, or Principal Investigator of the study, Mrs Theresa Nobiya Babero or call **0243111384**.

Do you agree to participate in the study?
Yes…….1
No……..2

If yes, proceed with discussion.

FOCUS GROUP DISCUSSION WITH GRAND MOTHERS

SECTION A: KNOWLEDGE AND PERCEPTIONS OF BREASTFEEDING

6. What do you think about breastfeeding?
7. How long should it take a mother to initiate breastfeeding? Why
8. How long should a mother breast feed her baby with only breast milk before introducing him or her to other foods? Why?
9. Should mothers give the first yellowish fluid that comes out of the mother's breast after delivery? Why?
10. Do you think mothers in your community practice exclusive breastfeeding? Why?

SECTION B: BREAST FEEDING PRACTICES

8. What does your culture say about breast feeding

9. What are the cultural taboos and beliefs about breastfeeding in your community
10. When should a baby stop breastfeeding?
11. When a child is born what food/fluid is given to him/her before the breast milk start flowing?
12. In your culture who is considered knowledgeable about breastfeeding and should give information on breastfeeding?
13. What are your views about breastfeeding practices in your community?
14. Would you encourage your daughter or daughter in-law to breast feed exclusively?

SECTION C: SOCIAL NETWORKS OF MOTHERS

6. Who gives information on breastfeeding practices to mothers? Why?
7. What kind of information do those people give to mothers?
8. Who do you think should be responsible for providing information on breastfeeding to mothers? Why?
9. Who does the culture say should give information on breastfeeding to young mothers? Why?
10. What are your general views on the breastfeeding practices of mothers in your community?

FOCUS GROUP DISCUSSION FOR FATHERS
SECTION A: KNOWLEDGE AND PERCEPTIONS OF BREASTFEEDING

6. What do you think about breastfeeding?
7. How long should it take a mother to initiate breastfeeding? Why
8. How long should a mother breast feed her baby with only breast milk before introducing him or her to other foods? Why?
9. Should mothers give the first yellowish fluid that comes out of the mother's breast after delivery? Why?
10. Do you think mothers in your community practice exclusive breastfeeding? Why?

SECTION B: BREAST FEEDING PRACTICES

8. What does your culture say about breast feeding
9. What are the cultural taboos and beliefs about breastfeeding in your community
10. When should a baby stop breastfeeding?
11. When a child is born what food/fluid is given to him/her before the breast milk start flowing?
12. In your culture who is considered knowledgeable about breastfeeding and should give information on breastfeeding?
13. What are your views about breastfeeding practices in your community?
14. Would you encourage your wife to breast feed exclusively? Why?

SECTION C: SOCIAL NETWORKS OF MOTHERS

6. Who gives information on breastfeeding practices to mothers? Why?
7. What kind of information do those people give to mothers?
8. Who do you think should be responsible for providing information on breastfeeding to young mothers? Why?
9. Who does the culture say should give information on breastfeeding to mothers? Why?
10. What are your general views on the breastfeeding practices of mothers in your community?

INDEPTH INTERVIEW WITH TBA's

7. Do you give advice to pregnant women on breastfeeding?
8. What advice do you give them ?
9. What do you do immediately the baby is born? Such as bathing, resting
10. When does the baby start sucking?
11. Do you encourage mothers to give the yellow milk that flow first before the rest of the milk start flowing normally? Why?
12. What difficulties do you face as a TBA in your community ?

Appendix D: Consent Form for Participants

Request for Consent to Participate in a Research Study

Study Title: Factors influencing exclusive breastfeeding among mothers in Asuogyaman.

Introduction: I am a student from the School of Public Health, University of Ghana; I am working with the District Director of Health to understand breastfeeding behaviour among mothers in the Asuogyaman District.

You are invited to participate in this survey voluntarily. Some questions relating to breastfeeding behaviour and the knowledge of factors affecting breastfeeding will be asked for you to answer. Your participation will not take more than 45 minutes . You may not have direct benefit from participating in this study, however, the information obtained will be used to improve infant feeding practices among women in your community.

There are no risks involved in taking part in the study. All information that you will be provide will be treated as confidential and reference would not be made to you by name. Your participation is voluntary, you may refuse to participate or answer any question included in the questionnaire if you are not comfortable.

Contacts: if you have any questions regarding the rights as a participant in this study, you may contact the Director of Asuogyaman Health directorate or you may contact the principal investigator Mrs Theresa Babero Nobiya on telephone number 0243111384 or email tessnob@yahoo.com.

Sign/Thumbprint…… Investigator's Sign…….

Date…… Date……