

**FATHERS' KNOWLEDGE, ATTITUDES AND PRACTICES CONCERNING YOUNG  
CHILD FEEDING AND NUTRITIONAL STATUS OF CHILDREN 0-24 MONTHS IN  
THE LA NKWANTANANG MUNICIPAL DISTRICT**

**BY**

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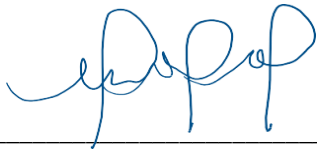
**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON  
IN PARTIAL FUFILLMENT OF THE REQUIREMENT FOR THE AWARD  
OF MPHIL NUTRITION DEGREE**

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## DECLARATION

I Charity Naa Fofo Anang, author of this thesis, do hereby declare that this work was done wholly by me in the Department of Nutrition and Food Science, University of Ghana, under the supervision of Dr. Agartha Ohemeng and Dr. Gloria-Ethel Otoo. All references cited in this work have been fully acknowledged.



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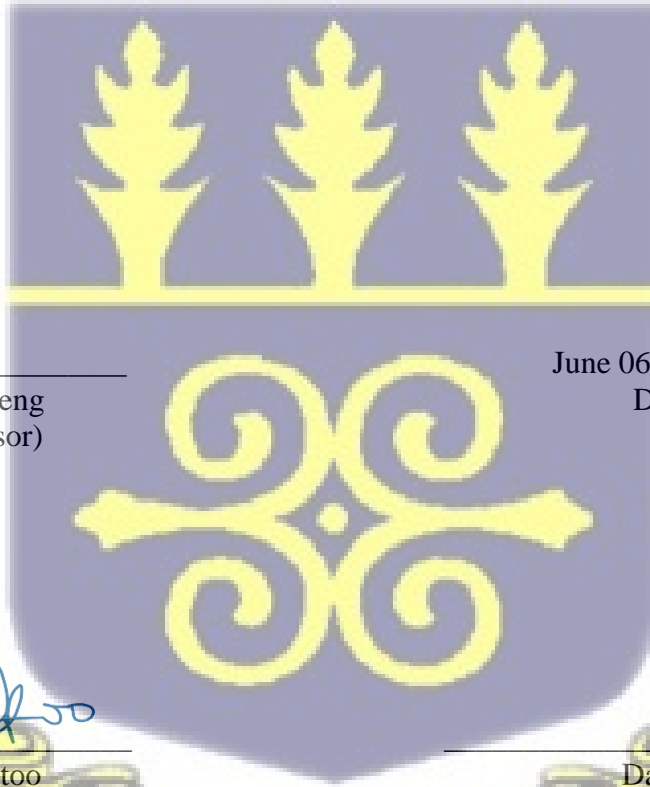
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## ABSTRACT

**Introduction:** Optimal Infant and Young Child Feeding (IYCF) during the first 1000 days is critical for the growth and development of children. Research in this area focuses on the input mothers make in the feeding of the child. The efforts of fathers, although under reported, are just as important in determining the nutritional status of a child. The main objective of this study was to assess fathers' knowledge, attitudes and practices in IYCF in the La Nkwantanang Madina Municipal District (LaNMMA) and how this relates to children's nutritional status.

**Methods:** A cross-sectional study design was employed for this study. Convenience sampling was used to select the health facilities and recruit 180 fathers and their children aged 0-24 months. Data were collected on the sociodemographic characteristics of participants, the knowledge, attitudes and practices of fathers (KAP) and the anthropometric measurements of the children. A qualitative aspect was introduced to explore fathers' roles and barriers of fathers' involvement. This was conducted by means of a focus group discussion and in-depth interviews..

**Results:** The mean age of fathers was  $34.16 \pm 5.63$  years. The average age for children was  $7.28 \pm 5.50$  months and females were slightly more than males (51.7% and 48.3% respectively). Fathers of children 0-5 months and 6-24 months had high knowledge (55.1% and 57.1% respectively) but poor practice scores (44.9% and 48.4% respectively). The prevalence of stunting, wasting and underweight amongst the children was 18%, 8% and 7% respectively. There was no significant association between the KAP of fathers and the nutritional status of children.

From the focus group discussion and in-depth interviews, fathers identified their roles in IYCF as providing support to mothers. Support from fathers was either financial, physical or emotional. Fathers reported that they received information on IYCF from their wives, the grandmothers of their children and the health centers. The fathers indicated that cultural perception of men's roles,

tiredness from work and financial difficulties were barriers to their involvement in infant feeding. Fathers believed being available for their children, education in schools, advertisements, improvement of services at health centers and policy change would help in overcoming their barriers towards IYCF involvement.

**Conclusion:** All fathers had good knowledge and poor practices towards infant feeding. Fathers provided support for their wives and were aware that their involvement in infant feeding was necessary. There is the need to create interventions that specifically address fathers' barriers towards infant feeding.



## DEDICATION

I dedicate this work to my mother, Mrs. Ruby Korkor Anang, the rest of my family and all those who played a part in this journey. I cannot thank you all enough.



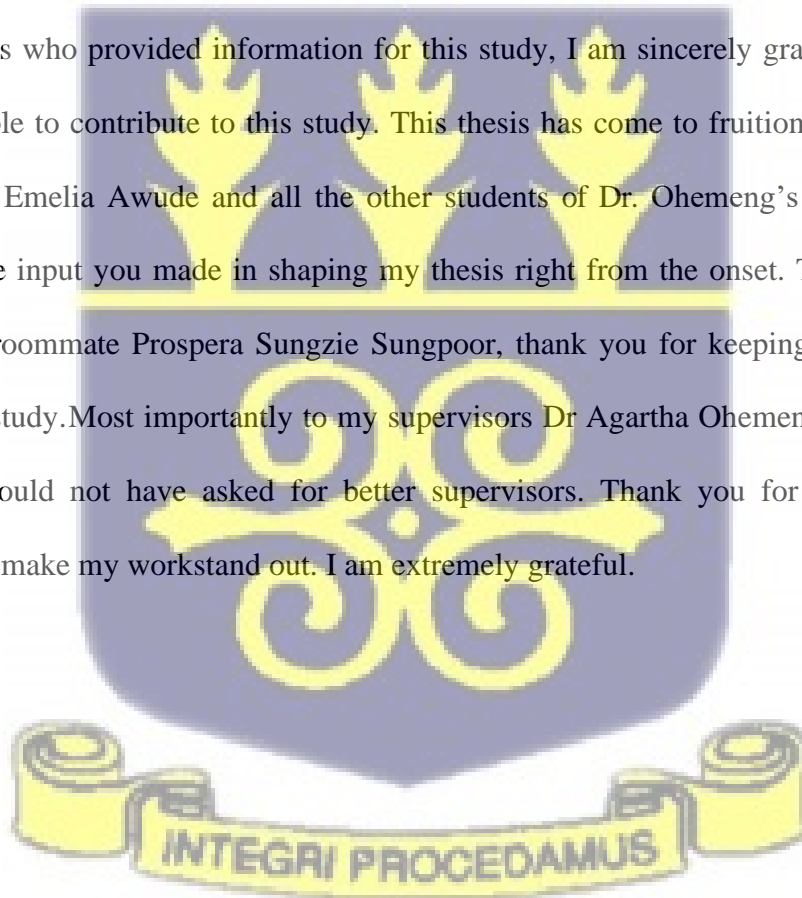
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I would like to thank the Almighty God for holding my hand throughout this journey. There were times I wanted to give up, but he kept me standing.

My heartfelt gratitude goes to my family; the team of 22 and counting. Thank you for being an amazing support system especially to my mother Mrs. Ruby Korkor Anang, my brother George Anang and my sister Sharon Anang-Aseweh.

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To all the fathers who provided information for this study, I am sincerely grateful. Thank you for being available to contribute to this study. This thesis has come to fruition because of your efforts. To Mrs. Emelia Awude and all the other students of Dr. Ohemeng's Graduate Lab, I appreciate all the input you made in shaping my thesis right from the onset. To all my course mates and my roommate Prospera Sungzie Sungpoor, thank you for keeping me on my toes throughout this study. Most importantly to my supervisors Dr. Agartha Ohemeng and Dr. Gloria Ethel Otoo. I could not have asked for better supervisors. Thank you for dedicating your precious time to make my work stand out. I am extremely grateful.



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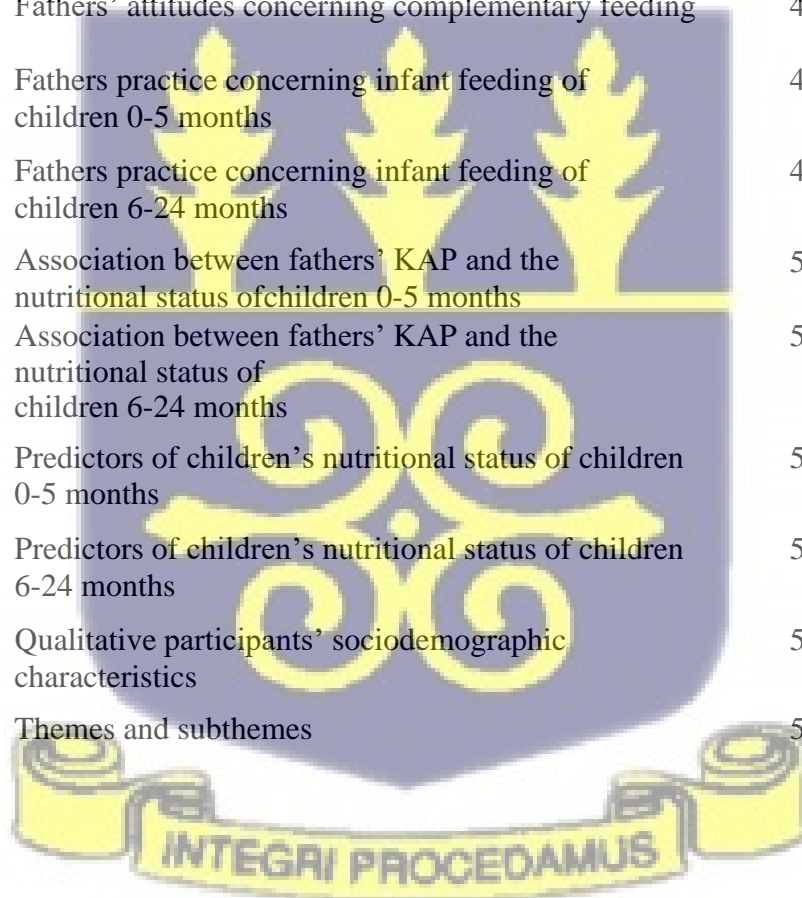
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## LIST OF ACRONYMS AND ABBREVIATIONS

WHO	World Health Organization
UNICEF	United Nations Children's Fund
IYCF	Infant and Young Child Feeding
GDHS	Ghana Demographic Health Survey
MICS	Multiple Indicator Cluster Survey
LaNMMA	La Nkwantanang Madina Municipal Assembly
ME	Margin of Error
WLZ	Weight for length z-score
LAZ	Length for age z-score
WAZ	Weight for age z-score
FGD P	Focus Group Discussion Participant
IDI P	In-depth Interview Participant
EIB	Early Initiation of Breastfeeding



## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background

Undernutrition is a form of malnutrition that comprises of stunting, wasting and underweight. It also includes deficiencies in vitamins and minerals (WHO, 2021). From research, children are more likely to suffer from undernutrition, making them even more susceptible to diseases and death (Kandala *et al.*, 2011; Ruwandasari, 2019; WHO, 2021, Mathiarasan & Huls, 2021). Globally, approximately 45% of child deaths occur due to undernutrition with majority of cases occurring in low to middle-income countries (WHO, 2021). As of 2016, it was estimated that 151 million children were stunted, with 51 million suffering from wasting. Many of these children were from Africa, with varying levels amongst the different countries (WHO, 2017). Currently, 140 million children are affected by stunting and 49.5 million are wasted. In Ghana, although progress has been made in reducing stunting to 17.5%, the prevalence of wasting although reduced (6.8%) remains higher than the prevalence for Africa (6.0%) (Global Nutrition Report, 2021). With the current figures, it is clear that the world is off course in achieving the 2025 WHO recommendations.

According to the World Health Organization, optimal feeding practices serve as one of the most effective interventions targeted at improving child health and reducing undernutrition rates globally (WHO, 2009). The World Health Organization indicates that, optimal IYCF practices require that the breastfeeding of infants be initiated within the first hour of birth, followed with exclusive breastfeeding for the first 6 months of life. At 6 months complementary feeding must begin coupled with continued breastfeeding till the age of 2 and beyond.

Despite the implementation of interventions such as peer support groups and the baby-friendly initiative to reduce sub-optimal IYCF practices in Ghana, exclusive breastfeeding and appropriate complementary feeding rates continue to decline (Anin *et al.*, 2020; Asare *et al.*, 2018). The initiation of breastfeeding within the first hour of birth followed by exclusive breastfeeding for 6 months reduces the risk of infant mortality and disease (UNICEF, 2019). Currently, in Ghana Early Initiation of Breastfeeding (EIB) has declined to 52% from the 56% recorded in 2014 (GDHS, 2015, GNR, 2021). The Global Nutrition Report (2021) also indicates that only 42.9% of children are breastfed exclusively in Ghana.

Transitioning from exclusive breastfeeding to the introduction of complementary foods is a vulnerable period and if not done properly could result in deficits in child growth and development. Complementary feeding must be initiated on time and be adequate in terms of nutritional composition. Foods given to infants must be prepared under safe conditions and given frequently based on the infant's cues (WHO, 2009). In developing countries, complementary feeding is usually not initiated on time and foods given are of low nutritional content (Faber *et al.*, 2016; Nti & Lartey, 2007). The poor nutrient composition of foods during this period of complementary feeding increases the risk of malnutrition in children, the risk of developing infections, and increased mortality (GDHS, 2014; Feng *et al.*, 2022; Masuke *et al.*, 2021). According to the 2021 UNICEF conceptual framework on the determinants of maternal and child nutrition, optimal care practices and healthy diets contribute to positive maternal and child health outcomes. Adequate care and good diets lead to improved survival for women and children. The ideology of maternal care encompasses the emotional and physical support of the women and how this translates to optimal growth and development of children (Vogt *et al.*, 2016).

Feeding of infants is usually regarded as a mother's responsibility. However, studies have shown that family members such as significant others and grandmothers influence a mother's decision concerning infant feeding (Witten *et al.*, 2020; Aubel, 2011). It has been pointed out in several studies that the kind of support a mother receives helps to relieve stress, the feeling of isolation and boost a mother's confidence in decisions related to the nutrition of the child (Martin *et al.*, 2021; Sear & Coall, 2011; Radzynski & Callister *et al.*, 2016). In situations where a mother's support is limited during infant feeding, it could affect her caregiving abilities and mental health. This in turn could have a negative impact on child growth and development such as poor weight gain and slow cognitive development (Ickes *et al.*, 2018).

Previously, fathers were considered mainly as providers and protectors of the household. Men who exhibited a soft side were perceived as weak or feminine, having their masculinity questioned (Singh *et al.*, 2014; Nkuoh *et al.*, 2010). However, over the past few decades, there has been a re-orientation in family-gender roles with more men directly involved in the upbringing of their children (Anderson *et al.*, 2010).

## 1.2 Rationale

In Sub-Saharan Africa, men hold the majority of power with regards to decisions taken at the household level (Nkuoh *et al.*, 2010; Arthur-Holmes *et al.*, 2020; Osei-Tutu & Ampadu, 2018). In Ghana, studies have proven that men's roles in the home have profound implications on maternal health outcomes (Bougangue & Ling, 2022; Abihiro *et al.*, 2022; Craymah *et al.*, 2022; Ampim 2013). Men usually have the final say concerning the number of children their wives should have or how much of the family's budget should be allocated to health care (Ampim *et al.*, 2021; Ganle *et al.*, 2015; Cofie *et al.*, 2015). However, studies in the Sub-Saharan region that have explored how fathers' involvement in IYCF affects nutrition outcomes are limited. Some studies conducted

in the Sub-Saharan region deduced that fathers' who had ample knowledge, offered support by doing household chores, or provided financially allowed mothers more time to concentrate on infant feeding. This in turn had a positive impact on the nutritional status of infants (Kumwenda, 2017; Matare *et al.*, 2019; Dafursa & Gebremedhin 2019).

In Ghana, no study to the best of our knowledge has assessed the roles that fathers play in IYCF and its association with infants' nutritional status, creating a gap in literature. This study therefore sought to find out directly from fathers about the depth of knowledge they possess concerning infant feeding, their attitudes and practices and how this is associated with the nutritional status of their children.

### **1.3 Objectives**

#### **1.3.1 Main objective**

The goal of this research was to assess fathers' involvement in Infant and Young Child feeding in the La Nkwantanang Madina Municipal Assembly and how this relates to children's nutritional status.

#### **1.3.2 Specific objectives**

1. To assess the knowledge, attitudes and practices of fathers of children 0 to 24 months
2. To assess the nutritional status of children from 0 to 24 months within the La Madina Nkwantanang Municipal District.
3. To assess the association between fathers' knowledge, attitudes and practices and the nutritional status of children.
4. To investigate the predictors of the nutritional status of study children.
5. To explore and describe paternal roles during infant and young child feeding.

6. To explore and describe factors perceived to influence fathers' attitudes and practices concerning infant and young child feeding.

## **1.4 Hypotheses**

### **1.4.1 Null hypotheses**

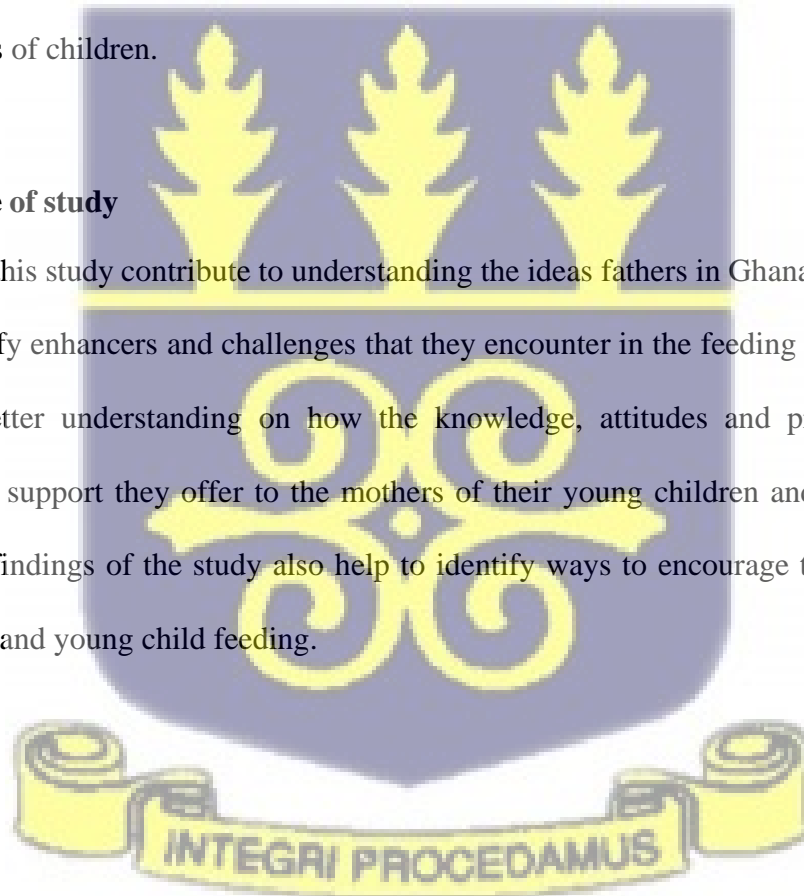
Fathers' knowledge, attitudes and practices concerning infant and young child feeding does not affect the nutritional status of children.

### **1.4.2 Alternate hypotheses**

Fathers' knowledge, attitudes and practices concerning infant and young child feeding affects the nutritional status of children.

## **1.5 Significance of study**

The findings of this study contribute to understanding the ideas fathers in Ghana have about IYCF, as well as identify enhancers and challenges that they encounter in the feeding of their children. It also gives a better understanding on how the knowledge, attitudes and practices of fathers translates to the support they offer to the mothers of their young children and infant nutritional outcomes. The findings of the study also help to identify ways to encourage the involvement of fathers in infant and young child feeding.



## CHAPTER TWO

### 2.0 LITERATURE REVIEW

#### 2.1 The first 1000 days

The first 1000 days of life is considered as the period from conception to the 24<sup>th</sup> month of child's life. This is the stage of life where rapid growth and development occur and is highly dependent on the nutritional status of the mother (Cusick & Georgieff, 2016). Due to poor nutrition before and during pregnancy, the growth and development of the foetus is stifled right from the womb (Morrison and Regnault, 2016). Children born to nutritionally deficient mothers are affected by nutritional deficiencies and may suffer from poor cognitive development, defects, poor motor control, attention deficits, depressive symptoms and a host of other non-communicable diseases later in life (Schlotz & Philips, 2009; Asindi & Al-Shehri, 2001; Li & Freedman 2020). A study in China showed that, exposure of infants in-utero to the 1950 China famine was significantly associated with hyperglycemia in adulthood with an odds ratio of 6.20 for adults with high socio-economic status and 1.68 for those with low socio-economic status (Li *et al.*, 2010). Due to the impact of a mother's health on the wellbeing of her child, it is important that women of reproductive age receive adequate care before and during pregnancy. Although a mother's nutritional status before childbirth plays a pivotal role in infant growth and development, other factors also have an influence on the growth process (Pairman *et al.*, 2011). Factors such as poor infant feeding practices, parental care and the environment could also affect the first 1000 days of a child's life (Pem, 2015). Children in developing countries tend to be at a greater risk of developing nutritional deficiencies due to the inadequate intake nutrient rich foods as well as frequent infections thus inhibiting their growth potential (Adu-Afarwuah *et al.*, 2017; Pem, 2016). In a bid to reduce the prevalence of malnutrition and improve infant nutrition, interventions such as Baby Friendly

Hospital Initiative and Growth Monitoring and Promotion have been implemented in various health facilities in Ghana (Ministry of Health, 2013). These measures have been put in place to reduce the burden of undernutrition, promote exclusive breastfeeding and complementary feeding during the first two years of a child's life and give caregivers the necessary support they require in infant care (Tampah-Naah *et al.*, 2019).

## 2.2 Infant and young child feeding

Optimal IYCF practices serve as one of the crucial points of intervention that shape the growth of individuals right from childhood to adulthood (WHO, 2009). Optimal nutrition during infancy coupled with other factors improves an individual's chances of being productive in society (Prado *et al.*, 2014). Optimal infant feeding encompasses early initiation of breastfeeding within the first hour of birth, exclusive breastfeeding for the first 6 months of life continues till the age of two and beyond as well as appropriate complementary feeding as recommended by WHO. According to Pelto *et al* (2003), infant feeding is basically defined as how, what and when infants should be fed. As indicated by Arabi *et al* (2012), these practices must be carried out during the state of wellness or disease in order to prevent the occurrence of undernutrition in children which could eventually lead to their death.

## 2.3 Breastfeeding

The World Health Organization in 2021 projected that optimal breastfeeding alone could save over 820,000 lives of children under the age of five (WHO, 2022). The milk that infants receive from the mother's breast is safe, abundant in nutrients that improve infant health and help to reduce the risk of common childhood killer diseases. In the long-term, infants who are exclusively breastfed

tend to have higher cognitive abilities than those who are not. In a prospective cohort study in Korea, it was discovered that infants that were exclusively breastfed for more than 3 months had a higher IQ compared to those breastfed for less than 3 months after 8 years (Kim & Choi, 2020). Breastfeeding also helps to reduce the risk of non-communicable diseases such as obesity and diabetes in adulthood (Branca *et al.*, 2019; Rollins & Doherty, 2019; Owino, 2019). Breastmilk is not only safe but is also cheaper alternative to other milk substitutes. This makes it not only beneficial to the health of child, but to the finances of the household. The process of breastfeeding creates a bond between the mother and child. There is a reduction in anxiety and stress levels during breastfeeding due to the presence of the feel-good hormone oxytocin (Krol & Grossman, 2018). The stimulation of the nipple-areolar complex by the suckling of the child stimulates the release of the hormone oxytocin from the posterior pituitary gland and then released into the bloodstream (Pillay & Davis, 2022). The presence of oxytocin in the blood stream during breastfeeding reduces the action of the stress causing hormone cortisol thus making a mother more relaxed during the process (Krol & Grossman, 2018; Heinrichs *et al* 2002, Nagel *et al.*, 2021).

### **2.3.1 Early initiation of breastfeeding**

The World Health Organization defines early initiation of breastfeeding as the breastfeeding of a new-born within the first hour of birth (WHO, 2022). EIB stimulates the production of breastmilk, serves as a defence against infections and reduces the risk of infections (WHO, 2022). There is a 40% risk of children dying if there is failure to initiate breastfeeding within the first hour after birth and an 80% risk if breastfeeding is delayed twenty-four hours after birth (Edmund *et al.*, 2022). Similarly, Berkat and Sutan (2014) in their study reported that neonatal morbidity and mortality increased due to late initiation of breastfeeding. Results from a prospective cohort study conducted

in Ghana, Tanzania and India also proved that neonatal death was lower in children breastfed within the 1 hour of birth than those breastfed within 2-23 hours after delivery. Globally, it is estimated that only about 48% of new-borns are breastfed within the first hour of birth (UNICEF, 2022). Several factors contribute to breastfeeding not being initiated on time (Ahinkorah *et al*, 2021; Shobo *et al.*, 2020; Boakye-Yiadom *et al.*, 2021). From the study conducted by Ahinkorah and colleagues, it was found that EIB was practiced amongst mothers with 5 children or more and those who had vaginal birth, as compared to first-time mothers and mothers who had undergone caesarean sessions (aOR 1.51 [95% CI 1.07 to 2.12]; aOR 4.71 [95% CI 1.36 to 16.24]). They also found that EIB was practiced amongst non-working women, non-media exposed women and women with high socio-economic status with the odds 1.18, 1.37 and 1.58, respectively. In another mixed method study conducted by Shobo and colleagues, they reported that birth attendants' unwillingness to allow mothers perform their religious practices like prayer during labour affected their likelihood to breastfeed within the first hour after birth (RR=4.5, 95% CI 1.2 to 17.1). Results from the qualitative arm showed that post-delivery pains and stress made it difficult for mothers to initiate breastfeeding. Mothers reported that they needed time to regain their strength before breastfeeding. Like Ahinkorah *et al* (2021), Boakye-Yiadom *et al* (2021), also found that attendance to antenatal care was significantly associated with early initiation of breastfeeding ( $p=0.006$ ). Also, the odds of breastfeeding within the first hour were higher amongst women who were roomed with their children compared to those who were not (OR 106.9 (CI: 32.9–346.8)).

### 2.3.2 Exclusive breastfeeding

Exclusive breastfeeding is the process of giving infants only breastmilk for the first 6 months of life. However, exceptions are made for oral rehydration solution, vitamins in the form of drops

and syrup as well as minerals and medicines (WHO, 2019). Infants who are exclusively breastfed have a lower risk of developing gastrointestinal conditions, ear nose and throat diseases, pneumonia and other non-communicable diseases like obesity and diabetes (WHO, 2011; CDC, 2021; Savino *et al.*, 2013). A study conducted by Rito *et al* (2019), gave an analysis of the association between breastfeeding in 22 countries. From the study, Italy and Malta had the highest prevalence (21%) of obesity among children aged 6-9 years who had never been breastfed. In a meta-analysis carried out by Horta *et al* (2015), there was a reduced possibility of breastfed infants being overweight with an odds ratio of 0.74. Exclusive breastfeeding also offers benefits to the health of the mother. It acts as a natural contraceptive, reduces bleeding after birth, lowers the risk of developing breast and ovarian cancer and also helps in weight loss (Scoccianti *et al.*, 2015; Sung *et al.*, 2016; Sipsma *et al.*, 2018; Chowdhary *et al.*, 2015). According to Schwarz (2015), mothers who breastfeed have less visceral fat, tend to have a smaller waist circumference and a reduced risk of diabetes later in life. In systematic review of 55 studies, 36 found a significant association with breastfeeding and postpartum depression and anxiety whilst 29 showed a reduction maternal mental health outcome when breastfeeding was practiced (Yuen *et al.*, 2022). Despite the benefits of the exclusive breastfeeding for both mother and child, the Global Nutrition Report indicates that only 49.2 % of children are breastfed exclusively in Ghana. This indicates a decline from the 52% recorded in 2014 (GDHS, 2014). According to a study conducted by Tettey *et al* (2016), shorter duration of exclusive breastfeeding resulted in children being either moderately or severely malnourished. Also, in a population cross-sectional survey conducted in Ghana, the prevalence of exclusive breastfeeding was 43.7% and only 22% of the mothers breastfed beyond the first two years (Appiah *et al.*, 2021). Factors that affect the rate of exclusive breastfeeding include a mothers' joining the workforce, level of education and cultural beliefs, family size, spousal support

(Dede *et al.*, 2020; Nishirum *et al.*, 2018; Mogre *et al.*, 2016; Mekebo *et al.*, 2022; Opoku Mensah, 2011; Durmazoğlu *et al.*, 2021). Mogre *et al.* (2016) reported that although mothers have favourable attitudes towards exclusive breastfeeding, 42% of them did not practice it. Also, from their study, high education levels for mothers increased the chances of practicing exclusive breastfeeding (OR 5.9; 95 % CI 2.6, 13.3;  $p < 0.001$ )

## 2.4 Complementary feeding

After 6 months of breastfeeding exclusively, breastmilk becomes insufficient and does not meet the nutritional demands of infants (WHO, 2022). This is due to increased growth and development that occurs during this stage. Hence, other sources of food must be added to the child's diet to maintain optimum growth and development (WHO, 2022). The introduction of complementary foods must be timely, responsive based on the infant's hunger cues, safe and adequate.

### 2.4.1 Timely initiation

The World Health Organization defines timely initiation of complementary foods as the introduction of solid, semi solid or soft foods between 6-8 months (WHO, 2009). After six months, a child requires more than breastmilk to sustain growth and development (WHO, 2020). Timely initiation of complementary foods at 6 months has been shown to coincide with the physiological maturation of the infant's renal system and gastrointestinal tract (D'Auria *et al.*, 2020). Delay in the initiation of complementary foods elevates the risk of children becoming undernourished (Abiyu & Belachew, 2020). Notwithstanding, early initiation of complementary food is just as harmful to the child as when delayed. Early commencement of feeding could result in children being overweight (Shagaro *et al.*, 2021). In addition, they are denied of all the protective factors they require for growth and development (Hadi *et al.*, 2021). In the Soro District of Ethiopia, it

was found that only 34.3% of women initiated complementary feeding on time (Yohannes *et al.*, 2018). In another study conducted in Ethiopia, low maternal education and low household economic status were associated with untimely initiation of complementary foods (Chane *et al.*, 2018). In Ghana, one in every five children is not given complementary foods on time (UNICEF, 2018). A study conducted in the Kumbungu district of northern Ghana showed that early initiation of complementary foods was significantly associated with children being underweight ( $p=0.04$ ) (Badjaaba, 2015). Untimely initiation of complementary foods could have a negative impact on the dietary forming habits of infants and contribute to linear growth faltering (Hirvonen *et al.*, 2021).

#### 2.4.2 Adequacy

Adequacy in complementary feeding refers to the provision of foods that contain nutrients to meet the nutritional needs of the child (WHO, 2022). Research has shown that often, children are not fed quantities of food the body requires (Scaglioni *et al.*, 2018; WHO, 2022). Aside that, food is not given frequently thereby putting children at risk of being undernourished. Foods given are usually energy dense, devoid of essential micronutrients such as iron, zinc, calcium and vitamin A (Troesch *et al.*, 2015). Thus, there is the need to strike the balance between quality and quantity to ensure that children grow healthily (WHO, 2009). Adu-Afarwuah and colleagues reported in their study that women and children in Ghana relied heavily on diets that were starch based (Adu-Afarwuah *et al.*, 2017). Generally, in developing countries foods given to children are predominantly plant based with very little additions of animal source foods (Dasi *et al.*, 2019; Adesogan *et al.*, 2020). Phytic acid present in plant-based foods inhibit the absorption of certain essential micronutrients such as iron, zinc and calcium making them unavailable for bodily

processes (Gupta *et al.*, 2015). Several interventions have been carried out to improve the nutritional composition of complementary foods. Interventions such as educating mothers on the need for diet diversification using locally produced foods, fortification and supplementation of these foods (Kuchenbecker *et al.*, 2017; Adu-Afarwuah *et al.*, 2017; Arikpo *et al.*, 2018). A randomized control trial conducted by Adu-Afarwuah *et al.* (2019), showed that supplementation did not improve the iron levels at 6months of age instead at 18 months. They proposed that this occurred because infants iron stores are dependent on the mother's intake during pregnancy however, this ceases after the delivery of the baby. Another randomized control trial by Ghosh *et al.* (2017), found that children who received fortified cereal had higher haemoglobin levels at the end phase of the study as compared to baseline levels.

#### 2.4.3 Safety

Another requirement for complementary feeding is that foods given to infants must be hygienic and given in a clean environment (IYCF, 2009). According to the UNICEF conceptual framework on maternal and child health, the conditions of the environment in which food is prepared could compromise the wholesomeness of the food. This could eventually lead to the occurrence of disease, contributing further to increased morbidity and mortality in children (UNICEF, 2021). Unhygienic food preparation methods, poor storage of food and kitchenware make food unsafe to eat. Also, poor handwashing practices at designated times may lead to the contamination of food (Chidiwisano *et al.*, 2020). Contaminated foods when consumed by infants often leads to diseases such as diarrhoea. Each year, it is estimated that about 1.7 billion diarrhoeal cases are reported in children under the age of five (WHO, 2022). In Africa, diarrhoea causes about 16% of deaths in

children under five and in Ghana, about 10000 deaths in children under 5 per year (Asamoah *et al.*, 2016).

#### 2.4.4 Responsive feeding

Responsive feeding addresses the feeding of complementary foods based on the caregiver's sensitivity to an infant's hunger cues and the actions taken to encourage the child to eat (WHO, 2009). In responsive feeding, the child determines how much food will be eaten based on the cues that are given. On the other hand, it is the duty of the parent to determine what food is given, where and how the food is fed (Boswell, 2021). It is an activity that requires the effort of both parent and child. Studies have shown that responsive feeding is most effective when it is infant led (Chen *et al.*, 2020; Brown *et al.*, 2017; Lutter *et al.*, 2021). When parent feed with coercion, a strict stance, forcefulness or offering rewards based on a child's ability to eat, it affects the intake of food and could either lead to over or underfeeding (Boswell, 2021; Chen *et al.*, 2020; Daniels *et al.*, 2014; Magarey *et al.*, 2016). According to Bentley (2011), responsive feeding influences food and dietary intake of infants and in turn affect growth and development. As such in responsive feeding, it is crucial that psychosocial care is applied by the caregiver (WHO, 2009). A prospective cohort study in Mexico among mothers and infant pairs found that application of force during feeding times was significantly associated with lower weight for length z scores and low body mass index ( $p=0.02$ ) (Kim-Herrera *et al.*, 2021). In a qualitative study carried out in Ghana, caregivers identified inadequate knowledge from health care providers and the lack of support from family, friends and community as some of the barriers to practicing responsive feeding (Sandow *et al.*, 2022). With the right knowledge, caregivers will be more equipped to identify the hunger cues of their children and respond accordingly. In Kenya, it was also found that force

feeding of children was significantly associated with occurrence of undernutrition (Mutoro *et al.*, 2020).

## 2.5 Nutritional status

Nutritional status is defined as the presence or the absence of malnutrition. Where malnutrition is defined as undernutrition or overnutrition (Huhmann, 2011). Todhunter (1970), also defines nutritional status as the health condition of an individual as influenced by the intake and utilization of nutrients. The assessment of nutritional status gives information on an individual's health status such as potential nutritional deficiencies and excesses (Gurinović *et al.*, 2017). Nutritional status can be determined by anthropometric measurements, biochemical tests, clinical assessments of signs and symptoms and by dietary assessments (Gibson, 2005). Biochemical tests tend to be expensive when conducted on large population sizes and clinical assessment usually require ample knowledge on signs and symptoms of various deficiencies (Bhattacharya *et al.*, 2019; Sauberlich & Howerde, 2018). Dietary assessments give a fair idea of food or energy intake over a period however, it tends to be subject to recall biases (Bhattacharya *et al.*, 2019). Anthropometry over the years has been the most frequently used assessment tool for nutritional surveys (Ferreira, 2020). This method is often preferred because it is much easier to perform compared to other assessment methods (Eaton-Evans, 2005; Thornton & Villamor, 2016). Nonetheless, minor errors in anthropometric measurements could lead to the misclassification of a person's nutritional status (Eaton-Evans, 2005). Assessing nutritional status through surveys helps to give a snapshot of the health status of populations (Péter *et al.*, 2015). This helps in the formulation of nutritional interventions that are channelled towards improving the health status of individuals

## 2.6 Undernutrition

Undernutrition remains an issue of public health concern globally, stifling the economic growth of countries (WHO, 2021). Undernutrition in children could present itself as stunting, wasting and underweight. Stunting (low height-for-age) indicates chronic or long-term malnutrition, wasting (low weight-for-height) indicates acute retardation in nutrition (Sen *et al.*, 2011). Although underweight, stunting, and wasting denote different facets of malnutrition in children, they are not mutually exclusive and rely on each other to coexist (Nandy *et al.*, 2012). Undernutrition alone results in about 45% of deaths globally in children below the age of 5 with most cases occurring in low to middle income countries. The occurrence of undernutrition in children may be due to the interplay of several factors such as insufficient nutritious food, poor hygiene practices, lack of access to potable drinking water, poor parental knowledge, and low household socioeconomic status (Sulaiman *et al.*, 2018; Murakar *et al.*, 2020; Kassie & Workie, 2020). Undernutrition is considered critical by the World Health Organization when stunting prevalence exceeds 40% and wasting 15% (WHO, 2010). The severity of undernutrition in children is heightened if a child suffers from both stunting and wasting. It elevates the possibility of death in children and in turn affects the population wealth of countries (Fentahun *et al.*, 2016).

### 2.6.1 Stunting

Linear growth is the best overall indicator of a child's health status and provides an accurate marker of disparities in society (de Onis & Branca, 2016). This is evident in the millions of children worldwide who fall short in achieving linear growth potential due to sub-optimal nutrition and healthcare. They are also plagued with irreversible physical and cognitive damage that accompanies stunted growth (WHO, 2008). Severely stunted children face a four times higher risk

of dying by the age of 5 than normal children (Black *et al.*, 2008). Stunted children enter adult hood with a higher propensity for developing obesity and chronic diseases (Hoffman *et al.*, 2000). The condition is usually undetected in region where short stature is regarded as normal. The difficulty in visually identifying stunted children and the lack of routine assessment of linear in primary health care services explains why it has taken too long to recognize the magnitude of this scourge (WHO, 2012). As of 2019, UNICEF reported that every 1 in 3 Ghanaian children suffer from stunting. Children after being weaned are unable to receive nutritious food that supports growth and cognitive development. In the Ghanaian Health system, growth monitoring session are centred on weight measurement of the child and making inferences on the child's health based on that the child's weight and age (UNICEF, 2008; Laar *et al.*, 2018). Length measurement of children are often overlooked due to the lack of equipment and the time involved in taking the measurement in addition to the weight (Laar *et al.*, 2018; Hamer *et al.*, 2004). This makes it impossible to assess the child's weight for length or length for age. Presently, stunting rates in the country have reduced from 18% in 2017/2018 to 17.5%. This percentage is less than the average of 30.7% recorded for Africa. In the Greater Accra region alone 13% of children are stunted lower than occurrences recorded for other regions in the country (GSS, 2018/2019). The Global Nutrition Report indicates that Ghana is making progress in achieving the 40% reduction in stunting in children below the age of 5 by the year 2025.

### 2.6.2 Wasting

Wasting in nutrition as defined by the World Health Organization is when a person is too thin for their height. Wasting or thinness in most cases indicates a recent and severe weight loss, which is often associated with acute starvation and or severe food shortage (WHO, 2019). Of all the forms of undernutrition, wasting has the highest tendency of resulting in infant death. According to Black

*et al* (2013), wasting is a form of nutritional deficiency that carries dire health consequences, the most immediate being a heightened risk of mortality. Children who are wasted in some situations may tend to be oedematose in the feet, all four limbs and in the worst-case scenario the entire body (UNICEF, 2022). Globally it is estimated that over 4.5 million children are wasted and close to 14 million severely wasted (UNICEF, 2020). The continued high burden of child wasting globally represents an urgent policy priority (World Bank, 2016). The World Health Assembly's target aims at reducing and maintaining child wasting below 5% globally by 2025 (WHO, 2014). Reports from the 2014 GDHS data indicate that children between that ages of 9-11 months were more likely to be wasted. Also, female children were more likely to be wasted by males (GDHS, 2014). Currently, the prevalence of wasting has increased from 5% in 2014 to 7% in 2018.

### 2.6.3 Underweight

Underweight (low weight-for-age) is a composite reflection of both stunting and wasting (WHO, 2019). Over 45 countries in the world are briddled with the burden of this condition (Global Nutrition Report, 2021). Laar and colleagues (2018), in their study reported that during growth monitoring sessions, the indices for underweight are the most measured in Ghana. This is because it requires less time since it only involves the recording of the age of the child and taking weight measurements. Results from the 2014 GDHS showed that children born to mothers who had a body mass index less than  $18.5\text{kg/m}^2$  were four times more likely to be underweight. The results also showed that, females were more likely to be underweight than males with a percentage of 11.2 and 10.5 respectively. Again, children living in rural areas and those with mothers who had little or no education were more likely to be underweight than those in urban areas or those who had educated mothers (GDHS, 2014).

## 2.7 Social perspective of fatherhood

Traditionally, a father is considered as the biological male parent of a child. Though this definition holds, a father may not always be a biological parent. He could be an adoptive father, a stepfather or even a male relative such as uncle or grandfather that plays an active role in the caregiving of a child whether directly or indirectly (Yogman & Eppel, 2022; Gogineni *et al* 2013). According to Richter and Morrell (2017), in some situations, a biological father may jilt his role in the life his child giving another man the chance to take responsibility. Also, with current technological advancements, a woman can get pregnant without direct participation from a man and thus eliminates the role of the ‘father’ in the child’s life (Baldwin, 2012). In the African context, the concept of fatherhood is expressed in the responsibilities a man takes on at home. It is considered as the father’s duty to provide financially, lead and protect his family (Osei & Ampadu, 2018; Whisson , 2012; Hunter; 2010; Abass *et al.*, 2012). All other household activities such as cooking, cleaning and hands-on upbringing of children is considered as a woman’s job (Annor,2014). It is not expected of a man to engage in such activities and men who usually do so are regarded as weak and feminine (Nkuoh *et al.*, 2010).

However, over the past three decades, gender roles in the world have seen a turn around with more women joining the active workforce (Wang & Bianchi, 2006; Raley *et al.*, 2012). As a result of the change, more fathers have begun to contribute more at home by becoming involved in childcare activities, whilst women also offer financial support the household (Altintas *et al.*, 2017). A study conducted by Ampim *et al* (2020), amongst young fathers in the rural and urban setting on their ideologies of manhood found that most men offered help at home with house chores to help ease the burden on their spouses.

## 2.8 Support for mothers during infant feeding

The decisions a mother takes concerning the feeding of her child are largely dependent on the support she receives. Social support after birth reduces the stress a mother feels, boosts her self-esteem, improves her caring abilities and helps to eliminate the possibility of depression (Ni & Siew, 2011). In terms of support for mothers, fathers and grandmothers play a pivotal role in the IYCF journey of a child. In the African setting, grandmothers and older women are viewed as a well of knowledge and are key influencers at the household level (Michel *et al.*, 2019; Jonasi, 2007). They play a dominant role in decisions taken with regards to the health of the mother and her child (Thuita *et al.*, 2015). Grandmothers not only run the affairs of their homes but offer help in the running of the homes of their children. Infants are often left in the care of their grandmothers to feed when the mother is either away on travel or at home (Thuita *et al.*, 2015; Gupta, *et al.* 2015). However, a partner's support is often stronger than other relations (Thuita *et al.*, 2015, Mitchell-Box *et al.*, 2013, Rempell & Rempell, 2011, Tsai, 2014). The absence of support from family during the IYCF journey especially from the father of the child has shown to be an obstacle in efforts made to improve feeding practices (Aubel, 2011; Nankumbi & Muliira, 2015). In a prospective study conducted in Australia that sought to identify the determinants of breastfeeding initiation, it was found that partner support informed a mother's decision to initiate breastfeeding. Women whose partners were pro-breastfeeding were more likely to initiate breastfeeding (AOR = 11.77, 95% CI 5.73, 24.15) (Arora *et al.*, 2017). A study conducted by Coomson and colleagues (2016), in Accra deduced that women who received spousal support or encouragement from other relatives had higher tendencies to breastfeed their children in public (OR 3.99, 95% CI 1.50, 10.57; OR 3.27, 95% CI 1.31, 8.18).

## 2.9 Fathers' involvement in infant feeding

Optimal infant and young child nutrition is the responsibility of the parents of the child (Inbaraj *et al.*, 2020). The role of a father in a child's life is just as important as that of the mother although under-reported in studies (Clark, 2009). A father's involvement is often seen from the time a child is born as this marks the onset of the fatherhood journey and may serve as a predictor for optimal involvement in the child's life in the future (Bakermans-Kranenburg *et al.*, 2019). Fathers' involvement is classified as direct engagement with the child either through caretaking, or through playtime or leisure. Over the years, fathers' involvement in the lives of their children have increased with more women acting as co-breadwinners in the household. Research conducted usually assesses a fathers' involvement in infant nutrition based on maternal reports (Drysdale *et al.*, 2021). This maybe a poor assessment of the support a father gives during the growth and development of his child. Often, fathers' contribution towards nutrition is measured based on the wealth status of the father and its effect on infant health outcomes (Owaoje *et al.*, 2014; Bimpong *et al.*, 2020). Aside socioeconomic status, very little attention is given to other forms in which fathers involvement can impact the health of their children (Carlson & Magnuson, 2011). In a study concerning fathers engagement in infant feeding in Tanzania, majority of the fathers reported that their role in infant nutrition dwelt heavily on their ability to provide the necessary resources for needed infant feeding (Martin *et al.*, 2021). Another study in Uganda showed that fathers were provided money for food and were helpful in buying food for their children however, they were less involved in taking decisions concerning the practice of exclusive breastfeeding, the onset of complementary feeding and accompanying the mothers of their children to the health facility (Kansiime *et al.*, 2017). Contrarily, a study conducted in Kenya showed that fathers offered support by taking active part in decisions concerning infant feeding. This led to an improvement in the feeding frequency and dietary diversity of children (Aoko *et al.*, 2018). Tohota and

colleagues found in their qualitative study that women appreciated it when their husbands offered support in handling the baby or carrying out some the household (Tohota *et al.*, 2009).

### **2.10 Fathers' knowledge on infant feeding**

Knowledge received through education either influences a person's behaviour positively or negatively (Saaka *et al.*, 2021). Positive knowledge received and acted on has a high probability of improving the attitudes and practices of fathers towards infant feeding practices and in turn the nutritional status of their children (Nassanga *et al.*, 2018). However, according to Bukusuba and colleagues (2010), there may be instances where positive knowledge may not cause the desired change in a particular behaviour. With the right knowledge fathers can help to improve exclusive breastfeeding rates and improve dietary diversity for children less than the age of 5 (Dinga *et al.*, 2018). In a randomized control trial in Australia known as the Father Feeding Initiative, it was found that women whose significant others received nutritional information during antenatal sessions were more likely to breastfeed than those who did not (Maycook *et al.*, 2013). When men are exposed to information on infant feeding, it broadens their knowledge they already possess and improves the health outcomes for both mother and child (Piazalunga & Lamounier, 2009; Dinga *et al.*, 2018; Palmqvist *et al.*, 2013). An Ethiopian study found that fathers who had good knowledge and practice had children who had higher dietary diversity giving an odds ratio of 3.43 (95% CI: 2.19–5.37) and 2.32 (95% CI:1.49–3.61), respectively (Bilal *et al.*, 2015).

### **2.11 Fathers' attitudes towards infant feeding**

Attitudes are the perceptions and cognitive beliefs that influence the behavioural pattern of an individual. These perception and beliefs contribute to the emotional stance a person may have towards a particular phenomenon in addition to their preconceived ideas (Kaliyaperumal, 2004).

A father's preconceived ideas about infant feeding may affect a mother's feeding choice for their child. Positive attitudes exhibited by fathers concerning infant feeding practices is largely dependent on the information they receive. The attitudes that men have towards infant feeding are influenced by factors such as education and culture particularly in the African setting where males' involvement in infant feeding labels them as weak (Nkuoh *et al.*, 2010). Poor attitudes caused by poor knowledge could alter the trajectory of a child's nutritional journey and could result in dire consequences on the child's health and economic growth (Bilal *et al.*, 2015). The attitudes of a man may not be influenced by the knowledge he possesses however, they have an impact on his practices concerning young child feeding.

### **2.12 Fathers' practices towards infant feeding**

Practices can be defined as the behavioural pattern or actions a person takes that may affect their way of life. These actions are often performed on the premise usually based on the knowledge a person has concerning a particular situation. Poor behaviours towards infant feeding according to Baldwin *et al* (2021), is caused by misinformation on infant feeding and inadequate support for fathers from health professionals. At the household level, men consider it their responsibility to provide financially whilst women address the direct caregiving activities such as feeding (Martin *et al.*, 2021; Allotey *et al.*, 2022). Men's actions during the gestation period affects the decisions the mothers of their children may take concerning infant feeding. In Nigeria, fathers' practices such as buying of food, offering encouragement and supporting mothers with household chores helped to improve mothers' decisions concerning infant feeding (Allotey *et al.*, 2022). Another study conducted by Flax *et al* (2022) showed that fathers may not be privy all the information concerning infant feeding but could still be good avenues of positive indirect support for mothers.

### 2.13 Factors that affect fathers' involvement

Culture encompasses the beliefs, values and norms that are shared by a group of people. Culture plays an integral role in society and goes a long way to influence ideologies on various expectations for gender roles. According to Ganle *et al* (2015), roles that men and women play in the home is influenced by long standing societal religious, economic, and political beliefs. The role of a father varies across societies globally and is dependent on family structures, kinship patterns and economic systems.

The socioeconomic status of a man may affect his presence in the life of his child. A father's need to earn an income to support his family may consume time needed to be spent with the child (Townsend & Townsend, 2002). This absence of the father leaves a greater portion of the direct care burden on the shoulders of the mother (Raley *et al.*, 2012).

In some situations, men may prefer not to attend antenatal sessions with their wives to cut down the cost of transportation in order to ease their financial burden (Leng *et al.*, 2019).

Insufficient information from health professionals is another factor that may affect fathers' involvement in infant feeding. In some instances, fathers may want to do more than just provide financially but may not know how to help their spouses (Tohota *et al.*, 2009). According to Tohota and colleagues reported that fathers felt unprepared and lacked the necessary information to help their lactating spouses. A qualitative study by Bilal *et al* (2016), it was reported that there was a knowledge gap between mothers and fathers concerning childcare because of poor child-health education targeted at fathers at health facilities. According to Kisumu *et al* (2018), fathers are usually not targeted for information on optimal infant and young child feeding at health facilities. Due to insufficient knowledge, they are unable to give the needed support to the mothers of their children with regards to IYCF.

## CHAPTER THREE

### 3.0 METHODOLOGY

#### 3.1 Study area

The study was conducted in the La-Nkwantanang Municipal District. La Nkwantanang is one of the 29 Metropolitan, Municipal and District Assemblies in the Greater Accra Region of Ghana. It is located in the northern part of the region and covers about 75 square kilometers of land (LaNMMA, 2019). To the west of the district is the Ga East Municipal, to the east the Adentan Municipal, to its south is the Accra Metropolitan and to the north is the Akwapim South Municipal. It is situated between latitude  $5^{\circ} 81'3''$  N and latitude  $5^{\circ} 67'7''$  N, between longitude  $0^{\circ} 24'0''$  W and  $0^{\circ}13'1''$  W. According the 2021 census, the population of the district is 244,676, with 120,846 males and 123,830 females, respectively (LaNMMA, 2019). The district is predominantly urban with majority of the population engaging in commerce activities (LaNMMA, 2019).

#### 3.2 Study design

The study was a cross-sectional survey. This survey measures both the exposure and outcome of a phenomenon at a single point in time (Setia, 2016). Cross-sectional surveys do not determine causality however they can be used to prove the association between the outcome and exposure (Gad, 2014). They can be used to generate hypothesis for prospective studies and also be used to determine the prevalence of either the outcome or exposure in a population (Olsen and St George, 2004). Cross-sectional studies are devoid of follow-ups thus making them a cheaper alternative to other studies (Girolamo & Mans, 2019).

The quantitative arm of the study required the use of a survey to collect data and a statistical tool for analysis. The qualitative aspect on the other hand, focused on the perceptions and the experiences the study participants (Guetterman & Creswell, 2015).

### 3.3 Study population

The study was conducted among fathers of children aged between 0 to 24 months in the La-Nkwantanang District in the Greater Accra region of Ghana

### 3.4 Criteria for participant selection

#### 3.4.1 Inclusion criteria

- Fathers of children aged between 0 to 24 months who live within the La-Nkwantanang district.
- Fathers of children whose mothers attended growth monitoring sessions at the selected health facilities.

#### 3.4.2 Exclusion criteria

- Fathers who did not live with their family or had not visited at least 3 times a month within the past 6 months.
- Fathers who did not offer any form of physical and financial support to the mother of their young child were not eligible to participate.

### 3.5 Sample size determination

The prevalence of chronic malnutrition with the Greater Accra region (12%) was used in the calculation of the sample size. The prevalence was derived from the 2017/2018 Ghana Multiple Indicator Cluster Survey (MICS 2017/2018). Using this prevalence in the Cochran sample size formula:  $n = z^2 P (1-P) / ME^2$

Where: n= representative sample Using a confidence level (Z) of 95%

Margin of error (ME) of 5% (0.05)

Prevalence of chronic malnutrition within the Greater Accra region (P) = 12.6 %

$N = (1.96)^2 * 0.126 (1-0.126) / (0.05)^2$  Therefore, the minimum sample size= 169 fathers.

Considering a 5% non-response rate, the sample size was totaled at 180 fathers.

### **3.6 Sampling technique**

#### **3.6.1 Quantitative phase**

The district and the health facilities were selected conveniently due to their proximity to the researcher and high coverage of antenatal and postnatal care. The two polyclinics (Madina Polyclinic and Kekele Polyclinic) in the district had an average of 75 and 68 attendants per month. Hence, a proportion of 50% of participants was selected from each facility. Mothers whose significant others met the inclusion criteria for the study were eligible to participate. All mothers were approached at the health center and the purpose of the study was explain to them. Mothers who agreed to participate then gave the contact of the infant's father. This process was repeated till the estimated sample size was reached.

#### **3.6.2 Qualitative phase**

Once a week from each of the health facilities, the researcher conveniently selected all mothers who were willing to participate in the study. These participants were different from those selected for the quantitative domain. The purpose of the study was explained to the mothers at the facility. The mothers who consented gave the contact of the fathers of their children. The researcher contacted all fathers to seek their consent to participate in the study. A total of 17 fathers were recruited. Five fathers agreed to take part in a focus group discussion and 12 opted for in-depth interviews.

### **3.7 Data collection and tools**

#### **3.7.1 Quantitative**

##### **3.7.1.1 Fathers' information**

A pretest was conducted on nine (9) fathers from each of the facilities. The questionnaire was administered online or over the phone based on the father's preference of the father. The pretest was done to ensure the validity and accuracy of the questionnaire as well as the estimated time needed to answer the questions. Fathers who participated in the pretest were not included in the actual survey. After the pretest, fathers whose contacts were obtained from the mothers of their children were called to inform them about the study and ascertain their willingness to participate. The questionnaire was self-administered online using an electronic form or over the phone based on the preference of the father. On the other hand, fathers who visited the facility with their children were eligible to participate in the study. Fathers were approached directly and the purpose of the study was explained. Those who consented were recruited into the study. Data was collected on fathers' socio-demographic characteristics. Knowledge, attitudes and practices (KAP) concerning IYCF were collected using the validated Food and Agriculture Organization (FAO) KAP questionnaire (FAO, 2014). The KAP questionnaire consists of 13 module questionnaires that cover an array of nutrition-related issues in society. This questionnaire was originally designed for mothers but can be modified for the purpose of other studies such as this, as demonstrated by Kumwenda (2017). These modifications included questions on fathers understanding of IYCF, the help they offer during feeding episodes, and the provision of financial support amongst others.

### **3.7.1.2 Anthropometric measurements**

Anthropometric measures were taken twice and recorded on the questionnaires. (WHO, 2008). For weight measurements, mothers stood barefooted on the scale after taking off all heavy objects. The scale was tared and the child was handed over to the mother on the scale. The difference in weight was read and recorded on the questionnaire. The recumbent length of children was measured with an infantometer. The child was placed on the infantometer with his or her head against the head piece. An assistant held the head of the child in position by cupping the ears. The movable foot board was then pushed to the feet of the child by the measurer. Thereafter, the length of the child was recorded on the questionnaire

## **3.7. 2 Qualitative**

### **3.7.2.1 Focus group discussion**

Due to the inability to get fathers to participate the qualitative arm of the study, only one focus group discussion was held. The discussion was held with five fathers aged 32-45 years over the weekend. The discussion was held at a convenient and comfortable location. The researcher functioned as the facilitator for the discussions. The discussion session was recorded and lasted for an hour and 5 minutes. An assistant researcher took notes and recorded non-verbal communication expressed during the discussion. With the use of a focus group discussion guide, the discussion session was centered on fathers' attitudes and practices towards IYCF with more attention on factors that affect their involvement in terms of attitudes and practices. The participants were given beverage and pastries in appreciation of their contribution and time.

### **3.7.2.1 In-depth Interviews**

Twelve in-depth interviews were conducted. This was because fathers found it difficult to make time during the week and over the weekend to participate in the focus group discussions.

Participants were more comfortable making time after work to offer the interview over the phone. The phone conversations with the fathers were recorded after fathers gave their consent. The interview guide followed the same pattern as the focus group discussion guide. Fathers who offered to be interviewed aged between 27-40 years and the sessions lasted for a maximum of 20 minutes. The participants were compensated with airtime to show appreciation for their contribution and time.

### 3.8 Data Management

All the information provided for this study were treated with caution. Participants names were not mentioned in any report and identification codes were used for each participant. Hard copies of the questionnaire were locked in cabinets and questionnaires answered online were stored on a computer with a password

### 3.9 Study variables

**Table 3.1: List independent and dependent variables**

Independent variables	Dependent variables
Father's Age	Wasting
Occupation	Stunting
Level of education	Underweight
Income level	
Household size	
Child's age	
Child's sex	
Religion	
Ethnicity	
Number of children	
Number of children below 24 months	
Number of prenatal visits attended	
Number of postnatal visits attended	
Knowledge	
Attitudes	
Practices	

### **3.10 Data analysis**

#### **3.10.1 Quantitative**

The data was analyzed using IBM SPSS (Statistical Package for Social Sciences) version 20. Means and standard deviations were computed for continuous variables and frequencies and percentages for categorical variables. Chi-square analysis was also used to determine the association between the knowledge, attitudes and practices of fathers and the nutritional status of children between. Binary logistic regression was then used to determine the independent variables (fathers' KAP and other covariates) that were associated with infant nutritional status (measured as wasting, stunting and underweight).

##### **3.10.1.1 Knowledge**

The knowledge of fathers was analyzed and put into binary classifications. The responses of the fathers were grouped as 'knows' for a correct answer and 'does not know' for a wrong answer. For the questions that required multiple correct answers, one correct answer given was classified as 'knows.' On the other hand, no correct answer for questions that required multiple correct answers were classified as does not know. Any correct answer attracted a score of one and a wrong answer was allocated a score of zero. The total score of each father was then calculated by summing up his scores. The knowledge scores of fathers were grouped into categories of high and low with cutoff points of  $>70\%$  and  $\leq 70\%$  respectively (FAO, 2014).

##### **3.10.1.2 Attitudes**

The attitudes of the respondents were also analyzed and grouped into binary classifications based on either a positive or negative attitude. A positive response of the fathers attracted a score of one and the negative, a score of zero. The total score of each father was then calculated by taking a sum of scores for each father. The scores of obtained were then grouped into categories of good and poor with cutoff points of  $>70\%$  and  $\leq 70\%$  respectively (FAO, 2014).

### 3.10.1.3 Practices

Like the analysis of knowledge and attitudes, the binary classifications were used to analyze whether fathers had optimal feeding practices when it came to their younger children. Based on the questions asked about food type and frequency, fathers who had good practice skills were given a score of one and those with negative practices, a score of zero. Similar to the knowledge and attitudes of fathers, the total score of each father was then calculated by summing up his scores. The practice scores of fathers were then grouped into categories of good and poor with cutoff points of  $>70\%$  and  $\leq 70\%$  respectively (FAO, 2014).

### 3.10.1.4 Anthropometric measurements

The average of the measurements was derived in SPSS and analyzed using the WHO Anthro software for weight for age, weight for length and length for age z-scores, respectively. The z-scores were then grouped into categories of undernourished and normal with the cut-off points  $<2$  and  $\geq 2$ , respectively. A composite score for malnutrition was then created based on a child either being wasted, stunted, or underweight. A child having one or more of the conditions was given a score of one and labeled as undernourished. However, the absence of any of these conditions attracted a score of zero and labeled a child as normal.

### 3.10.2 Qualitative

Data was analyzed using thematic analysis. Data collected from the notes and audio tapes were transcribed verbatim by the researcher. The codes were grouped to form themes thereafter, subthemes were generated. The data analyzed from the discussions helped to validate the responses received from the quantitative aspect of the study and given a clearer picture of fathers' involvement in IYCF.

### 3.11 Ethical consideration

Ethical consideration for this study was sought from the Ethical Review Committee of the College of Basic and Applied Sciences (ECBAS) with the approval number, Ref. No: ECBAS 017/21-22 (Appendix IV). Approval was also sought from the Greater Accra Regional Health Directorate and the District Directorate of the La Nkwantanang Madina Municipal District Assembly (Appendix V). Informed consent was also sought from all the participants after the purpose of the study was explained to them. Participants were made aware of confidentiality, the benefits and risk of the study as well as their freedom to withdraw at any point in time during the study.

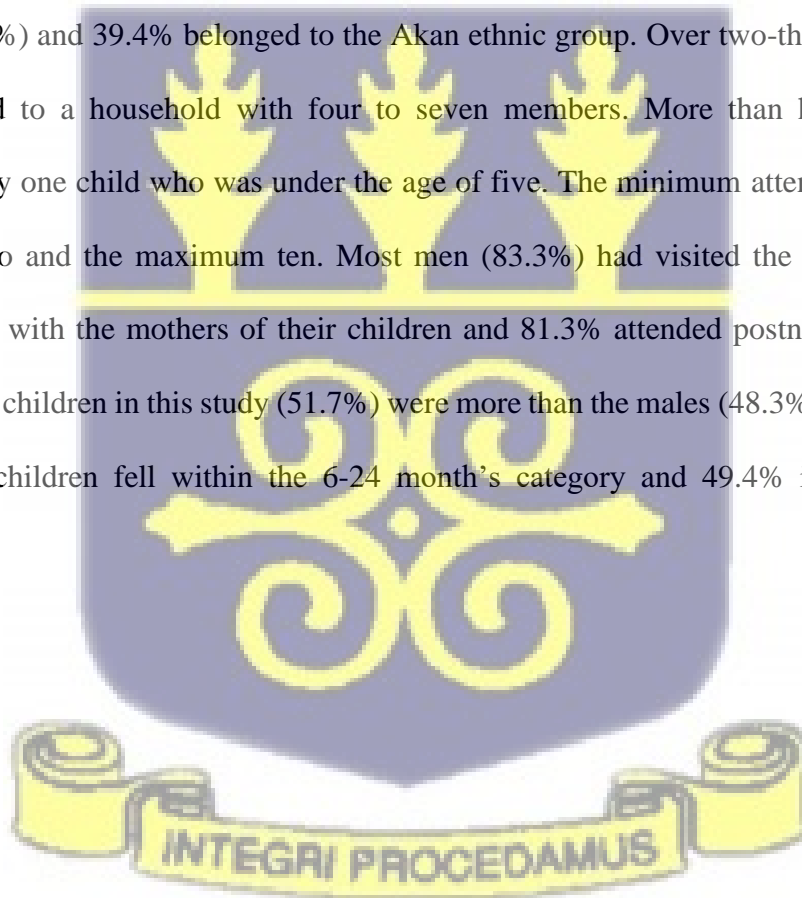


## CHAPTER FOUR

### 4.0 RESULTS

#### 4.1 Background characteristics of participants

A total number of 180 father-child pairs participated in the study. Table 4.1 shows that, the minimum age of the fathers was 22 years and the maximum was 52. Most fathers fell within the 31 to 40 age group. More than half of the fathers (52.8%) lived in peri-urban areas and were married (88.9%). A little over half (51.1%) of them had completed secondary school and over a third owned their own businesses (42.2%). With regards to income, close to a third of the fathers (32.8%) earned between 1600-2000 monthly. Most of the participants recruited for the study were Christians (78.9%) and 39.4% belonged to the Akan ethnic group. Over two-thirds (68.3%) of the fathers belonged to a household with four to seven members. More than half of the fathers (57.2%) had only one child who was under the age of five. The minimum attendance to antenatal sessions was zero and the maximum ten. Most men (83.3%) had visited the health facility less than three times with the mothers of their children and 81.3% attended postnatal visits twice or less. The female children in this study (51.7%) were more than the males (48.3%). A little over half (50.6%) of the children fell within the 6-24 month's category and 49.4% in the 0-5 months category.



**Table 4.1: Background characteristics of participants**

	n %
<b>Fathers' characteristics</b>	
<b>Age (years)</b>	
≤30	48 (26.6)
31-40	111 (61.7)
>40	21 (11.7)
<b>Father's age (years) x ± SD</b>	34.16 ± 5.63
<b>Classification of residence</b>	
Urban	116 (64.4)
Peri-urban	64 (35.6)
<b>Marital status</b>	
Married	160 (88.9)
Single	20 (11.1)
<b>Education</b>	
Primary	23 (12.8)
Secondary	92 (51.1)
Tertiary	65 (36.1)
<b>Occupation</b>	
Business	76 (42.2)
Office worker	25 (13.9)
Service worker	64 (35.5)
Other <sup>1,2,3</sup>	15 (8.4)
<b>Income level (per month)</b>	
600-1000	26 (14.4)
1100-1500	46 (25.6)
1600-2000	59 (32.8)
>2000	49 (27.2)
<b>Religion</b>	
Christianity	142 (78.9)
Islam	38 (21.1)

*(Other 1= teacher/lecturer 11 (6.1%), 2=healthcare 3 (1.7%), 3=student 1(0.1%))*

**Table 4.1: Continued**

	n (%)
<b>Ethnicity</b>	
Akan	71 (39.4)
Ga	39 (21.7)
Ewe	36 (20.0)
Northern	34 (18.9)
<b>Household number</b>	
3	56 (31.1)
4-7	124 (68.3)
≥ 8	1 (0.6)
Number of children under 5	
1	103 (57.2)
2	67 (37.2)
3	10 (15.6)
<b>Number of prenatal visits</b>	
≤ 3	150 (83.3)
4-7	22 (12.3)
≥ 8	8 (4.4)
<b>Number of postnatal visits</b>	
0	34 (18.9)
1	77 (42.8)
2	37 (20.6)
3	20 (11.1)
4	12 (6.7)
<b>Childs characteristics</b>	
<b>Age categories (months)</b>	
0-5	89 (49.4)
6-24	91 (50.6)
<b>Child's age (months) <math>\bar{x} \pm SD</math></b>	7.28 ± 5.50
<b>Sex</b>	
Male	87 (48.3)
Female	93 (51.7)

#### 4.2 Fathers' knowledge on exclusive breastfeeding

To evaluate the knowledge fathers of children below 5 months have about breastfeeding, a series of 10 questions were asked. In table 4.2 below, all the fathers (100%) knew that breastmilk is the only food a child new-born baby should receive. Most fathers had heard of and understood the term exclusive breastfeeding giving a percentage of 53.9 and 50.6, respectively. In relation to the length of breastfeeding a little over half of the fathers (53.9%) knew the required duration for exclusive breastfeeding. A significant number of fathers stated that babies had to be fed on demand and also knew that breastmilk alone was sufficient enough for babies (64.0% and 77.5% respectively). All the fathers who participated knew the benefits of exclusive breastfeeding to the child however, only 37.1% knew the benefits it offered to the mother. Almost all the participants (95.5%) knew how mothers could keep their milk supply. Also, more than two-thirds fathers knew how a mother could continue exclusive breastfeeding after resuming work and where she could seek help if she had any difficulties with feeding (62.9% and 71.9% respectively).

**Table 4.2: Fathers' knowledge on exclusive breastfeeding for children 0-5 months (N=89)**

<b>Knowledge on infant feeding</b>	<b>n (%)</b>
<b>First food a child should receive</b>	
Breastmilk	89 (100)
<b>Heard of exclusive breastfeeding</b>	
Yes	45 (50.6)
No	41 (49.4)
<b>Meaning of exclusive breastfeeding</b>	
Child gets only breastmilk	48 (53.9)
Do not know	41 (46.1)

**Table 4.2: Continued**

<b>Knowledge on infant feeding</b>	<b>n (%)</b>
<b>Length of exclusive breastfeeding</b>	
Birth to six months	48 (53.9)
3 months	2 (1.1)
4 months	5 (2.8)
5 months	2 (1.1)
Do not know	32 (36.0)
<b>Benefits of exclusive breastfeeding for the mother</b>	
Knows	33 (37.1)
Does not know	56 (62.9)
<b>Keeping up milk supply</b>	
Knows	85 (95.5)
Does not know	4 (4.5)
<b>Continuation of exclusive breastfeeding after resuming work</b>	
Express breastmilk	56 (62.9)
Formula	24 (27.0)
Porridge	5 (5.6)
Do not know	4 (4.5)
<b>Overcoming difficulties with breastfeeding</b>	
Seek professional help	64 (71.9)
Talk to another woman	14 (15.7)
Do not know	11 (12.4)
<b>Frequency of exclusive breastfeeding</b>	
On demand	57 (64.0)
Does not know	32 (36.0)
<b>Sufficiency of breastmilk</b>	
Knows	69 (77.5)
Does not know	20 (22.5)
<b>Benefits of exclusive breastfeeding to the baby</b>	
Knows	89 (100)

### 4.3 Fathers' knowledge on complementary feeding

In table 4.3 below, fathers of children above six months were asked five questions to determine the knowledge they possess in relation to complementary feeding. From the table, majority (60.4%) of the participating fathers knew the appropriate age to initiate complementary foods. Most of the participants (68.1%) were able to report correctly on the importance of adding other foods to breastmilk. All the fathers knew the kinds of food that can be used to enrich porridges and how to encourage children to eat.

**Table 4.3: Fathers knowledge on complementary feeding for children 6-24 months (N=91)**

Knowledge on complementary feeding	n (%)
<b>Recommended age for the continuation of breastfeeding</b>	
24 months and more	25 (27.5)
Do not know	66 (72.5)
<b>Age to start complementary feeding</b>	
At six months	55 (60.4)
Do not know	36 (39.6)
<b>Importance of adding other food to breastmilk</b>	
Breastmilk is insufficient	62 (68.1)
Do not know	29 (31.9)
<b>Foods that enrich porridge</b>	
Knows	91 (100)
<b>Ways to encourage children to eat</b>	
Knows	91 (100)



#### 4.4 Fathers' attitudes towards exclusive breastfeeding

Table 4.4 shows the attitude scores of the fathers of children below 6 months. From the table below, more the half of the fathers reported that exclusively breastfeeding children was good (52%). A high proportion did not think it was difficult for women to breastfeed on demand and were confident in the way the mothers of their children breastfed (73% and 87.6% respectively). Also, most men were confident in the mother expressing and storing her breastmilk (52.8%)

**Table 4.4 Fathers' attitudes towards exclusive breastfeeding for infants 0-5 months (N=89)**

Attitude question	n (%)
<b>Is exclusive breastfeeding good?</b>	
Yes	52 (58.4)
Not sure	35 (39.3)
No	2 (2.2)
<b>Is exclusive breastfeeding good for your child?</b>	
Yes	52 (58.4)
Not sure	37 (41.6)
<b>Do you think it is difficult for mothers to breastfeed on demand?</b>	
Yes	24 (27.0)
No	65 (73.0)
<b>Are you confident in how the mother of your child breastfeeds?</b>	
Confident	78 (87.6)
Ok	11 (12.4)
<b>Are you confident in the mother of your child expressing and storing milk?</b>	
Confident	47 (52.8)
Ok	35 (39.3)
Not confident	7 (7.9)

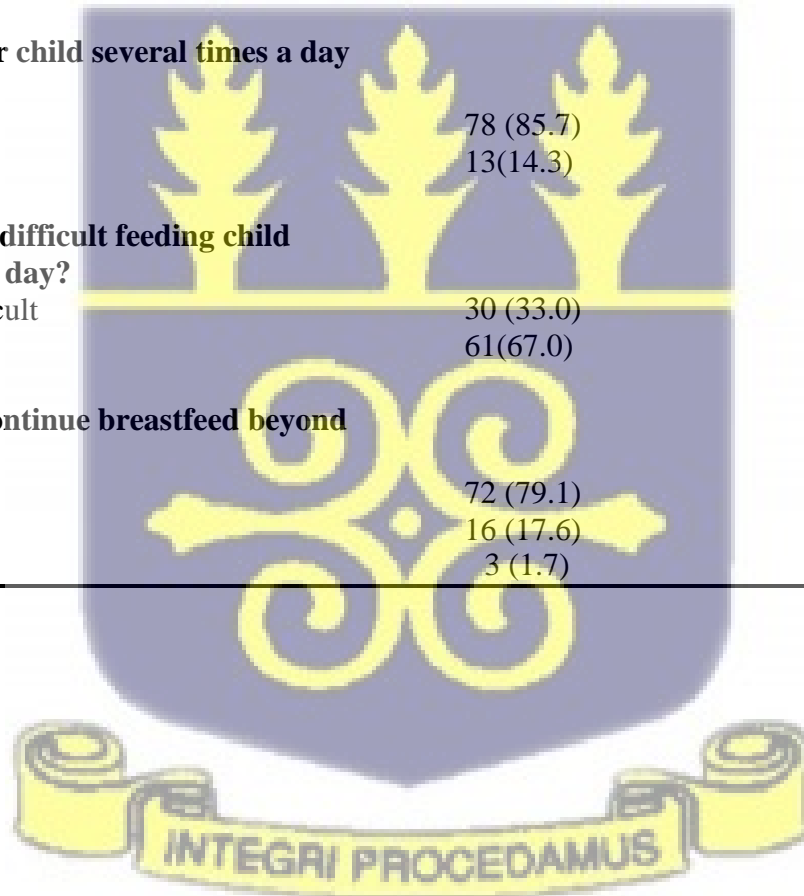
#### **4.5 Fathers' attitudes towards complementary feeding**

As shown in the table below, over half of the fathers (56.0%) were not confident in preparing meals for their children. More than two thirds of (74.7%) also reported that it was good to give children diverse types of food each day. Concerning the difficulty in giving children different foods in a day, 56.0% had a challenge in doing so however, the majority (85.7%) thought it was good to feed the child several times a day. More than half (62.6%) of the participant had difficulties in feeding their children several times a day and most (79.1%) of them thought it was good to breastfeed beyond 6 months of age.



**Table 4.5: Fathers' attitudes towards complementary feeding of children 6-24 months(n=91)**

<b>Attitude question</b>	<b>n (%)</b>
<b>Are you confident in meal preparation?</b>	
Confident	31(34.9)
Not confident	60 (65.1)
<b>How good it is to give children different types of food each day?</b>	
Good	68 (74.7)
Not good	23 (25.3)
<b>Do you find it difficult in giving different foods each day?</b>	
Difficult	64 (70.3)
Not difficult	40 (29.7)
<b>Is feeding your child several times a day good?</b>	
Good	78 (85.7)
Not sure	13(14.3)
<b>Do you find it difficult feeding child several times a day?</b>	
Not difficult	30 (33.0)
Difficult	61(67.0)
<b>Is it good to continue breastfeed beyond 6months?</b>	
Good	72 (79.1)
Not sure	16 (17.6)
Not good	3 (1.7)



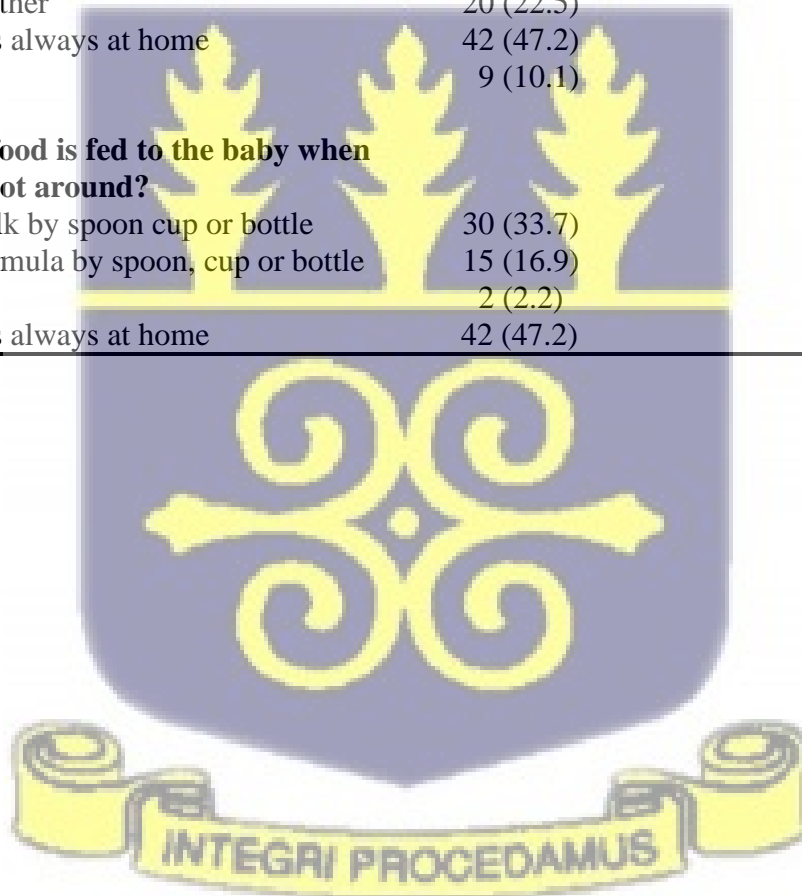
#### 4.6 Fathers' practices concerning exclusive breastfeeding

Fathers were assessed on their ability to help feed their children, participation in decision making and purchasing of food. In the table below, only 20% of fathers helped to feed their children below the age of six months. This was because majority of the women remained at home during this period (23%) or there were grandmothers (22.5%). With regards to what food was fed to the baby when the mother was away, most men (47.2%) reported that no other food was given since most women remained at home with the baby. When asked about the responsibility on deciding to breastfeed exclusively, more than half of the fathers reported that the mother of their child solely took the decision. Also, a substantial proportion of the fathers (61.8%) stated they encouraged the mothers of their children to breastfeed exclusively.



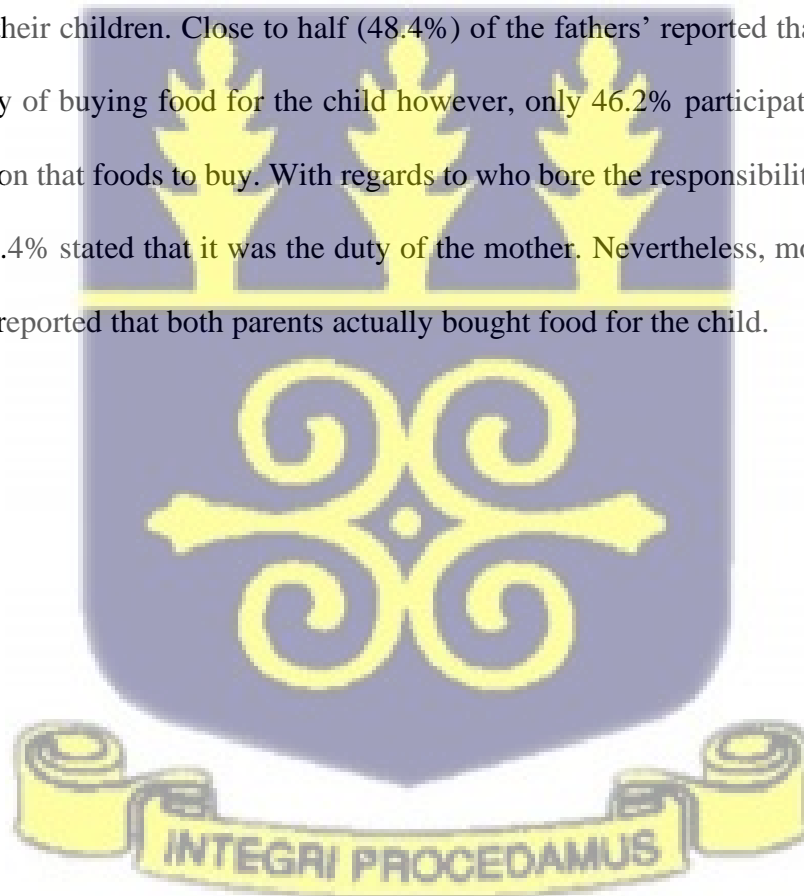
**Table 4.6: Fathers' practices towards exclusive breastfeeding of children 0-5 months(N=89)**

<b>Practice question</b>	<b>n (%)</b>
<b>Whose responsibility is it to take decisions on exclusive breastfeeding?</b>	
Mother	51 (57.3)
Both mother and father	38 (42.7)
<b>Do you encourage the mother of your child to breastfeed exclusively?</b>	
Yes	55 (61.8)
No	34 (38.2)
<b>Who feeds the baby when the mother is not at home</b>	
Father	18 (20.2)
Grandmother	20 (22.5)
Mother is always at home	42 (47.2)
Other	9 (10.1)
<b>What type of food is fed to the baby when the mother is not around?</b>	
Breastmilk by spoon cup or bottle	30 (33.7)
Infant formula by spoon, cup or bottle	15 (16.9)
Porridge	2 (2.2)
Mother is always at home	42 (47.2)



#### 4.7 Fathers' practices towards complementary feeding

Fathers practice towards complementary feeding was also assessed to determine the behaviours fathers possessed towards feeding their children. In table 4.7, a substantial number of fathers (75.8%) reported that they helped to feed their children at home. When asked about who was responsible for feeding the child close to half of the fathers (49.5 %) stated that it was the duty of the mother to feed the child and 71.4% reported that the mother of the child solely decided on when to start complementary feeding. Another 59.3% of the fathers said it was the responsibility of the mother to decide on when to initiate complementary feeding and 40.7% stated that it was a joint responsibility. All the participants (100%) interviewed stated that they bought food specifically for their children. Close to half (48.4%) of the fathers' reported that both parents had the responsibility of buying food for the child however, only 46.2% participated in the decision-making process on that foods to buy. With regards to who bore the responsibility of deciding what foods to buy, 48.4% stated that it was the duty of the mother. Nevertheless, more than half of the fathers (67.0%) reported that both parents actually bought food for the child.



**Table 4.7: Fathers' practice concerning complementary feeding of children 6-24 months (N=91)**

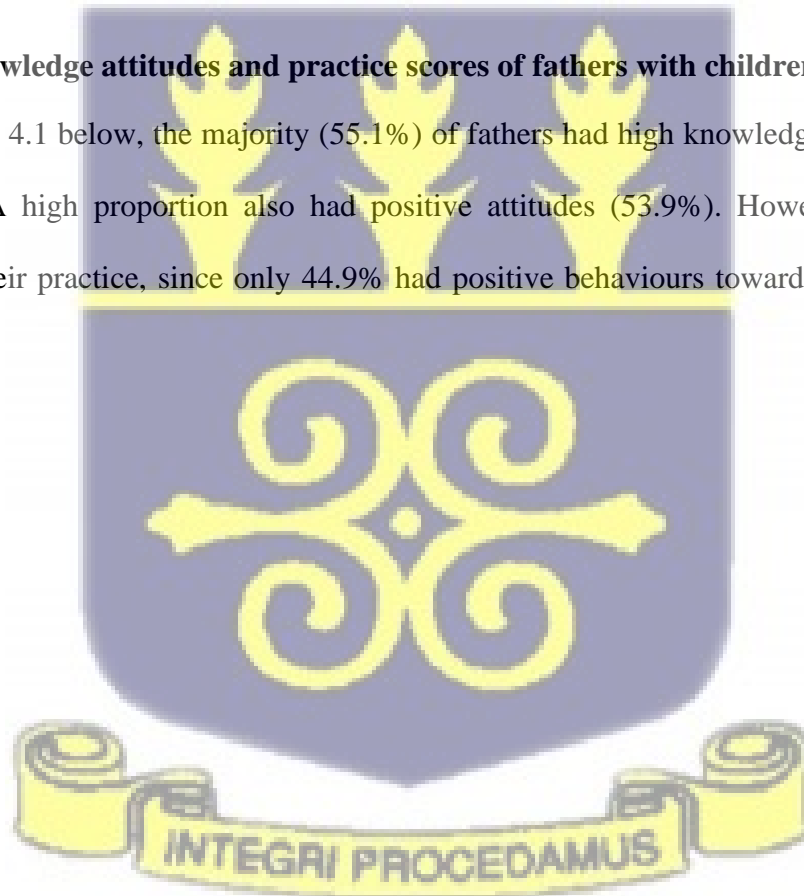
<b>Practice questions</b>	<b>n (%)</b>
<b>Do you help to feed your child?</b>	
Yes	69 (75.8)
No	22 (24.2)
<b>Who is responsible for feeding the child?</b>	
Mother	45 (49.5)
Both	37 (40.6)
Mother, father, grandmother	5 (6.6)
Mother and grandmother	2 (2.2)
Mother and older daughter	1 (1.1)
<b>Who made the decision to start complementary feeding?</b>	
Mother	65 (71.4)
Father	1 (1.1)
Both	24 (13.3)
mother and grandmother	1 (1.1)
<b>Whose responsibility is it to make decisions on when to introduce complementary foods?</b>	
Mother	54 (59.3)
Both	37 (40.7)
<b>Do you buy food specifically for the child?</b>	
Yes	91 (100)
<b>Whose responsibility to buy food for the child?</b>	
Mother	14 (15.4)
Father	12 (13.2)
Both	65 (71.4)
<b>Participation in decision making to buy food for your child.</b>	
Yes	42 (46.2)
No	49 (53.8)

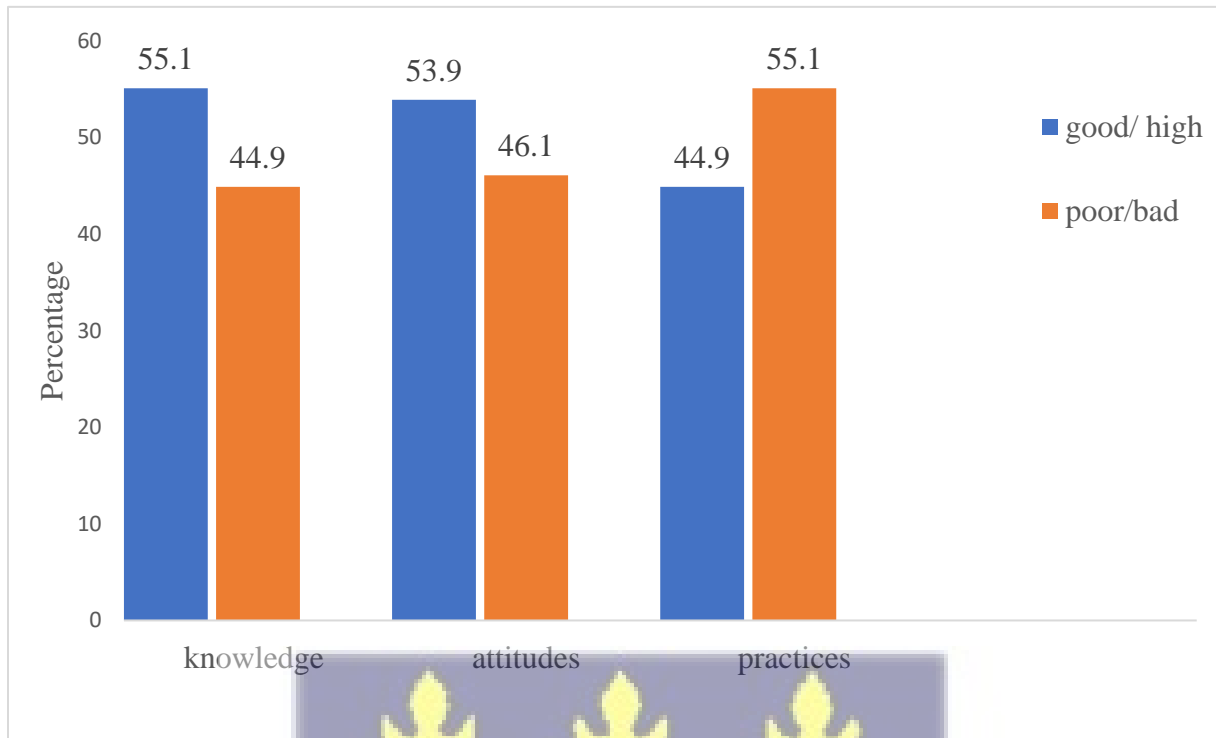
**Table 4.7: Continued**

Practice questions	n (%)
<b>Responsibility to make decisions on food purchase for child</b>	
Mother	44 (48.4)
Father	5 (5.5)
Both	42 (46.2)
<b>Who actually buys food for the child?</b>	
Mother	13 (14.3)
Father	17 (18.7)
Both	61 (67.0)

#### **4.8 Overall knowledge attitudes and practice scores of fathers with children 0-5 months**

Based on Figure 4.1 below, the majority (55.1%) of fathers had high knowledge about exclusive breastfeeding. A high proportion also had positive attitudes (53.9%). However, this did not translate into their practice, since only 44.9% had positive behaviours towards exclusive breastfeeding.



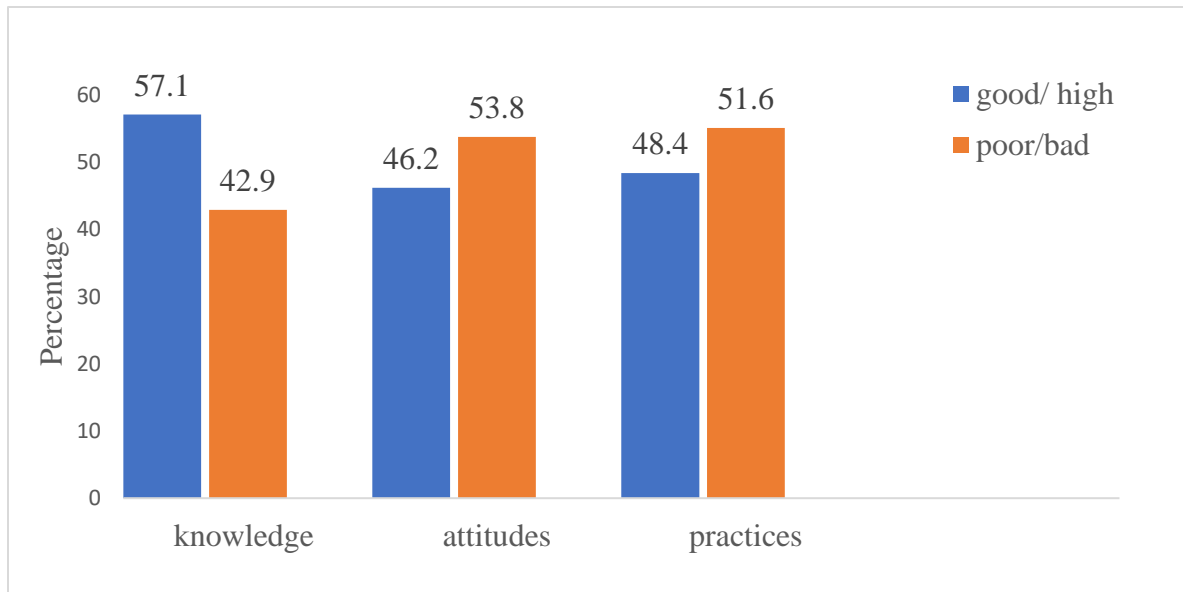


**Figure 4.1 Overall KAP scores of fathers of children 0-5 months**

#### **4.9 Overall knowledge, attitudes and practice of fathers of children 6-24 months**

For fathers with children six months and above, more than half had high knowledge (57.1%) on complementary feeding. Although the fathers had high knowledge, a high proportion had low scores for attitudes and practices (46.2% and 48.4% respectively) as shown in Figure 4.2

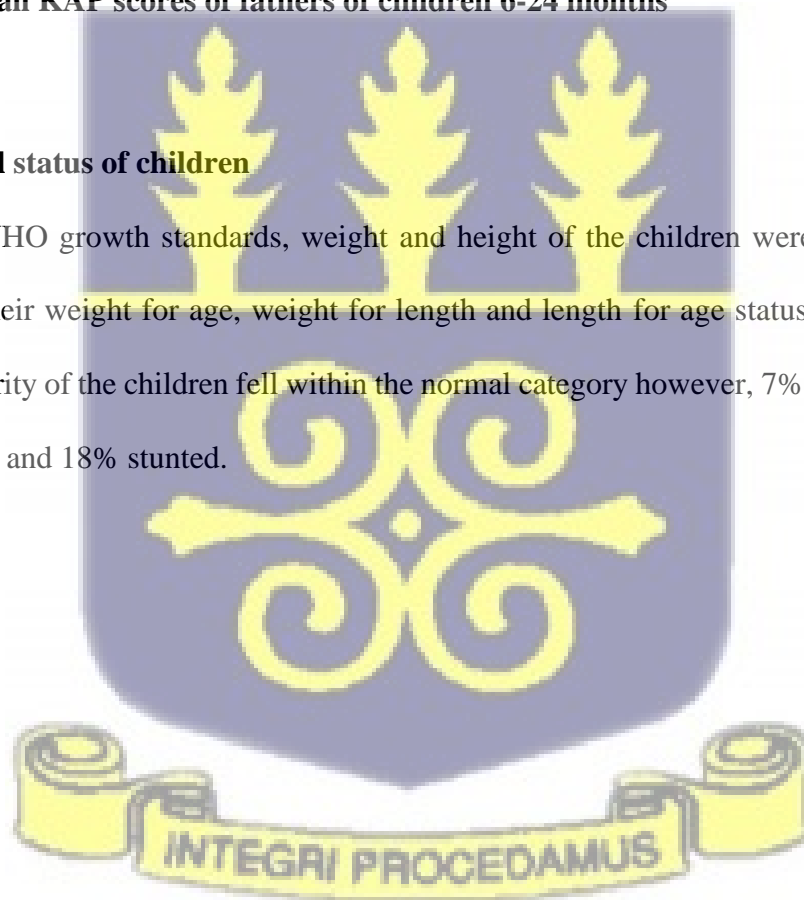


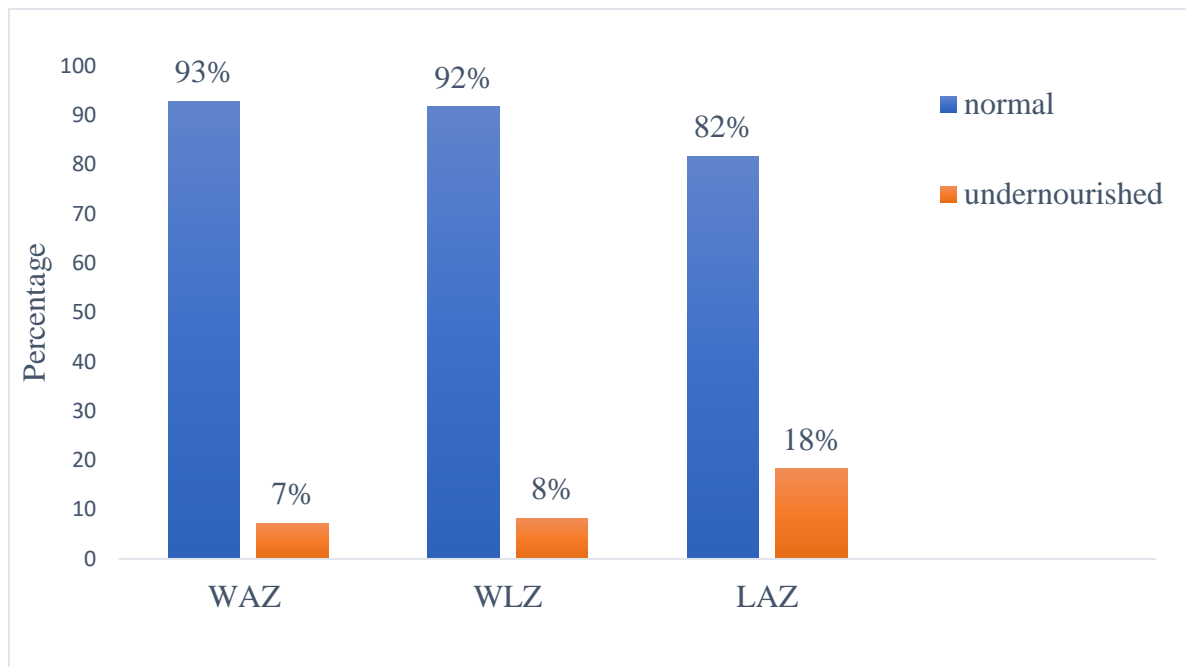


**Figure 4.2 Overall KAP scores of fathers of children 6-24 months**

#### **4.10 Nutritional status of children**

Based on the WHO growth standards, weight and height of the children were measured for the calculation of their weight for age, weight for length and length for age status. Figure 4.3 below shows that majority of the children fell within the normal category however, 7% were underweight, 8% were wasted and 18% stunted.

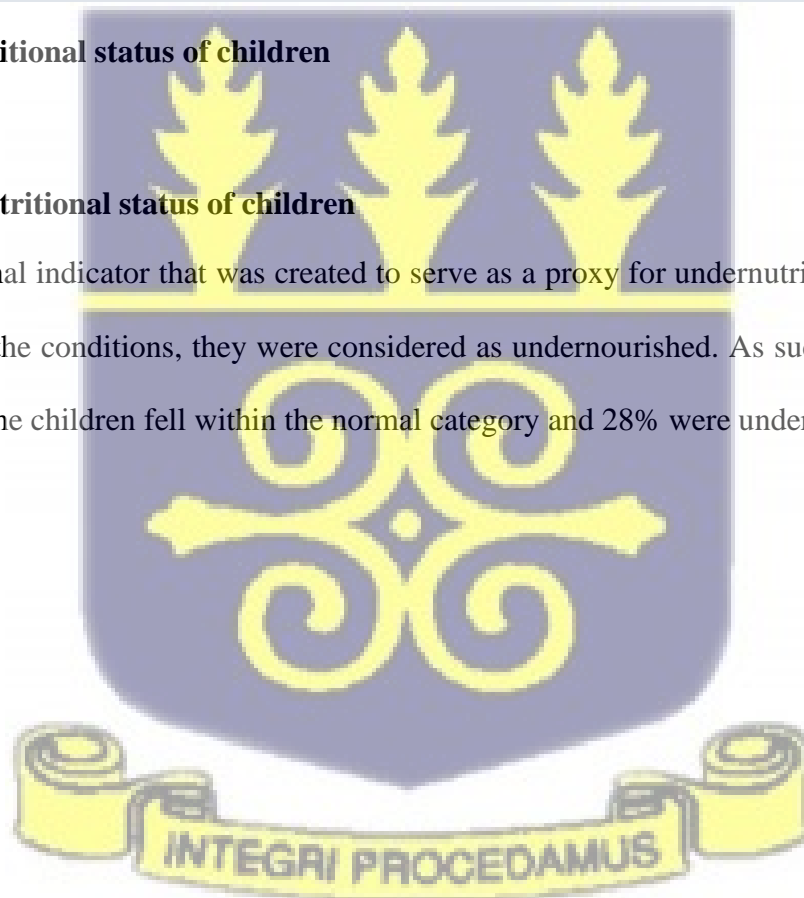


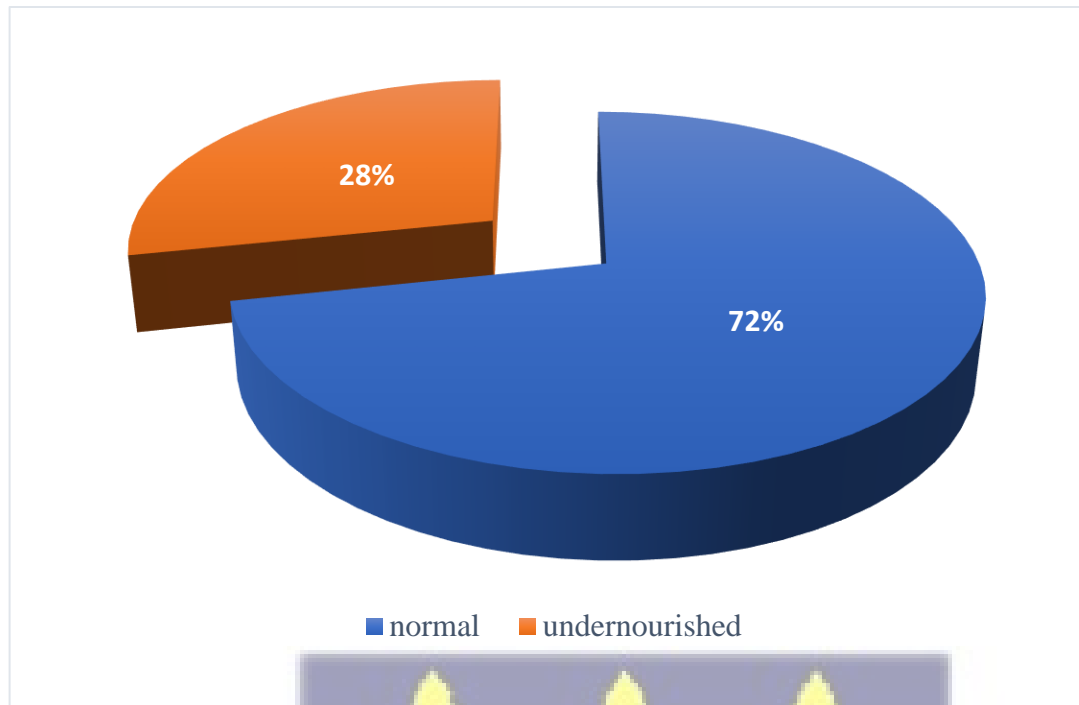


**Figure 4.3 Nutritional status of children**

#### **4.11 Overall nutritional status of children**

Overall nutritional indicator that was created to serve as a proxy for undernutrition. If a child had one or more of the conditions, they were considered as undernourished. As such, from the figure below, 72% of the children fell within the normal category and 28% were undernourished.





**Figure 4.4: Overall nutritional status of children**

#### 4.12 Association between the fathers' KAP and the nutritional status of children 0-5 months

A chi-square analysis was run to determine the association between KAP and the nutritional status of children. From the analysis there was no significant association at a p value set at <0.05

**Table 4.8 Association between the fathers' KAP and the nutritional status of children 0-5 months (N=89)**

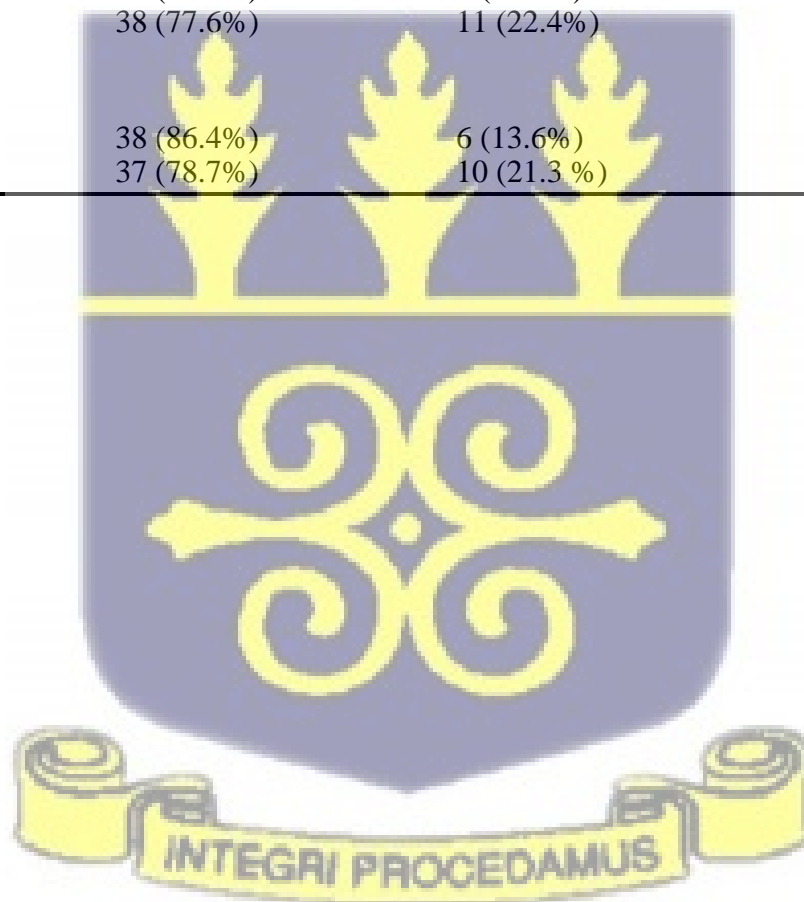
Characteristic	Normal n (%)	Undernourished n (%)	p-value
<b>Knowledge</b>			
High	45 (91.8%)	4 (8.2%)	0.50
Low	35 (87.5%)	5 (12.5%)	
<b>Attitudes</b>			
Good	44 (91.7%)	4 (8.3%)	0.55
Poor	36 (87.8%)	5 (12.2%)	
<b>Practices</b>			
Good	38 (95.0%)	2 (5.0%)	0.18
Poor	42 (85.7%)	7 (14.3%)	

#### 4.12 Association between fathers' KAP and the nutritional status of children 6-24 months

In table 4.9 below, there was no association between fathers' KAP and the nutritional status of children from 6 to 24 months when the p-value was set at  $< 0.05$

**Table 4.9: Association between fathers' KAP and the nutritional status of children 6-24 months (N=91)**

Characteristic	Normal n (%)	Undernourished n (%)	p-value
<b>Knowledge</b>			
High	44 (84.6%)	8 (15.4%)	0.525
Low	31 (79.5%)	8 (20.5%)	
<b>Attitudes</b>			
Good	37 (88.1%)	5 (11.9%)	0.188
Poor	38 (77.6%)	11 (22.4%)	
<b>Practices</b>			
Good	38 (86.4%)	6 (13.6%)	0.339
Poor	37 (78.7%)	10 (21.3%)	



#### 4.13 Predictors of children’s nutritional status 0-5 months

In table 4.10 below, there was only a significant association between the sex of the child and the nutritional status of the child. The table showed that female children were more likely to be undernourished than males (AOR= 0.333 (0.126-0.879)).

**Table 4.10: Predictors of children’s nutritional status 0-5months (N=89)**

	Unadjusted odds ratio	p-value	Adjusted odds ratio	p-value
<b>Knowledge</b>				
High	1		1	
Low	1.61 (0.40-6.43)	0.50	1.99 (0.43-9.37)	0.40
<b>Attitude</b>				
Good	1		1	
Poor	1.53 (0.38-6.11)	0.55	2.05 (0.45-10.09)	0.38
<b>Practice</b>				
Good	1		1	
Poor	3.17 (0.62-16.19)	0.15	3.32 (0.55-19.99)	0.19
<b>Residence</b>				
Urban	1		1	
Peri-urban	1.25 (0.53-2.96)	0.66	1.38 (0.24-8.06)	0.72
<b>Fathers Age</b>				
Above 35	1		1	
Below 35	1.68 (0.76 -3.21)	0.23	2.20 (0.33-14.63)	0.63
<b>Education</b>				
Secondary	1		1	
Primary	0.92 (0.25-3.34)	0.90	1.76 (0.55-5.68)	0.41
<b>Marital status</b>				
Married	1		1	
Single	2.33 (0.77-7.12)	0.13	0.46 (0.18- 1.14)	0.35

*Dependent Variable: overall nutritional status, criterion level: (\*p<0.05)*

**Table 4.10: Continued**

	<b>Unadjusted odds ratio</b>	<b>p-value</b>	<b>Adjusted odds ratio</b>	<b>p-value</b>
<b>Occupation</b>				
Business	1		1	
Other	0.53 (0.22-1.23)	0.13	0.46 (0.19-1.14)	0.094
<b>Religion</b>				
Christian	1		1	
Muslim	1.21 (0.45-3.29)	0.70	1.15 (0.20-6.52)	0.88
<b>Ethnicity</b>				
Southern	1		1	
Northern	1.09 (0.38-3.14)	0.89	1.20 (0.392-3.641)	0.75
<b>Income</b>				
≥ 2000	1		1	
≤ 2000	0.62 (0.25-1.51)	0.28	0.697 (0.26-1.85)	0.47
<b>Household number</b>				
3 members	1		1	
Above 3	0.95 (0.39-2.36)	0.92	0.58 (0.08-4.00)	0.58
<b>Number of children</b>				
1	1		1	
≥ 2	1.06 (0.45-2.48)	0.89	1.42 (0.30-6.69)	0.74
<b>Antenatal visits</b>				
≥ 4	1		1	
≤ 4	1.55 (0.43-5.54)	0.50	0.55 (0.11-2.73)	0.21
<b>Postnatal visits</b>				
3-4	1		1	
0-2	0.17 (0.02-1.28)	0.05*	0.16 (0.02-1.54)	0.07
<b>Sex of child</b>				
Female	1		1	
Male	0.31 (0.12-0.79)	0.01*	0.33 (0.13-0.88)	0.02*

*Dependent Variable: overall nutritional status, criterion level: (\*p<0.05)*

#### 4.14 Predictors of children’s nutritional status 6-24 months

Two variables had a statistically significant relationship with the nutritional status of children in the regression model. Marital status (AOR=7.030 (1.171-42.209)) and the sex of the child (0.176 (0.043-0.714)) were the significant variables

**Table 4.11: Predictors of children’s nutritional status 6-24 months (N=91)**

	Unadjusted odds ratio	p-value	Adjusted odds ratio	p-value
<b>Residence</b>				
Urban	1		1	
Peri-urban	1.25 (0.53-2.96)	0.66	0.90 (0.24-3.45)	0.85
<b>Fathers Age</b>				
Above 35	1		1	
Below 35	1.68 (0.76 -3.21)	0.23	1.37 (0.38-4.91)	0.63
<b>Education</b>				
Secondary	1		1	
Primary	0.92 (0.25-3.34)	0.90	0.67 (0.06-7.00)	0.43
<b>Marital status</b>				
Married	1		1	
Single	2.33 (0.77-7.12)	0.13	7.03 (1.17-42.21)	0.03*
<b>Occupation</b>				
Business	1		1	
Other	0.53 (0.22-1.23)	0.13	0.69 (0.19-2.44)	0.56
<b>Religion</b>				
Christian	1		1	
Muslim	1.21 (0.45-3.29)	0.70	2.62 (0.53-13.05)	0.24
<b>Ethnicity</b>				
Southern	1		1	
Northern	1.09 (0.38-3.14)	0.89	2.84 (0.53-15.29)	0.23
<b>Income</b>				
≥ 2000	1		1	
≤ 2000	0.62 (0.25-1.51)	0.28	0.88 (0.24-3.23)	0.85

*Dependent Variable: overall nutritional status, criterion level: (\*p<0.05)*

Table 4.11: Continued

	Unadjusted odds ratio	p-value	Adjusted odds ratio	p-value
<b>Household number</b>				
3 members	1		1	
Above 3	0.95 (0.39-2.36)	0.92	1.22 (0.35-4.30)	0.54
<b>Number of children</b>				
1	1		1	
≥ 2	1.06 (0.45-2.48)	0.89	1.30 (0.38-4.50)	0.68
<b>Antenatal visits</b>				
≥ 4	1		1	
≤ 4	1.55 (0.43-5.54)	0.50	2.78 (0.31-24.59)	0.36
<b>Sex of child</b>				
Female	1		1	
Male	0.31 (0.12-0.79)	0.01	0.18 (0.04-0.71)	0.04
<b>Knowledge</b>				
High	1		1	
Low	1.42 (0.48-4.19)	0.53	1.32 (0.39-4.48)	0.50
<b>Attitudes</b>				
Good	1		1	
Poor	2.142 (0.68-6.77)	1.88	1.91 (0.56-6.52)	0.54
<b>Practices</b>				
Good	1		1	
Poor	1.71 (0.57-5.19)	0.34	1.46 (0.44-4.81)	0.18

*Dependent Variable: overall nutritional status, criterion level: (\*p<0.05)*



#### 4.15 Focus group discussion and in-depth interviews

The FGD was held in-person and all the in-depth interviews were conducted over the phone. The discussions and interviews were centered on fathers' responsibilities during infant feeding, perceived factors that affect involvement and any other responsibilities fathers could take on in the home to help mothers. Table 4.12 shows the sociodemographic characteristics and table 4.13 shows that major themes and subthemes that were derived from the focus group discussion and the in-depth interviews respectively.

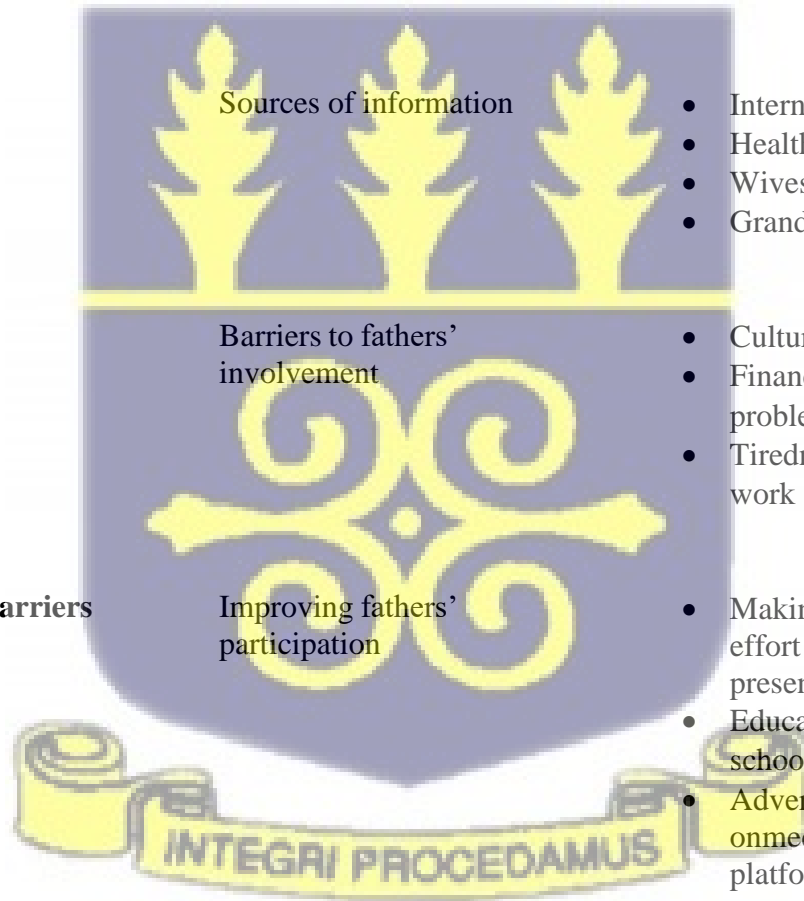
**Table 4.12: Qualitative participants' sociodemographic characteristics (N=17)**

Interview type	No of participants	Age range
Focus group discussion	5	32-45
In-depth interviews	12	27-40



**Table 4.13: Theme and sub-themes**

General theme	Theme	Sub-themes
<b>Infant feeding practices</b>	Breastfeeding and complementary feeding of infants	<ul style="list-style-type: none"> <li>• Duration of breastfeeding</li> <li>• Inadequate knowledge of the term complementary feeding</li> <li>• Types of foods children should receive</li> </ul>
<b>Fathers' roles in infant feeding</b>	Providing support	<ul style="list-style-type: none"> <li>• Financial support</li> <li>• Physical support</li> <li>• Emotional</li> </ul>
<b>Information</b>	Sources of information	<ul style="list-style-type: none"> <li>• Internet</li> <li>• Health centers</li> <li>• Wives</li> <li>• Grandmothers</li> </ul>
<b>Barriers</b>	Barriers to fathers' involvement	<ul style="list-style-type: none"> <li>• Cultural</li> <li>• Finances problems</li> <li>• Tiredness from work</li> </ul>
<b>Overcoming barriers</b>	Improving fathers' participation	<ul style="list-style-type: none"> <li>• Making extra effort to be present</li> <li>• Education in schools</li> <li>• Advertisements on media platforms</li> <li>• Improving services at health centers</li> <li>• Policy changes</li> </ul>



#### 4.16 Infant feeding practices

From the focus group discussion and interviews fathers were asked what they understood by proper infant feeding. From the responses, most fathers had heard about exclusive breastfeeding. They were able to explain the term exclusive breastfeeding and identify the duration. However, some of the fathers did not know the term complementary feeding. Although they could not identify the term, they were able to indicate certain foods children could have as complementary foods. These some of the views the fathers expressed when asked, what is proper complementary feeding?

*“What I know is it's feeding the baby from just zero age to maybe 6 months, just giving them breastmilk”*

*“So, when a child is given only breastmilk to drink and the mother doesn't add any other thing yeah that's it, till the child is six months” (FGD, P1)*

*“...errm, I have no idea but what I know is that after the six months they are supposed to start eating some food like Koko or other foods that you eat at home.” (IDI, P3)*

#### 4.18 Fathers' roles in infant feeding

Fathers stated that their main role in infant feeding was to provide support to the mother of their child. Support from fathers was either given financially, physically or emotionally.

##### 4.18.1 Financial support

With regards to financial support, most fathers stated that they gave money to the mothers to buy food for the children. Some stated that they also gave money to cater for the transportation to monthly growth monitoring sessions.

*“I always make sure that I send her money so that she can buy food for the house. Most of the time I am not at home so the money must always be sent so that they have enough to buy food....” (IDI, P4)*

*“...if anything comes up and I can't go with her for weighing I will leave money so that she can go. (IDI, P5)*

#### **4.18.2 Physical support**

For physical support, fathers helped mothers with some of the chores at home to allow them time to take care of the child. A proportion of fathers mentioned that they helped to bathe and clean up the children after they had used the toilet. Again, some indicated that they helped in meal preparation and in feeding the children. A few fathers also stated that they were responsible for shopping for food items. Lastly, physical support from fathers also came in the form of attending growth monitoring sessions with the mothers.

*“So, to support in that angle, it is either you are boiling some hot water to put the feeding bottles in, the spoons, whatever you will use to feed the child you follow that procedure to make it hygienic.” (FGD, 4)*

*“When the mother is not around and he has pooped I can't wait for her to come back before I change him, so I do it myself and if I have to bath him too I do it.” (IDI, 1)*

*“...you should be able to prepare some food for the baby. When the mother is not there, you should be able to take care of the baby and feed the baby as well.” (FGD, P3)*

*“...because she just gave birth, I have to help with the shopping, so she will make the list for me and then I'll out and buy the things...” (IDI, P12)*

*“I take her to the hospital for the weighing too... My wife she always wants me to go because if I do, they will attend to her early then she can leave and go and open her shop.” (IDI, P5)*

#### **4.18.3 Emotional support**

Emotional support from fathers came in four forms. Some fathers stated that there were times when they stayed up at night to keep the mother company while she breastfed. Fathers also mentioned

that they reminded the mothers to breastfeed and offered words of encouragement. In some situations, fathers helped to carry and comfort children when they were crying.

*“...when the baby wakes up in the night to feed sometimes if I am not too tired, I also wake up so that I keep her company whilst she is feeding...at times too it is like she doesn't want feed the child because she is also tired but I have to encourage her to do it because I also want what is best for the child. If it happens like that, I take the baby from her when she has finished then she too she can sleep” (IDI, 8)*

*“I think one thing that happens to the mothers is when after 6 months, they get to adding other stuff, they tend to reduce the breastmilk. So maybe one thing that I do is to remind her or tell her that the breastmilk is also very important in addition to the other foods” (FGD, P1)*

*“...there are times where for no reason the baby will just be crying and the mother cannot handle it so I just take the child from her and be walking outside, then she too can look after the other children” (IDI, 6)*

#### **4.19 Sources of information**

Findings from the study showed that fathers received their information from various sources. The respondents stated that they received information about infant feeding from their wives, the health centers, the internet and other female relatives. The information they received helped to shape their thoughts concerning infant feeding. These were some of the responses that were given when asked, where do you receive information on infant feeding?

*“I usually get it from my wife. When she comes home from the hospital, she tells me and then we discuss. Secondly, I get it from grandma. You know they also come with a lot of knowledge*

*and several years of experience. You know it is grandma who takes care of the children, so she will say do a, b, c...*” (FGD, P4)

*“I learnt that from my mother, sometimes too grandmother and aunties, I'm the eldest of my siblings so I have been doing that for them when they were kids.”* (IDI, P1)

*“... I think essentially from the hospital. So, when you accompany your wife for the ANC visits, usually there is the antenatal clinics where they teach you some of these things and even the ANC book that they give has a lot of information on how to feed children...”* (FGD,3)

#### **4.20 Barriers to fathers' involvement in infant feeding**

With regards to the factors that hindered the active participation of fathers in infant feeding, fathers stated that they would have loved to be involved more in the feeding of their children. However, they reported that culture, tiredness from work, and financial problems influenced their levels of participation in the feeding of their children. The following responses illustrate the views that were shared on how these barriers affects their involvement

*“One thing is that men have ego, every man has an ego. Our culture too does not make it easy. It is not easy. That is why I said that it is a difficult task for some of the men. Because me, I met someone holding his wife's bag and someone said 'now you are carrying women's bags'. Ask yourself how many men can take of their children when their wives are not around. Even to bath their children in the house is difficult for them because they feel big.”* (FGD, P5)

*“It’s about you being the head of the house. You must make sure that there is food on the table. So, you go to work but when you come you are tired, mother too is tired, you want to sleep but chale you can hear the baby crying but you just want to sleep. You know that kind of thing.” (FGD, P1)*

*“...some of us are really suffering. You work and you don’t even know where the money goes to. I work hard but I can’t even save like how I want to. The bills are so many. Things are not like how they used to be before...even to give chop money has become a problem” (IDI, P10)*

#### **4.21 Overcoming barriers**

After stating the barriers that affected their involvement, fathers also stated possible ways to overcome these barriers. From the discussion and interviews fathers raised the need to put more effort into being present for their children, education in schools, advertising on television and radio, improving services at health centers and policy changes. From the discourse, these were some of the points that were raised when the question ‘how do you overcome the barriers you have mentioned?’ was asked.

*“You have to be there for your child. For some of us and I think most people our fathers’ provided money, but they did not play active roles in our lives, so I think it is time to correct that behaviour. As a father it is the responsibility of you and the mother to take care of the child, not just her own so you too you have to be there for the child.” (IDI, P7)*

*“...so it can be on TV, it can be on radio, newspapers because there are people who like watching TV for news, there are others who for instance like reading and there are others who will not like reading at all so they will prefer listening” (IDI, P2)*

*“I think that is boils down to education because culture and religion have a very strong hold on our lives and whether we like it or not, it is with us. But as you advance in your education and in your economic status, some of these things begin to change. We have, to start involving the adolescent boys right from their primary school education. I think that is the way to go. If we begin to involve them right from school and teach them to appreciate that childbearing, is the responsibility of both parents, then as they grow, they will begin to appreciate that it is not only for women.” (FGD, P2)*

*“If you go to our hospitals eh, the maternal wards, the antenatal sessions there are televisions there. In specialized hospitals, you will see them show videos of the reproductive system. But go to our main general hospitals and it is on the local tv stations, when they can show something educational the mother will benefit from.” (IDI, P4)*

*“Okay so I think that the courtesies that are given to women should also be extended to men and I will use paternity leave as an example. So, when the woman delivers, she gets between 2 and 6 months in some organizations, the man doesn't get anything. In my organization they gave me only one week for paternity leave and some men don't even get at all. We need to begin to look at some of these policies in our organizations. So maternity leave and paternity leave should be looked at.” (FGD, P3)*

## CHAPTER FIVE

### 5.0 DISCUSSION

#### 5.1 Background characteristics

Close to two-thirds of the fathers (61.7%) were within the 31-40 age group. This age range is below the period where male fertility begins to decline (Chan *et al.*, 2015). Over half (64.4%) of the participants captured in the study resided in urban areas and engaged in commerce activities (42.2%). This was expected since majority of areas within the district are urban with few sects of rural areas (GSS, 2021). Most of the participants in the study were married, similar to a study conducted by Ayam *et al.*, 2020 within the district. Although the study area is within the Greater Accra region, most of the participants were Akans (39.4%).

All the participants had received some form of education however the about half (51.2%) had attained their secondary school education. This coincides with reports from GDHS (2014), where 50% of men had received some form of secondary education. A study conducted in South Africa showed that fathers who had attained secondary or tertiary education had better knowledge ( $p=0.001$ ) on exclusive breastfeeding than those who had lower levels of education (Mabele *et al.*, 2022).

Most of the fathers had been for prenatal visits less than three times and only once for postnatal visits with the mother of their child. A study conducted in Ghana found that only 16.5% of men attended antenatal clinics sessions with their wives (Owusu, 2021). Nonetheless, 33.5% influenced their wives to attend (Owusu, 2021). This was similar to some of the feedback of the qualitative arm of the study where most fathers stated that they were unable to attend prenatal sessions with their wives due to the nature of their jobs. In a study by Kyei-Arthur *et al* (2021), fathers'

attendance to antenatal sessions increased the likelihood of a mother practicing exclusive breastfeeding (AOR = 1.08; CI 95%: 1.00–1.16;  $p = 0.04$ ).

## 5.2 Fathers' knowledge on exclusive breastfeeding

All the fathers were aware that breastmilk was the first food children had to receive after birth. Other studies conducted in Ethiopia and Malawi also reported that fathers had high knowledge on the first food a baby should receive (Shitu *et al.*, 2021; Kumwenda, 2017). Fathers also knew about the duration and sufficiency of breastmilk. This differed from a study conducted by in South Africa, where less than half of the fathers knew the duration for exclusive breastfeeding and whether breastmilk was sufficient for the first six months of life (Mabele *et al.* 2021). Inadequate knowledge on the benefits of breastfeeding to the mother was expected. This is because, information on the benefits of breastfeeding is usually targeted at children with little emphasis on the advantages to the mother (Dieterich *et al.*, 2013; Spiro, 2017; Del Ciampo & Del Ciampo, 2018). On the other hand, there was receptiveness to mothers expressing their milk as they resumed work to encourage exclusive breastfeeding. The expression of breastmilk may have been accepted widely by the fathers in this study since it offered mothers the opportunity to continue breastfeeding exclusively after returning to work. Expression of milk may have also helped to improve to the bond between fathers and their children since they could also help in feeding with the bottle or the cup and spoon. Fathers also reported that women had to seek help from health professionals when it came to breastfeeding. Fathers may have considered themselves inadequate in providing solutions to breastfeeding problems. In Ghana, nurses and midwives are known to support mothers by giving information on infant feeding during antenatal and growth monitoring

sessions (Kyei-Arthur *et al.*, 2019; Acheampong, 2020; Dubik *et al.*, 2021; Adjei-Ampofo *et al.*, 2020, Zhang *et al.*, 2018).

### **5.3 Fathers' knowledge on complementary feeding**

Most fathers of children 6-24 months did not know the recommended age for the continuation of breastfeeding. Fathers' poor knowledge on the continuation of breastfeeding may have been as a result of their poor attendance to antenatal and postnatal sessions with the mothers of their children. A study conducted by Sachdeva & Gupta (2022), showed that fathers' high knowledge in infant feeding was significantly associated with attendance to antenatal sessions. Although fathers had inadequate knowledge on the duration for continued breastfeeding, they were informed on the recommended age for the onset of complementary feeding. Similar to the FGD and IDI's most fathers knew when complementary feeding was supposed to begin. Positive knowledge on the recommended age for complementary feeding influences the timely introduction of appropriate complementary foods (Flax *et al.*, 2022). Fathers' awareness on positive ways to feed children agreed with the WHO's stance on positive encouragement during feeding times for the proper development of a child's relationship with food (WHO, 2021).

### **5.4 Fathers attitude towards the feeding of children 0-5 months**

From this study, fathers were certain that exclusive breastfeeding was the best choice for their children. This is buttressed by several studies, where fathers agreed that breastmilk was adequate for their children till they reached the age of six months (Shiota *et al.*, 2019, Hansen *et al.*, 2018; Kumwenda, 2018; Rempel & Rempel; 2018). Fathers' stance on the exclusive breastfeeding could be explained by their high knowledge levels on the benefits of breastmilk for infants. Fathers opposed the perception that breastfeeding was a challenging task for women. This could imply

that since fathers offered encouragement to mothers, they assumed that breastfeeding was not stressful. Conversely, in other studies, men reported that breastfeeding on demand seemed like a challenging task for women since it required a lot of attention (Hansen *et al.*, 2018; Tohotoa *et al.*, 2009). Although fathers knew expressing milk helped mothers continue exclusive breastfeeding after resuming work, they were not confident in the expressing and storage of milk. Fathers may have had this sentiment due to the risk of infants being infected from unhygienic utensils or transference, as opposed to mothers feeding right from the breast. Similar to this study, a Malawian study showed that fathers were concerned that the nutrient composition and safety of the milk will be compromised if expressed and stored (Kumwenda, 2018).

### **5.5 Fathers' attitudes towards the feeding of children 6-24 months**

Fathers in both the quantitative and qualitative arms of the study stated that food preparation was usually the mothers' responsibility. Ganle *et al* (2015), and Arthur-Holmes & Busia (2020) also reported that in Ghana, meal preparation in the household is often regarded as the duty of the mother. Fathers believed that children had to be fed frequently and given a variety of foods. This may have implied that fathers' a good understanding on the need for dietary diversity. According to Ambikapathi *et al* (2019), the nutrition knowledge of men influences the dietary diversity of their children. Fathers' expressed difficulty in feeding children in both arms of the study. This was due to their work schedules and their perception of women's roles in the home. They were comfortable with their children being breastfed after six months, which suggests that they understood the benefits of breastfeeding even after complementary feeding had been initiated. Similar to this study, fathers in a Tasmanian study were supportive of their wives breastfeeding after 6 months (Hansen *et al.*, 2018)

### **5.6 Fathers practice towards infant feeding of children 0-5 months**

Only a few fathers took part in the feeding of their children because mothers stayed home with the children. The results support the theory that women are the primary caregivers of children in the household (Ganle *et al.*, 2015). In instances when the mother was away, breastmilk was given fathers by either a spoon and cup or a feeding bottle. This result was expected since these are reported as common tools that can be used when feeding directly from the breast is hindered (Ramussen *et al.*, 2017). Fathers reported that decision to breastfeed was solely the mothers to take. Comparable to this study, a study in Uganda found that 80.6% of fathers did not take part in deciding whether or not to exclusively breastfeed (Kansiime *et al.*, 2017). Fathers' low participation in decision making may be because of poor knowledge on how far their input goes in shaping the nutrition of their children. Even though fathers did not play an active part in decision making, they perceived that the support they offered encouraged the mothers of their children to breastfeed exclusively. Several studies reinforce this result (Nickerson *et al.*, 2012; Martin *et al.*, 2021, Kansime *et al.*, 2017; Tohota *et al.*, 2009, Hansen *et al.*, 2018), where mothers reported that words of encouragement from their partners help them to stick to their decision to exclusively breastfeed.

### **5.7 Fathers practice towards infant feeding of children 6-24 months**

Similar to fathers of children 0-5 months, it was reported that mothers were responsible for the feeding and the decision to introduce complementary food. Fathers viewed their responsibility in infant feeding mainly as providing support, with all other responsibilities ascribed to the mother of the child. The results showed that fathers purchased food for their children. This was expected because in the African setting fathers are regarded as the main providers of the household with

other responsibilities ascribed to the mother. However, some studies report that these cultural ideologies of gender roles have placed boundaries towards male physical and emotional involvement in childcare (Gowda & Rodriguez, 2019, Cerrato & Cifre, 2018; Nukunya, 2016; Mkandawire *et al.*, 2022).

### **5.8 Nutritional status of children**

The prevalence of stunting and wasting in this study were higher than that recorded for the Greater Accra region (12.6% and 5.8% respectively) (MICS, 2017). This study used a sample of 180 children from 0 to 24 months however, the MICS survey was conducted amongst children under the age of five from about 12, 000 households. As such, the difference in sample size may have been a contributing factor to the difference in results from previous studies. Also, this study was conducted in only one district of the region and thus implies that certain areas of the region could have prevalence rates higher than the national prevalence. On the other hand, levels of underweight in the district was however lower than the prevalence of 9.2% reported by MICS (2017) for the Greater Accra Region. This may have also occurred as due to methodological differences in both studies.

### **5.9 Association between fathers' KAP and the nutritional status of children**

The study showed that the nutritional status of children was independent of fathers' KAP. However, some research has shown that fathers' knowledge and support positively affected the nutritional status of children (Bilal *et al.*, 2015; Dinga *et al.*, 2018; Aoko *et al.*, 2018). To buttress the results from this study, another study conducted in northern Ghana also found that there was no association between maternal social support and the nutritional status of children. Nonetheless, they emphasized that support from fathers must be improved in order to boost the confidence of

mothers in addressing the nutritional needs of children (Wemakor *et al.*, 2022). Even though fathers KAP did not influence the nutritional status of children in this study, it may have contributed positively to the decisions mothers took concerning infant feeding and their caregiving practices. This may have been the reason for the high prevalence of normal nutritional status amongst children in the study. Kansime *et al.*, (2017) in their study indicated that the absence of associations between the KAP of fathers and the nutritional status of children does not dispute the fact that the efforts of fathers are crucial in shaping the nutritional status of their children.

### 5.10 Predictors of the nutritional status of children

Sex of the child significantly predicted the nutritional status of children. Male children were less likely to be nourished as compared to females. The results of this study are buttressed by findings from the 2011 national survey in Ghana and the 2017 MICS survey. The mechanism as to how sex affects the nutritional status of children is not clearly understood. According to Thurstans *et al* (2020), the perception of boys having a larger appetite and hence the need to start complementary feeding. Prioritizing male children over females and giving them other foods perceived to be better than breastmilk may be a contributing factor for this outcome.

Marital status was also a significant predictor for the nutritional status of infants 6-24 months of age. Unmarried men were more likely to have a child that was undernourished. Although unmarried fathers may have offered financial or physical support, it may not have been as consistent as married fathers. Married men may have had a higher sense of commitment towards the needs of the child since they were bound to the mother through marriage. According to the Izugbara (2016), Amadu *et al* (2018), and Hertz *et al* (2020), in their studies also report that marital status influences the nutritional status of a child.

### **5.11 Fathers' roles in infant feeding**

From the discussion and interviews fathers indicated that they provided financial, physical and emotional support for mothers. Providing financial support was centred on the provision of money for the purchasing of food for the infant. It also involved the provision of money to cater for the transportation of mothers to growth monitoring sessions. This notion is typical in the African setting, where a father's duty is to provide money to buy food and other household items for the family (Kumwenda, 2017; Martin *et al*, 2021, Thuita *et al*, 2015; Ritcher *et al.*, 2010; Ramphele, 2002).

In relation to physical support, fathers helped to perform some domestic tasks, helped in meal preparation, shopping for food items and attending antenatal clinics. Fathers offered physical support to help ease the caregiving burden of mothers. Over the past few years, research has shown that there has been a redefinition in traditional roles in the household, with more men taking up chores defined as feminine to help support their spouses (Esping-Andersen & Billari 2015; Goldscheider *et al.*, 2015). Despite this progress, Oláh *et al* (2018), argue that this reformation may take a while to be accepted in some countries. It was also found that fathers offered emotional support to mothers by reminding and encouraging them to feed. Emotional support from fathers has been reported in other studies (Brown & Davies, 2014).

### **5.12 Sources of information on infant feeding**

Some fathers stated that the health centers were one of their sources of information on infant feeding. They received information on infant feeding during antenatal sessions. According to studies, these sessions help to improve the knowledge of infant care givers (Kyei-Arthur *et al.*, 2021; Acheampong, 2020; Gyampoh *et al.*, 2014; UNICEF, 2007). Other men reported that they received information from their wives since they attended health facilities. Grandmothers were

also mentioned a source of information to fathers. In Africa, grandmothers are known to hold a lot of information and are often sought after for guidance on issues concerning infant feeding (Aubel, 2012). Another source of information fathers mentioned was the internet. The internet may have sufficed as a source of information since it allows for easy access to information on infant feeding. However, people who are not tech savvy may not benefit fully from this body of information (Chou *et al.*, 2009). Thus, information accessibility is skewed towards a high caliber of people in society (Vinshula *et al.*, 2022).

### **5.13 Barriers to fathers' involvement in infant feeding**

Culture is one of the primary determinants of the involvement of fathers in the feeding of their children. Participants in this study were comfortable taking up other chores at home however, the majority stated that feeding the child, woman role to play. This finding is corroborated by other African studies where the feeding of children was associated with women and the provision of support ascribed to men (Ganle *et al.*, 2015).

Fathers also stated that tiredness from work and financial problems made it difficult to participate during feeding times. Fathers mentioned that they worked long hours in order to earn a little more money to take care of their families. According to Craig and Powell (2011), and Fursman, (2009) when fathers work long hours, it intensifies the caregiving burden on mothers. Once caregiver's burden is threatened, there is the chance that the quality of care a child requires would be compromised (Liu *et al.*, 2020; Findling *et al.* 2022; Nortey *et al.*, 2017).

### **5.14 Overcoming Barriers**

Some fathers from this study indicated that they had to make a deliberate effort to break the cycle of emotional absence passed down from their fathers. Fathers were aware that playing an active

part in the nutrition of their required more than financial provision. High emotional sensitivity from a father is known to impact the development of children later on in life (Coyle -Shepherd & Newland, 2013; Nettle, 2008; Goodsell & Meldrum 2010, Jesse & Adamson 2018).

Education and the media were also mentioned as a means of improving fathers' involvement. According to Arlinghaus & Johnston (2018), education is a tool that is used to create awareness on a particular phenomenon and is efficient in promoting behaviour change. Educating both boys and girls at an early age helps to break gender stereotypes on the roles women and men should play at home (Solbes -Canales *et al.*, 2020). This may help shape the thought process of boys as they grow to become men. The media has also been very instrumental in inciting behaviour change (Elegbe, 2017; Servaes & Malikaho, 2012). As such, it could also be beneficial in spreading information on the need for fathers' involvement in infant feeding. Various media forms can be used to propagate culturally sensitive messages to help change the perception of masculinity in society.

Again, fathers raised the need for policy change to allow them spend time with their children after birth. The Ghana labour law (Act 651) states that women are entitled to at least 12 weeks off work for her maternity leave. On the contrary, no such law exists for men hence denying them the chance of spending quality time with their families.

#### **5.15 Strengths and limitations of the study**

The study was conducted in a predominantly urban area and thus the results derived cannot be generalized to rural areas in the country. The disparities between these two areas may influence the KAP of fathers entirely and may paint a different picture of fathers' involvement.

Also, the study did not explore other methods in assessing the nutritional status of children. This may have accounted for the high occurrence of normal nutritional status amongst the children within the district.

Nonetheless, fathers' poor practices towards infant feeding should not be overlooked. It must be given the needed attention since the implications for the overall health of children are comparable. The needed attention and support will help promote fathers' actions towards the nutrition of their children.

Another limitation was difficulty in recruiting fathers for the qualitative arm of the study. In view of this, only one focus group discussion was held in addition to in-depth interviews. Despite this challenge, the results derived from the in-depth interviews were comparable to the points raised from the focus group discussion.

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In addition, the study draws strength from the fact it is the first to assess the relationship between paternal involvement and the nutritional status of children. Also, fathers were interviewed directly for this study making the data more reliable.

## CHAPTER SIX

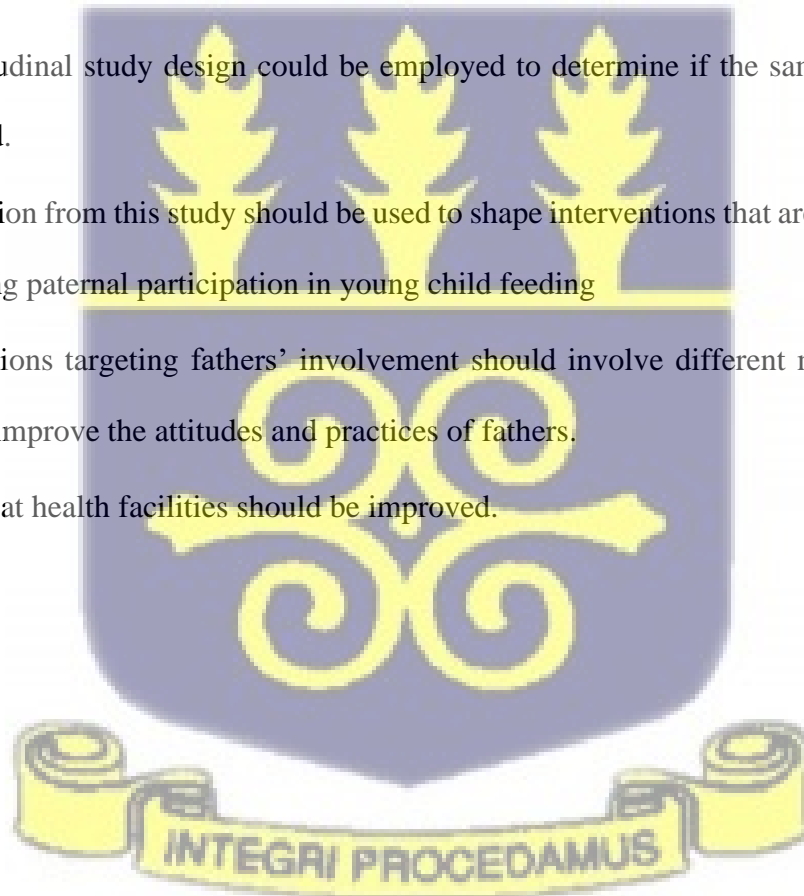
### 6.0 CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 Conclusions

All fathers had good knowledge and poor practices towards infant feeding. Fathers were supportive of their wives during infant feeding. They helped out with domestic work, fed children and offered words of encouragement to the mothers. Fathers also indicated their displeasure of cultural standards, financial constraints and tiredness from work impeding their levels of involvement in IYCF.

#### 6.2 Recommendations

- A longitudinal study design could be employed to determine if the same results may be produced.
- Information from this study should be used to shape interventions that are targeted towards improving paternal participation in young child feeding
- Interventions targeting fathers' involvement should involve different media channels in order to improve the attitudes and practices of fathers.
- Services at health facilities should be improved.



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feeding#:~:text=The%20first%20%20years%20of,and%20fosters%20better%20develop ment%20overall.

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## APPENDIX

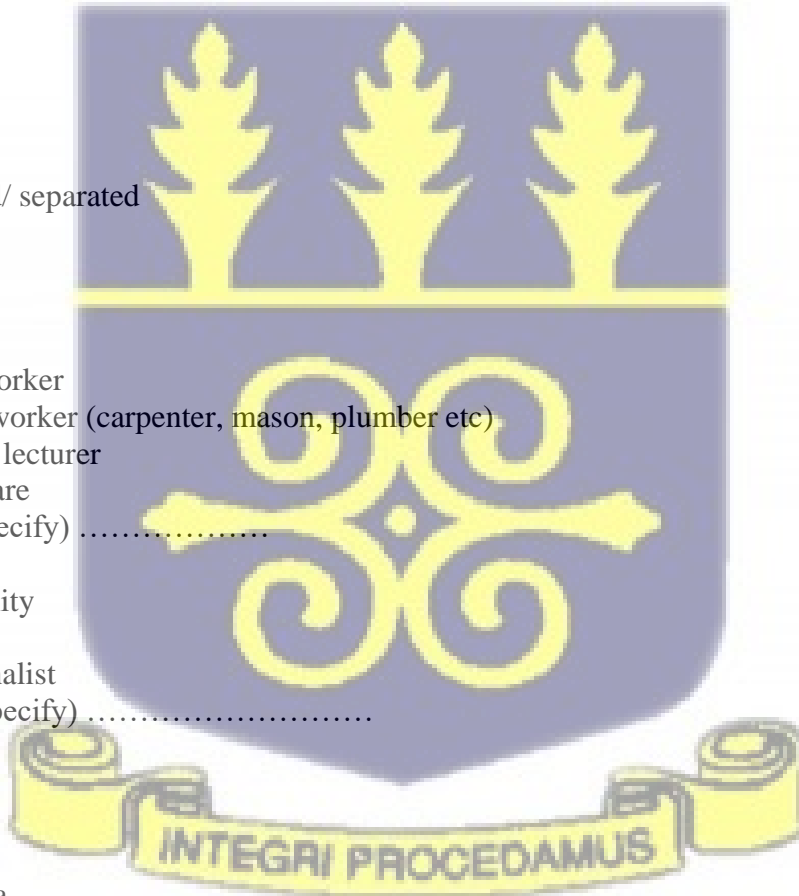
### Appendix 1- Questionnaire

**Fathers' knowledge, attitudes and practices concerning Young Child feeding and Nutritional status in the La Nkwantanang Madina Municipal District of the Greater Accra Region.**

*Kindly tick the appropriate boxes below and fill in the blank spaces below*

#### A. Socio demographic characteristics

1. Place of residence.....
2. Classification of place of residence
  - Rural
  - Urban
  - Peri-urban
3. Age .....
4. Formal Education (completed)
  - Primary
  - Secondary
  - Tertiary
  - None
5. Marital status
  - Married
  - Single
  - Divorced/ separated
  - Widow
6. Occupation
  - Business
  - Farming
  - Office worker
  - Service worker (carpenter, mason, plumber etc)
  - Teacher/ lecturer
  - Health care
  - Other(specify) .....
7. Religion
  - Christianity
  - Islam
  - Traditionalist
  - Other (specify) .....
8. Ethnicity
  - Akan
  - Ga
  - Ewe
  - Dagomba
  - Others (specify) .....
9. Income level (monthly)
  - <500
  - 600-1000
  - 1,100-1,500



- 1,600- 2000
- >2000

10. Number of household members.....
11. Number of children under 5.....
12. Number of antenatal care session visits (accompanying woman) during the pregnancy (of index child) period .....
13. Number of postnatal care session visits (accompanying woman) after child’s birth delivery
  - 1
  - 2
  - 3
  - 4

**Child’s Information**

1. Child’s age (in months) .....
2. Sex
  - Male
  - Female

**B. Fathers’ nutrition knowledge, attitudes and practices for children 6 to 24 months Practices**

1. When the mother of the child is not at home, who feeds the baby?
  - Yourself
  - Grandmother
  - Other children
  - Other (specify).....
  - Don’t know/no answer
2. What type of food is fed to the baby when the mother is not around?
  - Breastmilk by spoon, cup or bottle
  - Infant formula by spoon, cup or bottle
  - Other liquids (specify)
3. Whose responsibility is it to take decisions on breastfeeding the child exclusively?

(You can tick more than one response)

	Yes	No
a. Mother		
b. Father		
c. Grandmother		
d. Caregiver		
e. Other (specify)		

4. Do you encourage the mother of your child to practice exclusive breastfeeding?
5. What is the first food a new-born baby should receive?
  - Only breastmilk
  - Other (specify).....
  - Don’t know
6. Have you heard about exclusive breastfeeding?
  - Yes

- No → *continue to question K.11*
7. What does exclusive breastfeeding mean?
- Exclusive breastfeeding means that the infant gets only breastmilk and no other liquids or foods
  - Other (specify).....
  - Don't know
8. How long should a baby receive nothing more than breastmilk?
- From birth to six months
  - Other (specify).....
  - Don't know
9. Why is breastmilk alone sufficient to feed babies during the first six months?
- Because breastmilk provides all the nutrients and liquids a baby needs in its first six months
  - Because babies cannot digest other foods before they are six months old
  - Other (specify).....
  - Don't know
10. How often should a baby younger than six months should be breastfed or fed with breastmilk?
- On demand, whenever the baby wants
  - Other (specify).....
  - Don't know
11. What are the benefits for a baby if he or she receives only breastmilk during the first six months of life? (You can tick more than 1 response)

	Yes	No	Don't know
a. He/she grows healthily			
b. Protection from diarrhoea and other infections			
c. Protection against obesity and chronic diseases in adulthood			
d. Protection against other diseases (specify)			

12. What are the physical or health benefits for a mother if she exclusively breastfeeds her baby?

	Yes	No	Don't know
a. Delays fertility			
b. Helps her lose			

the weight she gained during pregnancy			
c. Lowers the risk of breast and ovarian cancer			
d. Lowers the risk of losing blood after giving birth			
e. Improves the relationship between the mother and baby			
f. Other (specify)			

13. Many times, mothers complain about not having enough breastmilk to feed their babies. Please tell me different ways a mother can keep up her milk supply.

	Yes	No	Don't know
a. Breastfeeding exclusively on demand			
b. Manually expressing breastmilk			
c. Having good nutrition/ eating well/ having a healthy or diversified diet			
d. Drink enough liquids during the day			
e. Other			

14. Many mothers need to work and are separated from their baby. In this situation, how could a mother continue feeding her baby exclusively with breastmilk?

- Expressing breastmilk by hand, storing it and asking someone to give breastmilk to the baby
- Other (specify) \_\_\_\_\_
- Don't know

15. If a mother has difficulties feeding breastmilk, what should she do to overcome them?

- Seek professional help from health-care services: doctors, nurses, midwives or other health professionals

- Other (specify).....
- Don't know

**Attitudes**

16. How good do you think it is to breastfeed your baby exclusively for six months?

- 1. Not good
- 2. You're not sure
- 3. Good

If Not good:

Can you tell me the reasons why it is not good?

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17. Do you think exclusive breastfeeding for 6 months is good for your child?

- Yes
- Not too sure
- No, it is not

If No: Can you tell me the reasons why?

---

---

18. Do you think it is difficult for mothers to breastfeed their babies on demand?

- Yes
- No

If Difficult:

Can you tell me the reasons why it is difficult?

---

---

19. How confident do you feel in how the mother breastfeeds your child?

- Not confident
- Ok/so-so
- Confident

If Not confident:

Can you tell me the reasons why you do not feel confident?

---

---

20. How confident do you feel in mothers expressing and storing breast milk so that either you or someone else can feed your baby?

- Not confident
- Ok/so-so
- Confident

If Not confident:

Can you tell me the reasons why you do not feel confident?

---

---

**C. Fathers' nutrition knowledge, attitudes and practices for children 6 to 24 months**

**Practices**

24. Do you participate in feeding your child who is 6-24 months old?

- yes
- no

If yes, how many times have you fed the child in the past 24 hours?

- Once
- Twice
- Three times
- Four times
- Five times

If No:

Can you tell me the reason why?

---



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25. Whose responsibility is it to feed the child? (You can tick more than one response)

	Yes	No
a. Mother		
b. Father		
c. Grandmother		
d. Other (specify)		

26. Who made the decision on when to introduce complementary feeding?

- Mother
- Father
- Both
- Other (specify)

27. Whose responsibility is it to make decisions on when to introduce complementary feeding?

28. (Tick the appropriate answer. You can tick more than one response)

	Yes	No
a. Mother		
b. Father		
c. Grandmother		
d. Other (specify)		

29. Do you buy food specifically for the child?

- Yes
- No

30. Whose responsibility is it to buy food for the child?

(Tick the appropriate answer. You can tick more than one response)

	Yes	No
a. Mother		
b. Father		
c. Grandmother		
d. Other (specify)		

31. Do you take part in making decisions to buy food for your child?

- Yes
- No

If No:

Can you tell me the reason (s) why you do not take part in the decision making of purchasing food?

- a.
- b.
- c.
- d.
- e.

31. Whose responsibility is it to make decisions to buy food for the child?

- Mother
- Father
- Grandmother
- Other (specify)

32. Who actually buys the food for your child?

- Mother
- Father
- Grandmother
- Other (specify)

**Knowledge**

33. Until what age is it recommended that a mother continues breastfeeding?

- Six months or less
- 6–11 months
- 12–23 months
- 24 months and more (correct response)
- Other (specify).....
- Don't know

34. At what age should babies start eating foods in addition to breastmilk?

- At six months
- Other (specify).....
- Don't know

35. Why is it important to give foods in addition to breastmilk to babies from the age of six months?

- Breastmilk alone is not sufficient (enough)/cannot supply all the nutrients needed for growth/from six months, baby needs more food in addition to breastmilk
- Other (specify).....
- Don't know

To feed their children, many mothers give them maize or rice porridge.

Please tell me some ways to make porridge more nutritious or better for your baby's health.

36. Which foods or types of food can be added to rice porridge make it more nutritious?

	Yes	No	Don't know
a. Animal source foods (meat,			

poultry, fish, liver/organ meat eggs etc.)			
b. Pulses and nuts: flours of groundnut and other legumes (peas, beans, lentils, etc.) sunflower seed, peanuts, soybeans			
c. Vitamin-A-rich fruits and vegetables (carrot, orange-fleshed sweet potato, yellow pumpkin, mango, pawpaw)			
d. Green leafy vegetables (e.g., Komtomire, Ayoyo)			
e. Energy-rich foods (e.g., oil, butter)			
f. Other (specify)			

37. Do you know any ways to encourage young children to eat?

	Yes	No	Don't know
a. Giving them attention during meals, talk to them, make mealtimes happy times			
b. Clap hands			
c. Make funny faces/play/laugh			

d. Demonstrate opening your own mouth very wide/modelling how to eat			
e. Say encouraging words			
f. Draw the child's attention			
g. Other (specify)			

**Attitudes**

38. How confident do you feel in preparing food for your child?

- Not confident
- Ok/so-so
- Confident

If Not confident:

Can you tell me the reasons why you do not feel confident?

\_\_\_\_\_

\_\_\_\_\_

39. How good do you think it is to give different types of food to your child each day?

- Not good
- You're not sure
- Good

If Not good:

Can you tell me the reasons why it is not good?

\_\_\_\_\_

\_\_\_\_\_

40. How difficult is it for you to give different types of food to your child each day?

- Not difficult
- So-so
- Difficult

If Difficult:

Can you tell me the reasons why it is difficult?

\_\_\_\_\_

\_\_\_\_\_

41. How good do you think it is to feed your child several times each day?

- Not good
- You're not sure
- Good

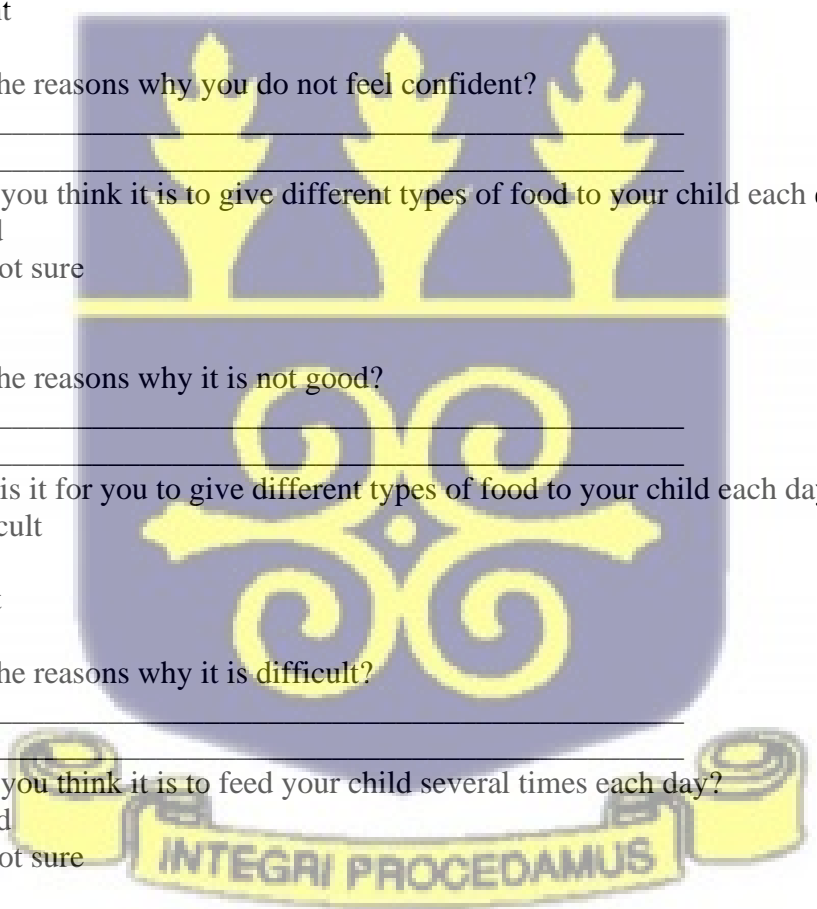
If Not good:

Can you tell me the reasons why it is not good?

\_\_\_\_\_

\_\_\_\_\_

42. How difficult is it for you to feed your child several times each day?



- Not difficult
- So-so
- Difficult

If Difficult:

Can you tell me the reasons why it is difficult?

---

43. How good do you think it is to continue breastfeeding beyond six months?

- Not good
- You're not sure
- Good

If Not good:

Can you tell me the reasons why it is not good?

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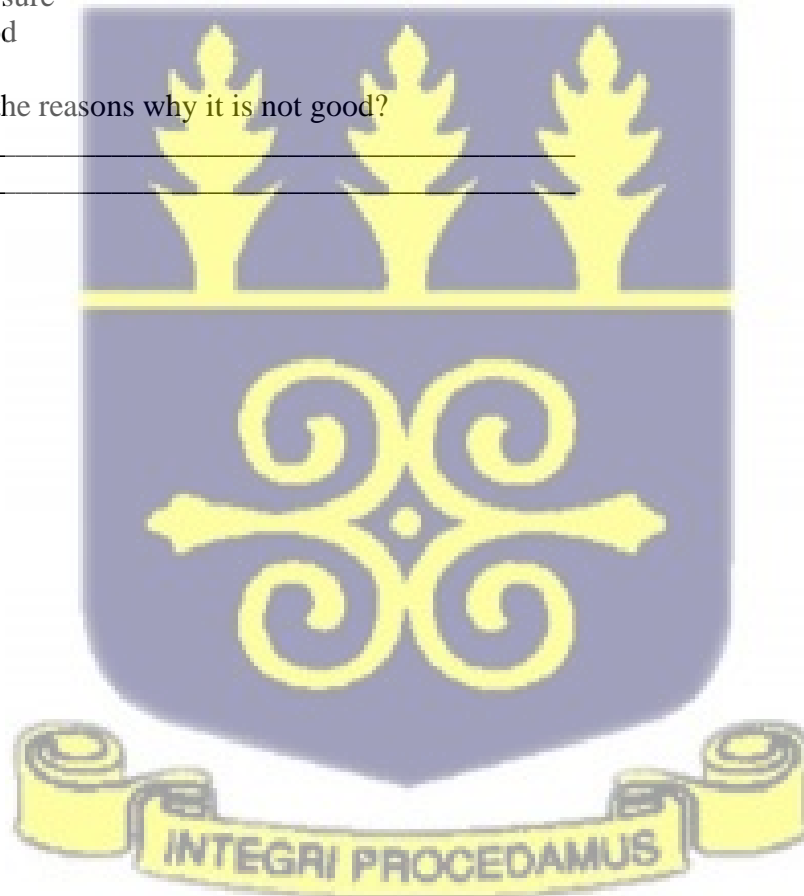
44. Do you think it is good for your child to continue breastfeeding beyond six months?

- Not good
- Not too sure
- It is good

If not good:

Can you tell me the reasons why it is not good?

---



## Appendix II- Discussion and interview guide

Fathers' knowledge, attitudes and practices concerning Young Child feeding and Nutritional status in the La Nkwantanang Madina Municipal District of the Greater Accra Region.

Focus group discussion/ In-depth interview guide

Date:

Start time:

End time:

Name of Facilitator:

1. What responsibilities do you think fathers have to ensure proper breastfeeding of children?

- I. What do you understand by proper breastfeeding?
- II. What do you understand by appropriate complementary feeding?
- III. How do you as a father ensure that your child is breastfed properly?
- IV. Where do you receive information on breastfeeding?
- V. What responsibilities do you think fathers have when it comes to ensuring proper complementary feeding?
- VI. How do you as a father ensure that complementary feeding is done properly?
- VII. Where do you receive information on complementary feeding?

2. What do you think are the factors that affect fathers' involvement in IYCF?

- I. What are the cultural factors that affect your participation in infant feeding?
- II. How do these factors affect that you participation?
  - I. What do you think are some of the economic factors that affect your involvement in infant feeding?
  - II. How do these factors affect your level of participation?
    - I. What do you think are some religious factors that affect your participation?
    - II. How do these factors affect your involvement in the infant feeding process?
      - I. What are some of the factors in the health system that affect your participation in infant feeding?
      - II. How do these factors affect the participation in infant feeding?

3. How do you think these factors can be overcome?

- I. Cultural
- II. Religious
- III. Economic
- IV. Health system

4. What additional responsibilities do you think fathers can take on to ensure that optimal IYCF is practiced appropriately?



**Appendix III- Consent form**  
UNIVERSITY OF GHANA



COLLEGE OF BASIC AND APPLIED SCIENCES  
Ethics Committee for Basic and Applied Sciences (ECBAS)

PROTOCOL CONSENT FORM

Section A- BACKGROUND  
INFORMATION

Title of Study:	Fathers' knowledge, attitudes and practices concerning Young Child feeding and Nutritional status in the La Nkwantanang Madina Municipal District of the Greater Accra Region.
Principal Investigator:	Charity Naa Fofo Anang
Certified Protocol Number	

Section B- CONSENT TO PARTICIPATE IN  
RESEARCH

General Information about Research

You are invited to partake in a study that seeks to understand the extent to which fathers are involved in the feeding of their children and how it affects the growth the child. We would like to know what you understand about breastfeeding and complementary feeding and whether you play any role when these activities are carried out. The entire interview process will take about 30- 45 minutes of your time. If you decide to take part in this study, you will be asked questions about your age, ethnicity, your job and how much you earn. We will also ask questions about the number of children you have, how you support the mother of your child with taking care of the child's feeding. The weight and height of your child will also be taken. The weight of your child will be taken using an electric scale and the height will be taken with the use of an infantometer. These measurements of your child will be taken with minimal or no clothing on. It is required that these measurements be taken with minimum light clothing or no clothing at all. Having heavy clothing, shoes or diapers on, could alter the measurements and fail to reflect the true weight and height of the child

Benefits of the study

You will not receive any direct benefit from the study. Nonetheless, the findings from the study will be beneficial to government agencies, and other organizations that are interested in improving the inclusion of fathers in infant nutrition.

#### Risk of the study

There would be the risk of contracting the Covid 19 virus however all covid 19 protocols will be duly observed during the interview. The researcher will wear a mask when interacting with you, keep a 1-meter distance where applicable and wash hands with soap and water before and after taking the weight and height measurements of your child.

Time constraints would also be a possible risk factor for the study due to the lengthy nature of the questionnaire. Therefore, the nature of the study will be clearly explained to before you offer consent.

#### Confidentiality

All the information you provide for this study will be treated with caution. Your name will not be mentioned in any report also, identification codes will be used for each participant. Hard copies of the questionnaire will be kept in locked cabinets. Nevertheless, to ensure that the research work matches up to standard, the Institutional Review Board of the College of Basic and Applied Sciences, of the University of Ghana may request to inspect the study records as part of its auditing program.

#### Compensation

Upon completion of the survey by both you and the mother of your child, you will be compensated with a bar of washing soap and a bottle of hand sanitizer. However, if you decide to complete the questionnaire over the phone, you will be given GHc5 worth of airtime for any network of your choice.

#### Withdrawal from Study

Participation in the study is entirely voluntary and you can decide to take part or not. You will not have to explain to anyone if at some point you choose to withdraw from the study.

#### Contact for Additional Information

If you have any questions concerning this study, kindly reach out to Ms. Charity Anang- 0205509923  
Dr. Agartha Ohemeng-0244862606

If you have any issues pertaining to your rights as a participant, you can contact the address below:

Administrator, Ethics Committee for Basic and Applied Sciences  
College of Basic and Applied Sciences University of Ghana  
P. O. Box LG 68 Legon – Accra IP No.: 3014  
Email: [ethicscbas@ug.edu.gh](mailto:ethicscbas@ug.edu.gh)

#### Section C- VOLUNTEER AGREEMENT

"I have read or have had someone read all of the above, asked questions, received answers regarding participation in this study, and I am willing to give consent for me, my child/ward to participate in this study. I have not waived any of my rights by signing this consent form. Upon signing this consent form, I will receive a copy for my personal records."

\_\_\_\_\_  
Name of Volunteer

\_\_\_\_\_  
Signature or mark of volunteer

\_\_\_\_\_  
Date

If volunteers cannot read the form themselves, a witness must sign here:

I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered, and the volunteer has agreed to take part in the research.

\_\_\_\_\_  
Name of witness

\_\_\_\_\_  
Signature of witness

\_\_\_\_\_  
Date

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

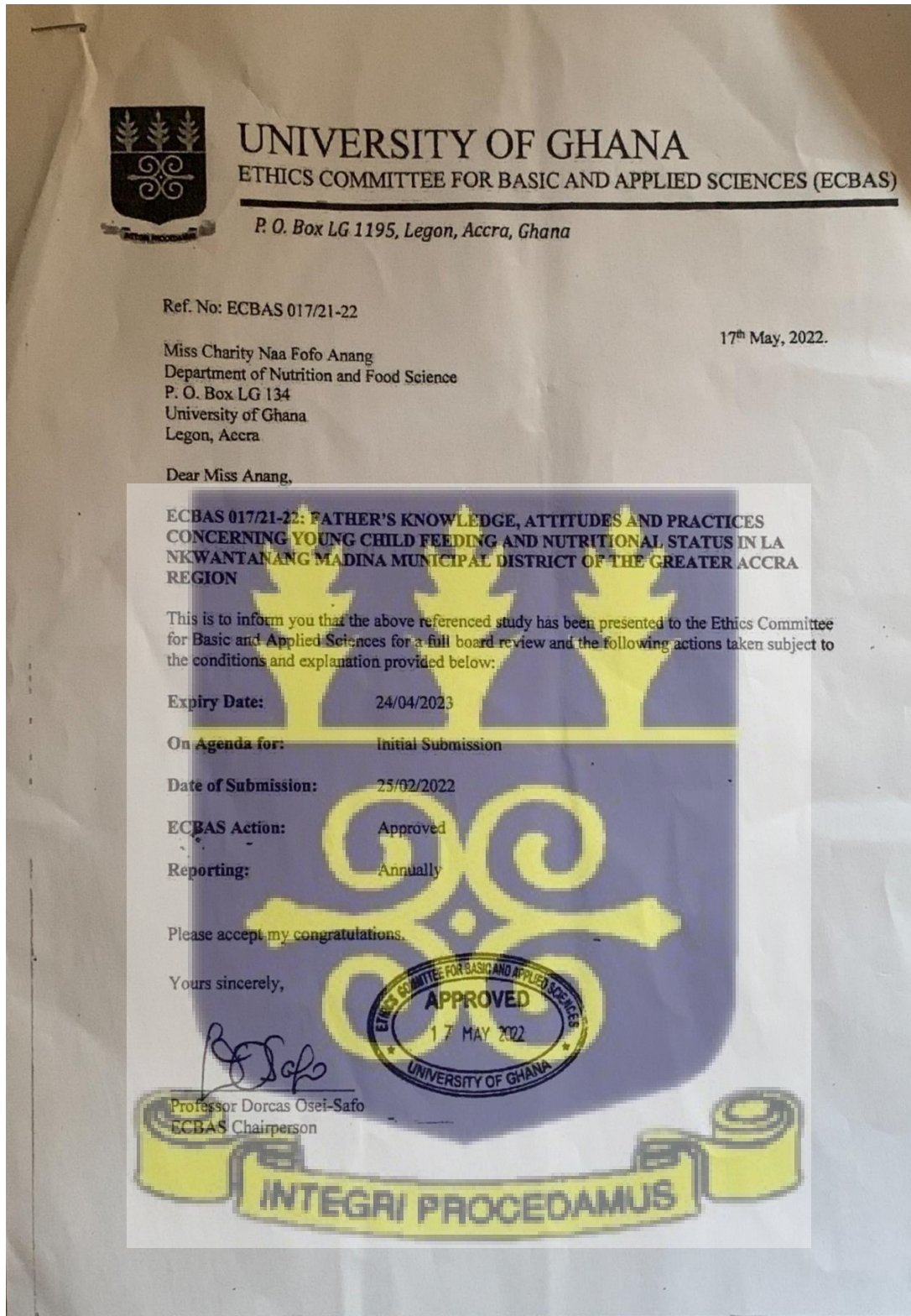
\_\_\_\_\_  
Name of Person who obtained Consent

\_\_\_\_\_  
Signature of Person who obtained Consent

\_\_\_\_\_  
Date



Appendix IV- ECBAS approval letter



**Appendix V- Approval letter from Greater Accra Regional Health Directorate and the La Nkwantanang Madina District Assembly**

