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ASSESSING EXCLUSIVE BREASTFEEDING AMONG INFORMAL SECTOR WORKING MOTHERS IN THE ADAKLU DISTRICT IN THE VOLTA REGION OF GHANA

BY

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DECLARATION

I, Cheritta Attivor, declare that apart from references to other people's works which have been duly acknowledged, this dissertation has been written independently by me and has not been submitted for the award of any degree in any institution.

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(ACADEMIC SUPERVISOR)

DEDICATION

This dissertation is dedicated to my family especially my children, Worlanyo A. Amesu and Worlalim K. Amesu, and to the memory of my late sweet mum Leticia Akosua Kpekpo.

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LIST OF ACRONYMS

ANC	Antenatal care
AOR	Adjusted odds ratio
BF	Breastfeeding
BFHI	Baby-Friendly Hospital Initiative
BMC	BioMed Central
BMI	Body mass index
CHPS	Community-Based Health Planning Services
COR	Crude odds ratio
CWC	Child Welfare Clinic
DHS	Demographic and Health Survey
DVD	Digital Video Disc
EBF	Exclusive Breastfeeding
EBM	Expressed breastmilk
EIBF	Early Initiation of Breastfeeding
GHS	Ghana Health Service
HIV	Human Immunodeficiency Virus
IgA	Immunoglobulin A

IQ	Intelligent Quotient
JSS	Junior Secondary School
LI	Legislative Instrument
MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
NCBI	National Center for Biotechnology Information
PF	Predominant feeding
SIDS	Sudden Infant Death Syndrome
SSS	Senior Secondary School
UK	United Kingdom
UNICEF	United Nations Children's Fund
VCD	Compact Disc Digital Video
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

TERM	DEFINITION
Casual worker	Working once in a while
Exclusive Breastfeeding	Feeding the infant only breastmilk for the first six months
Formal/Regular Job	Working every day for a monthly remuneration
Housewife	Woman who is married and not having any formal job
Mastitis	Painful Inflamed Breast
Postnatal/post-partum	Six (6) months period after Birth
Pre-lacteal	Food except mother's breastmilk given to a child before initiating breastfeeding
Skilled birth attendant	Formally trained medical staff who provide basic childbirth services
Under Five	Children under the age of five (5) years

ABSTRACT

Background: Breastfeeding is the surest way of feeding infants to their maximum satisfaction and it is believed to help reduce the likelihood of childhood illnesses such as pneumonia, diarrhoea. Exclusive breastfeeding in particular promotes the optimal health of the infant in many diverse ways. Although there is evidence on exclusive breastfeeding among professional working nursing mothers in Ghana, there are currently no studies on informal sector working mothers in the Volta region. The study aimed at exploring exclusive breastfeeding among informal working mothers and associated factors in the Adaklu district of the Volta region of Ghana.

Methods: The study adopted a facility based cross-sectional quantitative study design where simple random sampling technique was used to select 252 informal sector working women aged 15-49 years who had children between the ages of 6 and 12 months. A structured questionnaire with questions to answer the research questions were administered to participants to collect the necessary data for the study. Data coded and entered into excel was exported into Stata version 15 for cleaning and analysis. Descriptive statistics was used to describe basic characteristics of respondents. Bivariate analysis was employed to examine associations between dependent and independent variables, while logistic regression analysis was used to determine the strength of association between dependent and independent variables while adjusting for other variables with confidence interval set at 95% and p-value of less than 0.05.

Results: All 252 respondents in the Adaklu District breastfed their infants during their most recent birth. Out of this number, 68.7% exclusively breastfed. After controlling for potential confounders, factors that significantly predicted exclusive breastfeeding were

spouse's place of residence (AOR=16.1, 95% Cl=1.9-133.2, p= 0.01), and commencement of breastfeeding later than 1 hour but within 24 hours (AOR=0. 03, 95% Cl= 0.009-0.1, = 0.001). Mothers also reported breast engorgement as the most frequent challenge and cracked/core nipples.

Conclusion: Promoting exclusive breastfeeding is beneficial for both baby and mother, but its prevalence in this study was not universal. Factors that affect the practice of exclusive breast feeding among women in the informal sector in Adaklu therefore need to be urgently addressed through interventions like public health education as well as increased support at home and in health facilities to exclusively breastfeed.

CHAPTER ONE

INTRODUCTION

1.0 Background

Breastfeeding is the surest way of providing the ideal food for the healthy growth and development of infants and it is the optimal way of providing nutrition to the infant (World Health Organization, 2001). It reduces child illnesses and death in addition to having health benefits that continues into one's adult life (WHO, 2017a). To ensure the most favourable and healthy feeding of infants, the WHO recommends feeding all infants from age 0-6 months only on breastmilk. Exclusive breastfeeding therefore is feeding the infant only breast milk, without any liquids or solids – except medications prescribed by a medical officer – for the first six months of the infant's life (WHO, 2017a). Promotion of exclusive breastfeeding is the most single intervention aimed at reducing infant mortality (Kumala, 2017).

The WHO's recommendation on breastfeeding states that, every child needs to be introduced to the breast at least 30-60 minutes of his/her life, fed exclusively for the first 6 months and followed by continuous breastfeeding coupled with appropriate complementary feeding for up to two years (WHO, 2017a). Also, breastfeeding anytime the infant demands, and no use of bottles, teats or pacifiers is recommended (WHO, 2017a).

Exclusively breastfeeding (EBF) an infant promotes optimal growth, development and health (WHO, 2017a). After that, breastfeeding, with appropriate complementary foods, continues to contribute to the infants and young child's nutrition, development and health (Project Promotion of Breastfeeding in Europe, 2004). Similarly, EBF is considered a very

critical approach to reducing infant illnesses and death (Seid, Yesuf, & Koye, 2013). Additionally, the risk of contracting infections among EBF children is lesser than in those who were fed with others foods before age 6 months (Seid et al., 2013).

Despite the advocacy on EBF, globally only 40% of children are exclusively breastfed though there has been extensive education and encouragement (WHO, 2017b). In Ghana, the 2014 Ghana Demographic and Health Survey (GDHS) suggests that over 98% of lastborn children in the past two years preceding the 2014 GDHS have been breastfed at some point in their life (Ghana Statistical Service et al., 2015). However, only 52% of children younger than 6 months were exclusively breastfed, and this reflects a reduction when compared to the data in 2008, which showed exclusive breastfeeding rate of 63% (Ghana Statistical Service et ., 2015).

In some studies done previously, some factors were identified to be associated with exclusive breastfeeding. Aidam, Pérez-Escamilla, Lartey, & Aidam (2005), in their study in Ghana found three (3) factors that were associated with EBF. According to them, place of birth, maternal attitude towards EBF and planned EBF at birth were important determinants of EBF. In addition, time of initiation of breastfeeding, type of delivery as well as the maternal condition after delivery have also been found to affect EBF practice in a study done in Bolgatanga, Upper East, Ghana (Atindanbila, Abasimi, Benneh, & Avane, 2014). A quantitative study done among female garment workers in Dhaka city found significant association between EBF and maternal education and knowledge on breastfeeding. Other important factors were socio-demographic variables like age, marital status, family income and expenditure (Afrose, Banu, Ahmed, & Khanom, 2012).

Additionally, Otoo, Lartey, & Pérez-Escamilla (2009) stated the benefits of breastfeeding to the mother, the infant and the society as predictors of EBF.

Based on the global (40%) and local (52%) prevalence of EBF, this study seeks to determine the prevalence and unearth the factors associated with EBF practice among informal sector working mothers who have children of ages 6-12 months in the Adaklu District, Volta Region, Ghana.

1.2 Problem statement

Despite several attempts to ensure that all children from 0-6 months are exclusively breastfed, it is estimated that only about 40% of children are exclusively breastfed globally (WHO, 2017b). Ghana has seen an unfluctuating rise in the rate of EBF over the years. From a percentage of 7 in 1993, the rate of EBF rose to 31 in 1998 and then to 53% in 2003 (Mensah et al., 2017). However in 2011, there was a sharp decline in EBF rate from 63% in 2008 to 46% in 2011 (Ghana Statistical Service, 2011). Though there was a significant drop in EBF in Ghana, the country saw an improvement in 2016 with a rate of 52% (Okertchiri, 2016).

Women in the Volta region are most likely to practice EBF (Tampah-Naah & Kumi-Kyereme, 2013) but no actual figure has been reported. According to Tampah-Naah & Kumi-Kyereme (2013), women from the Volta Region are more likely to practice EBF because some cultural practices believed to prevent the practice of EBF may be less performed in the region. From the Ministry of Health (2016) report, trends in exclusive breastfeeding at discharge (immediately after delivery) was ascending gradually in the Volta Region and therefore urged that mothers should be supported while at home to practice EBF. The figures recorded for the years 2014, 2015 and 2016 were 99%, 100.4%

and 102.1% respectively. With regards to the rates recorded in 2015 and 2016, the excesses may be attributed to the fact that not all clients who delivered in the region were regular clients in the Volta region. The report however did not indicate the rates after discharge and within the 6- month recommended period.

No known studies have been done to examine the rate of exclusive breastfeeding in the Adaklu District. However, the district nutritional report in 2015 and 2016 indicated 98.1% and 92.5% of mothers respectively had initiated breastfeeding in the first hour of delivery (Adaklu District Health Directorate, 2017).

Exclusive breastfeeding protects infants against diarrhoeal diseases and other acute respiratory tract infections (Wanyonyi, 2010). These two conditions play major role in high infant morbidity and mortality (Wanyonyi, 2010). Apart from the above, poor response to vaccinations among infants and young children has been associated with lack of exclusive breastfeeding (WHO, 2017; Wanyonyi, 2010). The newborn mortality rate in Ghana as of 2014 was 29/1000 live births, while infant mortality was 41 deaths per 1000 live births (UNICEF & WHO, 2014). From the 2011 MICS report, the Volta Region of Ghana recorded neonatal mortality rate of 47 deaths per 1000 live births, and this exceeded the national target of 32 deaths per 1000 live births while infant mortality was 68 deaths per 1000 live births (Ghana Statistical Service, 2011).

Some studies done in Ghana have examined challenges to exclusive breastfeeding, awareness, knowledge and predictors of exclusive breastfeeding. For example, a cross-sectional study done in Ghana among 316 mothers showed that generally, exclusive breastfeeding rate was 64% (Tampah-Naah & Kumi-Kyereme, 2013). Mothers who had had deliveries in a government health facility as well as those who perceived that their

babies were of average in size have higher odds of practicing exclusive breastfeeding (Tampah-Naah & Kumi-Kyereme, 2013).

Despite the fact that some studies have been done to determine prevalence of EBF and determinants of EBF among professional working nursing mothers in Ghana, no such study has been done among informal sector working mothers in the Volta region. To the best of the author's knowledge, there is no studies in the Adaklu District that have examined exclusive breastfeeding and its associated factors among informal workers. Therefore this study aims to fill the knowledge gap by determining the prevalence and factors that are associated with exclusive breastfeeding among informal sector working mothers with children of 6-12 months in the Adaklu district, Volta Region, Ghana.

1.3 Study objectives

1.3.1 General objective

The overall objective of the study was to assess exclusive breastfeeding among informal sector working mothers and associated factors in the Adaklu District of the Volta Region of Ghana.

1.3.2 Specific objectives

Specific objectives were to:

1. Determine the prevalence of exclusive breastfeeding among working mothers in the informal sector during their most recent birth.

2. Examine the factors associated with exclusive breastfeeding among working mothers during their most recent birth in the informal sector.

3. Identify challenges associated with exclusive breastfeeding among working mothers in the informal sector.

1.4 Research Questions

To achieve the set objectives above, the following research questions were investigated:

1. What percentage of mothers working in the informal sector exclusively breastfed during their most recent birth?

2. What factors are associated with exclusive breastfeeding among working mothers in the informal sector during their most recent birth?

3. What challenges do mothers working in the informal sector face when practicing exclusive breastfeeding?

1.5 Justification

The World Health Organization and UNICEF indicate that feeding a child nothing except breast milk for the first half year (6 months) of his/her life does not only promote good nutrition but it also prevents childhood infectious diseases or illnesses. In view of these, this study was conducted to generate more information on EBF practices and to unearth the issues preventing the practice of exclusive breastfeeding in rural settings. The information generated could assist the Adaklu District Health Directorate in the promotion of policies that will improve the practice of Exclusive breast feeding. The findings of this study could also add to existing knowledge on EBF in rural Ghana and thus will serve as basic information for similar research in the future.

1.6 Chapter summary and dissertation outline

This chapter provided a background to the study. The chapter particularly provided a description of the problem and why there was the need for conducting such a study in Ghana and the Volta Region. The research objectives and questions were also outlined together with the justification for the study. The rest of the dissertation is organized as follows: Chapter 2 discusses literature on the factors promoting and hindering EBF practice. Chapter 3 presents the methods employed in conducting the study, while chapter 4 comprises the results of study. Chapter 5 discusses the study results, while chapter 6 concludes with recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed current and relevant literature related to the subject under study through the exploration of various literatures from books, articles, and unpublished theses/dissertations on similar topics. Google scholar, google and Scopus were some of the search engines used, some websites accessed included Science direct, World Health Organization, UNICEF, some databases used were Pubmed, Freefull txt, Plos one, BMC and NCBI. The discussion in this chapter includes the concept of excusive breastfeeding, benefits of breastmilk, breastfeeding and exclusive breastfeeding. The chapter also discusses the prevalence of exclusive breastfeeding, strategies adopted to increase the prevalence of exclusive breastfeeding, and awareness and knowledge on exclusive breastfeeding. Additionally, factors and challenges to exclusive breastfeeding are also discussed in this chapter. Finally, the chapter also looks at the conceptual framework of the study.

2.2 The concept of exclusive breastfeeding

According to the World Health Organizaton (2017a), exclusive breastfeeding is feeding a baby only breast milk for the first six months of life. Thus, no other foods or liquids, not even water, in addition to breast milk except medications prescribed by a medical officer (WHO, 2017a). Breastfeeding decreases the occurrence of childhood infectious illnesses such as diarrhoea and pneumonia, and also boosts the immune system of the newborn (UNICEF, 2011; World Health Organization & UNICEF, 2015). In view of the increasing

global child mortality, the WHO recommends Early Initiation of Breastfeeding (EIBF), which will eventually promote EBF (World Health Organizaton, 2017a).

Early or timely initiation of breastfeeding (EIBF) is essential in ensuring newborn survival and has a positive impact on childhood nutrition (Sharma & Byrne, 2016), and initiation within 30 minutes to 1 hour of birth can decrease neonatal death (Takahashi et al., 2017). Indeed the World Health Organizaton (2017a) recommendation states that:

1. Skin-to-skin contact between mothers and infants immediately after delivery.
2. Health workers should ensure early initiation of breastfeeding within an hour after delivery.
3. Provide practical support to mothers to establish breastfeeding and how to manage common breastfeeding difficulties.

2.3. Benefits of breast milk and exclusive breastfeeding

Breast milk is the only food known to have the required nutrients and in their right amounts for the newborn and there is empirical clinical evidence suggesting that it has strong protective influence on infectious stomach and intestinal inflammation (Walker, 2010). The human breast milk is made up of both macro and micro nutrients and these comprise of carbohydrates, proteins, lipids, as well as minerals and vitamins (Chill, 2010). It contains a balance of digestible nutrients along with digestive enzymes, oligosaccharides (sugars) and contains extremely high concentrations of immunoglobulins, other anti-infective factors such as lysozyme, lactoferrin and interferon, and more anti- inflammatory and immunomodulation components (UNICEF, 2011).

Breastfeeding, compared to feeding with other breastmilk substitutes has numerous health benefits (Allen & Hector, 2005). These benefits are related to the infant, mother, family and community (UNICEF, 2011).

2.3.1 Benefit to the infant

Exclusive breastfeeding until 4-6 months of age is beneficial to infant survival (Mittal, Goyal, Jain, & Khandelwal, 2016). Breastfeeding usually boost the general immunity of the infant and thus prepares and improves the antibody response to vaccines (Bartle, 2013). Colostrum is considered as the 'first immunisation' infants receive due to its richness in antibodies and anti-infective properties. (Bartle, 2013).

Breast milk is also known to protect infants against infections such as diarrhoea, pneumonia, otitis media, ear infection, gastrointestinal and respiratory infections as well as allergies (Aborigo et al., 2012; Bellows, Moore, Hunley, & Clark, 2013; Allen & Hector, 2005). Also, Bellows and his colleagues showed in their work that non-breastfed infants are more likely to experience Sudden Infant Death Syndrome (SIDS), which is the leading cause of infant deaths, relative to breastfed infants (Bellows, Moore, Hunley, & Clark, 2013).

In preterm neonates and low birth weight infants, breast milk protects against necrotising enterocolitis (Binns, Lee, & Low, 2016). Breast milk provides the first source of antibody-mediated immune protection in the intestinal tract of suckling infants, in the form of secretory IgA (SIgA) (Rogier et al., 2014). Some long term benefits of breastfeeding mentioned by Binns & Lee (2016) include:

- higher cognitive development.

- significant reduction in the risk of obesity in childhood and later in adult life.
- reduction in the risk of type 2 diabetes later in life.
- some safety effect against elevated systolic blood pressure.

In addition, breastfeeding also promotes IQ of 3 to 4 points (World Health Organizaton, 2017b). Also, breastfeeding results in a more positive emotional bond between mother and infant (Juin & Mohd Ghazali, 2013). Similarly, infants placed in early skin-to-skin contact with their mothers also appear to interact more with their mothers and cry less (World Health Organization, 2017a).

2.3.2 Benefits to the mother

Low rates of ovarian cancer, reduced premenopausal breast cancer, reduced obesity, type 2 diabetes, and heart diseases are some of the long-term benefits mothers derive from EBF (Binns et al., 2016). A recent study done in the Asia Pacific region suggested that mothers who breastfeed for longer periods have lower risk of developing postnatal depression (Binns et al., 2016).

According to the American Academy of Pediatrics (2018), other maternal benefits of exclusive breastfeeding are decreased post-partum haemorrhage and rapid uterine involution which comes as a result of elevated oxytocin concentrations, decreased menstrual blood loss and lactational amenorrhea which tends to promote child spacing, regain of pre-pregnancy weight, decreased risk of breast cancer, decreased risk of ovarian cancer, and possibly decreased risk of hip fractures and osteoporosis in the postmenopausal period.

Findings from other studies confirmed the benefits to mothers as breastfeeding being major contributor to maternal well-being in which - it helps to space children, and reduces the

risk of ovarian and breast cancer, as well as protects against developing premenopausal and probably postmenopausal breast cancer (Allen & Hector, 2005).

2.3.3 Benefits to the family and community/society

The American Academy of Pediatrics (2018) suggested that breastfeeding potentially decreases infant illness, which might help reduce annual health care costs and decrease costs for public health programmes such as the Special Supplemental Nutrition Programme for Women, Infants, and Children (WIC). Again, BF decreases parental employee absenteeism and associated loss of family income - more time for attention to siblings and other family matters as a result of decreased infant illness. Additionally, breastfeeding /EBF leads to lower health care costs, healthier families, and a smarter workforce (World Health Organization, 2017b). Breastfeeding also decreases environmental burden for disposal of formula cans and bottles and decreased energy demands for production and transport of artificial feeding products (American Academy of Pediatrics, 2018).

Indeed, breastfeeding is one of the most effective and cost-effective investments nations can make in the health of their youngest members and the future health of their economies and societies (World Health Organization, 2017). As noted by UNICEF's Executive Director, Anthony Lake, "by failing to invest in breastfeeding, we are failing mothers and their babies and paying a double price: in lost lives and in lost opportunity" (World Health Organization, 2017).

There is also strong evidence that breastfeeding has economic and social benefits to the family, the healthcare system, and the employer. If 90% of newborns in Louisiana were exclusively breastfed for the first 6 months of life for example, a total of $186,371,125 could be saved and 16 infant deaths prevented with 80% compliance (Ma, Brewer-Asling,

& Magnus, 2013). The healthcare costs associated with exclusive breastfeeding are reduced as breastfed infants mostly require fewer sick care visits, prescriptions, and hospitalization (Ku & Chow, 2010). Another notable social benefit of breastfeeding is the effect on the environment. Ball and Bennett (2001) as cited in Thomas (2016) showed that as more people EBF, it will (a) decrease the demand of artificial teats, plastic bottles, and milk powder tins; (b) reduce the levels of pollutants released; and (c) decrease the depletion of natural resources used to produce them.

2.4 Prevalence of exclusive breastfeeding

The global prevalence of exclusive breastfeeding according to UNICEF (2017) is 45%. From the 2017 UNICEF's report, prevalence of EBF in Europe was 57%, South Asia 39%, Latin America and Caribbean (excluding Brazil) recorded 54%. No record was gathered for North America (UNICEF, 2017). A study conducted by Al-Sahab, Lanes, Feldman, & Tamim (2010) in Canada stated that, about 90.3% of children were breastfed but only 13.8% were exclusively breastfed.

Data collected over a period of fifteen (15) years from 1998 to 2013 in the European countries indicated decline in rates of exclusive breastfeeding (EBF), and further suggested the decline was associated with increase in children's age (Bagci Bosi, Eriksen, Sobko, Wijnhoven, & Breda, 2015). Data from 24 out of 53 European countries indicate that prevalence of EBF among under 6 months was 2–56% (Bagci Bosi et al., 2015). Higher rates were reported in Kyrgyzstan (56%), Georgia (55%) and Croatia (52%), with lower rates reported from Poland (4%) and Bulgaria (2%) (Bagci Bosi et al., 2015). Regarding breastfeeding at 6 months, twenty-one countries reported data with a minimum and maximum of 1–49% of infants being exclusively breastfed for 6 months. The highest rate

was seen in Slovakia (49%) and Hungary (44 %) and the lowest in Greece (1%), Finland (1 %) and the UK (1%) (Bagci Bosi et al., 2015).

The rate of exclusive breastfeeding of 29 countries in Africa was found to be 41.07% between the years 2010-2015 (Issaka, Agho, & Renzaho, 2017). The global report by UNICEF (2017) indicated an overall prevalence of EBF in Sub-Saharan Africa as 51%, with Eastern and Southern Africa having 63% while West and Central Africa recorded 40%.

In a study conducted in Sagamu, Southwest Nigeria by Sholeye, Abosede, & Salako (2015), 56.1% of mothers practiced EBF for 6 months. In another study done in a tertiary health centre in South East Nigeria, only 24% of respondents out of 92.5% who had knowledge on EBF actually practiced EBF (Chineke et al., 2017). The demographic and health survey report of Sierra Leone recorded that, only about 32% of the 97% children who breastfed at all were exclusively breastfed (Statistics Sierra Leone and ICF Intermnational, 2014).

In Kenya, the practice of exclusive breastfeeding decreases with age of infant: the prevalence of exclusive breastfeeding was found to be 45.5% among infants aged 0-6 months in Kangemi, Nairobi (Ayisi, Thuita, Njeru, & Wakoli, 2014). Similarly, in a cross sectional study conducted by Khamis, Omar, Suleiman & Ali (2017), only 20.8% of mothers practiced EBF in North A districts in Zanzibar, Tanzania, while the EBF rate in Mbarara hospital, Uganda was 49.8% (Petit, 2010). In South Africa, the proportion of babies who were exclusively breastfed in four (4) provinces namely North West, Gauteng, Free State and Eastern Cape was 12% (Siziba, Jerling, Hanekom, & Wentzel-Viljeon, 2015). According to a study conducted in Mataga Ward, Mberengwa District at Mataga

Rural Health Center, Midlands's province of Zimbabwe, the rate of EBF practices was 25% (Muchacha & Mtetwa, 2015).

The 2014 DHS of Ghana found that 98% of children of ages 9-11 months and 50% of 20-23 months were still breast feeding as of the time of the survey (Ghana Statistical Service et al., 2015). Despite the fact that the majority of children were still breastfeeding, just a little above half were exclusively breastfed. A UNICEF (2017) report also mentioned that the proportion of children who exclusively breastfed in Ghana as of 2014 was 52.3%. Exclusive breastfeeding rate was increasing gradually in Ghana but declined along the line until when it again increased in 2014. Ghana's EBF rate increased gradually from 7% in 1993 to 31% in 1998 and then to 53% in 2003. The results of the recent Multiple Indicator Cluster Survey (MICS) (2011) suggest that the rate of EBF has declined from 63% in 2008 to 46% in 2011 (Mensah et al., 2017).

Few studies conducted across Ghana have also indicated varying prevalence rates, which were below the recommended 90% rate by WHO. According to a study done by Dun-Dery & Laar (2016), though 91% of mothers initiated breastfeeding within an hour of delivery, the EBF rate at six months was as low as 10.3 % in Wa, the Upper West regional capital. In another study, the exclusive breastfeeding rate among mothers with infants between the ages of 0 – 5 months was 72% in the Efutu Municipality of the Central Region of Ghana. In Duakor, a typical Traditional Migrant Community in Cape Coast, Central region, Ghana, Sika-Bright & Oduro, (2013) found that, only 8.4% of children between the ages of 0-6 months were exclusively breasted. Tampah-Naah & Kumi-Kyereme (2013) found a 64.4% prevalence of EBF among women with 0-5 months children across Ghana.

2.5 Strategies for increasing exclusive breastfeeding

Attempts to provide improved nutrition among infants such as changes in feeding behaviour will greatly impact on infant mortality rates over time (Onah et al., 2014). In view of this, the Baby-Friendly Hospital Initiative (BFHI) approach was proposed and adopted by the WHO and UNICEF in 1991, after the Innocenti Declaration of 1990. It is a global effort to implement practices that protect, promote and support breastfeeding (World Health Organization, 2014). The initiative was accepted and is being implemented by about 152 countries across the globe. It is believed to have increased the likelihood of breastfeeding children for the first 6 months of their lives (World Health Organization, 2014).

To strengthen the implementations of BFHI policies proposed by the WHO and UNICEF in promoting EBF, in 2012, the World Health Assembly (WHA) Resolution 65.6 endorsed a comprehensive implementation plan on maternal, infant and young child nutrition, which aimed at increasing EBF to at least 50% globally by 2025 (World Health Organization & Lyell, 2012). The World Health Organization & Lyell (2012) proposed five (5) levels at which EBF could be promoted. These are:

1. All facilities must endeavor to support exclusive breastfeeding by promoting BFHI.

2. Provide, promote and support community-based initiatives and strategies which will to enhance exclusive breastfeeding practices.

3. Enforce and strengthen legislation related to the International Code of Marketing of Breastmilk Substitutes.

4. Support women to breastfeed exclusively by increasing the maternity leave period from three to six months backed by law as well as enacting policies that encourage women to breastfeed in the workplace and in public.

5. Invest in training and capacity-building in breastfeeding protection, promotion and support.

Ghana, just like other countries, adopted the BFHI in 1995 (Aryeetey & Antwi, 2013). However, Ghana recorded a total of 325 out of 1527 maternity facilities being designated as Baby-Friendly at the end of 2010 (Aryeetey & Antwi, 2013). In addition to the establishment of BFHI facilities, Ghana's Legislative Instrument 1667, which is a law to regulate the advertisement and sale of infant formula by manufacturers and distributors both in the Media and in the Heath facilities was accepted and passed in May 2000 (Ghana Infant Nutrition Action Network, 2015). To ensure the regulation works, the Ghana National Breastfeeding Promotion Regulation Committee was set up and charged with coordinating investigations concerning allegations of violations of the LI (Parliament of Ghana, 2000) .

The Government of Ghana's Labour Act, 2003 (ACT 651) section 57 also makes provision for nursing mothers especially in the formal sector to be able to nurse their infants at least for 12 weeks after delivery and possibly add their annual leave as well as have breaks during working hours to breastfeed (Parliament of Ghana, 2003).

With the provision made in the ACT for nursing mothers in the formal sector, breastfeeding exclusively can be promoted. However, there is no documented policy to guide and promote exclusive breastfeeding among informal sector working mothers. In spite of the

absence of a policy on informal sector mothers, the Ghanaian National Nutrition Policy (2013) highlights improving and promoting optimal nutrition as an essential component of health and development among all people living in Ghana (MOH/GHS National Nutrition Policy for Ghana, 2013). The policy aims at promoting optimal infant and young child feeding. This shall be done by supporting, promoting and protecting Community-based extension services (MOH/GHS National Nutrition Policy for Ghana, 2013).

2.6 Awareness and knowledge of exclusive breastfeeding and its benefits among mothers

A study done in Southwest Nigeria in a Naval Military Barrack demonstrated that knowledge exists among mothers of infants about breastfeeding practices (Akinyinka, Olatona, & Oluwole, 2016). The Findings of the study indicated the need for health education of mothers and prospective mothers to improve their knowledge about breastfeeding and its practices (Akinyinka et al., 2016). According to Peterside, E Kunle-olowu, & Duru (2013), 73.1% of respondents in their study in Gbarantoru Community, Bayelsa State, Nigeria, knew at least one benefit of exclusive breastfeeding to the baby, while 26.9% had no idea that exclusive breastfeeding had any benefit to the baby. About 31.3% mentioned that exclusive breastfeeding had benefits to the mother whereas 68.7% did not know**.**

A research conducted in India also found that majority (95.2%) of mothers in the study knew that exclusive breastfeeding provides nutrition to the child, followed by mental development and IQ (50.6%) and prevention of illness (48.8%) (Mittal et al., 2016). Only 4.8% of mothers did not know benefits of EBF (Mittal et al., 2016)**.**

In Ghana, about 99% of the respondents in the study conducted by Dun-Dery & Laar (2016) knew about EBF. Similarly, the community members of the Kassena-Nankana District in the northern part of Ghana are knowledgeable about the benefits of breastfeeding, and majority of mothers attempt to breastfeed (Aborigo et al., 2012). In a study conducted by Laar & Govender (2011) in the Manya Krobo District and Tema, 90% of their respondents confirmed having knowledge about exclusive breastfeeding.

2.7 Factors associated with exclusive breastfeeding practice

There are factors that influence EBF practice. These factors include maternal, infant, spousal and environment factors (Kumala, 2017). These factors are discussed below.

2.7.1 Socio-demographic and economic factors

According to Liben et al. (2016), being a housewife is positively associated with exclusive breastfeeding practices compared to employed mothers. They stated that being a housewife gives the mother the chance to spend optimal time with her infant throughout the whole day and thus she can provide breastfeeding on demand. Tewabe et al. (2017) stated that unemployed mothers practiced EBF better than employed mothers because they earned less money than the employed mothers hence have no less money to buy other feeds for their infant, therefore, they have no option than to breastfeed exclusively.

The findings in a study done by Draman, Mohamad, Yusoff, & Muhamad (2017) show significant association among exclusive breastfeeding practices and father's income, mother's income and mother's occupation. Similarly, factors that showed positive associations with breastfeeding duration in a study done in Indonesia are higher social class, higher income and higher socioeconomic status (Kumala, 2017). Self-employed mothers have their own schedule of work and have enough time for their babies, hence the

practice of exclusive breastfeeding (Mensah et al., 2017). According to Ogbo et al. (2016), older mothers between 20–39 years are much more likely to practice EBF. Breastfeeding practices has also been associated with maternal age and educational level. A study in Togo showed that mothers who had attained secondary school education (48%) are more likely to practice exclusive breastfeeding compared to mothers who had no formal education (28%) (Veneman, 2012). Similarly, studies in Ghana have shown that excluding breastfeeding practices are more common among educated women and older women than their counterparts (Diji et al., 2016; Mogre, Dery, & Gaa, 2016). In addition to the above, increased maternal age and higher maternal education have positive association with breastfeeding duration (Kumala, 2017).

This could because educated and older mothers are more likely to be exposed to information on EBF and comprehend as well as more confident to practice them than their younger and less educated counterparts (Diji et al., 2016; Kumala, 2017). Also, non-educated and younger mothers might have less control over decisions concerning the feeding of their infants relative to educated and older mothers (Mogre, Dery, & Gaa, 2016).

2.7.2 Maternal factors

Draman et al. (2017) found from their study conducted in Malaysia some maternal factors linked to EBF practice are previous exclusive breastfeeding experience and mutual decision-making in favour of exclusive breastfeeding.

An association was found between the practice of exclusive breastfeeding and knowledge of EBF among mothers in 190 rural settings in Ghana (Mogre et al., 2016). Mothers with higher knowledge on EBF were more likely to practice than those with low knowledge (Mogre et al., 2016). Additionally, mothers who knew that infants needed to be exclusively

breastfed for the first six months were fourteen times likely to practice EBF than those who had no knowledge on EBF (Dun-Dery & Laar, 2016).

Some factors identified to have positive associations with breastfeeding duration were mentioned as mother's intent to breastfeed, early decision to breastfeed, mothers who don't smoke/occasional smoke being married or having a partner (Kumala, 2017). Others are maternal attitude towards infant feeding, having been breastfed oneself and attendance at childbirth education classes (Kumala, 2017). Colostrum feeding promotes exclusive breastfeeding because it encourages early introduction of breastfeeding which increases child survival (Tewabe et al., 2017).

The prevalence of EBF among women who delivered vaginally usually higher than those who had caesarean section done. Mothers who delivered in the health institutions are more likely to exclusively breastfeed their infants when compared with those who had home deliveries and had Traditional Birth Attendant in attendance (Duong, Binns, & Lee, 2004). Dun-Dery & Laar (2016) indicated that mothers who went through a normal vaginal delivery compared with caesarian section delivery have almost ten times odds of practicing exclusive breastfeeding. They also stated that those who perceived formula feeding was most challenging to practice would prefer to adopt exclusively breastfeeding.

Maternal characteristics such as being multiparous, having pregnancy at an older age, living with a partner and lower pre-pregnancy BMI are factors that are associated with 6-month exclusive breastfeeding (Dun-Dery & Laar, 2016). According to Al-Sahab et al. (2010), high parity affects the practice of exclusive breastfeeding. It is positively associated with 6-month exclusive breastfeeding with the reason being that, multiparous mothers might have updated their knowledge on EBF and may also have had increased self-

confidence from earlier breastfeeding experiences. Similarly, Kumala (2017) indicated that having a previous child or children, positive previous breastfeeding experience and breastfeeding confidence promote the practice of EBF.

In West Mamprusi district in Ghana, a positive association was found between the practice of exclusive breastfeeding and skilled delivery. Women who sought skilled delivery services were found to practice exclusive breastfeeding compared to those who delivered at home (Boakye-Yiadom, Yidana, Sam, Kolog, & Abotsi, 2016). Knowledge of exclusive breastfeeding, place of delivery and attendance of antenatal care are significantly associated with the practice of exclusive breastfeeding in West Mamprusi district (Boakye-Yiadom et al., 2016). In Canada, it was established that there was a positive relationship between maternal EBF knowledge and its practice as well as receiving ANC. (Sam et al., 2016).

Early initiation of breastfeeding after delivery also influenced the positive practice of EBF compared with mothers who introduced breastfeeding later in Dubti, Afar regional state, northeast Ethiopia (Liben et al., 2016). Breastfeeding education sessions during pregnancy was found to have promoted exclusive breastfeeding practice among women in Motta town, East Gojjam zone, Amhara Regional State, Ethiopia (Tewabe et al., 2017). Additionally, those who received infant feeding counseling during their postnatal attendance had greater chances of breastfeeding their infants exclusively (Liben et al., 2016).

According to Odom et al. (2013), reasons mothers cited for not breastfeeding were related to concerns about maternal or child health and processes associated with breastfeeding.

Some of the concerns were about: (1) lactation ;(2) infant nutrition and weight; (3) the need to take medicine or illness; and (4) milk pumping.

2.7.3 Infant factors

In a study conducted in Dubti town, Afar regional state, northeast Ethiopia, age of infant was found to be a predictor of exclusive breastfeeding practices among nursing mothers (Liben et al., 2016). The same study found that infants aged less than 2 months are seven times more likely to be exclusively breastfed than infants in the 4-6 months age group. Again, Liben et al. (2016) indicated that, infants in the age group 2–3 months had 1.6 times chances more to be breastfed exclusively when compared with those infants aged 4–6 months. This reveals that as an infant approached 6 months, the likelihood of being exclusive breastfed decreased significantly.

Similarly, Tewabe et al. (2017) indicated that a baby aged 0-1 month old is four times more likely to exclusively breastfeed than those who are 4-5 months old while infants aged 2-3 months were two times more likely to be fed exclusively than those in the 4-5 month age bracket. In a study conducted by Kumala (2017), a baby's admission to receive intensive care was negatively associated with EBF practice.

Bed-sharing practices were also observed to be positively related to exclusive breastfeeding. Infants who routinely shared bed with their mothers are approximately three times likely to be EBF (Tan, 2011). Consistent with other findings, a study conducted in Mauritius identified some neonatal factors that affect BF and EBF as babies' birth weight, neonatal hospitalization and illness, the use of pre-lacteal feeds and pacifiers (Motee, Ramasawmy, Pugo-Gunsam, & Jeewon, 2013). Finally, if a baby received

colostrum/breast milk as the first meal, the is a greater likelihood that he/she will be exclusively breastfed was higher (Duong et al., 2004).

2.7.4 Spouse and family factors

Tewabe et al. (2017) found that spousal support has a significant association with Exclusive Breastfeeding practices in Motta town, East Gojjam zone, Amhara Regional State, Ethiopia. This was due to the major roles husbands play in carrying out decisions about the family and household issues. In Vietnam, breastfeeding practice of rural Vietnamese women is expected to be influenced by the husband, senior members of the family (Duong et al., 2004). Feeding preferences of the maternal mother and feeding practices of friends, could also influence the decision on EBF (Duong et al., 2004). A partner's perceived preference for breastfeeding and breastfeeding knowledge also was found to be associated with EBF practice (Kumala, 2017). A mutual decision between parents also influence exclusive breastfeeding practices. (Draman et al., 2017). The presence of a partner provides increased support for the mother, which may ease the feeding process and the choice to exclusively breastfeed for 6 months (Dun-Dery & Laar, 2016).

The desire to exclusively breastfeed among nursing mothers may be present but intimate partner violence and a lack of partner support can hinder the practice of EBF in the postnatal period (Ogbo et al., 2016). Lack of spousal support towards breastfeeding was found to be a major predictor of breastfeeding discontinuation at 2 weeks among nursing mothers in a study done in Sacramento, California (Taveras et al., 2003).Again, lack of support for the mother immediately after birth coupled with absence of societal support to breastfeeding mothers are the main contributors to EBF practice. The absence of this has

resulted in low EBF rate and increased discontinuation rate in Saudi Arabia (Alfaleh, 2014).

In Ghana, family members play a critical role in infant breastfeeding practices (Mensah et al., 2017). Majority of the respondents (58.7%) in a study done at Sekyere South district had reported that they lacked support from both family and their spouses to EBF because of the notion that EBF does not provide the child with water (Mensah et al., 2017).

2.7.5 Cultural /community and societal factors

Among the factors that are associated with EBF, some societal and cultural influence have been identified. A study in the West Mamprusi district in the northern part of Ghana revealed that EBF rates were higher in communities with mother-to-mother support groups compared to communities without mother-to-mother support groups (Boakye-Yiadom et al., 2016). Mothers who perceived that breastfeeding was essential or they might have received encouragement from their clinicians to breastfeed are at higher odds of continuing breastfeeding as required (Taveras et al., 2003). At delivery in a hospital, about 90% of the mothers breastfed exclusively with the help and support of hospital staff but EBF rate during the early postnatal period without help had declined to 62% (Lewallen et al., 2006). Family structure has been associated with EBF with women belonging to the extended family structure likely to have support from other members in carrying out daily household activities hence sparing them more time to breastfeed compared to mothers from a nuclear home. (Diji et al., 2016).

The Low rate of EBF in across Ghana can be attributed to socio-cultural practices and traditions which cut across the ten regions (Tampah-Naah & Kumi-Kyereme, 2013;GSS et al., 2015). The giving of water and concoctions to infants during traditional naming

ceremonies and to quench their perceived thirst is a common practice in Ghana (Tampah-Naah & Kumi-Kyereme, 2013). Breastfeeding mothers are often pressured by elderly women to give water and other foods to infants as reported by participants in a study by Diji et al. (2016). There are also suggestions that several cultural beliefs and practices negatively influence breastfeeding in northern Ghana (Aborigo et al., 2012). Aborigo et al. (2012) indicated that the breast milk of first time mothers, mostly colostrum, is tested to determine whether it is wholesome or not. This is done by expressing the first milk into a container and putting an ant into it and if the ant survives and crawls out then the breastmilk is wholesome but poisonous if the ant dies and mothers are not allowed to breastfeed since a "poisonous" breast milk can result to death (Aborigo et al., 2012).

In the same study by Aborigo et al. (2012), first-time mothers are supposed to be culturally cleansed with herbal water for three to four days depending on the sex of the child before the mother can breastfeed the newborn. During this practice, the child is either fed with locally prepared foods or a wet nurse is used until the mother completes the cleansing ritual (Aborigo et al., 2012). This practice undermines EBF practices and can offset the negative effects of not exclusively breastfeeding.

2.8 Challenges to exclusive breastfeeding

Despite the promotion and gradual progress in EBF practice across the globe, there are still numerous challenges which hinder the practice of EBF. Some factors identified to negatively influence the practice of EBF among women were breast and nipple conditions such as breast pain and discomfort, breast abscesses, and sore nipples (Otoo et al., 2009). The most common barriers discussed by both mothers and husbands were work-related. Mother's health problems, such as blocked or cracked nipples, low or slow breast milk

production, or maternal illnesses, were also commonly cited as barriers to breastfeeding, early initiation of breastfeeding, and exclusive breastfeeding (Thet et al., 2016).

In a quantitative research conducted in Goba district, Ethiopia, level of knowledge on EBF was identified to influence EBF practice with women lacking knowledge likely not to practice EBF (Setegn et al., 2012). For instance, community health workers indicated that mothers' perception that breast milk alone is inadequate for the newborn as the main challenge to EBF. This is corroborated by a study in Ghana where mothers indicted that babies less than six months needed other foods in addition to breast milk to meet their nutritional needs (Diji et al., 2016) The study also revealed that, 73 % of unemployed mothers (73%) practiced EBF compared to 33% of employed mothers practicing EBF (Setegn et al., 2012).

It is as a result of the inability of mothers to distinguish between a "hunger cry" and other cries of the infant as well as ignorance about the adequacy of breastmilk to provide the required nourishment for the infant (Diji et al., 2016). In a study conducted in a rural community in Cross River state, Nigeria, majority of the mothers, (72%) perceived exclusive breastfeeding to be stressful while others (40%) reported that the main barrier to EBF was excessive pains in the nipple (Ella, Ndep, & Akpan, 2016).

Some study findings indicate that working mothers in the informal sector tend to practice exclusive breastfeeding more than those in the formal sector. For instance, Nkrumah (2016) in her study in Efutu district, Ghana indicated that flexibility in the working conditions of mothers in the informal sector is a determinant in EBF. In this study, 150(57.7%) and 22(8.5%) of 260 respondents were in the informal and formal sectors respectively. About 84% of the informal sector mothers practiced EBF while 16% in the

formal sector exclusively breastfed. Again, mothers who were self-employed in the United Kingdom tend to breastfeed for longer periods than those in the formal sector (Hawkins et al., 2007). But elsewhere in Atwima Nwabiagya District of Ghana, a major constraint to EBF practice was farming (Ayawine & Ae-Ngibise, 2015). Additionally, some self-employed (farmers) mothers in the study conducted by Ella et al. (2016) in rural communities in Cross River State, Nigeria were unable to EBF because of work constraints.

2.9 Conceptual framework

The figure 1 is the conceptual framework of Njeri's study. In this framework, there were two levels identified as contributing to the achievement of the outcome variable, EBF. The first level consists of two factors which were identified as:

a. Psychological factors in the mother: this described maternal attitudes towards EBF and moral support offered to the mother during breastfeeding.
b. Physiological factors in the mother: these factors looked at the maternal nutritional status, maternal general morbidity as well as her breast health.

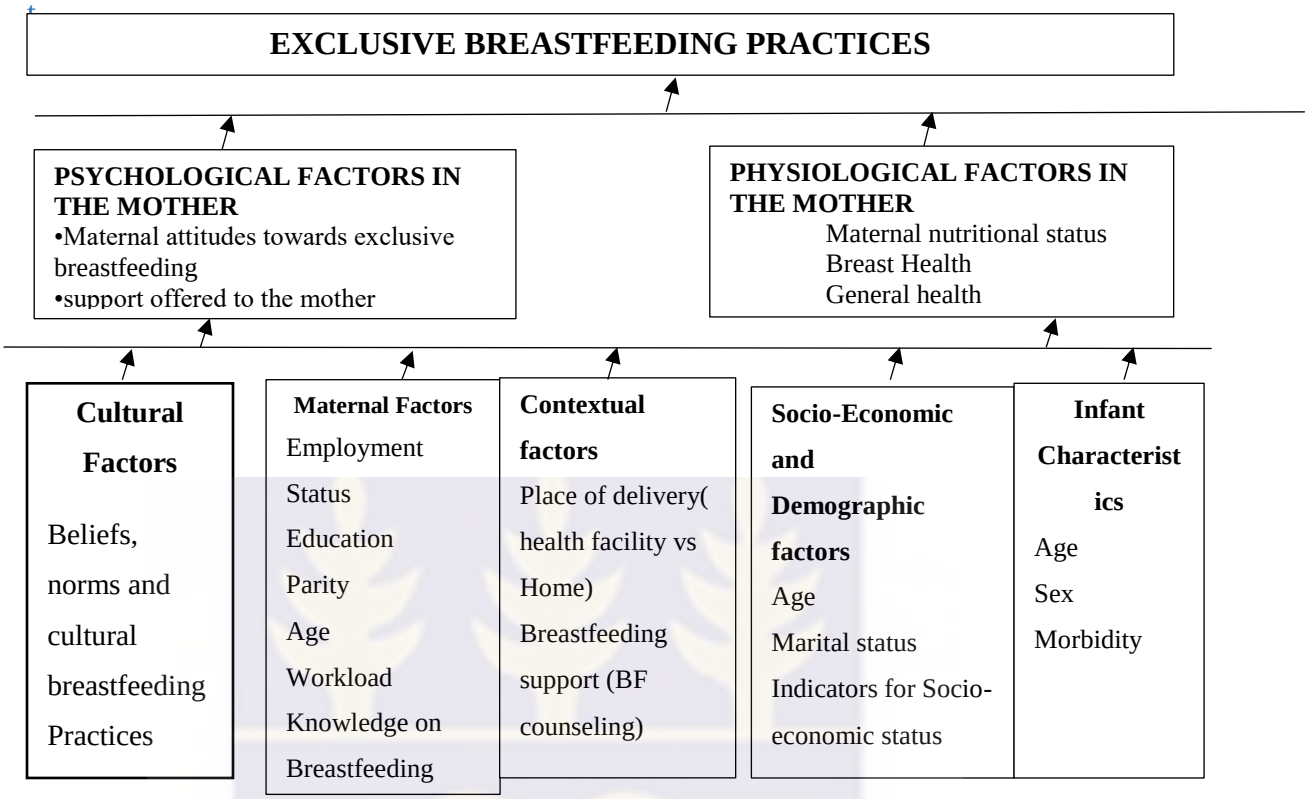

Figure 1: Conceptual framework sowing factors influencing exclusive breastfeeding

Source: Adapted from Njeri (2012).

Under the second level, the factors identified directly affect the first level factors and these include:

a. Maternal factors: these variables include employment, education, parity, workload, knowledge on breastfeeding.
b. Socio-Economic and Demographic factors: these include age, marital status, indicators for socio-economic status
c. Contextual factors: these factors include Place of delivery (health facility vs. home), breastfeeding support (BF counseling)
d. Cultural factors: these factors include beliefs, norms and cultural breastfeeding practices

e. Infant characteristics: these variables include Age, Sex, Morbidity

The framework according to Njeri mentions the broad categories of factors that affect EBF. It elaborated much on maternal issues (i.e. maternal physiological, psychological state as well as maternal factors) which is suggestive that, maternal issues play key roles in the practice of EBF. In her study, however, the framework did not actually spell out a clear relationship among the broad category of factors. In examining these, the factors mentioned in the first level are all factors that concern the mother and can be described as maternal factors as well.

Taking into consideration the five level of factors, there is no clear distinction between the factors that affect the first level factors directly as well as their interdependence on each other. The framework gives a general idea that, all second level factors are contributory factors to the level one factors. Additionally, while other studies stated mode of delivery and maternal lifestyle as determinants of EBF, Njeri's framework did not throw light on these two factors.

Figure 2 shows the conceptual framework of this study. It is adapted and modified from Njeri's frame. The framework shows factors that could potentially influence exclusive breast feeding among informal sector working mothers.

In this modified framework, five (5) major categories of factors have been identified as influencing EBF. These are maternal, infant, socio demographic/economic, cultural/societal and spouse/ family factors. The frame work examines the relationship between sociodemographic/economic and maternal factors. It also looks at the relationship between maternal and cultural factors as well as relationships between cultural/societal

factors and spouse and family factors. Lastly, the framework considers a possible relationship between maternal factors and infant factors.

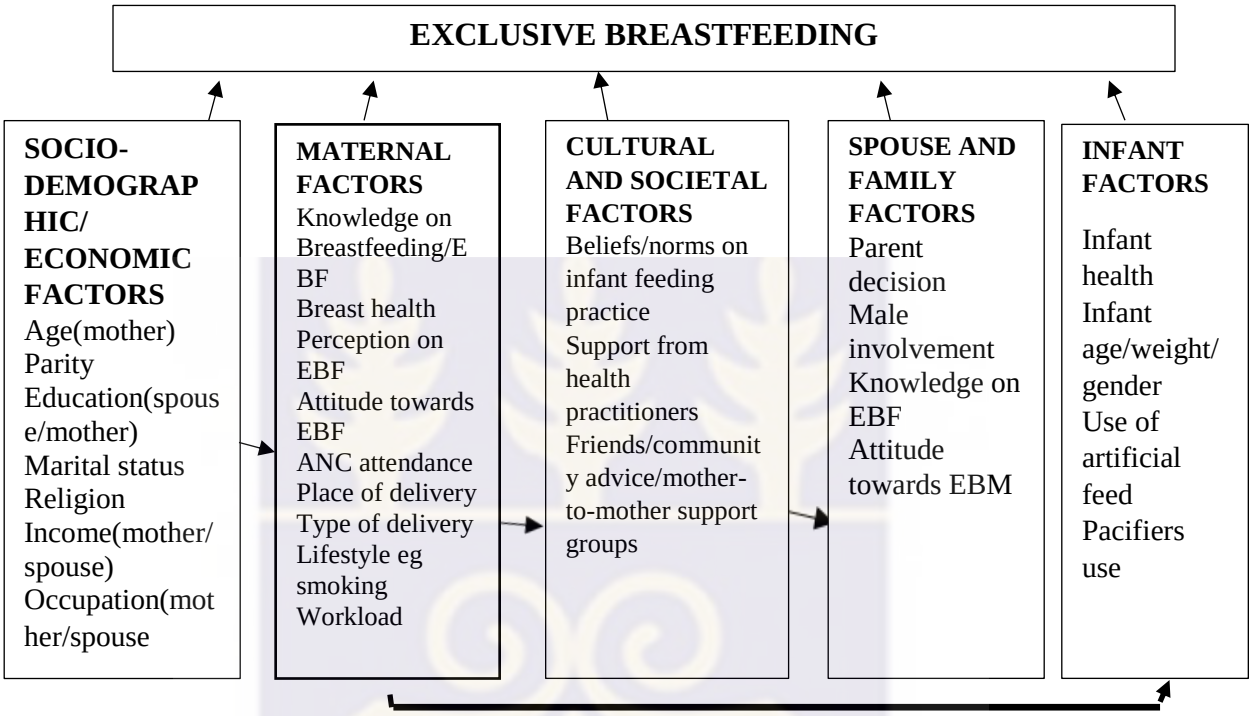

Figure 2: *Conceptual framework showing factors associated with EBF*

Source: Authors construct based on Njeri, (2012)

Socio-demographically, a mother's age may determine whether she will breastfeed or not. While women of older age breastfeed longer than the younger group. Also, women with higher education background tend to have demanding jobs and by this they become economically independent but lack adequate time and skills in practicing EBF. These working mothers can afford to buy formulae for their infants hence it interrupts EBF practice.

Similarly, mothers who have had their previous children exclusively breastfed may be better than their counterparts when it comes to EBF. This is linked to the fact that, they

might have had previous knowledge and experience which make them confident of handling the new baby. Married women are likely to receive support from their spouses to promote EBF.

Access to information on prescribed infant feeding during ANC as well as child health services may also affect EBF. Delivering in a health facility may also promote EBF and mothers who deliver vaginally may practice EBF better than those who deliver by caesarian sections.

Those women with higher education also preferred to have a smaller family size and they usually deliver in the health facilities be it private or public due to the fact that they are independent economically. They also attend ANC early and can afford to deliver in either public or private health facility.

The health of the mother and infant are also determinants of BF and EBF. Mothers who are generally not well after delivery or have breast problems such as mastitis are more likely to breastfeed inadequately and sick infants are also separated from their mothers thereby causing a break in BF.

Additionally, pacifier use may promote interruption in EBF practice. Considering the gestational and birth weight of newborn children, preterm babies usually have more difficulties with breastfeeding because of their immature nature.

Maternal lifestyle may also influence the health of the infant both in and out of utero. Smoking during pregnancy may cause foetal malformations, prematurity and possible death of the infant.

Cultural norms about breastfeeding practices also have effect on mothers' perception as well as community belief about breastfeeding. Some communities also consider the first milk (colostrum) to be poisonous hence these people encourage mothers to discard it rather than feeding it to their babies. Sometimes, it is believed that breastmilk alone is not sufficient to support optimal growth of the child especially the male child. Culturally, some communities think an unhealthy mother is most likely to transmit disease to the young one through breastfeeding. The cultural belief that babies get thirsty therefore needed water to quench their thirst promotes the discontinuation of EBF in some communities in Ghana. The beliefs and norms of society also shape the mentality and behaviour of members of the community. These taboos, beliefs and norms usually misinform parents and other family members.

2.10 Chapter summary

In summary, this chapter reviewed related literature on the state of EBF globally, nationally and locally. It also examined the factors that promote and prevent practice of exclusive breastfeeding. The various studies have shown that maternal socio-demographic/economic factors, contextual factors, infant factors, beliefs and norms about breastfeeding practices, affect exclusive breastfeeding in diverse ways. Rural nursing mothers were less likely to practice EBF. To overcome this burden, studies admonished that, the various international policies like EIBF, regulation of sale of infant formula and some cultures should probably be modified. Literature however revealed that there is limited information on the factors that influence exclusive breastfeeding practices among informal sector working mothers in Ghana as well as the Volta Region. It is for this reason that this study sought to identify breastfeeding practices and determine the factors influencing EBF among informal sector

working mothers who had infants aged 6-12 months in the Adaklu District in the Volta region.

CHAPTER THREE

METHODS

3.1 Introduction

This chapter focused on the methods that were used to carry out the study. It provides information on the study design, study population, sample size, sampling technique, the instruments for data collection and data analysis procedures. Ethical issues are also discussed in this chapter.

3.2 Study design

The study was a facility based cross-sectional quantitative survey, which involved 252 informal sector working mothers who had children between the ages 6-12 months drawn from all fifteen (15) health facilities in the Adaklu District. The cross-sectional design enabled the researcher to collect data on both the independent and outcome variables simultaneously, and it was comparatively quicker and cheaper to carry out. The study was done in a period of 3 weeks starting from 11th June to 30th June, 2018.

3.3 Study Area/location

The study area was the Adaklu district of the Volta Region of Ghana. This district was carved out of the former Adaklu-Anyigbe district now known as Agotime-Ziope District. Its capital is Adaklu Waya (Ghana Statistical Service, 2010). Adaklu shares boundaries to the west with Ho-West, North-Tongu to the South, Agotime-Ziope to the North and East with Akatsi-North Districts (Ghana Statistical Service, 2010). The geographical location of Adaklu is represented in Figure 3 below.

The District's total population was 36361, out of which females are about 17800 (51%) as of 2010 (Ghana Statistical Service, 2010). Out of the total female population, women in fertile age are 9351, translating into 52.53% (Ghana Statistical Service, 2010). The district had a sex ratio of 95.7 males per 100 females (Ghana Statistical Service, 2010). About 43.2% of the population aged 12 years and older is married. Three out of every five persons aged between 30 and 64 years are married. Among the married, 25.5% have no education while 7.4% of the never married have never been to school. The average number of persons per house is 6.5. About 74.7% of dwelling units are owned by a household member. Only 0.6 percent of dwelling units are owned by public or government (Ghana Statistical Service, 2014).

Figure 3: Map of Adaklu District **Source:** Ghana Statistical Service (2014)

About 67% of the population aged 15 years and older is economically active, while 33.3% is economically not active (Ghana Statistical Service, 2014). Of the economically active population, 95.4% is employed while 4.6 are unemployed (Ghana Statistical Service, 2014).

The two main sources of lighting for households in dwelling units in the District are electricity (46.9%) and kerosene lamp (45.1%) (Ghana Statistical Service, 2014). Wood serves as the major source of fuel for cooking in most households in the District (81.5%) (Ghana Statistical Service, 2014). Charcoal is used by 12.4% of households while 3.0% use gas (Ghana Statistical Srvice, 2014). The main sources of household drinking water are bore-hole/pump/tube well (29.7%), river/stream (25.1%), dugout/pond/lake/dam/canal (15.9%) and public tap/standpipe (14.0%) (Ghana Statistical Service, 2014).

One in every three households (36.0%) use pit latrine while 27.4% use bush/field and 27.3% use public toilet (Ghana Statistical Service, 2014). About 35% of households have bathroom for exclusive use while 17.6% use open space around house for bathing (Ghana Statistical Service, 2014).

Also, solid waste is commonly disposed of by households in a common public open space(47.5%) (Ghana Statistical Service, 2014). Some households dump solid waste indiscriminately (17.3%) while other households disposed of solid waste by burning (13.3%) (Ghana Statistical Service, 2014). A high proportion of households (55.6%) disposed of liquid waste by throwing onto the compound of dwelling units (Ghana Statistical Service, 2014).

The district comprises of 36 towns and has been divided into four (4) sub-districts which have 10 CHPS compounds and five (5) health centers (HC) spread across the district (Adaklu District Health Directorate, 2017). The District's epidemiological profile shows a concurrent significant prevalence of diseases including Malaria, Upper Respiratory Tract Infections, Intestinal Worms, Diarrhoea and Rheumatism/Joint Pains (Ghana Statistical Service, 2014).

The nutritional status of women and children is described as generally good (Adaklu District Health Directorate, 2017). Maternal practice of breastfeeding in the first hour of child birth in 2015 was 97.5%, whereas in 2016 it was recorded as 98.1% (Adaklu District Health Directorate, 2017).

Again, the District's nutritional report stated that, in 2014, under five (5) anaemia cases were 641(3.8%) while in children more than five (5) years, prevalence of anaemia stood at 1346 (8.2%) (Adaklu District Health Directorate, 2017).

About 817(5.7%) and 926(6.1%) anaemia cases were recorded among women in 2015 and 2016 respectively, while 273(2.7%) and 391 (5.0%) anaemia cases were recorded in children in 2015 and 2016 respectively in the district (Adaklu District Health Directorate, 2017).

The percentage of children under five (5) considered to be under weight for their ages in 2014,2015 and 2016 were reported as 13.9%, 9.9% and 9.3% respectively (Adaklu District Health Directorate, 2017).

3.4. Study population

The study population involved women aged 15-49 years who were informal sector working mothers and were residing in the Adaklu district.

3.4.1 Inclusion Criteria

Only women who were aged 15-49 years who had children aged 6– 12 months, working in the informal sector who had singleton delivery, and were residing in the Adaklu district were included in the study.

3.4.2 Exclusion criteria

Women between 15-49 years but with twin birth or those who did not breastfeed at all as well as mothers who had some medical condition such as mastitis were excluded from the study.

3.5 Sample size

A total sample size of 261 was calculated using a formula by Cochran, $n_o = \frac{Z^2\, pq}{e2}$

where:

n_o = the desired sample size

Z = the selected critical value of desired confidence level at 95% is 1.96

p = estimated proportion of attribute in a population (estimated prevalence)

q = 1-p

e = desired level of precision (0.05)

The variability was determined based on the prevalence of exclusive breastfeeding from four (4) studies done in Ghana. Okertchiri (2016) determined a prevalence of 52%. This study was conducted across the country and the settings were both rural and urban.

In rural parts of Ghana few studies had prevalence of 8.1 (Pedovoah, 2015), 8.1 (Gyasi, 2008) and 8.4% (Sika-Bright & Oduro, 2013). Taking an average of these,

$$p = \frac{52+8.1+8.1+8.4}{4} = \frac{76.6}{4} = 19.15 \approx 19\% = 0.19$$

$$n_o = \frac{(1.96)^2(0.19)(0.81)}{(0.05)^2} = \frac{3.8416\times0.19\times0.81}{0.0025} = \frac{0.5921}{0.0025} = 236.84 \approx 237$$

Due to the possibility of non-response, 10% upward adjust was made to the sample.

Therefore, $n = 237 + 23.7 = 260.5 \approx 261$

3.6 Sampling

The study was carried out in all 15 health facilities in the district. The sample size was proportionally divided among the facilities in the district. All mothers with children between the ages of 6 – 12 months and attending child welfare clinics were included in the study. A total number of 431 women were identified. A simple random sampling technique was used to select respondents. The procedure for selection was done in the following steps:

1. Child welfare clinic registers were obtained from each facility.
2. A list of all mothers with children aged 6-12 months who meet the inclusion criteria were compiled.
3. The names of the respondents were assigned numbers starting from 001 to 431
4. These numbers were written on pieces of paper starting from 001 to 431
5. Respondents were randomly selected (without replacement) using a random number generator until the required number was obtained for each health facility.
6. The selected numbers corresponding to the names were compiled.

7. The selected respondents were met on the day of their CWC visit where the study and interview and sampling procedures ere explained and interviews were conducted.
8. Those who did not turn up for CWC services on their scheduled days were met in their homes for interview.
9. Out of 261 questionnaires, 252 were successfully administered, out of these 18 were self-administered. 9 respondents were not met during the period of the study hence 252 respondents were finally collected and analyzed.

3.7 Data collection technique

Data was collected through quantitative survey using both face-to-face interview and self-administered questionnaires. Questionnaires were administered on the selected mothers after their consent was sought and obtained. Those who could not read had the purpose and questions of the study read and explained to them in Ewe. Each of the respondents were given an information sheet and a signed consent form(which they signed).

3.7.1 Data collection tool

The data collection tool used was a designed questionnaire with mostly closed ended questions. The tool assessed information on index child factors (sex, birth weight and age), maternal/ paternal socio demographic/economic characteristics, knowledge on breastfeeding, sources of breastfeeding information, maternal delivery experience, infant feeding practices, infant morbidity, maternal morbidity and breastfeeding complications, cultural beliefs and support of EBF. The questionnaires was adopted and modified from a face-validated one used in a study in a low-resource urban setting in Kenya (Njeri, 2012).

3.7.2 Pre-testing data collecting tool

The data collection tool was reviewed by my academic supervisor and the Ethical Review Committee of the Ghana Health Service. The instrument was pre-tested in Akrofu, a farming community in the Ho-Municipality which has similar characteristics as Adaklu. In order to determine the appropriateness of the length, content, question wording, and language of the questionnaire, 13 respondents (5% of the total sample) were used. The selection was by simple random sampling without replacement. Names from the CWC registers were compiled, assigned numbers from 001 to 013. The purpose of the study and pre-test was explained, their consent sought and questions were read and explained to them. This process ensured essential modifications of the questionnaire were made before the actual study. For instance, the skip patterns of questions not applicable were identified and developed.

3.8 Study variables

3.8.1 Dependent variable

The dependent variable for the study is exclusive breastfeeding and it was measured by its definition, which is not giving anything to the infant except breastmilk only for 6 completed months.

3.8.2 Independent variables

The independent factors included:

1. Infant factors: infant health, weight, age, use of pre-lacteal feeds and pacifiers.
2. Maternal factors: delivery history, antenatal/postnatal attendance, breast health, knowledge on/perception about/attitude towards EBF, early breastfeeding, place of delivery, parity and decision to breastfeed

3. Cultural/ societal factors: norms and beliefs on infant feeding, maternal rituals, health staff support and support from mother-to-mother groups
4. Socio-demographic /economic factors: maternal/paternal education, income, occupation, age, religion, marital status,
5. Spouse/Family: Residential status of the spouse, decision by parents for mother to breastfeed, spousal involvement during ANC, spousal support during delivery, spousal knowledge on BF and EBF

3.9 Data analysis

The following processes were employed in the data analysis.

1. Data collected were checked for completeness, coded and entered into excel.
2. Data were then exported into Stata version 15 for cleaning and analysis.
3. Descriptive statistics such as frequencies and percentage distributions were used to describe basic characteristics of respondents such as age, religion, educational level.
4. Bivariate analysis was used to examine associations between independent variables and the outcome variable, exclusive breastfeeding.
5. Logistic regression analysis was used to determine strength of associations by estimating odds ratios as well as adjusting for other variables.
6. Confidence level was set at 95%, and a p-value of less than 0.05 was a criterion for statistical significance

3.10 Quality control

The data collection tool was reviewed by my supervisor and the Ethical Review Committee of the Ghana Health Service. The instrument was pre-tested in Akrofu, a farming

community in the Ho-Municipality which has similar characteristics as Adaklu. This enabled ambiguous questions to be clarified before the actual data collection. The skip pattern of the questionnaire was also developed. Four (4) research assistants with at least a Diploma certificate in Nursing (Community Health) were recruited and trained to participate in the data collection. They were able to speak and understand both English and Ewe. They were taken through a one-day training by myself and supported by the Volta Regional Health Information officer with a qualification in Master of Health Informatics, from the School of Public Health, University of Ghana. The training session included explanation of the study's objectives, methods, interviewing as well as reading through all the questions and agreeing on a standard way of asking them in the local language (Ewe). They were also taken through ethical issues related to the research. They were made to understand that, no woman was to be coerced into participating, as well as the need for them to respect the rights and confidentiality of the respondents.

3.11 Ethical Clearance

Ethical clearance was sought from the Ghana Health Service Ethical Review Committee (ERC) through the School of Public Health (SPH), University of Ghana (UG). Ethical clearance with reference number GHS-ERC018/05/18 was thus received from the Ethical Review Committee to conduct the study in the Adaklu District. Permission was sought and received from the Adaklu District Health Directorate (the Director) which was well as the heads of the various facilities in the district. An introductory letter from the Department of Population, family and Reproductive Health of SPH, UG was presented at the directorate as well as a personal letter seeking to conduct the study was presented.

All respondents consented to participate in the study before they were interviewed. This was done through the signing/ thumb printing of the consent form (see appendix 1) after the purpose of the study, the potential risks and benefits of participating in the study were explained. Privacy and confidentiality were maintained during data collection. This was achieved by interviewing respondents one-on-one at a serene location away from other third parties. Comfortable venues free from interruptions agreed upon by both participants and the researchers were used. Translation was done for those who could not read in the presence of a witness they chose. Copies of the information sheet and signed or thumb printed consent forms were given to the respondents before the administration of the questionnaires.

Respondents were assured of confidentiality of the information collected and were offered the opportunity to opt out of the study anytime they felt like doing so. No personal identifiers like names were recorded on any questionnaire. Respondents were assigned and identified by digits ranging from 001 to 252.

All information provided was stored in a personal computer which is password-protected Access to the data was limited to the principal investigator and it will be destroyed after five years. All data collected (questionnaires) will be stored under lock and key for 5 years after which the data would be destroyed.

3.11 Chapter summary

This chapter provided information on the study design and the study area Adaklu District. It also highlighted the study population, sample size and sampling methods, data collection methods and tools as well as study variables and data analysis. Ethical issues were also discussed. In the next chapter, results from the study are presented.

CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter presents the results of the study. It describes the socio-demographic and socio-economic characteristic of the respondents, knowledge, perception and attitude on EBF, delivery and breastfeeding practices, protection, promotion, and support during breastfeeding, as well as the factors associated with EBF.

4.1 Socio-demographic characteristics of respondents

A total of 252 questionnaire were administered and retrieved, giving a response rate of 100%. Tables (1a and 1b) below shows the socio-demographic characteristics of respondents. The majority 73(29.0%) of mothers were found in the 25 – 29 years age bracket. Majority of mothers were also found to be married 207(82.1%). Mothers who had formal education were in the majority 225(89.3%). Christians were in the majority 240(95.2%). The majority of the respondents were into farming 104(41.3%). Majority of the women had husbands with some form of formal education (87.3%). Self-employed husbands were in the majority 191(75.8%). Some 134(30.9%) of the respondents had up to three children.

Table 2 also show two main characteristics of the children of the respondents surveyed. Majority of them were females 135(53.6%). The mean weight of the children was 3.1 ± 0.4 kg. Eight months old children were the most represented age group 43(17.1%).

Table 1a: Socio-demographic characteristics of respondents (n=252)

Characteristic	Frequency	Percent (%)
Age of Mother		
15-19 years	23	9.1
20-24 years	64	25.4
25-29 years	73	29.0
30-34 years	63	25.0
35-39 years	25	9.9
40-44 years	4	1.6
Marital status		
Single	37	14.7
Married	207	82.1
Divorced	3	1.2
Separated	5	2.0
Mother's Educational Level		
No formal education	27	10.7
Primary	61	24.2
Middle school leaving certificate	3	1.2
Junior high	130	51.6
Senior high	27	10.7
Tertiary	4	1.6
Religion		
Christianity	240	95.2
Islam	9	3.6
Traditional	3	1.2
Mother's Occupation		
Housewife	27	10.7
Casual worker	9	3.5
Self-employed	24	9.5
Trading	79	31.4
Farming	104	41.3
Other	9	3.6

Table 1b: Socio-demographic characteristics of respondents (n=252)

Characteristics	Frequency	Percent (%)
Husband's Education Level		
No formal education	32	12.7
Primary	17	6.8
Middle school leaving certificate	6	2.4
Junior high	134	53.1
Senior high	42	16.7
Tertiary	21	8.3
Husband's Occupation		
Casual worker	36	14.3
Formal job	25	9.9
Self-employed	191	75.8
Number of children		
One	47	18.7
Two	72	28.6
Three	78	30.9
Four	30	11.9
Five and above	25	9.9
Number of people living at residence		
1-3 people	27	10.7
3-5 people	134	53.2
6 people and above	91	36.1
Husband's residence		
Live together	179	71.0
Lives in same town but not same house	33	13.1
Lives in another town	39	15.5
Other(Nigeria)	1	0.4

Table 2: Socio-demographic characteristics of children (n= 252)

Variables	Frequency	Percent (%)
Sex		
Male	117	46.4
Female	135	53.6
Age of last child		
6 months	37	14.7
7 months	26	10.3
8 months	43	17.1
9 months	31	12.3
10 months	32	12.7
11 months	41	16.2
12 months	42	16.7
Child's weight(mean) ***(n = 205)***	**3.1 ± 0.4 kg**	

4.2 Socio-economic characteristics of mothers

Table (3a and 3b) below indicates that majority of mothers 168(66.7%) had their own businesses which served as their source of income, with majority 121(48%) also earning one hundred Ghana cedis and below monthly. Most of them 153(60.7%) had a monthly expenditure of one hundred Ghana cedis and below. Majority of mothers lived in their own homes 224(88.9%). The majority of women lived in houses with two rooms 117(46.4%). Electricity was also the major source of lighting among respondents (76.6%). Borehole also served as major source of water 125(49.6%). Most of the mothers used firewood for cooking 163(64.7%).

Table 3a: Socio-economic characteristics of mother (n=252)

Variables	Frequency	Percent (%)
Source of income		
Own business	168	66.7***
Husband	143	56.8***
Other	38	15.1***
Monthly income		
GH 100 and below	121	48.0
GH 200	60	23.8
GH 300	36	14.3
GH 400	24	9.5
GH 500 and above	11	4.4
Monthly expenditure		
GH 100 and below	153	60.7
GH 200	59	23.4
GH 300	27	10.7
GH 400	11	4.4
GH 500 and above	2	0.8
Place of residence		
A rented house	28	11.1
Own house	224	88.9
Cost of a rented house (n = 28)		
GH 10	6	21.4
GH 20	9	32.1
GH 30	7	25.0
GH 40	1	3.6
GH 50 and above	5	17.9
Number of rooms		
One room	57	22.6
Two rooms	117	46.4
Three rooms or more	78	31.0
Makeup of walls of building		
Iron sheets	1	0.4
Burnt bricks	40	15.9
Mud and wooden poles	70	27.8
Cement blocks	116	46.0
Mud and cement	22	8.7
Other	3	1.2

Table 3b: Socio-economic characteristics of mother (n=252)

Variables	Frequency	Percent (%)
Makeup of roof of building		
Iron sheets	177	70.2
Plywood	4	1.6
Tiles	3	1.2
Thatch	65	25.8
Other	3	1.2
Makeup of floor of building		
Clay	71	28.2
Cement	178	70.6
Tiles	3	1.2
Source of lighting		
Kerosene lamp	47	18.7
Gas lamp	1	0.4
Electricity	193	76.6
Solar lamp	6	2.3
Candle	1	0.4
Other	4	1.6
Source of water		
Rain water	18	7.1
Tap water	35	13.9
Borehole	125	49.6
Stream	72	28.6
Other (dam)	2	0.8
Source of cooking fuel		
Firewood	163	64.7
Charcoal	77	30.5
Gas	11	4.4
Electricity	1	0.4

*****multiple responses**

4.3 Prevalence of exclusive breastfeeding among working mothers in the informal sector

The prevalence of exclusive breastfeeding among respondents was 68.7%. These results are represented in Figure 4.

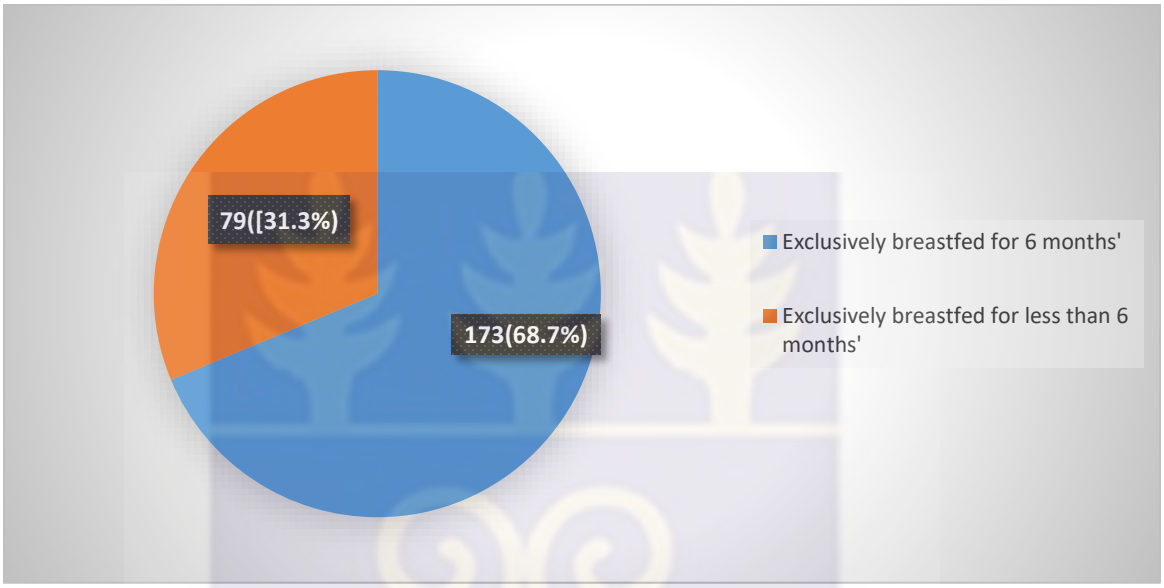

Figure 4 Prevalence of Exclusive breastfeeding among informal sector working mothers

4.4 Information and knowledge on exclusive breastfeeding

All 252(100%) respondents had been informed on breastfeeding, with 244(96.8%) having gotten information from the hospital/health centre. Also 110(43.7%) of the respondents received information on breastfeeding during ANC clinics. Similarly, 246(97.6%) of the respondents knew about exclusive breastfeeding, in which 242(98.4%) of the respondents who knew about exclusive breastfeeding correctly defined exclusive breastfeeding as "giving only breast milk to the baby for six months". This is illustrated in table 4 below.

Table 4: Information and knowledge on exclusive breastfeeding (n=252)

Variables	Frequency	Percent (%)
Information on breastfeeding		
Yes	252	100.0
No	0	0.0
Source of information on breastfeeding		
Hospital/health centre	244	96.8
Traditional birth attendant	4	1.6
Friends	2	0.8
Other (family)	2	0.8
Time information on breastfeeding was received		
During ANC clinics	110	43.7
During delivery	14	5.6
After delivery before discharge	67	26.6
During postnatal clinics	32	12.7
Other	29	11.5
Information on exclusive breastfeeding		
Yes	246	97.6
No	6	2.4
Definition of exclusive breastfeeding (n = 246)		
Feeding the baby with formula immediate	2	0.8***
Giving the baby water and koko from birth	2	0.8
Giving only breast milk to the baby for completed six months	242	98.4***

***multiple responses**

4.5 Perception on breastfeeding and breast milk

A total of 246 responded and almost all respondents 245(99.6%) perceived that breastfeeding should be the first feed a baby is given after birth. This is illustrated in table 5 below. Majority of the respondents 242(98.4%) also perceived that breast milk serves as a source of protection against illnesses. Similarly, 227(92.3%) of the respondents perceived that breast milk alone without water could sustain the baby for the first six months.

Table 5: Perception on breastfeeding and breast milk (*n= 252)*

Perception	Response	
	Yes (n %)	**No (n %)**
Breastfeeding should be the first feed a baby is given after birth	245 (99.6)	1(0.4)
Breast milk alone without water can sustain t he baby for the first six months	227(92.3)	19(7.7)
Breastfeeding protects baby against illnesses	242(98.4)	4(1.6)
Expressed breast milk is poisonous	72(29.3)	174(70.7)
Expressed breast milk should not be fed to the baby when the mother is away	92(37.4)	154(62.6)
Colostrum is good and it should be fed to the baby	232(94.3)	14(5.7)
The baby should be put to the breast after more than one hour to allow the mother to rest	70(28.5)	176(71.5)
Breastfeeding helps the mother not to get pregnant	202(82.1)	44(17.9)
Semi-solid/solid foods should be introduced to the baby before six months of age	38(15.4)	208(84.6)

4.6 Delivery and breastfeeding practices

Tables (6a, 6b and 6c) shows the delivery and breastfeeding practices among respondents. An overwhelming majority of respondents 245 (97.2%) attended ANC clinics during their most recent pregnancy. Majority of respondents attended ANC clinics five times or more 131(53.5%). Within the first three months, majority of respondents commenced ANC attendance 135(55.1%). Within one hour after delivery, 203(80.6%) of the respondents commenced breastfeeding. About 9.5% of respondents had their babies introduced to some supplement by medical staff.

Table 6a: Delivery and breastfeeding practices (n=252)

Variables	Frequency	Percent (%)
ANC attendance		
Yes	245	97.2
No	7	2.8
Number of attendance		
1-2 times	18	7.4
3-4 times	96	39.2
5 times or more	131	53.5
Commencement of ANC attendance		
1-3 months	135	55.1
4-5 months	84	34.3
6 months and above	26	10.6
Place of delivery		
Home	50	19.8
Traditional birth attendant	24	9.5
Hospital/clinic	176	69.9
Other (in a vehicle and on the way to the farm)	2	0.8
Type of delivery		
Vaginal delivery	235	93.3
Caesarean section with general anesthesia	4	1.6
Caesarean section with spinal anesthesia	13	5.1
Commencement of breastfeeding of last child		
Within 1 hour after delivery	203	80.6
After 1 hour but within 24 hours	35	13.9
After 24 hours	14	5.6
Any other food apart from breast milk at delivery		
Yes	21	8.3
No	231	91.7
Food given to baby apart from breast milk (n = 21)		
Infant formula	7	33.3
Water/sugar water	2	9.5
Medicine	3	14.3
No response	9	42.9
Who advised on giving supplement to baby (n = 21)		
The medical staff	8	38.1
My husband/partner	1	4.8
Other family member	2	9.5
I requested for it	1	4.8
Friends	5	23.8

No response	4	19.0

Table 6b: Delivery and breastfeeding practices (n=252)

Variables	Frequency	Percent (%)
Reason for supplement given to baby (n = 21)		
Medical staff recommendation	2	9.5
Mother was unwell	1	4.8
Baby was crying excessively	5	23.8
No breast milk	5	23.8
Baby unable to suckle	1	4.8
No response	7	33.3
Last child still breastfeeding(at time of interview)		
Yes	239	94.8
No	8	3.2
No response	5	2.0
Exclusive breastfeeding of last child for 6 months		
Yes	173	68.7
No	79	31.3
Duration of exclusive breastfeeding of last child (those who did not do 6 months EBF) (n = 79)		
Not at all	7	8.9
1 month	7	8.9
2 months	6	7.6
3 months	15	18.9
4 months	28	35.4
5 months	16	20.3
Reason for introduction of another food (n = 79)		
Baby cries often	47	59.4
Mother not producing milk	10	12.7
Advice from friends	9	11.4
Advice from family	6	7.6
Baby had abnormalities	1	1.3
Other	6	7.6
Supplement given to baby in addition to breast milk (n = 79)		
Plain water	61	77.2
Sugar water	1	1.3
Cereals/porridge	67	84.8
Formula milk	12	15.2
Gripe water	19	24.1
Herbal preparation	2	2.5

Other (Cow milk)	2	2.5

Table 6c: Delivery and breastfeeding practices

Variables	Frequency	Percent(%)
Reason for not introducing supplement to baby before 6 months (those who EBF)(n = 173)		
It is economical	57	33.0***
It protects babies from illness	157	90.8***
It promotes mothers health	28	16.2***
Other (Family planning)	2	1.2
Use of pacifiers (n = 252)		
Yes	4	1.6
No	223	88.5
No response	25	9.9

4.7 Support during breastfeeding

From table 7 below, majority of the respondents 245(97.2%) were encouraged to breastfeed, with the hospital staff being the major source of encouragement 238(97.1%). However, 246(97.6%) of respondents were encouraged to breastfeed exclusively.

Table 7: Support during breastfeeding (n=252)

Variables	Frequency	Percent (%)
Encouraged to breastfeed		
Yes	245	97.2
No	7	2.8
Source of encouragement (n = 245)		
Hospital staff	238	97.1***
Husband/partner	39	15.9***
Friends	10	4.1***
Grandmother	9	3.7***
Other family members	8	3.3***
Encouraged to breastfeed exclusively		
Yes	246	97.6
No	6	2.4
Source of encouragement for exclusive breastfeeding (n = 246)		
Hospital staff	241	97.9***
Husband/partner	19	7.7***

Friends	8	3.3***
Grandmother	2	0.8***
Other family members	8	3.3***

***** multiple responses**

4.8 Factors associated with exclusive breastfeeding

4.8.1 Socio-demographic characteristics associated with exclusive breastfeeding

The following socio-demographic characteristics were found to have statistical significant associations with exclusive breastfeeding. These are maternal education level (p-value=0.04), maternal religion (p-value=0.001) and husband's residence (p-value=0.001). This is illustrated in table (8a,8b and 8c) below.

Table 8a: Socio-demographic characteristics associated with exclusive breastfeeding (Bivariate analysis)

Variables	**Exclusive breastfeeding**		X^2
	Yes, n (%)	**No, n (%)**	**p-value**
Age of last child			0.5
6 months	24(64.9)	13(35.1)	
7 months	15(57.7)	11(42.3)	
8 months	30(69.8)	13(30.2)	
9 months	23(74.2)	8(25.8)	
10 months	19(59.4)	13(40.60	
11 months	32(78.1)	9(21.9)	
12 months	30(71.4)	12(28.6)	
Sex of child			0.4
Male	77(65.8)	40(34.2)	
Female	96(71.1)	39(28.9)	
Age of mother			+0.6
15-19 years	14(60.9)	9(39.1)	
20-24 years	42(65.6)	22(34.4)	
25-29 years	54(74.0)	19(26.0)	
30-34 years	42(66.7)	21(33.3)	
35-39 years	19(76.0)	6(24.0)	
40-44 years	2(50.0)	2(50.0)	
Marital status			+0.4
Single	27(73.0)	10(27.0)	
Married	142(68.6)	65(31.4)	
Divorced	2(66.7)	1(33.3)	

Separated	2(40.0)	3(60.0)

Table 8b: Socio-demographic characteristics associated with exclusive breastfeeding (Bivariate analysis)

Variables	Exclusive breastfeeding		X^2
	Yes, n (%)	No, n (%)	p-value
Mother's Educational Level			**+0.04***
No formal education	12(44.4)	15(55.6)	
Primary	46(75.4)	15(24.6)	
MSLC	2(66.7)	1(33.3)	
Junior high	88(67.7)	42(32.3)	
Senior high	21(77.8)	6(22.2)	
Tertiary	4(2.7)	0(0.0)	
Adult education	0(0.0)	0(0.0)	
Religion			**+<0.001***
Christianity	171(71.3)	69(28.8)	
Islam	1(11.1)	8(88.9)	
Traditional	1(33.3)	2(66.7)	
Other	0(0.0)	0(0.0)	
Mother's occupation			+0.1
Housewife	14(51.9)	13(48.1)	
Casual worker	8(88.9)	1(11.1)	
Self-employed	18(75.0)	6(25.0)	
Trading	60(75.9)	19(24.1)	
Farming	67(64.4)	37(35.6)	
Other	6(66.7)	3(33.3)	
Husband's educational level			+0.1
No formal education	17(53.1)	15(46.9)	
Primary	11(64.7)	6(35.3)	
MSLC	4(66.7)	2(33.3)	
Junior high	91(67.9)	43(32.1)	
Senior high	35(83.3)	7(16.7)	
Tertiary	15(71.4)	6(28.6)	
Adult education	0(0.0)	0(0.0)	
Husband's occupation			0.6
Casual worker	27(75.0)	9(25.0)	
Formal job	17(68.0)	8(32.0)	
Self-employed	129(67.5)	62(32.5)	
Number of children			0.7
One	36(76.6)	11(23.4)	
Two	48(66.7)	24(33.3)	
Three	52(66.7)	26(33.3)	
Four	19(63.3)	11(36.7)	
Five and above	18(72.0)	7(28.0)	

Table 8c: Socio-demographic characteristics associated with exclusive breastfeeding (Bivariate analysis)			
People living at residence			0.3
1-3 people	22(81.5)	5(18.5)	
3-5 people	88(66.2)	45(33.8)	
6 people and above	63(68.5)	29(31.5)	
Husband's residence			**+<0.001***
Live together	112(62.6)	67(37.4)	
Lives in same town but not same house	23(69.7)	10(30.3)	
Lives in another town	37(94.9)	2(5.1)	
Other	1(100.0)	0(0.0)	

***statistically significant (p<0.05)** **+ Fisher's exact**

4.8.2 Socio-economic characteristics of mother associated with exclusive breastfeeding

Table 9a, 9b and 9c below illustrate the associations determined by the bivariate analysis. The variables makeup of walls of building (p- value= 0.003 and makeup of floor of building (p-value= 0.02) were found to be significantly associated with exclusive breastfeeding. On the contrary, income, place of residence and expenditure were not significantly associated.

Table 9a:Socio-economic characteristics of mother associated with exclusive breastfeeding (bivariate analysis)

`Variables	**Exclusive breastfeeding**		***X²***
	Yes, n (%)	**No, n (%)**	**p-value**
Monthly income			+0.3
GH 100 and below	88(72.7)	33(27.3)	
Gh 200	41(68.3)	19(31.7)	
Gh 300	22(61.1)	14(38.9)	
Gh 400	13(54.2)	11(45.8)	
GH 500 and above	9(81.8)	2(18.2)	
Monthly expenditure			+0.4
GH 100 and below	110(71.9)	43(28.1)	
Gh 200	39(66.1)	20(33.9)	
Gh 300	15(55.6)	12(44.4)	
Gh 400	7(63.6)	4(36.4)	
GH 500 and above	2(100.0)	0(0.0)	

Table 9b: Socio-economic characteristics of respondents associated with exclusive breastfeeding (bivariate analysis)

Place of residence			+0.7
A rented house	20(71.4)	8(28.6)	
Own house	153(68.3)	71(31.7)	
Cost of a rented house			+0.3
Gh 10	5(83.3)	1(16.7)	
Gh 20	6(66.7)	3(33.3)	
Gh 30	4(57.1)	3(42.9)	
Gh 40	0(0.0)	1(100.0)	
GH 50 and above	5(100.0)	0(0.0)	
Number of rooms			+0.9
One room	39(68.4)	18(31.6)	
Two rooms	79(67.5)	38(32.5)	
Three rooms or more	55(70.5)	23(29.5)	
Makeup of walls of building			**+0.003***
Iron sheets	1(100.0)	0(0.0)	
Burnt bricks	35(87.5)	5(12.5)	
Mud and wooden poles	40(57.1)	30(42.9)	
Cement blocks	84(72.4)	32(27.6)	
Mud and cement	12(54.6)	10(45.5)	
Other	1(33.3)	2(66.7)	
Makeup of roof of building			+0.6
Iron sheets	125(70.6)	52(29.4)	
Plywood	3(75.0)	1(25.0)	
Tiles	2(66.7)	1(33.3)	
Thatch	42(64.6)	23(35.4)	
Other	1(33.3)	2(66.7)	
Makeup of floor of building			**+0.02***
Clay	40(56.3)	31(43.7)	
Cement	130(73.0)	48(27.0)	
Tiles	3(100.0)	0(0.0)	

Table 9c: Socio-economic characteristics of respondents associated with exclusive breastfeeding

Source of lighting			$^{+}$0.1
Kerosene lamp	25(53.2)	22(46.8)	
Gas lamp	1(100.0)	0(0.0)	
Electricity	139(72.0)	54(28.0)	
Solar lamp	4(66.7)	2(33.3)	
Candle	1(100.0)	0(0.0)	
Other	3(75.0)	1(25.0)	
Source of water			$^{+}$0.2
Rain water	15(83.3)	3(16.7)	
Tap water	26(74.3)	9(25.7)	
Borehole	78(62.4)	47(37.6)	
Stream	52(72.2)	20(27.8)	
Other	2(100.0)	0(0.0)	
Source of cooking fuel			$^{+}$0.2
Firewood	116(71.2)	47(28.8)	
Charcoal	48(62.3)	29(37.7)	
Gas	9(81.8)	2(18.2)	
Electricity	0(0.0)	1(100.0)	

***statistically significant (p<0.05)** **$^{+}$ Fisher's exact**

4.8.3 Association between information and knowledge on exclusive breastfeeding

The results from the bivariate analysis (Chi square test) shown in table 10 below suggest that, information on exclusive breastfeeding had statistical significant association with EBF (p=0.01) while time information on BF was received showed no association (p= 0.7).

Table 10: Information and knowledge on exclusive breastfeeding (bivariate analysis)

Variables	Exclusive breastfeeding		X^2
	Yes, n (%)	No, n (%)	p-value
Time information on breastfeeding was received			+0.7
During ANC clinics	73(66.4)	37(33.6)	
During delivery	8(57.1)	6(42.9)	
After delivery before discharge	50(74.6)	17(25.4)	
During postnatal clinics	22(68.8)	10(31.2)	
Other	20(69.0)	9(31.0)	
Information on exclusive breastfeeding			**+0.01***
Yes	172(69.9)	74(30.1)	
No	1(16.7)	5(83.3)	

***statistically significant (p<0.05)** **+ Fisher's exact**

4.8.4 Association between perceptions on breast feeding and breast milk and exclusive breastfeeding

The variables 'breastmilk alone without water can sustain the baby for the first six months' ($p < 0.001$) and 'semi-solid/solid foods should be introduced to the baby before six months of age' ($p < 0.001$) were significantly associated with exclusive breastfeeding as shown in table 11.

Table 11a: Association between perceptions on breast feeding and breast milk, and with exclusive breastfeeding

Variables	Exclusive breastfeeding		X^2 p-value
	Yes, n (%)	No, n (%)	
Breastfeeding should be the first feed a baby is given after birth			+0.3
Yes	173(70.0)	74(30.0)	
No	0(0.0)	1(100.0)	
Breast milk alone without water can sustain the baby for the first six months			**<0.001***
Yes	168(73.4)	61(26.6)	
No	5(26.3)	14(73.7)	
Breastfeeding protects baby against illnesses			+0.4
Yes	171(70.1)	73(29.9)	
No	2(50.0)	2(50.0)	
Expressed breast milk is poisonous			0.7
Yes	50(68.5)	23(31.5)	
No	123(70.3)	52(29.7)	
Expressed breast milk should not be fed to the baby when the mother is away			0.4
Yes	62(66.7)	31(33.3)	
No	111(71.6)	44(28.4)	
Colostrum is good and it should be fed to the baby			+0.6
Yes	162(69.2)	72(30.8)	
No	11(78.6)	3(21.4)	

Table 11b: Association between perceptions on breast feeding and breast milk, and with exclusive breastfeeding

The baby should be put to the breast after more than one hour to allow the mother to rest			0.4
Yes	47(66.2)	24(33.8)	
No	126(71.2)	51(28.8)	
Breastfeeding helps the mother not to get pregnant			0.6
Yes	143(70.4)	60(29.6)	
No	30(66.7)	15(33.3)	
Semi-solid/solid foods should be introduced to the baby before six months of age			**<0.001***
Yes	13(34.2)	25(65.8)	
No	160(76.2)	50(23.8)	

***statistically significant (p<0.05)** [+] **Fisher's exact**

4.8.5 Delivery and breastfeeding practices associated with exclusive breastfeeding (bivariate analysis)

Table 12 below shows the results of the bivariate analysis (Chi Square). The delivery and breastfeeding practices which showed significant association with exclusive breastfeeding include; ANC attendance (p = 0.03), number of ANC attendance (p = 0.004), commencement of ANC attendance (p = 0.03) and commencement of breastfeeding of last child (p <0.001).

Table 12: Association between delivery and breastfeeding practices and exclusive breastfeeding

Variables	Exclusive breastfeeding		X^2
	Yes, n (%)	No, n (%)	p-value
ANC attendance			**+0.03***
Yes	171(69.8)	74(30.2)	
No	2(28.6)	5(71.4)	
Number of attendance			**0.004***
1-2 times	12(66.7)	6(33.3)	
3-4 times	56(58.3)	40(41.7)	
5 times or more	103(78.6)	28(21.4)	
Commencement of ANC attendance			**0.03***
1-3 months	102(75.6)	33(24.4)	
4-5 months	56(66.7)	28(33.3)	
6 months and above	13(50.0)	13(50.0)	
Place of delivery			+0.1
Home	29(58.0)	21(42.0)	
Traditional birth attendant	14(58.3)	10(41.7)	
Hospital/clinic	128(72.7)	48(27.3)	
Other	2(100.0)	0(0.0)	
Type of delivery			+0.2
Vaginal delivery	162(68.9)	73(31.1)	
Caesarean section with general anaesthesia	4(100.0)	0(0.0)	
Caesarean section with spinal anaesthesia	7(53.9)	6(46.1)	
Commencement of breastfeeding of last child			**+<0.001***
within 1 hour after delivery	151(74.4)	52(25.6)	
after 1 hour but within 24 hours	10(28.6)	25(71.4)	
after 24 hours	12(85.7)	2(14.3)	

***statistically significant (p<0.05)** **+ Fisher's exact**

4.8.6 Association between support during breastfeeding and exclusive breastfeeding

From table 13 below, the chi square test of independence shows that 'encouragement to exclusively breastfeed' (p = 0.01) was statistically associated with exclusive breastfeeding.

Table 13: Association between support during breastfeeding and exclusive breastfeeding

Variables	**Exclusive breastfeeding**		X^2
	Yes, n(%)	**No, n (%)**	**p-value**
Encouraged to breastfeed			+0.6
Yes	169(69.0)	76(31.0)	
No	4(57.1)	3(42.9)	
Encouraged to breastfeed exclusively			**+0.01***
Yes	172(69.9)	74(30.1)	
No	1(16.7)	5(83.3)	

***statistically significant (p<0.05)** **+ Fisher's exact**

4.9 Logistic regression analysis of factors that affect exclusive breastfeeding

From the bivariate analysis done above, factors that were significantly associated with EBF were 13 in total. To further determine the strength of these associations, a simple logistic regression analysis was carried out on each of these factors. The results are represented n tables 14a and 14b below. After adjusting for other variables, 3 out of the 13 factors were found to be significantly associated with the outcome variable. These include, husband's residence (lives in another town) AOR 16.1 (95% Cl 1.9-133.2, p= 0.010), women who believe semi-solid/solid foods should not be introduced to the baby before six months of age 5.9 (95% Cl 1.8-18.7, p =0.002) and commencement of breastfeeding for last child (after 1 hour but within 24 hours) AOR 0.03 (95% Cl 0.009-0.1; p<0.001). Thus, women whose husbands were living in another town had higher odds of breastfeeding exclusively as compared with their counterparts whose husbands were living with them in the same town. Mothers who believed that semi-solid/ solid foods to the baby should be delayed until after 6 months also had higher odds of exclusively breastfeeding their babies compared to women who believed that semi-solid/ solid foods to the baby could be given before 6 months. Finally, women who introduced breastmilk after one hour but within 24 hours had higher odds of subsequently breastfeeding exclusively compared to those who initiated breastfeeding after 24 hours of delivery.

Table 14a: Factors associated with exclusive breastfeeding (multiple logistic regression with Crude Odds Ratios)

Variables	EBF Yes: n (%)	EBF, No (%)	COR (95% CI)	p-value
Mother's Educational Level				
No formal education	12(44.4)	15(55.6)	Reference	
Primary	46(75.4)	15(24.6)	**3.8 (1.5 - 9.9)**	**0.006**
Middle school leaving certificate	2(66.7)	1(33.3)	2.5 (0.2 - 30.9)	0.476
Junior high	88(67.7)	42(32.3)	**2.7 (1.1 - 6.1)**	**0.025**
Senior high	21(77.8)	6(22.2)	**4.4 (1.3 - 14.3)**	**0.014**
Tertiary	4(2.7)	0(0.0)	1	1
Religion				
Christianity	171(71.3)	69(28.8)	Reference	
Islam	1(11.1)	8(88.9)	**0.05 (0.006 - 0.4)**	**0.005**
Traditional	1(33.3)	2(66.7)	0.2 (0.02 - 2.3)	0.194
Husband's residence				
Live together	112(62.6)	67(37.4)	Reference	
Lives in same town but not same house	23(69.7)	10(30.3)	1.4 (0.6 - 3.1)	0.435
Lives in another town	37(94.9)	2(5.1)	**11.1 (2.6 - 47.4)**	**0.001**
Other	1(100.0)	0(0.0)	1	1
Makeup of walls of building				
Iron sheets	1(100.0)	0(0.0)	1	1
Burnt bricks	35(87.5)	5(12.5)	**14.0 (1.06 - 184.2)**	**0.045**
Mud and wooden poles	40(57.1)	30(42.9)	2.7 (0.2 - 30.8)	0.432
Cement blocks	84(72.4)	32(27.6)	5.3 (0.5 - 59.9)	0.182
Mud and cement	12(54.6)	10(45.5)	2.4 (0.2 - 30.5)	0.500
Other	1(33.3)	2(66.7)	1	1
Makeup of floor of building				
Clay	40(56.3)	31(43.7)	Reference	
Cement	130(73.0)	48(27.0)	**2.1 (1.2 - 3.7)**	**0.011**
Tiles	3(100.0)	0(0.0)	1	1
Information on exclusive breastfeeding				
Yes	172(69.9)	74(30.1)	Reference	
No	1(16.7)	5(83.3)	**0.09 (0.009 - 0.7)**	**0.026**

Breast milk alone without water can sustain the baby for the first six months				
Yes	168(73.4)	61(26.6)	Reference	
No	5(26.3)	14(73.7)	**0.1 (0.04 - 0.4)**	**<0.001**
Semi-solid/solid foods should be introduced to the baby before six months of age				
Yes	13(34.2)	25(65.8)	Reference	
No	160(76.2)	50(23.8)	**6.2 (2.9 - 12.9)**	**<0.001**
ANC attendance				
Yes	171(69.8)	74(30.2)	Reference	
No	2(28.6)	5(71.4)	**0.2 (0.03 - 0.9)**	**0.039**
Number of attendance				**0.004**
1-2 times	12(66.7)	6(33.3)	Reference	
3-4 times	56(58.3)	40(41.7)	0.7 (0.2 - 2.0)	0.182
5 times or more	103(78.6)	28(21.4)	1.8 (0.6 - 5.3)	0.500
Commencement of ANC attendance				
1-3 months	102(75.6)	33(24.4)	Reference	
4-5 months	56(66.7)	28(33.3)	0.6 (0.4 - 1.2)	0.155
6 months and above	13(50.0)	13(50.0)	**0.3 (0.1 - 0.8)**	**0.010**
Commencement of breastfeeding for last child				
Within 1 hour after delivery	102(75.6)	33(24.4)	Reference	
After 1 hour but within 24 hours	56(66.7)	28(33.3)	**0.1 (0.06 - 0.3)**	**<0.001**
After 24 hours	13(50.0)	13(50.0)	2.1 (0.4 - 9.5)	0.352
Encouraged to breastfeed exclusively				
Yes	172(69.9)	74(30.1)	Reference	
No	1(16.7)	5(83.3)	**0.09 (0.009 - 0.7)**	**0.026**

Table 14b: Factors associated with exclusive breastfeeding (multiple logistic regression with Adjusted Odds Ratios)

Variables	EBF, Yes	EBF, No	AOR (95% CI)	p-value
Mother's Educational Level				
No formal education	12(44.4)	15(55.6)	Reference	
Primary	46(75.4)	15(24.6)	2.6 (0.4 – 17.6)	0.330
Middle school leaving certificate	2(66.7)	1(33.3)	0.3 (0.01 – 10.1)	0.527
Junior high	88(67.7)	42(32.3)	0.9 (0.1 - 6.6)	0.983
Senior high	21(77.8)	6(22.2)	0.9 (0.1 – 8.8)	0.967
Tertiary	4(2.7)	0(0.0)	1	1
Religion				
Christianity	171(71.3)	69(28.8)		
Islam	1(11.1)	8(88.9)	1	1
Traditional	1(33.3)	2(66.7)	1	1
Husband's residence				
Live together	112(62.6)	67(37.4)		
Lives in same town but not same house	23(69.7)	10(30.3)	0.8 (0.2 – 2.9)	0.759
Lives in another town	37(94.9)	2(5.1)	**16.1 (1.9 – 133.2)**	**0.010**
Other	1(100.0)	0(0.0)	1	1
Makeup of walls of building				
Iron sheets	1(100.0)	0(0.0)	1	1
Burnt bricks	35(87.5)	5(12.5)	1	1
Mud and wooden poles	40(57.1)	30(42.9)	1	1
Cement blocks	84(72.4)	32(27.6)	1	1
Mud and cement	12(54.6)	10(45.5)	1	1
Other	1(33.3)	2(66.7)	1	1
Makeup of floor of building				
Clay	40(56.3)	31(43.7)		
Cement	130(73.0)	48(27.0)	1.07 (0.4 – 3.2)	0.897
Tiles	3(100.0)	0(0.0)	1	1
Information on exclusive breastfeeding				
Yes	172(69.9)	74(30.1)		
No	1(16.7)	5(83.3)	0.06 (0.003 – 1.5)	0.084

Breast milk alone without water can sustain the baby for the first six months				
Yes	168(73.4)	61(26.6)	Reference	
No	5(26.3)	14(73.7)	0.2 (0.02 – 1.04)	0.056
Semi-solid/solid foods should be introduced to the baby before six months of age				
Yes	13(34.2)	25(65.8)	Reference	
No	160(76.2)	50(23.8)	**5.9 (1.8 – 18.7)**	**0.002**
ANC attendance				
Yes	171(69.8)	74(30.2)	Reference	
No	2(28.6)	5(71.4)	1	1
Number of attendance				
1-2 times	12(66.7)	6(33.3)	Reference	
3-4 times	56(58.3)	40(41.7)	1	1
5 times or more	103(78.6)	28(21.4)	1	1
Commencement of ANC attendance				
1-3 months	102(75.6)	33(24.4)	Reference	
4-5 months	56(66.7)	28(33.3)	0.8 (0.3 – 2.1)	0.704
6 months and above	13(50.0)	13(50.0)	0.6 (0.2 – 2.2)	0.437
Commencement of breastfeeding for last child				
Within 1 hour after delivery	102(75.6)	33(24.4)	Reference	
After 1 hour but within 24 hours	56(66.7)	28(33.3)	**0.03 (0.009 – 0.1)**	**<0.001**
After 24 hours	13(50.0)	13(50.0)	1.9 (0.2 – 15.9)	0.531
Encouraged to breastfeed exclusively			Reference	
Yes	172(69.9)	74(30.1)		
No	1(16.7)	5(83.3)	0.6 (0.02 – 16.3)	0.767

4.10 Challenges of practicing exclusive breast feeding

Table 15 shows the challenges of practicing exclusive breastfeeding. Majority of respondents had no problems with breastfeeding 228(90.5%). Majority of the respondents were in good health during the first six months of delivery 235(93.3%). Also, 224(88.9%) had healthy babies during the first six months of life. However, majority of those who had sick infants during the first six months of life indicated that breast feeding was not affected 19(67.9%), with fever being the illness suffered by majority of infants 18(64.3%).

Table 13: Challenges practicing exclusive breastfeeding (n=252)

Variables	Frequency	Percent (%)
Problems with breastfeeding		
Yes	24	9.5
No	228	90.5
Problems encountered (n = 24)		
Inadequate milk	3	12.5***
Engorged breast	12	50.0***
Painful and warm breast	3	12.5
Baby refused to breastfeed	2	8.3***
Cracked/sore nipples	6	25.0
Other(Flat nipple)	1	4.2
Sick mother during first 6 months of delivery		
Yes	17	6.8
No	235	93.3
Separation from baby due to sickness		
Yes	3	17.7
No	14	82.4
Duration of separation from baby		
1-3 days	2	66.7
1 week and above	1	33.3
Sick infant during first 6 months of life		
Yes	28	11.1
No	224	88.9

Sickness affected breastfeeding (n = 28)		
Yes	9	32.1
No	19	67.9
Type of illness (n = 28)		
Fever	18	64.3***
Diarrhoea	10	35.7***
Cough	8	28.6***
Other(Nasal congestion)	1	3.6

*****multiple responses**

4.11 Chapter summary

This chapter presented the results of the study. The results indicated that the prevalence of exclusive breastfeeding was not universal. A number of socio-demographic, maternal factors, societal and spousal factors significantly predicted exclusive breastfeeding. The next chapter discusses these findings.

CHAPTER 5

DISCUSSION

5.0 Introduction

This chapter discusses the findings of the study. The discussion comprises a summary of the main findings, comparison of the findings with existing studies, explanations of the findings, and the strength and limitations of the study.

5.1 Summary of Findings

This study sought to assess exclusive breastfeeding among informal sector working mothers in the Adaklu district. Only 173(68.7%) of the respondents breastfed exclusively for 6 months. The study also determined that, all 252 respondents had knowledge and information about breastfeeding, and 242(98.4%) out of 246 respondents who had information on EBF demonstrated good understanding of the principles of EBF. Generally, more than two thirds of the respondents stated that breast milk should be the first feed of the baby till 6 months, and 92% felt breastmilk could sustain babies for the first 6 months of the infant's life.

After accounting for potential confounders, three factors significantly predicted exclusive breastfeeding, namely husband's residence (lives in another town) AOR 16.1 (95% CI 1.9-133.2, p= 0.010), women who believed semi-solid/solid foods should not be introduced to the baby before six months of age 5.9 (95% CI 1.8-18.7, p =0.002), and commencement of breastfeeding for last child (after 1 hour but within 24 hours) AOR 0.03 (95% CI 0.009-0.1; p<0.001). Finally, many mothers experienced some breastfeeding problems such as breast engorgement, cracked/ sore nipples, insufficient breastmilk, babies refusing to breastfeed and painful breast.

5.2 Consistency with existing studies

5.2.1 Objective 1: Prevalence of exclusive breastfeeding among working mothers in the informal sector during their most recent birth.

This study's findings have similarities with some previous studies. According to a study done by Gao et al. (2016) in Deyang region, Sichuan province of China, about 104(99%) of their respondents drawn from 5 rural clinics from rural settlement initiated breastfeeding after delivery. This is not too different from the finding of this study in which 100% had initiated breastfeeding. However only 6.1% of their respondents exclusively breastfed (Gao et al., 2016) and this is in contrast to the finding of this study which recorded 68.7% EBF. The EBF rate in this study is however similar to Kumar, Acharya, Acharya, Shravani, & Ramya's (2017) study which was conducted in Northwest India reported that 68% of respondents from their study did EBF.

Findings from a study done in Tema, Ghana, revealed that there was a universal knowledge on EBF but only 66% of respondents had exclusively breastfed their infants (Asare, Preko, Baafi, & Dwumfour-Asare, 2018) and this is not too different from the findings of this study in which 246(97.6%) had knowledge on EBF but out of this number about 172 (69.9%) practiced EBF. Again in Imo State, Nigeria, 89% of mothers in rural settlement had some knowledge on EBF but only 57.8% had breastfed exclusively (Maduforo & Onuoha, 2015). This indicates that awareness on EBF and practice among mothers in Adaklu is higher than in Imo state.

Concerning prevalence of EBF, this study found a 16.7% higher rate than the reported national rate, which is 52% (Okertchiri, 2016). It is also higher than that of Tampah-Naah & Kumi-Kyereme (2013) who found 64% in their study conducted across Ghana, as well

as the 8.1% found by both Gyasi (2008) and Pedovoah (2015) in separate studies conducted in the Bibiani-Anhwiaso-Bekwai and Kumbungu districts in Ghana respectively, and 8.4% by Sika-Bright & Oduro (2013). While the study conducted by Gyasi (2008) involved 369 mothers of children less than 2 years that of Pedovoah (2015) concerned 274 mothers of children aged between 0-23 months. Elsewhere in Ethiopia, prevalence of EBF was reported to be 273(64.8%) out of 421 respondents who had babies aged 0-6 months (Kelaye, 2017). Additionally, Patil, Hasamnis, & Khan (2009) whose participants were 200 mothers of infants of 6-12 months old reported a prevalence of 123(61.5%) in Western India.

5.2.2 Objective 2: Factors associated with exclusive breastfeeding among working mothers in the informal sector.

This study also found that "husband's residence" was a significant predictor of exclusive breastfeeding AOR 16.1(95% Cl 1.9-133.2; p=0.01). This finding is in contrast with other previous studies. For instance, Falceto, Giugliani, & Fernandes (2004) found no significant association between parents who either lived together or apart and exclusive breastfeeding in their study conducted in Brazil. They further went on to state that good marital relationships was not indicated to have affected breastfeeding in anyway.

Maternal perception that semi-solid/solid food should not be fed to infant before age 6 months was also a predictor of EBF AOR 5.9(1.8-18.7; 0.002). A similar result was found in Vietnam in which mothers who breastfed exclusively (4 months in accordance with Vietnamese policy then) perceived that breastmilk was enough for the baby (Dearden et al., 2002). According to Dhakal, Lee, & Nam (2017), mothers who are from Democratic Republic of Congo who know that their babies must be fed other feeds only after 6 months

and above are about 1.78 times (AOR=1.78; (95% CI, 1.33 to 2.38) more likely to feed their infants only breastmilk for 6 months compared to those do not know.

5.2.3 Challenges associated with exclusive breastfeeding among working mothers in the informal sector.

With regards to problems experienced by mothers in relation to breastfeeding, engorged breast (50%), cracked/ sore nipple (25%), inadequate milk (12.5%) and painful warm breast (12.5%) were the problems identified. It is important to note that these problems have been found in other studies as well. For example, breast engorgement, insufficient milk supply, sore nipples and painful breast were problems identified as being related to breastfeeding (Giugliani, 2004). Again, among 445 respondents in a study done in Jakarta, Indonesia, sore nipple (34%), breastmilk insufficiency (33%) and inflammation of the breast (14%) (Februhartanty, Bardosono, & Septiari, 2006) were identified as key problems.

5.3 Explanation of Findings

A number of findings from this study deserve further explanation and commentary. To begin with, the relatively high rate of EBF reported in this study could be explained by the fact that EBF is a recommendation that healthcare providers give to mothers. As such education about EBF is usually provided by healthcare providers during antenatal and the postnatal periods. Awareness among mothers about the importance or the benefits of BF and EBF to their infants as well as to themselves may therefore have contributed to the relatively high exclusive breastfeeding rate reported in this study.

The EBF rate documented in this study however differed markedly from many other studies. A number of factors could explain these difference. Apart from contextual

differences, differences in the various EBF rates could be attributed to sample size differences. For instance, while this study studied 252 respondents, Tampah-Naah & Kumi-Kyereme (2013) studied 316. Additionally, while their study was conducted across Ghana, this one was only done in one (1) district in Ghana. Also, recall of breastfeeding practices could also be a contributing factor to the differences in prevalence. Generally it was observed that knowledge on EBF was encouraging across all studies. The increase in knowledge may be due to information given to expectant mothers before, during and after pregnancy. Apart from this, information on EBF is also broadcast on televisions on radios. More women possess either of these two, which could have contributed to many of the women receiving these messages each day and subsequently translating the messages into practice.

Women who initiate breastfeeding on time are likely to exclusively breastfeed for 6 months based on the assumption that, they develop more confidence in breastfeeding and might have established a bond between them and their newborns. Additionally, early breastfeeding promotes early lactation hence babies who breastfeed earlier are at higher odds of being exclusively breastfed.

Considering the effect of male involvement has on EBF, the finding related to association between husband's residence and EBF is quite surprising. While the wide confidence interval obtained in this study could be attributed to smaller sample size, it suggests a need for more studies to understand this relationship. In this study, women whose husbands live elsewhere rather than together were more likely to practice EBF. There are no previous evidence or clear theoretical explanations for this. However, this finding could be explained by the fact that mothers who live alone may have the opportunity to take

decisions in favour of exclusive breastfeeding without the usual influence of husbands and partners. Odindo et al. (2014) found from a secondary data in a study conducted among women aged 15-49 years and with children less than 5 years in Kenya that single mothers were more likely to practice EBF. According to them, single mothers were two times more likely to practice EBF, and this could be attributed to the fact that they have much more freedom in managing their own affairs when compared with those who were with partners (Odindo et al., 2014). Their finding may be more substantive owing to the fact that the sample size used was 2805. Therefore, the explanation concerning "husbands' residence" and exclusive breastfeeding however needs further empirical investigation to establish its relevance in the practice of EBF.

Further, some mothers in this study had introduced food (semi-solid/solid) to the baby before 6 months because of the perception that breastmilk alone was not sufficient to sustain the baby for 6 month. Usually, when mothers believe their infants are being less nourished with the breast milk, they resort to feeding them with water or porridge especially from 2 months (Desai et al., 2014). This conclusion was drawn from a study involving 295 nursing mothers whose babies were aged less than 6 months in rural Zimbabwe. Some others also do so because of work schedule which does not allow them have enough time with their infants. To support this argument, Swaminathan (1997) stated that women in India usually give up formal work for informal work so as to gain some flexibility in their schedules to be able to attend to the needs of their infants. Apart from these, it has been argued that mothers' poor nutrition could also promote introduction of food before age 6 months.

5.4 Strengths and Limitations

The study was conducted across the entire district of Adaklu, which meant that all sub-districts were represented in the study. The findings provide new information concerning exclusive breastfeeding in the Adaklu District, which could be used to guide local interventions and policies on exclusive breastfeeding.

However, some limitations of the study are the period for recall of information on the breastfeeding practices of respondents. The study's retrospective nature meant that some respondents may not have accurately recollected what actually transpired during the first 6 months period. Additionally, the use of structured data collecting instrument (i.e. questionnaires) made it impossible for respondents to give additional information on the subject matter. Future research may consider additional qualitative methods either as stand-alone study or complementary method to a survey.

Further, the findings cannot be generalized as the study was a facility based study. This means that women who do not attend CWC in these facilities may either have different responses. Finally, the findings may also not be applicable to women who work in the formal sector as they were not involved in the study.

5.5 Chapter summary

This chapter discussed the findings of the study. The discussion suggested that although majority of mothers initiated breastfeeding after birth, exclusive breastfeeding was limited to only about a little above half of the respondents. The discussion highlighted a need for interventions to address possible barriers to exclusive breastfeeding in the Adaklu district. The next chapter offers recommendations in the light of the forgoing results and discussion.

CHAPTER 6

CONCLUSION AND RECOMMENDATION

6.0 Conclusion

The main aim of the study was to determine the prevalence of EBF and factors associated with EBF practice in the Adaklu district. Facility based cross-sectional survey was done among 252 mothers with infants of ages 6-12 completed months. Findings suggest that although promoting exclusive breastfeeding is beneficial for both baby and mother, its practice is not universal among the mothers surveyed in this study. On this basis, it is concluded that if improvements in exclusive breastfeeding rate and child health are to occur, the factors that affect the practice of exclusive breastfeeding among women in the informal sector in the Adaklu need to be urgently addressed.

6.2 Recommendations

Based on the findings and conclusion of the study, the following recommendations are hereby made.

1. The Ghana health service in the Adaklu district should embark on continuous and targeted breastfeeding/exclusive breastfeeding education. This could be done both during ANC and in the early postnatal period in child welfare clinics as well as through community outreach and media education.
2. From the study, some health staff encouraged the introduction of infant formula which is against the BFHI policy. Hospital staff should be trained by the Ghana health service as well as other donor agencies such as UNICEF on encouraging clients to breastfeed rather than going contrary to the recommended practices. If possible, a sanctions regime should be developed (where there is none) by the

Ghana Health Service together with other private providers and implemented in all health facilities where maternal and child healthcare services are provided. Sanctions for healthcare providers who actively encourage or promote infant formula without any just course could range from admonishment to suspension from work for a limited period of time. This is supported by statement 15 on "offences and penalties" on page 257 in the Ghana Breastfeeding Promotion Regulations of year 2000 (Parliament of Ghana, 2000).

3. Findings also showed that mothers who initiated breastfeeding after 1 hour post-delivery but within 24 hours had increased chances of breastfeeding exclusively when compared with those who breastfed 24 hours after delivery. It is recommended that mothers should be supported to initiate breastfeeding at least within 30-60 minutes and at most within 24 hours after delivery so as to increase the chances of exclusive breastfeeding.
4. Finally, it is recommended that further studies (qualitative and quantitative) be done on a larger scale to further investigate some of the relationships between some of independent variables and EBF. For instance the association between "husbands' residence" and exclusive breastfeeding is curious.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

School Of Public Health

College of Health Sciences

University Of Ghana

The researcher is a student of the School of Public Health, University of Ghana pursuing Master of Public Health degree. She is **"ASSESSING EXCLUSIVE BREASTFEEDING AMONG INFORMAL SECTOR WORKING MOTHERS IN ADAKLU DISTRICT"**. Kindly respond to the following questions accordingly. Your responses will be duly appreciated and treated with utmost confidentiality. Be informed that this study is for academic purposes only.

QUESTIONNAIRE ID NO…… Village name…….....Facility name..... Name of the interviewer……..……

Respondent ID:…….. Date of interview……Time started……..…Time finished……...…….

Questionnaire checked for completeness: Yes ( ) No ( )

SECTION A: INFANT DATA

A1.Child's ID No:……..

A2.Sex 1- Male ( ) 2- Female ( )

A3.Date of birth (please write):……..

A4.How old is your last child? (Tick where applicable)

1- 6 months ( )
2- 7 months ( )
3- 8 months ( )
4- 9 months ( )
5- 10 months ( )
6- 11 months ( )
7- 12 months ( )

A5.Infants's birth weight (please write)…….(kg)

SECTION B: SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE MOTHER

B1. How old are you? (Tick where appropriate)

1- 15-19 years ( )
2- 20-24 years ( )
3- 25-29 years ( )
4- 30-34 years ( )
5- 35-39 years ( )
6- 40- 44 years ( )
7- 45-49 years ( )

B2. Marital status (Tick where appropriate)

1- Single ( )
2- Married ( )
3- Divorced ( )
4- Separated ( )
5- Widow ( )

B3. Level of education (Tick were appropriate)

1- No formal education ( )
2- Some primary/Primary ( )
3- Middle School Leaving Certificate ( )
4- JSS ( )
5- SSS ( )
6- Tertiary ( )
7- Adult Education Only ( )

B4. What is your religion? (Tick where appropriate)

1- Christianity ( )
2- Islam ( )
3- Traditional ( )
4- Other(specify)…….

B5. What is your occupation? (Tick where appropriate)

1- Housewife ( )
2- Casual worker ( )
3- Self-employed ( )
4- Trading ( )
5- Farming ( )
6- Other (Specify)……..:……..

B6.What is your husband/partner's education level? (Tick where appropriate)

1- No formal education ( )
2- Some primary/Primary ( )
3- Middle School Leaving Certificate ( )
4- JSS ( )

5- SSS ( )
6- Tertiary ( )
7- Adult Education Only ( )

B7.What is your husband/partner's occupation?

1- Casual worker ( )
2- Formal/regular job (specify type of job)……( )
3- 3- Self-employed ( )

B8. How many children do you have? (Tick where appropriate)

1- 1 ( )
2- 2 ( )
3- 3 ( )
4- 4 ( )
5- 5 and above ( )

B9.How many people live in your house (including you)?

1- 1-3 people ( )
2- 3-5 people ( )
3- 6 people and above ( )

B10.where does your husband/partner live?

1- We live together ( )
2- He lives in the same town but no in the same house ( )
3- He lives in another town ( )
(specify another town please)……..
4- Other (specify) ……

SECTION C: SOCIO-ECONOMIC CHARACTERISTICS OF MOTHER

C1. What are your sources of income? (Tick all responses that apply)

1- Own business ( )
2- Husband ( )
3- Other(Specify):…… …….

C2.What is your estimated monthly income?

1- Gh₵ 100 and below ( )
2- Gh₵ 200 ( )
3- Gh₵ 300 ( )
4- Gh₵ 400 ( )
5- Gh₵ 500 and above ( )

C3.What is your estimated monthly expenditure?

1- Gh₵ 100 and below ( )
2- Gh₵ 200 ( )
3- Gh₵ 300 ( )
4- Gh₵ 400 ( )
5- Gh₵ 500 and above

C4. Do you live in:

1- A rented house ( )
2- Own house ( )

C5. If rented, how much do you pay per month?

1- GhȻ10 ( )
2- GhȻ 20 ( )
3- GhȻ 30 ( )
4- GhȻ 40 ( )
5- GhȻ 50 and above

C6. How many rooms do you have in the house?

1- 1 room ( )
2- 2 rooms ( )
3- 3 rooms and above ( )

C7. Evaluation of living conditions:

a. Wall is made of
1- Iron sheets ( )
2- Burnt bricks ( )
3- Mud and wooden poles ( )
4- Cement/stone blocks ( )
5- mud and cement ( )
6- Other (specify)……

b. Roof is made of
1- Iron sheets ( )
2- Plywood ( )
3- Tiles ( )
4- Thatch ( )
5- Other (specify)……

c. Floor is made of:
1- Clay ( )
2- Cement ( )
3- Tiles ( )
4- Other (Specify)……..

C8. What is your main source of lighting?

1- Kerosene lamp ( )
2- Gas lamp ( )
3- Electricity ( )
4- Solar lamp ( )
5- Candle ( )
6- Other (specify)……

C9. What is your main source of water?

1- Rain water ( )
2- Tap water ( )
3- Borehole ( )

4- Stream ( )
5- Other (specify)……

C10. If stream, do animals drink from this source?

1- Yes ( ) 2- No ( )

C11. What is your main source of cooking fuel?

1- Firewood ( )
2- Charcoal ( )
3- Gas ( )
4- Electricity ( )
5- Other (Specify) ……

C12. Which of these do you possess? (Tick all that apply)

1- Television ( )
2- Multi TV ( )
3- Radio ( )
4- Phone ( )
5- Bicycle ( )
6- Car ( )
7- Motorbike ( )
8- Video player(VCD/DVD) ( )
9- Land ( )
how many acres? 1- 1 acre ( ) 2- 2 acres ( ) 3- 3 acres and above ( )

10- Cows ( ) how many?.....
11- Goats ( ) how many?.....
12- Sheep ( ) how many?.....
13- Poultry ( ) how many?.....
14- Other (specify)……

SECTION D: KNOWLEDGE, PERCEPTION AND ATTITUDE ON EXCLUSIVE BREASTFEEDING PRACTICE

D1. Did you receive any information on breastfeeding?

1-Yes ( ) 2- No ( )

If No skip to D4

D2. If YES, what was the source of information?

1- Hospital/health centre ( )
2- Traditional birth attendant ( )
3- Family/friends ( )
4- Media (radio,tv,etc) ( )

5- Other (specify)……

D3. When did you receive information on breastfeeding?

1- During antenatal clinics ( )
2- During delivery ( )
3- After delivery before discharge ( )
4- During postnatal clinics ( )
5- Other (specify)……

D4. Do you know about exclusive breastfeeding?

1- Yes ( ) 2-No ( )

If No skip to Section E

D5. If YES, what is it?

1- Feeding the baby with formula immediately after birth ( )
2- Giving the baby water and 'koko' from birth ( )
3- Giving only breastmilk to the baby for completed six months ( )

Tick the most appropriate response

	Yes (1)	No (2)
D6. Breastfeeding should be the first feed a baby is given after birth	( )	( )
D7. Breastmilk alone without water can sustain the baby For the first six month	( )	( )
D8.Breastfeeding protects baby against illnesses	( )	( )
D9. Expressed breast milk is poisonous	( )	( )
D10. Expressed breastmilk should not be fed to the baby when the mother is away	( )	( )
D11.Colostrum is good and it should be fed to the baby	( )	( )
D12.The baby should be put to the breast after more than one hour to allow the mother to rest	( )	( )
D13.Breastfeeding helps the mother not to get pregnant	( )	( )
D14.Semi-solid/solid foods should be introduced to the baby before six months of age	( )	( )

SECTION E: DELIVERY AND BREASTFEEDING PRACTICES

E1.Did you attend antenatal before your delivery?

1- Yes ( ) 2- No ( )

If No skip to E3

E2. If yes, how many times did you attend?

1- 1-2 times ( )
2- 3-4 times ( )
3- 5 times and above ( )

E3. When did you start attending Antenatal care **(confirm from ANC card)**

1. 1-3 months ( )
2. 4-5 months ( )
3. 6 months and above ( )

E3.Where did you deliver?

1- Home ( )
2- Traditional birth Attendant ( )
3- Hospital /clinic ( )
4- Other (specify)……

E4.What type of delivery did you have?

1- Vaginal delivery ( )
2- Caesarean section with general anaesthesia ( )
3- Caesarean section with spinal anaesthesia ( )
4- Other (specify)…….....

E5. When did you first breastfeed your last child?

1- Within 1 hour after delivery ( )
2- After 1 hour but within 24-hours ( )
3- After 24- hours ( )
4- Not at all ( )

E6.Was your baby given anything apart from breast milk where you delivered?

1- Yes ( ) 2- No ( )

E7. If yes, what was given to the baby?

1- Infant formula ( )
2- Water/sugar water ( )
3- Medicine ( )
4- Other (please specify) ( )

E8.If **Yes** who advised or gave the supplement to your baby?

1- The medical staff ( )
2- My husband/partner ( )
3- Other family member ( )
4- I requested for it ( )
5- Other (specify)…….

E8.If **Yes** to **E6** why was the baby given other thing apart from breastmilk? (**tick all that apply**)

1- Medical staff recommended the supplements, but didn't say why ( )
2- Mother was unwell ( )

3- Baby was crying excessively ( )
4- No breastmilk ( )
5- I didn't want to breastfeed ( )
6- Other (specify)…….

E9.Is your last child still breastfeeding?

1- Yes ( ) 2- No ( )

E10.Did you breastfeed your last child exclusively for 6 months?

1- Yes ( ) 2- No ( )

If Yes skip to E14

E11. If No, how long did you exclusively breastfeed your last child?

1- Not at all ( )
2- 1 month ( )
3- 2 months ( )
4- 3 months ( )
5- 4 months ( )
6- 5 months ( )

E12. Why did you introduce other him/her to other food or drink?

1- Baby cries often ( )
2- Mother not producing milk ( )
3- Baby was ill and separated from mother ( )
4- Advice from friends ( )
5- Advice from family ( )
6- Baby had low birth weight ( )
7- Baby had abnormalities(tongue-tie,clept lip or /and palate ( )
8- baby had suckling challenges ( )
9- Other (specify)……

E13. Which food/drink did you give in addition to the breastmilk?

1- Plain water ( )
2- Sugar water ( )
3- Cereals/Porridge ( )
4- Formula milk ( )
5- Gripe water ( )
6- Herbal preparation ( )
7- Other (specify)……

E14.Why didn't you introduce food /drink to the baby before six (6) months?

(To be answered by those who did 6 months exclusive breastfeeding)

1- It is economical ( )
2- It helps protect babies from illness ( )
3- It promotes mothers health ( )
4- Other (specify)**……**

E15.Did your baby ever use pacifiers?

1- Yes ( ) 2-No ( )

SECTION F: PROTECTION, PROMOTION AND SUPPORT DURING BREASTFEEDING

F1. Did you get encouragement to breastfeed?

1- Yes ( ) 2-No ( )

F2. If YES, from who?

1- Hospital staff ( )
2- Husband/partner ( )
3- Friends ( )
4- Grandmother ( )
5- Other (specify)…….……

F3. Did you receive encouragement to breastfeed exclusively?

1- Yes ( ) 2-No ( )

F4. If YES, from who?

1- Hospital staff ( )
2- Husband/partner ( )
3- Friends ( )
4- Grandmother ( )
5- Other (specify)……

SECTION G: CULTURAL BELIEFS ON BREASTFEEDING /EXCLUSIVE BREASTFEEDING

G1.Does your culture allow feeding an infant only breastmilk for 6 months?

1- Yes ( ) 2-No ( )

G2. If No, why?.....

……

……

G3.What does your community think of expressed breast milk to feed an infant?

1- Nothing ( )
2- Poisonous ( )
3- Just like mother is feeding her infant ( )
4- Taboo ( )
5- Other (specify):……

SECTION H: CHALLENGES OF PRACTICING EXCLUSIVE BREASTFEEDING

H1.Did you experience any problems with breastfeeding

1- Yes ( ) 2- No ( )

If No,skip to H5

H2. If Yes,what problems did you encounter?(tick all that apply)

1- Inadequate milk
2- Engorged breast
3- Painful and warm breast
4- Baby refused to breastfeed
5- Cracked/sore nipples

6- Other (specify)

H3.Did the problem interfere with breastfeeding?

1- Yes ( ) 2- No ( )

H4.How did the problem interfere with breastfeeding? (briefly describe below)

……

……

……

H5.Did you the mother fall sick during the first 6 months of delivery?

1- Yes ( ) 2-No ( )

H6.Did your sickness separate you from your baby?

1- Yes ( ) 2- No ( )

H7.How long were you separated from your infant?

1- 1-3days ( )
2- 4-6days ( )
3- 1 week and above ( )

H8.Did your child fall sick with the first 6 months of life?

1- Yes ( ) 2- No ( )

H9.Did the illness affect breastfeeding?

1- Yes ( ) 2- No ( )

H10. How did it affect breastfeeding If YES?

……

……

……H11What illness was the child suffering from?

1- Fever
2- Diarrhoea
3- Vomiting
4- Cough
5- Other
(specify)……..

THANK YOU FOR YOUR PARTICIPATION

APPENDIX 2: PARTICIPANT INFORMATION SHEET

Project tittle

"ASSESSING EXCLUSIVE BREASTFEEDING AMONG INFORMAL SECTOR WORKING MOTHERS IN ADAKLU DISTRICT"

Section A. Name and address of Principal Investigator

Cheritta Attivor, Department of Population, Family and Reproductive Health, School of Public Health, University of Ghana, Legon- Accra.

Or

P.O.Box MW 97, Ho.

Mobile: +233 (0) 244186849

Email address: cherama27@gmail.com

Institution affiliated

School of Public Health, University of Ghana, Legon - Accra.

Introduction

I am a student from the School of Public Health, University of Ghana conducting a research to assess exclusive breastfeeding among informal sector working mothers who have children of the ages 6-12 months in the Adaklu District. The study seeks to unearth the proportion of mothers who exclusively breastfed, identify factors associated with exclusive breastfeeding as well as examine the challenges associated with exclusive breastfeeding.

The study is quantitative in nature and questionnaire will be administered for the data collection. The questionnaire has seven (7) sections with an average of 10 questions each. You will need to respond either by providing short responses or choose from options that have been provided. Duration of answering the questionnaire will take 20 minutes.

Please kindly spend some few minutes to fill the questionnaire. All information collected will be treated strictly as confidential and no one will be able to trace any information back to you. Please be informed that, this study is just for academic purposes. You can at any point opt out of the study however, your participation will be much appreciated for the success of the study.

Procedure

The study is targeted at mothers working in the informal sector who are resident in Adaklu District and have children between 6 -12 months. Selection of participants will be done by random sampling. Participants will be made to complete a questionnaire and returned to the principal investigator.

Risks and benefits

There shall not be any payment for participating. You may feel uncomfortable with some of the questions however, they will be helpful for the purpose of the study and may help modify policies on exclusive breastfeeding.

Compensation

Right to refuse

Your consent to participate in this study is voluntary. You are not under any obligation to participate and you are at liberty to withdraw from this study at any point in time. However, I will greatly appreciate it if you can complete it.

Anonymity and Confidentiality

Be assured that any information you shall give will purposely be used for the research. Any information given will be treated with utmost confidentiality as your name will not be used in any report but your great ideas and suggestions will help us design programmes and policies that will improve exclusive breastfeeding practices.

Your rights as a participant

You will receive copies of signed or thumb printed information sheet and consent forms. If you have any questions about your rights as a research participant, you can contact the

researcher Cheritta Attivor on 0244186849 or the Ethical Review Committee Administrator Ms. Hannah Frimpong on 0507041223.

Section B: Consent Form

I declare that I have read or I have had someone read all of the above information, asked questions, received answers regarding participation in this study, and I am willing to give my consent to participate in this study. I will not have waived any of my rights by signing this consent form. Upon signing this consent form, I have agreed to be a participant.

…….

Name of Participant

…….. **……**

Signature or thumbprint of Participant **Date**

Translators Declaration:

I declare that I read and have translated the information on the study, benefits, risks and all procedures to the participant in a language she understands (**NB: put language here:** ……) in the presence of a witness.

…… …… ……..

Name of translator **Sign/Thumbprint** **Date**

I was present while the information on the res, benefits, risks and procedures were read and explained to the participant. All questions were answered and the participant/ has agreed to take part in the research.

……..

Name of witness

…….

…….

Signature /thumbprint of witness **Date**

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

……

Name of Person Who Obtained Consent

…… …….

Signature of Person Who Obtained Consent **Date**

APPENDIX 3: ETHICAL APPROVAL LETTER

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax + 233-302-685424
Email: ghserc@gmail.com

MyRef. GHS/RDD/ERC/Admin/App/18/294
Your Ref. No.

8th June, 2018

Cheritta Attivor
University of Ghana
School of Public Health
Legon, Accra

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	**GHS-ERC018/05/18**
Project Title	Assessing Exclusive Breastfeeding among Informal Sector Working Mothers in the Adaklu District
Approval Date	8th June,2018
Expiry Date	7th June, 2019
GHS-ERC Decision	**Approved**

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report **after completion** of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.

Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra