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SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

FACTORS ASSOCIATED WITH EXCLUSIVE BREASTFEEDING AMONG BREASTFEEDING MOTHERS IN KOFORIDUA MUNICIPALITY

BY

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DECLARATION

I, Abigail Doduwah Sackey, hereby declare that this thesis is almost entirely my own work except other people's investigations which have been indicated and acknowledged. This dissertation has not been submitted elsewhere for another degree either in whole or part.

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Date: 20/06/2022

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DEDICATION

This project is dedicated to my mother, Mrs. Lucy Sackey and my father, Mr. Francis Quabu Sackey for their immense support throughout this phase of my life.

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ACKNOWLEDGEMENT

First and foremost, I wish to express my sincere gratitude to Jehovah I Am that I Am for being my constant help in all things.

To my supervisor, Dr. Juliana Enos, for her guidance and patience through this project. Also, to the management, staff and patients of Eastern Regional Hospital who gave me their permission to collect data at their facility.

Finally, to my parents, brothers, husband and friends for their financial, physical and emotional support which have brought me this far. Not forgetting my children, Boahemaa Lyubov and Ekuban Slava for being my driving force to be a better health worker.

May God bless and sustain you!

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ABSTRACT

About 595,379 children die globally as a result of not being breastfed every year. The prevalence of exclusive breastfeeding of babies is low worldwide. Globally 43% of infants are breastfed exclusively whereas 37% and 36% in developing countries and sub-Sahara Africa, respectively. In Ghana, the prevalence of exclusive breastfeeding has declined from 52% in 2014 to 43% in 2018. Understanding the factors influencing the practice of exclusive breastfeeding is critical to developing appropriate strategies to promote the practice. Hence, this study aims to determine the factors associated with exclusive breastfeeding among mothers in Koforidua municipality since there are no recorded documents on this.

A descriptive cross-sectional study design was used in this study. A total of 348 mothers with at least 6 months old babies were recruited for this study from May to June 2022, and interviewed using a structured questionnaire. The data was analyzed using descriptive statistics and multiple logistic regression model with statistical significance set at $p<0.05$.

Analysis of the results showed that 93.4% of mothers were aware of exclusive breastfeeding. Yet, only 42.2% of them practiced exclusive breastfeeding. The factors associated with compliance of exclusive breastfeeding in Koforidua were educational level, monthly income and the place of birth of the youngest child. Mothers who earned above 500 Ghana cedis monthly had reduced odds of exclusive breastfeeding (AOR=0.28; 95% Cl=0.08 - 0.92; p= 0.035). Mothers who disagreed that expressed breastmilk maintained its health benefits were 96% less likely to practice exclusive breastfeeding (AOR=0.04; 95% Cl = 0.01 - 0.22; p < 0.001). Furthermore, mothers who

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recommend exclusive breastfeeding to their colleagues were 42.92 times more likely to practice it (AOR = 42.92; 95% cl = 4.32 - 426.31; p= 0.001). Also, respondents who did not know where to get help for breastfeeding issues had 74% less likelihood of practicing exclusive breastfeeding (AOR =0.26; 95% Cl = 0.11 - 0.62; p = 0.002). The factors which showed significant association with exclusive breastfeeding include; income (p = 0.005), educational level (p < 0.001) and place of birth of youngest child, i.e., institutional delivery (p = 0.006).

Conclusion of the study was that less than half of breastfeeding mothers in Koforidua practiced exclusive breastfeeding even though almost all of them were aware of it.

Since the adherence to exclusive breastfeeding is low in Koforidua (42.2%), the health professionals in the municipality need to intensify their education of mothers on the importance of exclusive breastfeeding, especially at ANC and pediatric department in all hospitals. This can be done through videos, music and fliers on exclusive breastfeeding. The municipality can partner with stakeholders such as chiefs, assembly men, pastors and imams to use their platform as an information medium and also to make public places such as churches and mosques baby friendly to encourage mothers to practice exclusive breastfeeding. Community centers can be created where mothers can easily have access to health professionals for all their questions surrounding breastfeeding. Support groups for working class women who are breastfeeding must be created to encourage each other.

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LIST OF ABBREVIATION

ANC	- Antenatal Clinic
AAP	- American Academy of Pediatrics
CWC	- Child Welfare Clinic
EBF	- Exclusive breastfeeding
GDHS	- Ghana Demographic and Health Survey
GHS	- Ghana Health Service
UNICEF	- United Nations Children's Fund
WHO	- World Health Organization

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Breastfeeding is a unique and natural way of providing food for healthy growth and development of babies (Motee & Jeewon, 2014). It is a vital area in public health because of its direct influence on the wider population's overall quality of health and mortality levels (Alzaheb, 2017).

In 1990, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) established the Innocenti Declaration - a global initiative on the protection, promotion and support of breastfeeding. According to the declaration, mothers were encouraged to initiate breastfeeding within one hour of birth. Mothers were advised to exclusively feed their babies breastmilk for the first six months and to continue breastfeeding up to two years of age or beyond. Similarly, the American Academy of Paediatrics (AAP) also recommends that infants should be exclusively breastfed for the first six months of life. Breastmilk is the best source of nutrients for babies (Martin, Ling & Blackburn, 2016) as it enhances the infant's immunity, lowering the risk of mortality and infectious diseases and protecting the baby against respiratory and gastrointestinal infections, as well as offering long-term protection against noncommunicable diseases such as obesity and diabetes (Kelishadi & Farajian, 2014). Breastfed infants have a lower chance of contracting allergic diseases and a lower risk of suffering sudden infant death syndrome (Alzaheb, 2017). Breastfeeding

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also protects mothers against the risk of breast and ovarian cancers (Centers for Disease Control and Prevention, 2019). In spite of its numerous benefits, statistics in various countries show breastfeeding trends in terms of prevalence and duration to be lower than that of international recommendations (Alemayehu, Haidar & Habte, 2009). Globally, only 43% of infants are exclusively breastfed while 37% and 36% of infants are exclusively breastfed in developing countries around the world and in Sub Saharan Africa respectively (Mgongo et al., 2018).

This study seeks to assess the factors associated with adherence to exclusive breastfeeding among mothers in the Koforidua.

1.2 Problem Statement

In a systematic review conducted by Sankar et al. (2015), risk of all-cause and infection-related mortality was higher in partially and non-breastfed infants compared to exclusively breastfed infants aged 0–5 months. Globally, 595,379 children die as a result of not being breastfed every year (Walters, Phan & Mathisen 2019). Optimal breastfeeding can save 98,243 mothers from dying of cancers and type II diabetes every year. The world suffers an economic loss estimated to be between US$257 billion and US$341 billion or between 0.37% and 0.70% of global gross national income yearly (Walters, Phan & Mathisen 2019). The Lancet Series on breastfeeding, estimates that over 800,000 children lose their lives and suffer cognitive losses globally (Rollins et al., 2016; Victora et al., 2016). This amounts to US$302 billion financial loss yearly due to infant exposure to breastmilk substitute (Rollins et al., 2016; Victora et al., 2016). The global health system spends an estimated US$1.1 billion annually on treatment to decrease infant morbidity and mortality rate (Walters, Phan & Mathisen 2019). In Africa, about 1.24 million (approximately 96%) babies die during the first six months of life due to failure of mothers to

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breastfed exclusively (Alebel et al., 2018). According to the 2003 Ghana Demographic and Health Survey (GDHS), the prevalence of exclusive breastfeeding was 39.2% which increased to 63% in the

2008 (GDHS, 2008) and declined to 52% in 2014 (Ghana Statistical Service, Ghana Health Service, 2014). The current prevalence of exclusive breastfeeding documented in 2021 was 43% which shows a decline in the 52% reported in the 2014 GDHS. According to the Director-General of the Ghana Health Service (GHS), Dr Kuma-Aboagye noted poor traditional practices such as giving water and foods and the uncontrolled advertisement and sale of breast milk substitute as factors that may have influence the fall in rate of exclusive breastfeeding in 2021 (WHO, 2021). A number of studies also noted maternal age, marital status, level of education, occupation and the child's characteristics such as birth order and method of delivery to have an influence on the practice of exclusive breastfeeding (Bhandari et al., 2019; John et al.,2019 & Seidu et al., 2020). Kimani-Murage et al. (2015) also identified employment, early and single motherhood, poor social and professional support, lack of information or education on breastfeeding, cultural and religious belief as factors affecting exclusive breastfeeding. Despite the factors listed above, the factors influencing the adherence of EBF in Koforidua is not documented . Thus, this study seeks to identify the factors associated with exclusive breastfeeding in Koforidua.

1.3 Research Questions

1. What is the prevalence of exclusive breastfeeding among mothers in Koforidua?
2. What are the factors associated with exclusive breastfeeding among mothers in Koforidua?

1.4 Objectives of the study

1.4.1 General Objective

The overarching objective of the study is to assess the factors associated with exclusive breastfeeding among mothers in Koforidua

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1.4.2 Specific Objectives

The specific objectives of this study are:

1. To determine the prevalence of exclusive breastfeeding among mothers in Koforidua.
2. To determine the factors associated with exclusive breastfeeding among mothers in Koforidua. .

1.5 Conceptual framework

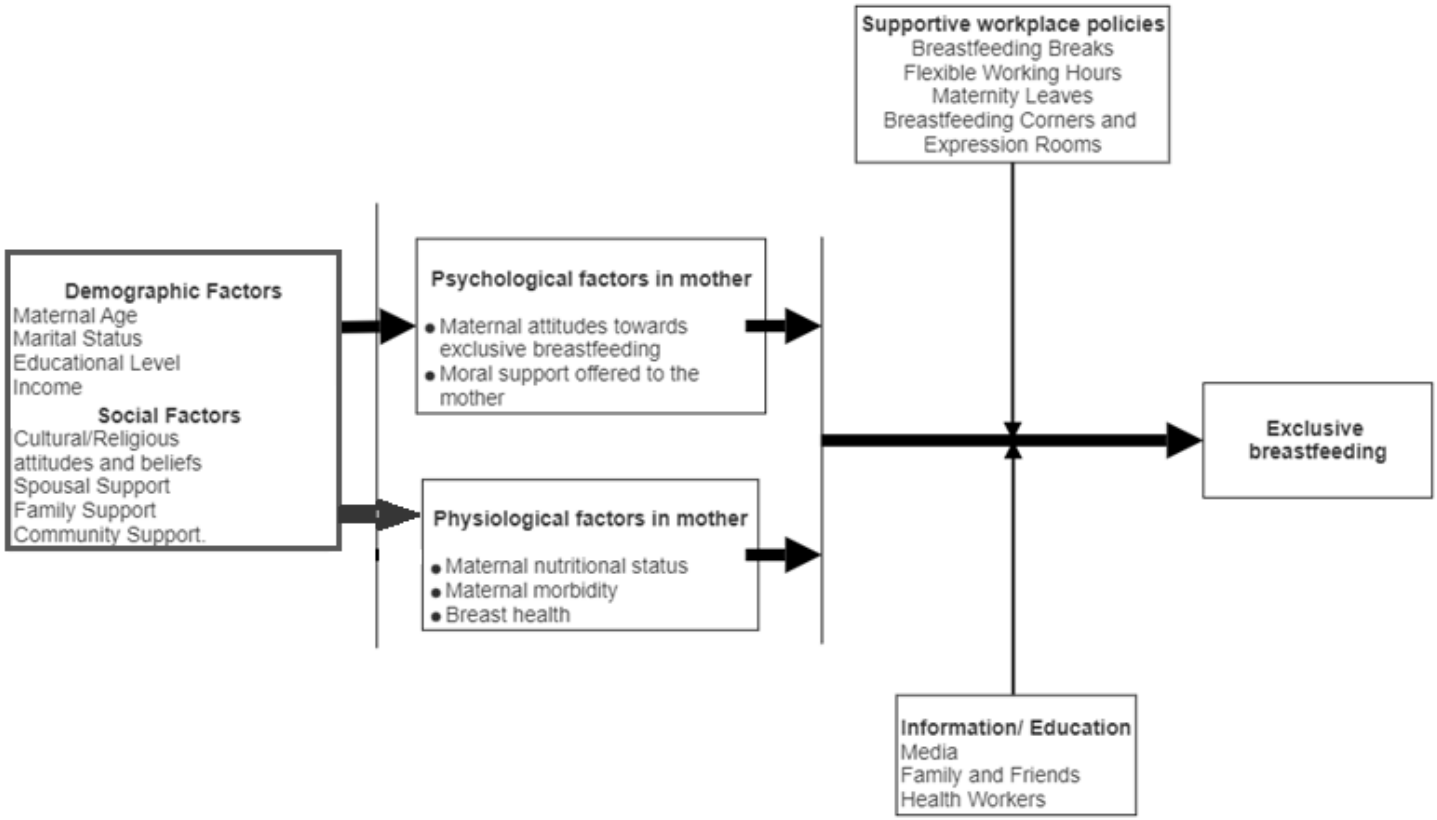

Figure 1 Conceptual framework for the study (adapted from the WHO, 2015)

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1.5.1 Narrative of Conceptual Framework

Several factors influence the practice of exclusive breastfeeding and these factors can be categorized into sociodemographic, social, supportive workplace policies and information or educational factors. Sociodemographic factors such as maternal age (Kitano et al., 2016; Asare et al., 2018; Agho et al., 2019), marital status (Odindo et al., 2014; Bich et al., 2019; Mamo et al., 2020), level of education (Diji et al., 2016; Asare et al., 2018; Laksono et al., 2021) and occupation and employment (Taddele et al., 2014; Chekol et al., 2017; Chhetri et al., 2018) can affect the practice of exclusive breastfeeding. Social factors such as cultural and religious attitudes and beliefs (Issaka et al., 2014; Diji et al., 2016; Bernard, Cohen & Kramer 2016), spousal, family and community support (Ratnasari et al., 2017; Coomson &Aryeetey 2018; Ogbo et al., 2020) affects exclusive breastfeeding. Supportive workplace policies such as maternity leave and flexible working hours (Buccini et al., 2016; Altamimi et al., 2017; Rimes, Oliveira & Boccolini, 2019) and breastfeeding breaks, breastfeeding corners and expression rooms (Osibogun et al.,2018; McCardel & Padilla 2020; Nkrumah, Abuosi & Nkrumah, 2021) also affects exclusive breastfeeding. Information or education received from the media, health workers, family and friends (Yang et al., 2018; Hamze et al., 2019; Ebrahimi, 2021) influence the practice of exclusive breastfeeding.

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CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter examines current and historical literature on exclusive breastfeeding among women in order to improve understanding of the topic and increase the amount of evidence available to support it.

Exclusive breastfeeding is defined as giving no other foods not even water apart from only breastmilk to infants in the first six months of their life (WHO,2015). However, the infant can be given medications such as oral rehydration salt, vitamins and minerals.

2.2 Importance of Exclusive Breastfeeding

The World Health Organization (2013) advocates for optimal breastfeeding practices to promote a child's healthy growth and development. Breastfeeding should begin within one hour of birth, be exclusive for the first six months of the infant's life, and then be supplemented with adequate nutritious foods and continued for the next two years. Accordingly, (Hannula, Kaunonen and Tarkka, 2014; WHO, 2019) revealed that exclusive breastfeeding during the first few months of life and continued breastfeeding for at least the first two years of life is associated with a significant reduction in the load of infections. In addition, UNICEF (2018) indicated that, breastfeeding new-borns within the first hour of life protects them from illnesses and saves lives. Infants who are only partially breastfed or not nursed at all are at a higher risk of dying from diarrhoea and other diseases (UNICEF, 2018). Breastfeeding does not interfere with infant's response to any vaccine, but rather improves it (Anderson, 2019).

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Breastfed infants are less likely than non-breastfed infants to have fever, anorexia, and reduced energy intake following routine childhood immunization (Anderson, 2019). Breastfeeding benefits mothers' health and well-being; it helps to space children, reduces the risk of breast and ovarian cancer, increases family and national resources, is a secure method of feeding, and is environmentally safe (WHO, 2018).

2.3. Factors Associated with Exclusive Breastfeeding

2.3.1 Demographic Factors

2.3.1.1 Maternal Age

The relationship between maternal age and exclusive breastfeeding has yielded inconclusive results over time. A study done in Japan (Kitano et al., 2016) revealed that mothers under the age of 35 were more likely than older women to practice exclusive breastfeeding. They discovered that younger mothers had higher rates of success in practicing exclusive breastfeeding at discharge (88.5 percent) and one month (76.9 percent) after delivery, with maternal age greater than 35 being identified as a negative factor in initiating and sustaining exclusive breastfeeding (Kitano et al., 2016). In line with this finding, Asare et al. (2018) conducted a study in Tema Manhean, Ghana and discovered that among the study's participants, mothers between the ages of 20 and 34 were more likely to practice exclusive breastfeeding. In contrast, several research (Agho et al., 2019; Fisher et al., 2013) found that older mothers aged 35 years or older were more likely than younger mothers to practice exclusive breastfeeding. In a study conducted by Diji et al. (2016) in Ghana indicated that, despite the fact that the mean age of the participants was 27.72, women who practiced exclusive breastfeeding were substantially older than their counterparts who did not practice exclusive breastfeeding, indicating a significant connection between the practice and maternal age.

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2.3.1.2 Educational Level

In the literature, a mother's level of education has been identified as a related factor in the practice of exclusive breastfeeding. In a Ghanaian study conducted by Diji et al. (2016) noted a significant association between exclusive breastfeeding and maternal education. According to the study they identified that mothers who were educated were more likely to exclusively breastfeed their infants arguing that such mothers may be relatively more confident and committed to breastfeeding than their less educated counterparts due to the infant care experiences and education they have acquired over time. This report is in line with previous studies done in Nigeria (Onah et al., 2014), Tanzania (Maonga et al., 2016) and Ethiopia (Asemahagn, 2016) indicating mothers with informal or no education were less likely to practice exclusive breastfeeding. In a study conducted in Kano, Nigeria, by Aliyu & Shehu (2016) found that the majority (69.2 percent) of mothers had university education, while 21.6 percent had secondary school education, 2 percent had basic school education, and 7.2 percent had informal education. They also found a positive relationship between education and exclusive breastfeeding, noting that the more educated the mothers are, the more likely they are to engage in the practice of effective breastfeeding, which is similar with studies by Glassman et al. (2014), Danso (2014) and Laksono et al. (2021). Danso (2014) found that 37% of respondents had a bachelor's degree, 32% had various diplomas, and 18.5 percent had professional certifications, with 12.5 percent having a master's or higher degrees, suggesting that respondents' educational level gives in-depth information about the practice of exclusive breastfeeding. In contradiction, a study conducted in Ghana by Asare et al. (2018) noted that mothers with university education were less likely to practice exclusive breastfeeding than those with no education, stating that Ghanaian mothers with higher education work in formal jobs, making exclusive breastfeeding challenging and less likely.

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2.3.1.3 Marital Status

In the practice of exclusive breastfeeding, marital status has been linked as a contributing factor. A study in Oromia, Ethiopia by Mamo et al. (2020) revealed that marital status has an association with exclusive breastfeeding. According to Odindo et al. (2014), a positive association was found between marital status and exclusive breastfeeding. According to their findings, mothers in polygamous marriages accounted for 33 percent were more likely to practice breastfeeding than the 29.7 percent in the monogamous marriage. Despite these findings, single mothers reported the highest percentage of exclusive breast feeding at 36%, which is slightly higher than the rate reported by polygamous married women. Polygamous mothers have a high rate of exclusive breastfeeding because of the social network with co-wives who might have successfully practised exclusive breastfeeding in the past (Odindo et al., 2014). In a study conducted by Bich et al. (2019) provided evidence that educating and encouraging fathers to actively participate in exclusive breastfeeding have significantly improved the rate of early initiation and practice of exclusive breastfeeding. Hence, indicating the importance of paternal influences on breastfeeding (Bich et al., 2019). However, Hunegnaw, Gezie, & Teferra (2017) found no link between marital status and exclusive breastfeeding in Ethiopia.

2.3.1.4 Occupation/Employment

The impact of occupation and employment on exclusive breastfeeding practice have also been inconsistent. According to Diji et al. (2016), women who work in the public sector had a greater rate of exclusive breastfeeding. In contrast to the above finding several studies in Ethiopia (Setegn et al., 2012; Taddele et al., 2014 and Chekol et al., 2017) reported, that unemployed mothers were more likely than employed mothers to practice exclusive breastfeeding.

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According to an Indian survey, 43.8 percent of breastfeeding mothers were technical managers, 16.8 percent were administrative staff, 13.1 percent were salespersons and petty traders, 1.5 percent were agricultural workers, another 13.1 percent worked in service, and 11.7 percent conducted manual labour (Chhetri et al., 2018). In addition, 21.1 percent of these mothers worked part-time, while 16.9 percent worked full-time. Despite this, no significant association between exclusive breastfeeding and occupation or kind of job was discovered (Chhetri et al., 2018).

2.3.2 Sources of Information / Education on Breastfeeding

The source and veracity of a mother's education or knowledge about exclusive breastfeeding has been found to be a significant predictor of practicing exclusive breastfeeding. According to a study conducted by Osibogun, Olufunlayo & Oyibo (2018) in Lagos, Nigeria found that 86.5 percent of mothers get breastfeeding information or advice from the hospital, 41.5 percent of them from their friends, 32.0 percent from their family members and 35.5 percent from the media. A study conducted by Yang et al. (2018). showed that healthcare professionals do not receive adequate education on breastfeeding to effectively support mothers in how to practice exclusive breastfeeding properly. Ebrahimi, (2021) found that lactation consultants work to refute common breastfeeding myths and communicate accurate information in order to increase the likelihood of practicing exclusive breastfeeding. Mothers usually seek information, support and encouragement on exclusive breastfeeding from communities, relatives and health system (Hamze et al., 2019). Due to the information, they got from health experts during their visit, women who had at least one antenatal care visit were more likely to practice EBF than their peers who did not. (Tariku et al., 2017).

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2.3.3 Supportive Workplace Policies

2.3.3.1 Maternity Leaves and Flexible Working Hours

Policies at workplace is a significant predictor in the mother's ability to practice exclusive breastfeeding. Even when compared to mothers who did not work, mothers on maternity leave had a higher rate of exclusive breastfeeding, indicating that maternal work is not a hinderance to exclusive breastfeeding, but rather the lack of maternity leave is (Rimes, Oliveira & Boccolini, 2019). Working mothers on maternity leave were found to have a lower likelihood of ceasing EBF in the first four months of their child's life according to Buccini et al., (2016) and Vieira et al., (2014). Brown et al.

(2014) found that the lack of maternity leave is linked to the decision not to start or cease breastfeeding. Altamimi et al. (2017) discovered that work-related variables were the reason of premature discontinuation of breastfeeding for 30% of the participants in a study conducted in Jordan, implying that working mothers have a lower prevalence of practicing exclusive breastfeeding. This is unsurprising, given that most organizations, including those in Ghana, provide a three-month leave after which the mother is expected to return to work. In Ghana, mothers who work in the formal sector are unable to exclusively breastfeed following maternity leave since the facilities and working circumstances at their workplaces do not encourage exclusive breastfeeding and they are not permitted to bring their babies to work. (Nkrumah, 2016).

2.3.3.2 Breastfeeding Breaks, Breastfeeding Corners and Expression Rooms

Workplace support for exclusive breastfeeding is also a significant predictor of practicing EBF. Exclusive breastfeeding becomes difficult for working mothers who return to work without workplace support (Osibogun et al.,2018). Chekol et al. (2017) discovered that, while work status had no effect on

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breastfeeding initiation, it did have an effect on breastfeeding length in Northwest Ethiopia. Working mothers were more likely than nonworking mothers to discontinue breastfeeding (Chekol et al., 2017). In a study conducted in Kenya by Ickes et al. (2021), flexible work schedules and reduced hours while returning to work helped mothers' ability to breastfeed exclusively for 6 months. Women have the right to work, and children have the right to adequate nutrition and feeding (Nkrumah, Abuosi & Nkrumah, 2021). As a result, it is critical that practical actions are implemented to foster a breastfeeding-friendly workplace environment in Ghana (Nkrumah et al., 2021). In an American study conducted by McCardel & Padilla (2020), approximately 78.8 percent of participants had access to break periods for expressing breast milk, and 65.4 percent had access to venues other than a lavatory to express breast milk.

2.3.4 Social Factors

2.3.4.1 Cultural/ Religious Beliefs

According to Watson (2013), cultural and religious beliefs is a major predictor of breastfeeding duration. Breastfeeding women are frequently urged by their culture to supplement their infants' nutrition with water and artificial feeds (Diji et al., 2016). A study conducted in Ghana on the determinants of inadequate complementary feeding practices among children aged 6–23 months in Ghana by Issaka et al. (2014) stated that, many Ghanaian mothers believe that breastmilk alone is insufficient to meet the nutrients needed by their kids. They typically introduce complementary foods to their infants in their early year of life (Issaka et al., 2014). In an ecological study, Bernard, Cohen and Kramer (2016) found that the larger the Catholic share in the population, the lower the breastfeeding initiation rates in that population. Mothers who do not attend religious services are less prevalent to practice exclusive breastfeeding as compared to mothers who attend religious services (Burdette &

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Pilkauskas, 2012). According to the findings of the preceding studies, religion can improve the likelihood of practicing exclusive breastfeeding.

2.3.4.2 Spousal/ Family/Community Support

Spousal, family and community support is also a significant predictor of exclusive breastfeed and can increase the prevalent of its practice. Appropriate spousal support was discovered to be vital and can impact new mothers' decision to begin, maintain, or discontinue nursing in the early postnatal period (Ogbo et al., 2020). This assistance can take the form of aiding in the prevention and management of breastfeeding challenges, assisting with home chores, assisting with infant care duties, and providing verbal encouragement (Ogbo et al., 2020). According to Ratnasari et al. (2017), practicing exclusive breastfeeding was substantially connected with sufficient family support. According to their findings, family support can boost the likelihood of achieving exclusive breastfeeding. Family members can encourage exclusive breastfeeding by emphasizing that breast milk is the best source of nutrition for infants. To help working women, husbands and grandmothers can help with childcare by babysitting, buying or cooking food, and feeding the babies (Ratnasari et al., 2017). In a study, Coomson and Aryeetey (2018) found that public breastfeeding is a prevalent behaviour among breastfeeding women in Ghana. However, when breastfeeding in public, women exhibit signs of shyness, embarrassment, discomfort, or stigmatization. Because women are increasingly involved in work outside the home, these beliefs about nursing in public can reduce the prevalence and have a detrimental impact on their decision to practice exclusive breastfeeding (Coomson & Aryeetey, 2018). To cope with the discomfort and shame they experience when breastfeeding in public, they develop coping mechanisms such as covering the breast and infant (Amir, 2014). The coping strategy technique limits eye-to-eye bonding

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between the mother and child, as well as making the baby hot and uncomfortable while breastfeeding (Amir, 2014).

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CHAPTER THREE

METHODS

3.1 Introduction

The methods section gives details how data were obtained, how research questions and objectives were investigated, how the sampling processes, the information and data was analyzed. This chapter also discusses the study design, study location, study population, sampling technique, sample size, types and sources of data, research instrument, administering of research instrument, data handling and ethical considerations.

3.2 Study Design

The study design used was a descriptive cross-sectional study to determine the factors associated with adhering to exclusive breastfeeding. A cross-sectional study design is appropriate for this research because the study is interested in assessing the possible relationship between the factors influencing adherence to exclusive breastfeeding.

3.3 Study Location

The study was conducted at the Eastern Regional Hospital located in the New Juaben Municipality, Koforidua in the Eastern Region. The municipality has a population of 183,727 of which 51.7% are females (GSS, 2014). The Eastern Region is bordered to the east by the Lake Volta, to the north by Brong-Ahafo Region and Ashanti Region, to the west by Ashanti Region, to the south by Central Region and Greater Accra Region. Akans are the dominant inhabitants and natives of the Eastern Region. Akan and Krobo are the main spoken languages.

Eastern Regional Hospital, Koforidua (ERHK) is a Ghana Health Service facility which is a non-profit

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healthcare organization. It was established in 1926 and is a secondary level referral facility for the entire Eastern Region. The hospital offers the following services: Obstetrics and Gynecology,

Internal Medicine including Anti-retroviral therapy, Paediatrics, Surgery, Dental, Ophthalmology, Physiotherapy, Ear, Nose and Throat, Laundry, Mortuary and Primary Healthcare Services.

3.4 Study Population

All women in Koforidua attending postnatal clinic and CWC at the Eastern Regional Hospital.

3.4.1 Inclusion criteria:

Mothers whose recent child are at least six months old were included in this study if they consented to participate.

3.4.2 Exclusion criteria:

Those who were ill were excluded from the study.

3.5 Sampling Size Determination and Sampling method

3.5.1 Sample size calculation

Proportion of mothers who exclusively breastfed their children for six months in a study conducted by Manyeh et al., (2021) in Ningo-Prampram and Shai Osu-doku were used to calculate the sample size. The study reported that 71% of mothers exclusively breastfed their children for six months (Manyeh et al., 2021). Thus, the sample size of this study was calculated at 95% confidence interval using a formula by Cochran. The formula is given by:

$n_0 = \frac{z^2 pq}{e^2}$ (Cochran, 1977)

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Where:

- n= required sample size
- Z2 = standard normal deviate for two tailed-test based on 95% confidence level = 1.96
- p= proportion of postpartum women using contraception = 71%= 0.71 (Morhe et al., 2017)
- q=1-p= proportion of postpartum women not using contraception = 1-0.71 = 0.29
- e= margin of error = 5% = 0.05
- Therefore, the sample size will be calculated as follows
- $N = \frac{1.96^2 \times 0.71\ (1-0.71)}{0.05^2}$ =
- $N = \frac{3.8416 \times 0.71 \times 0.29}{0.0025}$
- $N = \frac{0.79099}{0.0025}$
- 316.39 = 316 participants
- However, to cater for non-response rate, an attrition rate of 10% was used to upwardly adjust the sample size. Thus, 1.1 × 316 = 348. Therefore, 348 mothers were surveyed in this study.

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3.6 Sampling Technique

Consecutive sampling method was used to select participants for this study. To do this, eligible participants were first identified based on the inclusion and exclusion criteria. Then, those who consented to partake in the study were enrolled into the study. All consecutive mothers who attended CWC every Wednesday were approached to seek consent to partake in the study. This was done by dividing the determined sample size into four Wednesdays since the data collection was done in one month. On each day the daily specific sample size was achieved by enrolling participants who met the inclusion criteria and gave consent to participate in the study. Enrolment was done on a first come first serve basis and continued until the overall sample size was achieved. Each participant was engaged, to answer the questionnaire, at least, within a period of 30mins.

3.7 Study Variables

3.7.1 Dependent variables:

Exclusive breastfeeding

3.7.2 Independent variables:

Demographic Factors: Maternal Age, Marital Status, Educational Level, Occupation

Supportive Workplace Policies: Breastfeeding Breaks, Flexible Working Hours, Maternity Leaves, Breastfeeding Corners and Expression Rooms

Social Factors: Cultural/Religious attitudes and beliefs, Spousal Support, Family Support, Community Support.

Information/Education /Environmental Factors**:** Media, Family and Friends, Health Workers

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3.8 Data Collection

Data was collected from the study participants using a structured questionnaire. The questionnaire had five sections which included the individual characteristics of participants, information on supportive workplace policies, knowledge on breastfeeding, attitude on exclusive breastfeeding and practices on exclusive breastfeeding.

Participants were made aware of the aim of the study to prevent ambiguity and ensure full comprehension, prior to the administering of the questionnaire. The questionnaires were administered by the principal investigator with support from two trained research assistants on a one-on-one basis. The filling of the questionnaire for each participant lasted an average of 20 minutes.

3.8.1 Pretesting

Pretesting was done at the St. Joseph Hospital by the principal investigator for a week but did not lead to any changes to the questionnaire.

3.8.2 Quality Control

Field workers were trained to administer the questionnaire. The data collected after administering the questionnaires were sorted, coded and entered into Microsoft excel. The spreadsheet was cross- checked for missing data and replaced to ensure accuracy of the data entered. The clean database was imported into Stata version 16.0 file (Stata Corporation, Texas, USA) before analysis was done.

3.9 Data Analysis

Data was imported from Microsoft excel into STATA 16 for analysis. Frequencies and percentages were used to report descriptive statistics. Continuous variables were reported using means and standard deviations. The prevalence of exclusive breastfeeding was reported using graphs and percentages.

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Furthermore, Pearson Chi-Square was used to determine the factors associated with exclusive breastfeeding at the bivariate level. Variables found to be statistically significant were fitted into a multiple logistic regression table with significance set at $p<0.05$.

3.10 Ethical Consideration

Ethical Clearance: Ethical approval for this research was obtained from the Ghana Health Service Ethics Review Committee, approval number GHS-ERC: 073/03/22

Permission was sought from the management of the Eastern Regional Hospital, Koforidua to allow the study to be conducted at the facility.

Risks: This research comes with no risk that borders on physical damage to the participant except the risk of having to share information which may seem personal.

Benefit: Participants had an opportunity to gain some knowledge and awareness on exclusive breastfeeding since each participant was educated after the data collection.

Privacy and Confidentiality:

To ensure privacy and confidentiality, participants were identified with codes and numbers and were allowed to answer the questionnaires at convenient places of choice. No information regarding participants' name or any other information that traces the data collected to the participants was taken. Participants information were kept on a computer with a secured password. Filled questionnaires were kept under lock and key, with only the principal investigator having access.

Voluntary Consent/Withdrawal:

Participants were made to understand that participation in the study is voluntary, that they have the right to either be or not be part of the study; and that they can withdraw at any time during the study.

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Data Storage and Usage:

All hard copies of the data obtained from the field were transformed into an electronic data using Microsoft Excel which was password encrypted. Data collected were stored in both electronic and hard copies for at least five (5) years. The participants were assured that the data collected were used for academic purposes and were inform about the policy which they stand to benefit from.

Compensation

There were no compensation for study participants.

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CHAPTER FOUR
RESULTS

4.1 Demographic characteristics of respondents

Table 4.1 shows the demographic characteristics of respondents. The mean age of respondents was 32.5 years ± 5.8SD. Majority of the mothers (75.9%) were married. Nearly 87% of the respondents were Christians. About 55.8% of the respondents were formally employed with only 12.6% earning above GH₵ 2000. Ninety-seven percent of the respondents were educated at various levels with 46.3%, 19.5%, 23.0% and 8.3% having tertiary, vocational, secondary and primary education respectively. Almost all mothers (99.4%) attended ANC when they were pregnant and 81.6% had their youngest child in a hospital setting, which shows that most of them have been educated on the benefits of exclusive breastfeeding during ANC.

Table 4.1 **Demographic characteristics of respondents (N = 348)**

Variables	Frequency (n)	Percentage (%)
Marital status		
Married	264	75.9
Cohabiting	36	10.3
Single	44	12.6
Divorced	4	1.2
Religion		
Christian	302	86.8
Muslim	31	8.9
Traditional religion	15	4.3

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Employment status		
Unemployed	47	13.5
Informal workers	107	30.7
Formal workers	194	55.8
Income (GHC)		
< 500	85	28.2
500 – 1000	99	32.9
1001 – 2000	79	26.3
> 2000	38	12.6
Educational level		
None	10	2.9
Tertiary	161	46.3
Vocational	68	19.5
Secondary	80	23.0
Primary	29	8.3
Place of birth of youngest child		
Home	50	14.4
Health facility	284	81.6
Other	14	4.0
ANC attendance		
No	2	0.6
Yes	346	99.4

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4.2 Prevalence of exclusive breastfeeding

Figure 4.1 below shows the results after mothers had answered the questionnaire. Out of the 348 mothers, 42.2% practiced exclusive breastfeeding (proportion = 0.42; 95% CI = 0.37 – 0.48).

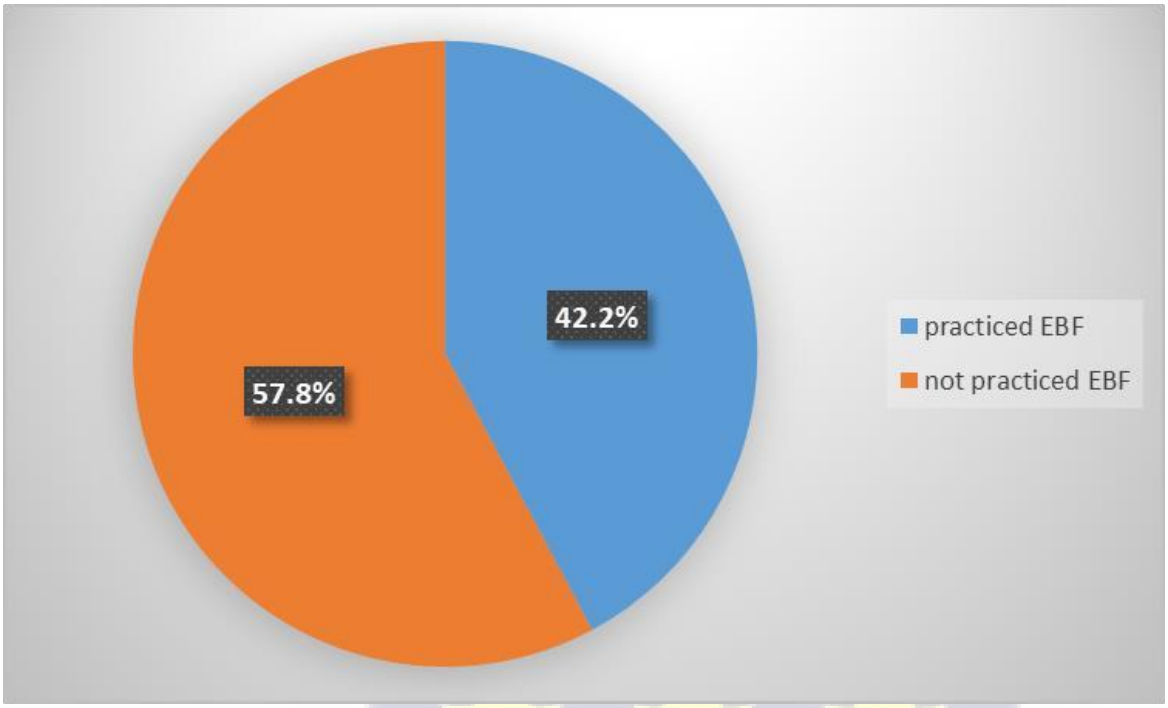

Figure 2 Prevalence of exclusive breastfeeding among mothers

4.3 Knowledge about exclusive breastfeeding

Table 4.3 shows respondents' knowledge on exclusive breastfeeding. Majority of the respondents (93.4%) had heard of exclusive breastfeeding with 89.9% stating health facilities as their source of information. Nearly 34.8% of respondents defined exclusive breastfeeding as "a type of breastfeeding where the infant receives only breast milk and no other liquids or solids – not even water – with the exception of prescribed oral rehydration solution, or drops/syrups of vitamins, minerals or medicines". Majority of the respondents' (72.6%) indicated that babies less than 6 months should be given only breast milk. Also, most of the respondents (46.8%) stated the "sense of love and attachment" as the benefit of exclusive breastfeeding to the mother whilst 40.9% stated "resistance to infections" as the benefit of exclusive breastfeeding to the child. In addition, majority of the mothers (74.8%) agreed that breast

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milk fulfils a child's dietary requirement better than formula milk with a further 77.5% indicating that breast milk alone is sufficient during the first six months of a babies' life. Most of the respondents (46.5%) also stored their breast milk in a refrigerator. Out of the 348 respondents, 229 (70.5%) indicated that exclusive breastfeeding should only last for 6 months.

Table 4.2 **Knowledge about exclusive breastfeeding**

Variables	Frequency (n)	Percentage (%)
Ever heard of exclusive breastfeeding		
No	23	6.6
Yes	325	93.4
Source of information		
Health facility	292	89.9
Family	111	34.2
Market	10	3.1
Friends	76	23.4
Media	91	28.0
Others	5	1.5
Definition of exclusive breastfeeding:		
A type of breastfeeding where the infant receives		
only breast milk	189	58.2
only breast milk and herbal formulations	2	0.6
only breast milk, water and other liquids or solids	6	1.8
breast milk, water, other liquids or solids as well as prescribed medicines	12	3.7
only breast milk, no other liquids or solids – with the exception of prescribed oral rehydration solution, or syrups of vitamins, minerals or prescribed medications	113	34.8

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I do not know	3	0.9
Awareness of the benefits of exclusive breastfeeding		
Yes	314	96.6
No	6	1.9
Don't know	5	1.5
Source of information of benefits of exclusive breastfeeding		
Health facility	295	84.8
School	60	17.2
Market	9	2.6
Friends	78	22.4
Media	79	22.7
Others	15	4.4
Babies less than 6 months be given any other food apart from breastmilk		
Yes	89	27.4
No	236	72.6
Benefits of exclusive breastfeeding to the mother		
Weight control	130	37.4*
Uterus returns to regular size	95	27.3*
Reduce postpartum bleeding	83	24.1*
Sense of love and attachment	161	46.8*
Natural contraception	130	37.4*
Don't know	56	17.0*

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Benefits of exclusive breastfeeding to child (multiple responses)		
Resistance to infections	133	40.9
Protects against diarrhea	74	22.8
Protects against childhood illness	74	22.8
Prevents obesity	44	13.5
Importance of colostrum to the baby (multiple responses)		
Nutrient rich fluid	106	32.6
Helps immunity	85	26.2
Provides hydration and protein	36	11.1
Don't know	98	30.1
Waiting time for breastfeeding after delivery (practically)		
Immediately	144	44.3
30 minutes	87	26.8
1 hour	29	8.9
1 day	49	45.1
More than one day	16	4.9
Duration for nursing mother to empty each breast (practically)		
5 minutes	28	8.6
10-15 minutes	94	28.9
15-20 minutes	126	38.8
Don't know	77	26.7
Breast milk fulfils the child's dietary requirements better than formula milk		

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Yes	243	74.8
No	82	25.2
Breast milk alone sufficient during the first 6 months of life		
Yes	252	77.5
No	73	22.5
Expressed breast milk loses its benefits		
Yes	106	32.6
No	219	67.4
Storage mode of breast milk		
At room temperature	94	28.9
In a refrigerator	151	46.5
Anywhere	43	13.2
Freezer	37	11.4
Duration for exclusive breastfeeding after birth		
1 month to less than 2 months	10	3.1
3 months to less than 5 months	26	8.0
5 months to less than 6 months	35	10.8
6 months	229	70.5
More than 6 months	18	5.5
Don't know	7	2.1

*Multiple response

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4.4 Attitude towards exclusive breastfeeding

Most of the women (74.1%) agreed that the attitude towards breastfeeding of society and the people around them was good. In addition, 75.6% of the women indicated that their family was supportive towards breastfeeding the child exclusively. Majority of the respondents (87.1%) stated that they took the decision to practice exclusive breastfeeding on their own with 99.1% happy to be breastfeeding their child. Eighty nine percent of the respondents revealed that they felt confident about breastfeeding their child after birth with 94.5% also revealing their intention to breastfeed future children. The proportion of women who indicated they will recommend exclusive breastfeeding to their colleagues was 80.5% and a further 78.8% disagreeing with the statement "breastfeeding the child for 6 months or more is a waste of time" as shown in table 4.5.

Table 4.3 **Attitude towards exclusive breastfeeding**

Variables	Frequency (n)	Percentage (%)
Society and people around me think breastfeeding is good		
Agree	258	74.1
Not sure	80	23
Disagree	10	2.9
Family reaction towards exclusive breastfeeding		
Supportive	263	75.6
Unsupportive	54	15.5
Don't know	31	8.9
Mother's sole decision to breastfeed child		
Yes	303	87.1
No	45	12.9
Happy with breastfeeding baby		

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Yes	345	99.1
No	3	0.9
Support for women to exclusively breastfeed their children		
No	50	14.4
Yes	298	85.6
Expressed breast milk maintains its health benefits		
Agree	204	58.6
Not sure	103	29.6
Disagree	41	11.8
Confidence to breastfeed child after birth		
Yes	311	89.4
No	37	10.6
Intention to breastfeed future children		
Yes	307	94.5
No	18	5.5
Recommend exclusive breastfeeding to colleagues		
No	68	19.5
Yes	280	80.5
Breastfeeding the child for 6 months or more is a waste of time		
No	256	78.8
Yes	69	21.2

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4.5 Practice of exclusive breastfeeding

Most of the respondents (68.3%) in this study had ever practiced exclusive breastfeeding. Among the 222 respondents who had practiced exclusive breastfeeding, 95.0% had practiced with their current child. Forty one percent of the respondents (41.1%) introduced other foods to their child at 6 months and 36.8% stopped breastfeeding of their child after 24 months. After delivery, 39.7% of the respondents had introduced their child to breast milk within 30 minutes of birth. 28% of the mothers breastfed exclusively for less than 6 months, 60% breastfed exclusively for 6 months and 12% breastfed exclusively for more than 6 months. About 34.8% of mothers introduced new foods at less than 6 months, 41.1% at 6 months and 24.1% after 6 months. The study also showed that 16.7% stopped breastfeeding at less than 6 months, 5.5% at 6 months, 41.1% between 6 months and 2 years and 36.8% above 2 years. Also 13.2% of the babies who were less than 2 days were given formula at the hospital since mothers had not started lactating and 86.8% were not.

Table 4.4 **Practice of exclusive breastfeeding**

Variables	Frequency (n)	Percentage (%)
Ever practiced exclusive breastfeeding		
No	103	31.7
Yes	222	68.3
If yes, practiced exclusive breastfeeding with current child (n = 222)		
No	11	5.0
Yes	211	95.0
Duration of exclusive breastfeeding for current child		
< 6 months	91	28.0
6 months	195	60.0
> 6 months	39	12.0

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Age at which other foods were introduced		
< 6 months	121	34.8
At 6 months	143	41.1
6 to 24 months	84	24.1
Age at which breastfeeding of the child was stopped		
< 6 months	58	16.7
At 6 months	19	5.5
Between 6 months and 2 years	143	41.1
After 24 months	128	36.8
Time of initiating breastfeeding after delivery		
Within 30 minutes	138	39.7
30 minutes - 1 hour	41	11.8
1 - 24 hours	94	27.0
After 24 hours	75	21.5
Child given milk formula in the hospital		
Yes	46	13.2
No	302	86.8

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4.6 Breastfeeding support

Twenty nine percent of the mothers indicated that they spoke to their doctors about breastfeeding. However, 85.6% of the mothers indicated that talking about breastfeeding was challenging. Most of the respondents (80.8%) mentioned that they had a challenge talking about breastfeeding. Moreover, forty three percent of the respondents indicated that their partners provided support during breastfeeding. Majority of the mothers (77.3%) knew where to obtain help if any breastfeeding-related issues occur as illustrated in table 4.7 below.

Table 4.5 **Breastfeeding support**

Variables	Frequency (n)	Percentage (%)
Individual(s) consulted about breastfeeding (multiple responses)		
Partner	87	25.0
Friends	52	14.9
Family	67	19.3
Employer/co-workers	17	4.9
Doctor	100	28.7
Childcare provider	11	3.2
Community group	7	2.0
Other	7	2.0
Ease of talking to individuals about breastfeeding		
Difficult	298	85.6
Easy	50	14.4
Challenges faced when talking about breastfeeding		
No	67	19.2
Yes	281	80.8
Support system for breastfeeding		
Partner	151	43.4
Friends	56	10.3
Family	100	28.7
Doctor	41	11.8

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Know where to get help if any breastfeeding issues occur		
Yes	269	77.3
No	79	22.7

4.7 Supportive workplace policies towards exclusive breastfeeding

The table below shows the workplace policies available to support the practice of exclusive breastfeeding. Majority of the respondents (68.1%) indicated that their workplace grants them paid maternity leave for 3 months ±1.0SD on average. Out of the 111 respondents who stated that their workplace did not grant paid maternity leave, only 9.0% have ever had a maternity leave. More than half of the respondents (53.5%) stated that their workplace offered flexible working hours for nursing mothers. Most of the respondents' (63.0%) workplaces did not allow nursing mothers to bring their children to work. However, among nursing mothers who were allowed to bring their children to work (37.0%), majority of them (79.7%) indicated they were allowed to take breaks of an hour or 30 minutes. Twenty three percent of the nursing mothers indicated that their workplaces have a breastfeeding or milk expression room with chairs indicated by most of the respondents (43.7%) as the equipment available to aid in breastfeeding.

Table 4.6 **Supportive workplace policies towards exclusive breastfeeding**

Variables	Frequency (n)	Percentage (%)
Paid maternity leave		
No	111	31.9
Yes	237	68.1
If yes, average duration of maternity leave (months)	3.0 ± 1.0	
If no, ever had a maternity leave (n = 111)		
No	101	91.0
Yes	10	9.0

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Flexible working hours for nursing mothers		
No	162	46.5
Yes	186	53.5
Nursing mothers allowed to bring children to work		
No	218	63.0
Yes	128	37.0
If yes, breastfeeding breaks at workplace		
No	26	20.3
Yes	102	79.7
Length of breastfeeding breaks		
1 hour	51	50.0
30 minutes	41	40.2
15 minutes	10	9.8
If no, other arrangements made to support nursing mothers		
No	190	87.2
Yes	28	12.8
Availability of breastfeeding/milk expression room		
No	268	77.0
Yes	80	23.0
If yes, equipment available to aid breastfeeding		
Refrigerator	9	11.3
Chairs	35	43.7
Tables	20	25.0
Breast milk pumps	3	3.8
Footstools	5	6.2
Baby/toddler lay area	5	6.2
Others	3	3.8

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4.8 Bivariate analysis of demographic characteristics associated with exclusive breastfeeding

Table 4.7 shows the results of bivariate analysis (chi-square) of demographic factors associated with practice of exclusive breastfeeding. The factors which showed significant association with exclusive breastfeeding include; income ($p = 0.005$), educational level ($p < 0.001$) and place of birth of youngest child ($p = 0.006$). The age of respondents, employment status, marital status and religion were not associated with exclusive breastfeeding.

Table 4.7 **Socio-demographic factors associated with exclusive breastfeeding**

Variables	Exclusive breastfeeding		p-value
	Practiced EBF (n = 147)	Not practiced EBF (n = 201)	
Age of respondents	32.2 ± 4.3	32.7 ± 6.7	0.464
Marital status			[+]0.109
Married	121(45.8)	143(4.2)	
Cohabiting	12(33.3)	24(66.7)	
Single	13(29.5)	31(70.5)	
Divorced	1(25.0)	3(75.0)	
Religion			0.145
Christian	133(44.0)	169(56.0)	
Muslim	8(25.8)	23(74.2)	
Traditional religion	6(40.0)	9(60.0)	
Employment status			0.086
Unemployed	16(34.0)	31(66.0)	
Informal workers	39(36.5)	68(63.5)	
Formal workers	92(47.4)	102(52.6)	

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Income (GH₵)			**0.014***
< 500	28(32.9)	57(67.1)	
500 – 1000	41(41.4)	58(58.6)	
1001 – 2000	38(48.1)	41(51.9)	
> 2000	24(63.2)	14(36.8)	
Educational level			**0.000***
None	3(30.0)	7(70.0)	
Tertiary	86(43.4)	75(46.6)	
Vocational	15(22.1)	53(77.9)	
Secondary	26(32.5)	54(67.5)	
Primary	17(58.6)	12(41.4)	
Place of birth of youngest child			**0.006***
Home	12(24.0)	38(76.0)	
Hospital	126(44.4)	158(55.6)	
Other	9(64.3)	5(35.7)	
ANC attendance			$^{+}$0.511
No	0(0.0)	2(100.0)	
Yes	147(42.5)	199(57.5)	

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

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4.9 Supportive workplace policies associated with practice of exclusive breastfeeding

The table shows the supportive workplace policies associated with practice of exclusive breastfeeding. These factors include; workplace grants paid maternity leave (p = 0.011) and workplace offers flexible working hours for nursing mothers (p < 0.001). This shows that if mothers have more time with their babies at work, then they will be encouraged to practice exclusive breastfeeding.

Table 4.8 **Supportive workplace policies associated with practical of exclusive breastfeeding**

Variables	Exclusive breastfeeding		p-value
	Practiced EBF (n=147)	Not practiced EBF (n=201)	
Paid maternity leave			**0.001***
No	36(32.4)	75(67.6)	
Yes	111(46.8)	126(53.2)	
Flexible working hours for nursing			**0.000***
No	50(30.9)	112(69.1)	
Yes	97(52.2)	89(47.8)	
Nursing mothers allowed to bring children to work			0.059
No	83(38.1)	135(61.9)	
Yes	62(48.4)	66(51.6)	
Availability of breastfeeding or milk expression room			0.569
No	111(41.4)	157(58.6)	
Yes	36(45.0)	44(55.0)	

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

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4.10 Breastfeeding support factors associated with practice of exclusive breastfeeding

From the chi-square analysis, support system for breastfeeding ($p < 0.001$) and knowing where to get help if any breastfeeding issues occur ($p = 0.001$) were significantly associated with practice of exclusive breastfeeding (Table 4.9).

Table 4.9 **Support factors associated with practice of exclusive breastfeeding**

Variables	Exclusive breastfeeding		p-value
	Practiced EBF (n = 147)	Not practiced EBF (n = 201)	
Support system for breastfeeding			**0.000***
Partner	52(34.4)	99(65.6)	
Friends	23(41.1)	33(58.9)	
Family	42(42.0)	58(58.0)	
Doctor	30(73.2)	11(26.8)	
Know where to get help if any breastfeeding issues occur			**0.001***
Yes	127(47.2)	142(52.8)	
No	20(25.3)	59(74.7)	

***Statistically significant (p<0.05)**

4.11 Association between attitude towards exclusive breastfeeding and practice of exclusive breastfeeding

Society and people around nursing mothers' perception regarding the practice of exclusive breastfeeding was significantly associated with practice of exclusive breastfeeding ($p < 0.001$) (Table 4.10). Family's reaction towards exclusive breastfeeding ($p < 0.001$), support for women to exclusively breastfeed their children ($p < 0.001$), breast milk maintains its health benefits when it is expressed ($p < 0.001$), confidence to breastfeed child after birth ($p = 0.002$), intention to breastfeed future children ($p = 0.001$) and recommendation of exclusive

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breastfeeding to colleagues ($p < 0.001$) were all found to be significantly associated with exclusive breastfeeding after a chi-square analysis.

Table 4.10 **Association between Attitude towards exclusive breastfeeding and practice of exclusive breastfeeding**

Variables	Exclusive breastfeeding		p-value
	Practiced EBF (n = 147)	Not practiced EBF (n = 201)	
Society and people around me think breastfeeding is good			**0.000***
Agree	10(83.3)	2(16.7)	
Not sure	9(11.5)	69(88.5)	
Disagree	128(49.6)	130(50.4)	
Family reaction towards exclusive breastfeeding			**0.000***
Supportive	128(48.7)	135(51.3)	
Unsupportive	9(16.7)	45(83.3)	
Don't know	10(32.3)	21(67.7)	
Mother's sole decision to breastfeed child			0.516
Yes	130(42.9)	173(57.1)	
No	17(37.8)	28(62.2)	
Happy with breastfeeding baby			$^{+}$0.266
Yes	147(42.6)	198(57.4)	

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Expressed breast milk maintains its health benefits			**0.000***
Agree	112(54.9)	92(45.1)	
Not sure	33(32.0)	70(68.0)	
Disagree	2(4.9)	39(95.1)	
Confidence to breastfeed child after birth			**0.002***
Yes	140(45.0)	171(55.0)	
No	7(18.9)	30(81.1)	
Intention to breastfeed future children			**0.001***
Yes	141(46.4)	163(53.6)	
No	2(9.5)	19(90.5)	
Recommend exclusive breastfeeding to colleagues			**0.000***
No	1(1.5)	68(98.5)	
Yes	146(52.3)	133(47.7)	
Breastfeeding the child for 6 months or more is a waste of time			0.143
No	118(46.1)	138(53.9)	
Yes	25(36.2)	44(63.8)	
No	0(0.0)	3(100.0)	
Support for women to exclusively breastfeed their children			**0.000***
No	8(16.0)	42(84.0)	
Yes	139(46.6)	159(53.4)	

***Statistically significant (p<0.5)** ***Fisher's exact**

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4.12 Factors associated with practice of exclusive breastfeeding

The table below shows the results from a multiple logistic regression of factors associated with practice of exclusive breastfeeding. After adjusting for all other variables (income (GH₵), educational level, place of birth of youngest child, paid maternity leave, flexible working hours for nursing mothers, attitude and support towards exclusive breastfeeding, expressed breast milk maintains its health benefits, decision to breastfeed current child and future children, recommend exclusive breastfeeding to colleagues, support system for breastfeeding and know where to get help if any breastfeeding issues occur), the odds of practicing EBF was significantly reduced by 72%, among respondents who earned from GH₵ 1001 to GH₵ 2000 respectively as compared to those who earned below GH₵ 500 (AOR = 0.28; 95% CI = 0.08 – 0.92; p = 0.035).

The odds of practicing EBF was significantly reduced among respondents who were not sure whether society and the people around them thought breastfeeding was good thing as compared to those who indicated that society and the people around them agreed breastfeeding was a good thing (AOR = 0.001; 95% CI = 0.00 – 0.31; p = 0.017).

Furthermore, respondents who disagreed that expressed breast milk maintained its health benefits had a 96% significant reduction in their odds of practicing EBF as compared to those who agreed that expressed breast milk maintained its health benefits (AOR = 0.04; 95% CI = 0.01 – 0.22; p < 0.001).

Mothers who recommended EBF to their colleagues were significantly 42.92 times more likely to practice EBF as compared to those who will not recommend EBF to their colleagues (AOR = 42.92; 95% CI = 4.32 – 426.31; p = 0.001).

Respondents who did not know where to get help if any breastfeeding issues occur had a 74% significant reduction in their odds of practicing EBF as compared to those who know where to get help if any breastfeeding issues occur (aOR = 0.26; 95% CI = 0.11 – 0.62; p = 0.002).

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Table 4.11 **Factors associated with practice of exclusive breastfeeding**

Variables	cOR (95% CI)	p-value	aOR (95% CI)	p-value
Income (GH₵)				
< 500	1.00		1.00	
500 - 1000	1.44 (0.79 – 2.63)	0.652	0.56 (0.22 – 1.45)	0.236
1001 - 2000	**1.89 (1.003 – 3.55)**	**0.049***	**0.28 (0.08 – 0.92)**	**0.035***
> 2000	**3.49 (1.57 – 7.76)**	**0.002***	0.30 (0.07 – 1.24)	0.096
Educational level				
None	1.00		1.00	
Tertiary	2.68(0.67-10.72)	0.164	2.28 (0.12 – 45.29)	0.588
Vocational	0.66(0.15-2.87)	0.580	0.37 (0.02 – 7.33)	0.515
Secondary	1.12(0.27-4.70)	0.873	0.23 (0.01 – 4.29)	0.326
Primary	3.31(0.71-15.44)	0.128	0.73 (0.03 – 15.77)	0.842
Place of birth of youngest child				
Home	1.00		1.00	
Hospital	**2.53(1.27-5.03)**	**0.008***	1.41 (0.41 – 4.81)	0.583
Other	**5.70(1.60-20.32)**	**0.007***	0.76 (0.12 – 4.76)	0.770
Paid maternity leave				
No	1.00		1.00	
Yes	**1.84(1.14-2.94)**	**0.012***	1.03 (0.42 – 2.54)	0.943
Flexible working hours for nursing mothers				
No	1.00		1.00	
Yes	**2.44(1.57-3.79)**	**0.000***	1.02 (0.47 – 2.22)	0.958

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Society and people around me think breastfeeding is good				
Agree	1.00		1.00	
Not sure	**0.03(0.00-0.14)**	**0.000***	**0.001(0.00 – 0.31)**	**0.017***
Disagree	**0.20(0.04-0.92)**	**0.038***	0.01(0.00 – 2.32)	0.101*
Family reaction towards exclusive breastfeeding				
Supportive	1.00		1.00	
Unsupportive	**0.21(0.10-0.45)**	**0.000***	0.97 (0.25 – 3.69)	0.964
Don't know	0.50(0.23-1.11)	0.088	7.99 (0.57 – 111.89)	0.123
Support for women to exclusively breastfeed their children				
No	1.00		1.00	
Yes	**4.59(2.08-10.11)**	**0.000***	0.67 (0.16 – 2.75)	0.581
Expressed breast milk maintains its health benefits				
Agree	1.00		1.00	
Not sure	**0.39(0.24-0.64)**	**0.000***	0.57 (0.22 – 1.50)	0.257
Disagree	**0.04(0.01-0.18)**	**0.000***	**0.04 (0.01 - 0.22)**	**0.000***
Confidence to breastfeed child after birth				
Yes	1.00		1.00	
No	**0.29(0.12-0.67)**	**0.004***	1.55 (0.18 – 13.48)	0.693
Intention to breastfeed future children				
Yes	1.00		1.00	

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No	**0.12(0.03-0.53)**	**0.005***	0.30 (0.02 – 4.47)	0.383
Recommend exclusive breastfeeding to colleagues				
No	1.00		1.00	
Yes	**74.65(10.22-545.13)**	**0.000***	**42.92(4.32 – 426.31)**	**0.001***
Support system for breastfeeding				
Partner	1.00		1.00	
Friends	1.33(0.71-2.49)	0.378	0.93 (0.32 – 2.75)	0.891
Family	1.38(0.82-2.32)	0.226	0.59(0.27-1.30)	0.192
Doctor	**5.19(2.41-11.19)**	**0.000***	0.67 (0.21 - 2.16)	0.505
Know where to get help if any breastfeeding issues occur				
Yes	1.00		1.00	
No	**0.38(0.22-0.66)**	**0.001***	**0.26(0.11 – 0.62)**	**0.002***

***Statistically significant (p<0.05)**

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CHAPTER 5
5.0 DISCUSSION

5.1 Introduction

This section discusses the results of the study according to the objectives taking into consideration relevant literature. This current study focuses on assessing the prevalence and factors associated with adherence to exclusive breastfeeding among mothers in Koforidua.

5.2 Prevalence of Exclusive Breastfeeding

Analysis of the results attained from this contemporary study showed that 93.4% of mothers had knowledge of exclusive breastfeeding with almost 90% stating health facilities as the primary source of information. Despite this high number, the proportion of mothers in Koforidua who adhered to exclusive breastfeeding was found to be 42%. This observation is lower than that of Asare et al. (2018) who recorded a figure of 66% among mothers attending child welfare clinic in Tema Manhean. A descriptive cross-sectional survey conducted in Wa in the Upper West Region of Ghana recorded a much lower prevalence of 10.3% among 369 professional working mothers (Dun-Dery & Laar, 2016). Among 393 mothers attending CWC in three health facilities in Tamale, only 27.7% practiced exclusive breastfeeding for the first six months (Nukpezah et al., 2018). On the contrary, a much higher prevalence of 84.3% was documented in the Mamprusi West district of the Northern region of Ghana by Boakye-Yiadom et al. (2016). Manyeh et al. (2020) also recorded a high prevalence of 71% in the Dodowa district. In Tuna, a district in the Northern region also recorded a high prevalence of 56% among rural women who were lactating (Mogre et al., 2016). Despite the variations, these observations are generally lower than the WHO recommendation of 90% which is worrying. Also, the difference between knowledge and practice shows a huge gap which needs to be aggressively tackled by health professionals through appropriate education.

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5.3 Factors associated with compliance to Exclusive Breastfeeding

The results in this study showed that the factors associated with compliance of breastfeeding are educational level, monthly income and the place of birth of the youngest child. Mothers who earned above GH₵ 500 had reduced odds of breastfeeding their children exclusively. Comparably, mothers in Southwest Ethiopia who earned a high income of ≥3000 Ethiopian Birr (ETB) (equivalent to GH₵ 400) were less likely to breastfeed their babies exclusively as compared to mothers who earned a monthly income of 890 ETB an equivalent of GH₵ 134 (Awoke & Mulatu, 2021). Similarly, lactating mothers in another Ethiopian study who earned more than 1000 ETB were less likely to exclusively breastfeed than those who earn less than 1000 ETB (Shifraw et al., 2015). Awoke & Mulatu (2021) argue that women who earn higher incomes are most likely have highly demanding jobs that makes it difficult to for them to stay at home and breastfeed exclusively. Workplaces which pay high wages in the Ghanaian society should be encouraged to provide flexible schedules as well as lactational facilities to buoy up lactating mothers to practice exclusive breastfeeding.

In this study, mothers who had their youngest child at the hospital were more likely to practice exclusive breastfeeding as compared to those who birthed at home. Similarly, Arage & Gedamu (2016) noted that mothers in Northwest Ethiopia who birthed their babies at the health facilities were more likely to practice exclusive breastfeeding compared to those who were born at home. In contrast, adolescent mothers in rural Bangladesh were more likely to breastfeed their babies exclusively for the first six months compared to those who gave birth at health facilities (Rahman et al., 2020). Again, Seid et al. (2013) also noted the place of delivery to be significant in the practice of exclusive breastfeeding as mothers who gave birth at the health facilities were three times more likely to breastfeed their babies exclusively compared to those who delivered their babies at home.

Arage & Gedamu (2016) reason that mothers who give birth at the health facilities are most likely to be educated and encouraged to practice exclusive breastfeeding hence their willingness to exclusively breastfeed their babies.

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Breastfeeding mothers who were not sure of or disagreed with society's perceptions that practicing breastfeeding was a good thing were less likely to practice exclusive breastfeeding. Also, mothers who were not sure of or disagreed with the notion that expressed breast milk maintained its health benefits had significant reduction in their odds of practicing exclusive breastfeeding as compared to those who agreed that expressed breast milk maintained its health benefits. Societal perceptions including cultural and religious ones concerning exclusive breastfeeding has posed as a huge challenge to mothers over the years (Boateng, 2018; Burdette & Pilkauskas, 2012; Watson, 2013). Studies in Ghana have shown that societal perceptions have a way of coercing mothers to introduce complementary feeds at very early stages with the misconception that breastmilk alone is insufficient to meet the nutritional needs of the babies (Adda et al., 2020; Diji et al., 2016; Issaka et al., 2014). Both findings in this current study points to the need to attain and disseminate the right information to the general public. Hence health professionals need to introduce effective ways of educating mothers and the public on issues of exclusive breastfeeding.

Mothers who recommended exclusive breastfeeding to their colleagues had higher odds of exclusive breastfeeding as compared to those who will not recommend exclusive breastfeeding to their colleagues. Lactating mothers who did not know where to get help if any breastfeeding issues occur had significant reduction in their odds of practicing exclusive breastfeeding as compared to those who know where to get help if any issues with breastfeeding occur. This is similar to observations made by Diji et al. (2017) which suggest that lactating mothers are not able to get appropriate help when challenges arise during the practice of exclusive breastfeeding hence their reluctance to continue with the practice. They noted that majority of women faced with the challenges in practicing exclusive breastfeeding reported a lack of support from healthcare professionals in how to properly practice exclusive breastfeeding (Diji et al., 2017). In such cases, mothers' resort to friends, colleagues, family and neighbours for advice. Even though information from this group of people may be right, there is the possibility of misinformation, distortion, falsehoods and misconception (Egede et al., 2015).

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5.4 Limitations of the study

The findings of this study cannot be generalized for all of the Koforidua or Ghana. Due to the cross-sectional nature of this contemporary study, the associations found in the study are not temporal and therefore causality cannot be explained. Since mothers were asked if they exclusively breastfed their children, the nature of the question is likely to have yielded over estimated outcomes.

That notwithstanding, the analytical methods used in this study are statistically sound to give reasonable estimation of odds ratios within a 95% confidence interval.

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CHAPTER SIX
6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The prevalence of exclusive breastfeeding for women visiting the Koforidua hospital is 42% even though 93.4% of mothers were aware of exclusive breastfeeding. The factors which showed significant association with exclusive breastfeeding include; income, educational level and place of birth of youngest child. The age of respondents, employment status, marital status and religion were not associated with exclusive breastfeeding as observed in other studies.

In relation to income, mothers who earned more than GH₵ 500 were less likely to exclusively breastfeed because they could afford to buy formula to feed their children. Therefore, the employment of mothers outside the home enables them to earn more income but prevents them from exclusively breastfeeding their babies without adequate support and provisions. Other factors included mothers with their youngest child born at the hospital were more likely to exclusively breastfeed because early initiation of breastfeeding is started at the hospitals.

Mothers who were not sure of or disagreed with society's perceptions that breastfeeding was good were less likely to exclusively breastfeed and mothers who were not sure of or disagreed with the notion that expressed breast milk maintained its health benefits were less likely to exclusively breastfeed.

In conclusion, since educated mothers with high incomes to support formula feeding were less likely to breastfeed exclusively, efforts at promoting exclusive breastfeeding might not target such mothers and promote supportive workplace policies for educated working mothers to enable the practice exclusive breastfeeding successfully.

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6.2 Recommendations

1. Health professionals especially those in the obstetrics, gynecology and pediatrics departments must constantly have educational materials at their out-patient-departments. Materials such as videos, music, fliers on exclusive breastfeeding will reinforce the education at ANC.
2. Employers in Ghana should be motivated more by the Ghana Health Service and the Ministry of health as well as other stakeholders to provide flexible schedules and lactational facilities to encourage the practice of exclusive breastfeeding among working mothers.
3. A support group for high earning and working-class women who can easily afford formula and hence are less likely to exclusive breastfeed should be formed to encourage each other, share their struggles and success
4. The whole community must be educated on the benefits of exclusive breastfeeding since the family and the society serve as the direct support system for breastfeeding mothers.
5. Lactational support groups must be set up in every community. This will serve as easy to access places for such mothers who have questions instead of joining the general hospital queues.
6. Every hospital in Ghana must have a baby friendly environment to encourage exclusive breastfeeding. Also, community leaders such as chiefs and assembly men must work with all stakeholders to make public places such as the churches and mosques baby friendly as well.
7. The ministries of Gender, Education, Trade, Youth and Sports, must work with corporate bodies who employ women of high educational level and high income to hold seminars about the importance of breastfeeding and encourage such women to desist from only formula feeding their children

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8. Regular attendance of ANC must be encouraged strongly, and also mothers must be encouraged and supported to deliver in hospital settings where early initiation of breastfeeding will be done.

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APPENDIX I: PARTICIPANT INFORMATION SHEET

Study Title**: Factors Affecting adherence to Exclusive Breastfeeding Practices Among Breastfeeding Mothers in Koforidua Municipality**

Introduction: This study is being conducted by Abigail Doduwah Sackey (Principal Investigator) a Master of Public Health (MPH) student of School of Public Health, University of Ghana.

Address: Eastern Regional Hospital, P.O.Box 201.Koforidua. Tel: 0542211099

Background and Purpose of Research:

This study is seeking to identify the factors affecting the adherence to exclusive breastfeeding in Koforidua. A lot of factors which interferes with breastfeeding exclusively

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have been identified through literature review. However, the rate of adherence is not well known within Koforidua Municipality. It is therefore important to have a clear idea of these interferences, in order for health workers to ensure optimum growth of babies and this will also decrease the rate of infant mortalities **Safety Protocol:**

The principal investigator will conduct interviews directly. With that, all Covid-19 protocols will be adhered to during the interviews in the facility. The principal investigator will ensure that interviewees are in their face mask before the start of the study.

Possible Risk and Discomfort:

This study poses no risk and discomfort to you as a participant in this study. You will spend about 15 minutes in answering the questionnaires. You will be required to sign a consent form before we start the interview. You will be considered as volunteers and can opt out of the study or decline to answer any question.

Possible Benefits:

There is direct benefit to you as a participant, since you will gain in-depth understanding of the importance of exclusive breastfeeding

Confidentiality:

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All the information collected from you will be kept strictly confidential and will be used for the intended purpose only. You will not be identified by name in any dissemination reports or publications resulting from this study.

Data Security and Record Keeping:

Study materials (questionnaires and informed consent) will be stored in a locked file cabinet in the office of the principal investigator. Study materials will be labelled according to codes and will not be identified by names. The data storage will be done by the principal investigator.

My right to refuse or withdraw:

I have the right to take part in this research or not without losing any benefit.

I may stop participating in this research at any time I wish.

I have read the above information and well understood it. I have had the opportunity to ask questions about it and any questions that I have asked has been answered to my satisfaction. I consent voluntary to participate as a subject in this study and understand that I have the right to withdraw from the study at any time.

Signed by: .....

Name: ..... Date: .....

Place: .....

Contact information:

Do you have any questions or clarifications?

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If any of your questions were not satisfactorily answered by me, or you have further questions regarding this study, you may contact:

Abigail Doduwah Sackey
Tel: 0542211099

Email:
abigaildoduwahsackey@gmail.
com Or

Dr Juliana Enos

College Of Health Sciences

Department of Epidemiology

Tel: 0504229909

If you have any concerns or need clarifications regarding ethical issues, please contact

.

Nana Abena Kwaa Ansah Apatu (Administrator) Ghana Health Service, Ethics Review Committee, Accra.

Tel: 0503539896.

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APPENDIX II: CONSENT FORM

Study Title: **Factors Affecting adherence to Exclusive Breastfeeding Practices Among Breastfeeding Mothers in Koforidua Municipality**

INTERPRETERS' STATEMENT

I interpreted the purpose and contents of the Participants' Information Sheet to the afore named participant to the best of my ability in English/ Twi (underline the language) language to his proper understanding.

All questions, appropriate clarifications sort by the participant and answers were also duly interpreted to his/her satisfaction.

Name of Interpreter: ……

Signature of Interpreter…….. OR Thumb Print …….....

Date: ……

Contact Details ……...

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STATEMENT OF WITNESS I was present when the purpose and contents of the Participant Information Sheet was read and explained satisfactorily to the participant in the language, he/she understood (….name of language)

I confirm that he/she was given the opportunity to ask questions/seek clarifications and same were duly answered to his/her satisfaction before voluntarily agreeing to be part of the research.

Name: ……

Signature…….. OR Thumb Print …….....

Date: ……

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PARTICIPANTS' STATEMENT

I acknowledge that I have read or have had the purpose and contents of the Participants' Information Sheet read and all questions satisfactorily explained to me in a language I Understand, English/ Twi (underline the language). I fully understand the contents and any potential implications as well as my right to change my mind (i.e., withdraw from the research) even after I have signed this form.

I voluntarily agree to be part of this research.

Name of Participant: ……...

Participants' Signature: ……... OR Thumb Print: ……

Date: ……..

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INVESTIGATOR STATEMENT AND SIGNATURE

I certify that the participant has been given ample time to read and learn about the study. All questions and clarifications raised by the participant have been addressed.

Researcher's name: ……...

Signature: …….

Date: …….

Appendix III (QUESTIONNAIRE)

QUESTIONNAIRE ON KNOWLEDGE, ATTITUDES AND PRACTICES OF EXCLUSIVE BREASTFEEDING AMONG WORKERS IN CORPORATE ORGANIZATIONS

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This is research on Knowledge, Attitudes and Practices of Exclusive Breastfeeding among women in Koforidua, the Eastern Region of Ghana. The study is aimed at assessing the level of Knowledge, Attitudes and Practices of Exclusive Breastfeeding as well as the factors that influence its practice. Kindly share your experiences to help achieve this aim by responding to the following questions.

	QUESTIONS	**CODING CATEGORIES**	**SKIP TO**	**CODES**
1. INDIVIDUAL FACTORS				
1a	Maternal Age (State your last birthday age)	**Please state Date of Birth: ……** **Age state……**		age
1b	Marital Status (Circle applicable number)	**Married .....1** **Cohabiting… ..... 2** **Unmarried/Single ..... 3** **Divorced ..... 4** **Widowed 5**		mstat

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1c	Religious Denomination (Circle applicable number)	**Christian ..... 1** **Muslim ..... 2** **Traditional Religion ..... 3** **Others (Specify)… 4**		religion
1d	Cultural Affiliation/Ethnicity?	**Please state……**		ethnic
1e	**Employment**	**Health worker ..... 1** **Civil /Public Servant ..... 2** **Education/Teacher ..... 3** **Trader ..... .4** **Unemployed ..... 5** **Other/specify… 6**		employ

1f	**How much do you earn monthly?**	**No salary……1** **Below GH¢400… ..... 2** **GH¢401 - GH¢1000… ..... 3** **GH¢1001 – GH¢2000.....4** **GH¢2000 and above 5**		earnings

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1g	What is the highest level of education attained? (Educational level)	**Tertiary… .....1** **Vocational .....2** **Secondary… ..... 3** **Primary… .....4** **None 0**		educ
1h	Where did you give birth to your youngest baby?	**a. Home** **b. Hospital/Health Facility** **c. Other** **(Specify).....**		pbirth
1i	Did you attend ANC clinic when you were pregnant with this child? How many times	**Yes ..... 1** **No… ..... 0** **……..**		anc
2. SUPPORTIVE WORKPLACE POLICIES				

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2a	**Does your workplace grant paid maternity leave? (Formal sector) or Does your work allow you to get days off after delivery? (Informal sector)**	**Yes ..... 1** **No… 0**		mat_leave
2b	**If yes in (a), how long is the leave? (Formal sector) or How many days off? (Informal sector)**	**Please state……**		howlongmat_l
2c	**If no on a) have you ever Had a maternity leave? (Formal sector) or Have you ever had days off from your work after delivery? (Informal sector)**	**Yes ..... 1** **No… 0**		everhad_mat_l

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2d	**If yes in c), how long was Your maternity leave? (Formal sector) or How long did you rest without working? (Informal sector)**	**Please state……**		How long_ever
2e	**Does your work place have flexible working hours for nursing mothers? (Formal and informal sectors)**	**Yes ..... 1** **No… 0**		flexi_work_hr
2f	**Describe/state the provisions in the flexible working hours (both formal and informal)**	**State:** **……** **……** **……**		
2g	**Does your workplace allow nursing mothers to bring their children to**	**Yes ..... 1** **No… 0**		lactM_atwork

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	work? (Formal sector) or are you able to send your children to work? (Informal sector)			
2h	**If yes in (2g), does your workplace encourage breastfeeding breaks? (Formal sector) or are you able to take break from work to breastfeed? (Informal sector)**	**Yes ..... 1** **No… 0**		breast_breaks
2i	**If yes in (2h) please, how long are these breaks? (Both formal and informal sectors)**	**1 hour ..... 1** **30 mins ..... 2** **15 mins 3**		

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2j	**If your workplace does not allow nursing mothers to bring their children to work, are there other arrangements to support nursing mothers to continue breastfeeding? (Both formal and informal sectors)**	**Yes ..... 1** **No… ..... 0** **if yes Please state**		other_support
2k	**Does your workplace have a breastfeeding or milk? expression room? (Formal sector) or do you have a place that you can comfortably express breastmilk at your workplace? (Informal sector)**	**Yes ..... 1** **No… 0**		

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2l	**If yes in (k), can you identify any equipment that can be found there to aid in breastfeeding or expression? (Both formal and informal sectors)**	**Refrigerator ..... 1** **Chairs ..... 2** **Tables ..... 3** **Breast milk Pumps ..... 4** **Footstools ..... 5** **Sink 6**		
		Baby/toddler lay area ..... 7 **Toys ..... 8** **Others, Specify… 9**		
3. KNOWLEDGE ON EXCLUSIVE BREASTFEEDING				
3a				
3b				
3a	Have you heard of exclusive breastfeeding?	**Yes ..... 1** **No… 0**		
3b	If yes in (3c), where did you hear it from? (Tick as many as apply)	1. Health Facility [ ] 2. Family [ ] 3. Market [ ] 4. Friends [ ]		

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		5. Media [ ] 6. Other (Specify)		
3c	If yes in (3c) what is exclusive breastfeeding? (Tick only one)	1. A type of breastfeeding where the infant receives only breastmilk [ ] 2. A type of breastfeeding where the infant receives only breast milk and herbal formulations [ ] 3. A type of breastfeeding where the infant receives only breast milk, water and other liquids or solids [ ] 4. A type of breastfeeding where the infant receives breast milk, water, other liquids or solids as well as prescribed medicines [ ] 5. A type of breastfeeding where the infant receives only breast milk no other liquids or solids are given – not even water – with the exception of prescribed oral rehydration solution, or drops/syrups of vitamins, minerals		

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		or medicines [ ] [ ] 6. All the above		
		7. I do not know [ ]		
3d	Do you know the benefits of exclusive breastfeeding?	1. Yes [ ] 2. No [ ] 3. I do not know [ ]		

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3e	If yes in (f), where did you hear it from? (Tick as many as apply)	1. Health Facility [ ] 2. School [ ] 3. Market [ ] 4. Friends [ ] 5. Media [ ] 6. Other (specify)		
3f	What should be the food for a baby who is less than 6 months old?	1. Water [ ] 2. Breastmilk [ ] 3. Formula Milk [ ] 4. Porridge [ ] 5. All the above [ ]		
3g	Do you think babies who are less than 6 months should be given any other food during breastfeeding?	1. Yes [ ] (Which other food) and state reasons …….. 2. If No State reasons…….		

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3h	What are some of the benefits of exclusive breastfeeding to mother? (Allow multiple answers	1. Weight control [ ] 2. Uterus returns to regular size [ ] 3. Reduce postpartum bleeding [ ] 4. sense of love and attachment [ ] 5. Natural contraception 6. Don't know		
3i	What are some benefits of exclusive breastfeeding to the child?	1. resistance to infections [ ] 2. protects against diarrhoea 3. protects against childhood illness 4. prevents overweight, obesity		
3j	What is the importance of **colostrum (thick, yellowish milk produced usually from days 2 to 5 after delivery)** to the baby?	1. Nutrient rich fluid 2. Helps immunity 3. Provides hydration and protein 4. I don't know		
3k	How long after delivery should breastfeed starts?	1. immediately [ ] 2. 30 minutes [ ] 3. 1 hour [ ]		

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		4. 1 day [ ] 5. more than one day [ ]		
3l	How long should a nursing mother take in emptying each breast? *in minutes*	1. 5mins 2. 10-15mins 3. 15-20mins 4. I don't know		
3m	What is the minimum age at which the child should continue to receive breast milk?	……		
3n	Is breast milk alone better than formula milk to fulfil the child's necessary dietary requirements?	**1. Yes [ ]** **2. No [ ]**		
30	Is breast milk alone sufficient during the first 6 months of life?	**1. Yes [ ]** **2. No [ ]**		
3p	Does breast milk lose its benefits when it is expressed/pumped?	**1. Yes [ ]** **2. No [ ]**		

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3q	How should breast milk be stored?	1. At room temperature [ ] 2. In a refrigerator [ ] 3. Anywhere [ ] 4. Freezer [ ]		
3r	How long should a baby be breastfed exclusively after birth?	1. Less than 1 week [ ] 2. 1 week to less than 1 month [ ] 3. 1 month to less than 2 months [ ] 4. 3 months to less than 5 months [ ] 5. 5 months to less than 6 months [ ] 6. 6 months 7. More than 6 months [ ] 8. Don't know		

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4. ATTITUDE ON EXCLUSIVE BREASTFEEDING

4a	Society and people around me think breastfeeding my child is good thing.	1. Agree [ ] 2. Not sure [ ] 3. Disagree [ ]		
4b	How do your spouse's family/your family react towards breast feeding your child exclusively?	1. Supportive [ ] 2. Unsupportive [ ] 3. Do not know [ ]		

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4c	Was it your own decision to breast feed your child?	1. Yes [ ] 2. No [ ] (Specify).....		
4d	Are you happy with breast feeding your baby?	1. Yes [ ] 2. No [ ] **State reasons**		
4e	Do you think all women should be supported to exclusively breastfeed their children?	**Yes ..... 1** **No… 0**		
4f	If yes in (4e) state reasons If no in (4e) state reasons	…… …… …… ……		

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4g	Breastmilk maintains its health benefits when it is expressed/ pumped	1. Agree [ ] 2. Not sure [ ] 3. Disagree [ ]		
4h	After the birth of your baby, did you have the confidence to breastfeed?	1. Yes [ ] 2. No [ ]		
4i	Do you have intention to breastfeed future children?	1. Yes [ ] 2. No [ ]		
4j	Will you recommend exclusive breast feeding to colleagues? And/or family members?	**Yes ..... 1** **No… 0**		
4k	Breastfeeding the child for 6 months or more is waste of time	**Yes ..... 1** **No… 0**		
5. PRACTICES ON EXCLUSIVE BREASTFEEDING				

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5a	Have you ever practiced exclusive breastfeeding	**Yes ..... 1** **No… 0**		

5b	If yes in (a), do you or did you do so with your current child?	**Yes ..... 1** **No… ..... 0** **If No then Why? .....**		
5c	For how long did you exclusively breastfeed	**Below 6months ..... 1** **6months 2**		
	(Giving your child only breast milk, no formula milk or food) your last child after birth?	**6months and above 3**		
5d	At what age did you introduce other foods to the child?	**Below 6 months ..... 1** **At 6 months ..... 2** **Between 6months – 2years ..... 3** **After 2 years 4**		

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5e	At what age did you stop breastfeeding this child?	**Below 6months ..... 1** **At 6 months ..... 2** **between 6months – 2years 3**		
		After 2 years 4		
5f	What was the main reasons for stopping breastfeeding before the child reached 2 years of age?	…… …… …… ……		
5g	When did you initiate breastfeeding after delivery?	**1. within 30 mins [ ]** **2. 30-1hr [ ]** **3. 1hr- 24hr [ ]** **4 after 24 hours [ ]**		

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5h	Was the child given ready-made liquid formula in the hospital	**1. Yes [ ]** **2. No [ ]**		
6. BREASTFEEDING SUPPORT				
6a	Who do you talk to about breastfeeding?	1. Partner [ ] 2. Friends [ ] 3. Family [ ] 4. Employer/ Co-workers [ ] 5. Doctor/Midwife/Nurse [ ] 6. Childcare Provider [ ] 7. Community group [ ] 8. Other (specify)		
6b	Is it easy to talk to them about breastfeeding?	1. Yes [ ] 2. No [ ]		

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6c	Is there any problem in talking about breastfeeding? What is the problem?	1. Yes [ ] 2. No [ ] …… …… …… ……..		
6d	Who supports your breastfeeding? Please tick the ones which are applicable.	1. Partner [ ] 2. Friends [ ] 3. Family [ ] 4. Employer/ Co-workers [ ] 5. Doctor/Midwife/Nurse [ ]		

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		[ ] 6. Childcare Provider		

		7. Community group [ ] 8. Other (specify)		

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6e	Have you been told where to get help if any breastfeeding issues occur? What have you been told?	1. Yes [ ] 2. No [ ] Please specify……		

Thank you for participating in the study

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GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

[n case ofreply theResearch & De[s], ofthisGhana lealth Service Letter should elopment l)tviston number and date be quoted.P O. Box MB 190 Accra

1)i2ital Address: GA-OSO-3 303

Mob: +233-50-3539896

*Mr*Gils ERC *Admin* App I Eel: - +233- 302-68 1 109 Your Ref. No. l' mail: eth ics.researchca ghsmail.org

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24th May, 2022

Abigail D. Sack-ey
University of Ghana
School of Public Health

The Ghana Health Service Ethics Review Committee has iewed and given approval the implementation of our Stud Protocol.

GHS-ERC Number	GHS-ERC: 073/03/22

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Study Title	"Factors Affecting Adherence to Exclusive Breastfeeding Practices among Breastfeedino Mothers in Koforidua Munici alit
A roval Date	24th Mav, 2022
Ex i Date	23 rd Ma , 2023
GHS-ERC Decision	A roved

This approval requires the following from the Principal Ins estigator

- Submission of a yearly progress reporl of the study to the Ethics Committee (l' IRC)
- 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 1• RC 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 vs hy
- Informing the ERC and your sponsor (where applicable) before any publication 01 the research findings.

You are kindly advised to adhere to the national guidelines or protocols on the prevention or ('OVID -19

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...

Mr. Kofi Wellington
(Gl IS ERC Vice Chairperson)

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

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UNIVERSITY OF GHANA
DEPARTMENT OF POPULATION, FAMILY AND REPRODUCTIVE HEALTH
SCHOOL OF PUBLIC HEALTH

Ref No.: .....

9th August, 2021

The Medical Director
Eastern Regional Hospital
Koforidua

Dear Sir/Madam,

LETTER OF INTRODUCTION
ABIGAIL DODUWAH SACKEY

I write to introduce to you **Abigail Doduwah Sackey,** an MPH Student with the Department of Population, Family and Reproductive Health, School of Public Health, University of Ghana, Legon.

As part of her academic requirement, she is undertaking research on the topic **"Factors affecting Adherence to Exclusive Breastfeeding Practices among Breastfeeding Mothers in Koforidua Municipality''.**

She would need assistance on pertinent information in your facility to enable her carry out her research work successfully.

Your cooperation would be very much appreciated.

Thank you.

Yours faithfully,

Prof Kwasi Torpey
(Head of Department)

University of Ghana http://ugspace.ug.edu.gh

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