SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

AN EXPLORATORY STUDY OF MARKET WOMEN'S KNOWLEDGE ON INFANT AND YOUNG CHILD FEEDING PRACTICES IN ASHIEDU KETEKE SUB-METROPOLIS OF THE GREATER ACCRA REGION GHANA

BY

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DECLARATION

I, Onwuka Onyinyechi Confidence, hereby declare that, apart from references made to other people's work and duly acknowledge, this Dissertation is the result of the original work done by me under supervision. I further declare that this document has not been presented anywhere else for the award of any degree.

Onwuka Onyinyechi Confidence	……..	……
(Student)	**Signature**	**Date**

Dr. Alfred E. Yawson	……..	…….
(Supervisor)	**Signature**	**Date**

DEDICATION

This work is dedicated to God Almighty for his compassions and provisions to me throughout my stay in Ghana. Also to My parents and my little sisters for their support in this academic journey.

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This work was possible by the unfailing grace and direction from the almighty God. I wish, therefore, to first and foremost thank the almighty God for making this work a success. I wish to register my profound appreciation to my academic supervisor, Dr. Alfred Yawson of School of Public Health, College of Health Sciences, University of Ghana for his generous supervision, and encouragement throughout this work.

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My prayer is that the almighty God will continue to bless and uplift you all in Jesus name.

LIST OF ABBREVIATIONS

GDHS - Ghana Demographic and Health sSurvey

GHS - Ghana Health Service

HIV- Human Immunodeficiency Virus

IYC- Infant and young child

IYCF- Infant and young child feeding.

UNICEF- United Nations Children's Fund.

USAID- United State Agency for International Development

WHO- World Health Organization

DEFINITION OF TERMS

Complementary feeding: this is known as the act of introducing extra food apart from breast milk to the infant for their healthy growth

Complementary foods- the solid, semi-solid or liquid foods that are added to infant food starting from the age of 6 months of life for adequate nutritional support.

Infant and young child- According to WHO and UNICEM, they are known as a children from the age of 0-2 years of life.

Knowledge and awareness- This is what the respondents know about the type of contraceptives, how they work and how they are used.

Market Women- market women in this study refers to women who are involved in table top selling or petty traders and hawkers in Makola market.

Mother's nutrition- This is known as the nutritional requirements of a reproductive age mother that enables proper and rich vitamins that is needed by the infants from the mother during breastfeeding for the support of child's growth.

Religion- This is the belief systems of the respondents

Reproductive age women-Women aged between 15-49 years

Responsive feeding – This is a close interactive period between mother and child during breastfeeding or complementary feeding**.**

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ABSTRACT

Market Women's Knowledge on Infant and Young Child Feeding Practices in Ashiedu Keteke of the Greater Accra Region, Ghana.

Infant and young child feeding is an important area to improve child survival and promote healthy growth and development as recommended by the WHO/UNICEF. Malnutrition remains the leading cause of child morbidity and mortality among children under five years of age particularly in sub-Saharan Africa. Amidst the many efforts over the years to curb the malnutrition menace in Ghana, current statistics reveal that working mothers like market women resort to all forms of inappropriate feeding practices which eventually leads to malnutrition in their children. This study was therefore designed to explore market women's knowledge on Infant and Young Child Feeding Practices in Makola market, Ashiedu Keteke, Accra.

Objective: The main aim of this study is to assess the level of knowledge of market women with children 0-23 months on Infant and Young Child Feeding (IYCF) practices in Makola, Ashiedu Keteke sub-Metropolis.

Methods: An exploratory cross-sectional study involving 300 mothers with children between the ages of 0-23 months consecutively enrolled in the study. The study excluded those who do not bring their children to the market. Structured questionnaire was pretested to enable modification.

Findings: Only 148 (49.3%) initiated breast feeding within the first hour of delivery. In all, 121 (40.3%) introduced solid or semi-solid food to their children before 6 months. More than half 245 (81.7%) did not know responsive feeding. About 175 (58.3%) did not know the risk of not practicing the recommended IYCF and 177 (59.3%) did not wash their children's hands before feeding them. Among the women, attending to their customers was a priority for almost half (47%) of them.

Conclusion: Knowledge and practice of respondents on recommended IYCF was poor. Educational level, child's age and market area were found to be significantly associated with respondents' knowledge and practice levels. There is need to intensify awareness and education of recommended IYCF among mothers, especially market women and other busy mothers. Health facilities need to increase health education among mothers during antenatal and post-natal visits to ensure good health for Ghanaian children.

CHAPTER ONE

INTRODUCTION

1.1 Background

An infant is a young child between the age of one month and 12 months and a young child is a child from birth up to two years of age (Laghari *et al.*, 2015). Infant and young child feeding practices includes exclusive breastfeeding, timely and appropriate introduction of complementary feeding to children at six completed months of age, and continued breastfeeding alongside with other foods until two years of age and beyond. This is an essential part of infant and young child proper growth and health (Cassells, Magarey, Daniels, & Mallan, 2014).

Proactive interventions and mothers education, staff and caregivers attitude are necessary to protect and support sustainable infant and young child feeding practices (Musa, Musa, Ali, & Musa, 2014). Appropriate infant and young child feeding practice helps to minimize the possibility of micro-nutrient deficit through exclusive breast feeding at the first six months of life followed by the introduction of essential vitamin rich foods (Sint, Lovich, Hammond, Kim, Melillo, Lu, Ching, Marcy, Rollins,Koumans & Heap, 2014).

However, inadequate support to infant feeding has been established as one of the main causes of malnutrition among children. Poor nutrition increases the risk of illness, and is responsible, directly or indirectly, for one third of deaths among children under the age of five years old (WHO, 2008). Inappropriate feeding practices such as poor hygiene, unhealthy preparation of locally available foods and where appropriate, use of fortified blended foods exposes infants and young children to danger thereby causing disease, infections and illnesses that could lead to child mortality (Kandala, Madungu, Emina, Nzita,

& Cappuccio, 2011). Every infant and young child has the right to good nutrition according to the convention on the right of children. Early nutritional deficiency are linked to long term impairment in growth and health, and malnutrition during the first two years of life results in stunting leading to adult height several centimeters shorter than his or her potential height (WHO ,UNICEF 2009). Malnutrition is a leading cause of morbidity and mortality among children under five years of age around the globe. Malnutrition affects both physical growth and cognitive development of children under five years (Laghari *et al*., 2015). This leads to reduction in reproductive and physical work capacity, hence a direct impact on health, performance and survival of the infants and young children.

It is estimated that about 150 million children under five years of age are underweight and over 20 million are severely malnourished (Katepa-bwalya, Mukonka, Kankasa, Masaninga, & Babaniyi, 2015).

In sub-Saharan Africa, about 47 million children under 5 years of age are stunted (Musa *et a*l., 2014) and (de Onis, Blössner, & Borghi, 2012). However, available Statistics indicate the trends of child mortality that occurred between 2008 and 2014 were severe in urban areas than in rural areas (Tullus, 2015). However, improving child development and reducing health costs through breastfeeding results in economic gains for individual families as well as at the national level.

1.2. Problem statement

Essential and adequate nutrition during infancy and early childhood is very important to ensure growth and health development of children to their ample potential (Laghari *et al*., 2015). Insufficient nutrition raises the risk of illness. In 2006, about 9.5 million deaths occurred in children less than 5 years of age due to malnutrition (WHO, Black *et al.*, 2008).

It is estimated that, 218 million Africans suffer from chronic hunger and malnutrition. Additionally, an estimated 43% of pre-school children in Africa are deficient of vitamin A – a micronutrient needed for healthy growth (Ghana FAO., 2015).

Ghana is one of the countries that give high priority to the attainment of the sustainable millennium development goals. Child mortality reduction is one of the goals of the declaration to lessen the burden of death on the Ghanaian population. According to the GDHS 2014 report, Greater Accra region recorded an estimated number of 47 deaths per 1000 live births among children and 37 deaths per 1000 live births among the infants due to malnutrition (GDHS, 2014).

More so, in Ghana, available statistics indicate that 12,000 children die every year of under-weight related ailments due to malnutrition (GHS, 2012). The statistics also indicate that under-nutrition contributes to about half of all child deaths beyond early infancy, whilst one out of every thirteen children in Ghana die before their fifth birthday – mostly as a result of under-nutrition.

Though many interventions have been implemented over the years to curb the malnutrition menace in Ghana, the above outlined statistics showed that working mothers like market women resort to all forms of inappropriate feeding practices which eventually leads to malnutrition in their children. One of such is formula feeding which most mothers with children under two years resort to (Zhang *et al*., 2015). Much has not been done to assess busy working mothers like market women's knowledge on infant and young child feeding practices and factors associated with mother's preference for formula feeding rather than breastfeeding. There is also the need to assess how mothers manage their businesses with appropriate and timely child care practices.

1.3. Justification

Reduction of child mortality can be reached only when nutrition in early childhood and IYCF specifically are highly prioritized among busy mothers including market women. Significant reduction in child mortality can only be achieved by preventing child malnutrition in the early lives of newborns (Addo *et al.*, 2001).

It is against this background that this study seeks to assess market women's knowledge on recommended infant and young child feeding practices and the factors that influence their preference of formula feeding to breastfeeding. The study will also contribute to literature on infant feeding practices among very busy everyday working women. It will help policy makers identify unfavorable gaps in child nutrition and subsequently develop good public health interventions to improve child survival.

1.4. Research Questions

- What is the level of knowledge of market women about recommended IYCF?
- How do market women manage their daily activities and child care practices?
- What proportion of market women initiate timely and adequate complementary feeding practices?
- What factors influence mothers' preference of formula feeding to breast feeding?

1.5 Study Objectives

1.5.1. General Objective

To assess the level of knowledge of market women with children 0-23 months on infant and young child feeding practices in the Ashiedu Keteke sub-Metropolis.

1.5.2. Specific Objectives

- To assess the level of knowledge of mothers on recommended infant and young child feeding practices

- To identify the proportion of mothers initiating adequate and timely recommended IYCF.

- To determine the factors that influence mothers' choice of formula feeding.
- To assess the IYCF practice of the mother's based on WHO/UNICEF global indicators for monitoring IYCF

CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.0. Introduction

This chapter seeks to review literature on the optimal infant and young child feeding practices, subsequently, it is expected to explore literature on the knowledge of infant and young child feeding practices amongst market women, and to access their ability to handle their business, time management, and adequate feeding practice, as well as their attitude towards complementary feeding and exclusive breast feeding considering their busy schedule. Malnutrition impacts on human performance, health and survival have been the reason of extensive research for many years, several studies have showed that undernutrition affects physical growth, morbidity , mortality , cognitive development ,reproduction and as well the capacity to work physically and effectively (UNICEF, 2006).

One of the underlying factors that is most responsible for diverse illness and diseases in both children and adults is malnutrition, which contributes immensely to the incompetencyadjusted years of life globally (Ingram *et al.*, 2015).

However, undernourishment is specifically prevalent in developing countries, thereby one out of every three preschool-age children is affected (Durão *et al*., 2015).

Moreover, an accurately nourished child is a child that has a connection to sufficient supply of food, proper care and health (UNICEF, 2006). Children who have such degree of care and attention tends to have weight and normal height measurements that is similar with the accepted normal distribution of heights (H) and weights (W) of healthy children who are of the same age group and gender (WHO, 2009).

However, factors that contribute to malnutrition in children and infants are in diverse forms, and the primary determinants have been reviewed by several writers and researchers with association to substandard food consumption and severe repeated infections, or a combination of both (Musa *et al.*, 2014).

The nutritional status and the total health of a child are subjects to be assessed against malnutrition as factors that could be attributed to poor practice of maternal to child care, and health care, furthermore, these very factors negatively impact children heath, growth, thereby leading to uncountable child mortality worldwide (Kandala *et al.*, 2011).

2.1 Conceptual Framework

The frame work (Figure 1.) is showing the interrelationship between the factors that can influence WHO recommended IYCF practice among market women with children between the ages of 0-23 months who are regularly in the market with their mothers. Maternal factors can be considered as a major factor in proper feeding practice e.g. age, level of education marital status can affect mother's choice on choosing the type of infant food, and adequate feeding practice.

More so, child-related factors affect proper practice of IYCF. A child nutritional status and health conditions at birth may contribute to the mother's choice or preference of feeding practice to adopt thereby resulting to less adherence to the recommended practice by the mother, and market environment can also contribute in the reduction of adequate time that the mother can dedicate for proper feeding of the child. However, the mothers knowledge also contributes immensely because, the mothers awareness of the consequences of poor feeding will encourage her to adhere to recommended feeding practice despite the cost.

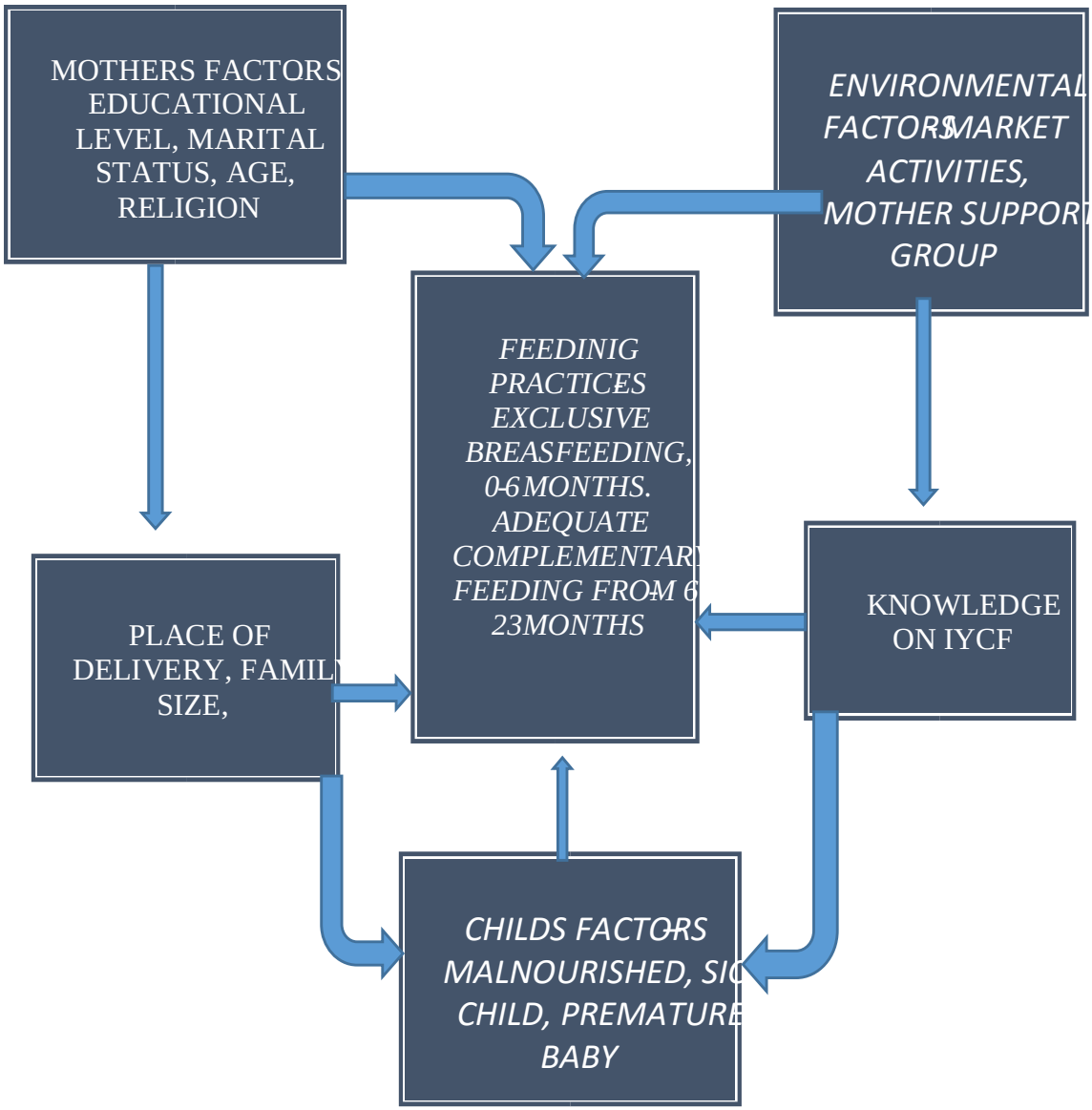

Figure 2.1: Conceptual Framework of market women's knowledge on infant and young child feeding (IYCF) practice

2.2. Breast feeding and its Benefits to children under two years

Breast feeding is a possible way of providing ideal food for the healthy growth and development of infants, and also an integral part of the reproductive process with important implications for the health of mothers.

As a global public health recommendation, infants should be breastfed exclusively for the first six months of life to achieve optimal growth development and health (UNICEF, 2013).

Exclusive breastfeeding is the situation where an infant receives only breast milk from his or her mother or a wet nurse, or expressed breast milk, and no other liquids or solids, not even water, with the exception of oral rehydration solution, drops or syrups consisting of vitamins, minerals supplements or medicines (WHO, 2008). Breast feeding confers short term and long term benefits and helps to protect children against variety of acute and chronic disorders.

Exclusive breast feeding is of more importance than partial breast feeding. According researchers in early studies, it was recorded that in 1984, a study reviewed discovered the risk of death from diarrhea of partially breastfed infants 0-6 months of age was 8.6 times the risk for exclusively breastfed children, Among those children that received no breast milk the risk was 25 times that of those who were exclusively breastfed (UNICEF, 2007).

The WHO evidence in 2007, on long term impacts of breast feeding recorded that exclusive breast feeding of 4 or more months is capable of protecting an infant from single and recurrent episodes of otitis media. However, in Africa today poverty among lactating mothers remains an underlining cause of improper breast feeding which woefully retards the growth of most developing children in return. Furthermore, early breastfeeding is associated with fewer nighttime feeding problems. Early skin-to-skin contact between mother and baby improves breastfeeding outcomes, increases cardio-respiratory stability and decreases infant crying. Breastfeeding aids general health, growth and development in the infant. There is a significantly risk increase of acute and chronic infection and diseases among infants who are not breastfed properly, lower respiratory infection, ear infections, bacteremia, bacterial meningitis, botulism, urinary tract infection and necrotizing enterocolitis. Exclusive Breastfeeding may defend against unexpected infant death syndrome, insulin-dependent diabetes mellitus, Crohn's disease, ulcerative colitis, lymphoma, allergic diseases, and digestive diseases and may enhance cognitive development (GHS, 2015).

2.3. Mother's nutrition

Adequate nutrition intake has important benefits for both women and their children. Children who are well breastfed gain a lot of micronutrients supplements received by the mother during and after pregnancy, especially vitamin A which is mostly needed for the children's nutrient stability. More so, iron supplement of women during pregnancy has the ability to protect the mother and the infant against anemia, since anemia is considered as a major cause of maternal and perinatal mortality worldwide. Nutritional imbalance in pregnancy is a major treat to the fetus and could leads to unfavorable birth outcome such as premature or low birth weight delivery. Ultimately, iodine deficit is associated with diverse of advance pregnancy events, including abortion, fetal brain damage, congenital malformation, stillbirth and prenatal death. Insufficient dietary intake as well as diseases is said to be the major cause of malnutrition in human, the WHO standards confirmed that there is an important intimate link between the nutritional status of the mother and that of the child, therefore to achieve improved infant and young child feeding begins with ensuring the health and nutritional status of the women throughout all the stages of life.

During pregnancy and lactation, women's nutrient requirements increase to cater for the fetus. During this period, women therefore tend to use their nutrient reserves for energy if their increased nutrient is not catered for and subsequently become malnourished due to inadequate nutrient intake which could result to low birth and still birth (Sagawa, 2010).

2.4. Complementary foods

Increase food consistency and variety is essential for the provision of enough and required nutrients for the growth and sustainable development of a child throughout infancy and to the adulthood, to support the nutrients infant gained from the mother through the breast milk.

Complementary foods is the nutrient rich food that is given to an infant after the baby has reached the first 6 months of age. Nutrition is an essential, unlimited and acknowledged part of a child's right no matter the age, for the pleasure of attainable standard of health.

Children possess the right to adequate nutrition and access to safe and nutritious food and these are important requirements for fulfilling a child's right and need to accomplish the highest standard of health.

This process begins from when breast milk is no longer enough to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk even though breastfeeding may continue (USAID/ WHO/ UNICEF, 2008).

Starting from the age of 6 months, when an infant's need for energy and nutrients exceeds what is provided by the mother, supplements like complementary food becomes necessary to fill the energy and nutrient gap in the children (Dewey and Adu-Afarwuah, 2008). The period of 6-23 months is the time of peak incidence of growth and health faltering, deficiencies in micronutrients and risk of infectious illnesses, therefore the need for the introduction of appropriate complementary foods is important at this age to prevent an infant growth from being faltered, However, infants with exceptional difficult situations such as preterm or low birth weight infants, severely malnourished children and emergency situations, additional food source like complementary food can be applied especially an infants born to infected HIV mothers (UNICEF and WHO, 2009).

There is the need for safe and sufficient nutrients in Complementary foods for infants in order to meet the demand of the young child's energy and nutrient requirements (WHO, 2009).

Studies has shown that complementary foods that can provide the adequate nutrients to meet the infant needs for sustainable energy and nutrients is the local type of supplemented foods

especially for the first trial of complementary food such as tick portage, animal source of foods (e.g., meat, fish, chicken, liver, eggs, milk and milk products). All these are to be introduced at 6 months of age. The introduction of vitamin A, rich fruits and vegetable such as (mango, papaya, passion fruits, dark-green leaves, carrots, yellow sweet potato pumpkin and other fruits and vegetables such as banana, pineapple, avocado, watermelon, tomatoes, eggplant and cabbage, including locally-used wild fruits and other plants, legumes (beans lentils etc.), grains such as maize, wheat, rice, millet, potatoes and many other complementary foods that can enhance the growth of infants and encourage healthy state of their health as well as support to building a strong immunity against infectious disease and infant mortality due to malnutrition(UNICEF, 2013).

However, the introduction of complementary fluids and foods before six months and inability to dedicate quality time for infant and young child feeding is reportedly common in this era, particularly among working mothers and those with higher levels of education (Madsen, 2010). Moreover in a recent research it was discovered that about 13.5% of infants had received complementary foods before 3 months and 83.5% before 6 months (Patterns, 2013). Early introduction of Foods such as cow's milk, eggs and honey may increase the risk of allergies and food poisoning in young infants leading to diarrhea, vomiting, and exposure to morbidity and treat to infant's poor life (Gardner, Green, & Gardner, 2015).

2.5. Complementary feeding

Infant and young child feeding practice also put emphasis on complementary feeding practices and foods or diets of children under two years of age. The knowledge, attitudes, practices and social norms of infant and young child feeding and its related practices among mothers is very important (UNICEF, 2011). Infants at six months need additional foods aside the breast milk to grow healthy. Therefore, to meet their evolutional requirements, infants should receive

nutritionally adequate and safe complementary foods while breast feeding continues for up to two years of age or beyond.

The recommended feeding practices at this stage of the child's life is very important since the breast milk only is not sufficient for the growing child's nutrient needs.

It is therefore imperative for mothers to follow the recommended complementary feeding practices. At six month, the child needs two to three meals plus frequent breastfeeds a day. A child from 6 to 9 months needs the same frequency as a child at six months in addition to one to two snacks per day while a child from 12 to 24 months needs more, three to four meals plus breastfeeds including one to two snacks (UNICEF, 2013). Children under two years of age need more time to feed, therefore mothers should be patient and encourage their children to eat more. Most children under this age often refuse to eat due to the introduction of new foods aside breast milk. It also recommended that mothers should not force-feed their children (UNICEF, 2013).

2.6. Infant and young child feeding (IYCF) practices

Infant and young child nutrition is a vital component in human life.Infant and young child feeding is a basic care for early childhood development. Poor physical development, cognitive impairment and repeated infections normally occur as a result of poor feeding practice (UNICEF, 2011). Infant and young child feeding aims to revitalize efforts to promote, protect and support appropriate infant and young child feeding practice among mothers, caregivers and family members. Breast milk is the first food for the new-born (Mcdaniel & Pisani, 2012).

Even in resource poor settings, improved feeding practices can lead to improved intakes of energy and nutrients, leading to better nutritional status (Hausman, 2008).

According to previous researchers, adequate and good practice of infant and young child feeding is a key stone of a child proper development in life, it is also a building block for an infant and young child IQ development (Gardner *et al*., 2015). A well fed child is a child according to UNICEF and WHO recommendation, with sufficient nutrient and energy needed for the growth and healthy state of the entire body. Early infant with poor feeding practice is prone to suffer from low immunity, morbidity and mortality (WHO, 2009). Over the past decades, the evidence of biological requirements for appropriate nutrition, recommended feeding practices and factors impeding appropriate feeding has grown steadily, Moreover, much has been learned about interventions that are effective in promoting improved feeding (Gardner *et al*., 2015). For example, recent studies in Bangladesh, Brazil and Mexico have demonstrated the impact of counselling, in communities and health services, to improve feeding practices, food intake and growth (Addo *et al*., 2001).

Globally, an awareness for a Strategic Infant and Young Child Feeding practices has been dually emphasised on, with the aims to revitalize efforts and positive response and cooperation from the mothers and caregivers to promote, protect and support appropriate infant and young child feeding. It builds upon past initiatives, in particular the Incentive Declaration and the Baby-friendly Hospital initiative and addresses the needs of all children including those living in difficult circumstances, such as infants of mothers living with HIV, low-birth-weight infants and infants in emergency situations (Sint *et al*, 2014)

2.7. Four star diet (Balanced diet)

A four star diet is a new method of food preparation, with a guarantee that individual meals are balanced and contain foods from all the food groups. According to UNICEF recommendation, this method/technique is proposed mostly for infant and young child feeding as well as infant and maternal nutrition (during pregnancy and lactation). However, this is

mostly used in developing countries where literacy and adherence to preparing balanced diet is relatively low. Various food groups that made up the four star diet are staples, legumes, vitamin and proteins (UNICEF Manual, 2010).

Staples

1 star *

These are different categories of food stuffs that made up of one star diet, ability to include at least one of the following in each meal to provide adequate amounts of carbohydrates. They include: grains such as maize, wheat, rice, millet and sorghum and roots and tubers such as cassava and potatoes.

Legumes

2 Star **

These are foods stuffs that provides adequate nutrient needed by the body, these are Legume rich foods such as beans, lentils, peas, groundnuts and seeds such as sesame.

Vitamin a-rich fruits and vegetables

3 Star ***

According to UNICEF, vitamin rich food are needed to improve growth and organ development in children and during pregnancy, they include fruits and vegetables such as mango, papaya, passion fruit, oranges dark-green leaves, carrots, carrots, yellow sweet potato and pumpkin and other fruits and vegetables such banana, pineapple, avocado, watermelon, tomatoes, eggplant and cabbage.

Animal source-source foods

4 Star ****

Animal source foods are recommended by UNICEF for enrichment of foods given to the infant and young children, pregnant and lactating mothers for good protein. Example of animal foods such as meat, chicken, fish, liver, eggs and dairy products (UNICEF Manual, 2010).

CHAPTER THREE

METHODS

3.1 Introduction

This chapter presents the pattern of research methods that was adopted in this study. This involves the type of study design, study area, study population, variables, sample size, technique and method, data collection method and tools and ethical consideration.

3.2 Study area

Ashiedu keteke (Figure 2.) is one of the thirteen sub metros in the Accra metropolitan assembly or sub metropolis. Ashiedu Keteke serves as economic and administrative hub of the Accra Metropolitan Assembly. It is also a centre of a wide range of nightclubs, restaurants, and hotels. The central business district of Accra contains the city's main banks and department stores, and an area known as the Ministries, where Ghana's government administration is concentrated. Economic activities in Accra include the financial and agricultural sectors, Atlantic fishing, and the manufacture of processed food, lumber, plywood, textiles, clothing, and chemicals.

Figure 3.1: Map Showing Ashiedu Keteke Sub Metropolis.

3.3 study design

An exploratory Cross-sectional study with stratified sampling methods, was adopted to determine the knowledge on IYCF practice among market women in Ashiedu Keteke, Accra Metropolis in the Greater Accra Region, Ghana. This study was designed to involve Makola market women with children between the ages of 0 - 23 months.

3.4 Variables

3.4.1 Dependent variable

Feeding practice (example: exclusive breast feeding/complementary feeding)

3.4.2 Independent variable

Mother's factors: age, marital status, level of education, Religion, Environmental factors, Market activities, Mother support group, Childs factors, Malnourished child, Sick child, Premature birth and knowledge.

3.5 Sampling

3.5.1 Study population

The study subjects included market women with children between the ages of 0-23 months who trade in Makola market.

3.5.2 Inclusion criteria

The study population included any child/infant

- Market women with children between the ages of 0- 23 months
- Table top sellers, hawkers, carriers, shops and store owners and open wares in the market,
- Women who bring their children to the market
- Women who provided written or verbal informed consent

3.5.3 Exclusion criteria

The study population excluded any child or infant:

- Who was not within the ages of 0 to 23 months.
- Whose mother does not transact business in the study area
- Whose mother/caregiver declined written or verbal consent.

3.5.4 Sample size calculation

Sample size was calculated using the Leslie Kish formula (Cochran, 1977).

Using $n = \frac{Z^2 p (1-p)}{d^2}$

Where n = desired sample size

Z = the standard normal deviation, set at $\alpha = 0.05$ based on a 95% confidence level

P = estimated proportion of infants and young children who received recommended complementary feeding, which is 22.7 % (227) according to recent surveys (GDHS, 2014).

d = the allowable margin of error = 0.05

Thus $n = \frac{(1.96)^2 (0.227*0.778)}{(0.05)^2} = 271$ children

Adjusting for non-response rate of 10% (considering the nature of the market activities and how busy the respondents could be and loss of questionnaire), the final sample size was calculated to be;

Where $N = \frac{n \times 100}{100 - r}$

And n = initial sample size

r = non response rate (10%)

Thus $N = \frac{271 \times 100}{100 - 10} = 300$

3.5.5 Sampling procedure

A two staged sampling procedure was employed. Stratified sampling method was used to demarcate the market into zones 1, 2, 3, and 4. However, names of the market areas were used to denote each zone. The Kantamanto area was zone 1, Okaishie area represented zone 3, Lome market was labelled as zone 3, while Rawlings Park and the post office area was labelled as zone 4. In each zone, 75 market mothers with infants and young children was recruited consecutively i.e. any market mother encountered in the zone with an infant and young child who was consents to participate was interviewed. This procedure was employed in each zone until the required total sample size of 300 market mothers with infants and young children was obtained for the study.

3.6 Data collection/ tools and techniques

A face- to- face interview using a well-structured questionnaire adopted from UNICEF was used to collect data from respondents. Before administering the questionnaire, Pre-testing of questionnaire was done at Madina market using market women with children 0-23 months to enable modification and corrections of the procedure. The following concerns were also evaluated during the pretesting:

- Reliability of questionnaire.
- Average time needed to administer questionnaire.
- Sequence of questions and their clarity.
- Evaluating the success of training of research assistance.

Data were collected from market women with children who took their children to the market, the market was also divided into different zones to enable the true picture of the intended study and avoid bias. Data on IYCF practice, knowledge and proper child care was also obtained from the women. Background information such as age, sex, and marital status, level of education, child's age and religion was captured as well.

Three hundred market women with children between the ages of 0 -23 months were interview using a well-structured questionnaire.

3.7 Ethical Considerations

Approval for this study was sought from the Ethical Review Board of Ghana Health Service. In addition, research participants which formed the sample of the study were given details of the study which includes spelling out of the nature and importance of the study before they were selected. Each participant provided informed consent

3.8 Quality Control

For reliable findings, quality control measures were adopted during the data collection process. Research assistants were trained to administer questionnaire. Data entry was done by research assistants, which required daily supervision by the researcher. Also, the researcher checked all the questionnaires administered to ensure accuracy, and necessary editing before entry.

3.9 Data Processing and Analysis

Data collected from the study area was analysed with a computer software. The software used for the data entry was Epi data version 3.1 and SPSS version 22. Descriptive measures (frequency, proportion and mean± standard deviation were used to describe the data and these were represented by tables and graphs. Associations between independent and dependent variables were tested for significance, applying chi square method, and logistic regression to measure existing associations.

3.10. Strength of the study

Three research assistants were trained prior to the data collection to assist in data gathering. This helped to minimize stress and ensured quality data collection.

The questionnaires of the study were interviewer administered and this enable the researcher and the trained three research assistants to read and translate each question to the respondents. This ensured that all questions were appropriately answered without missing answers.

The questions were also couched in simple sentences which were easy to explain to the understanding of respondents.

Data cleaning was done before analysis was undertaken to guarantee accuracy of results.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents findings of the study on market women's knowledge on infant and young child feeding practices in Ashiedu Keteke sub-metropolis of the Greater Accra region.

The results of this study are presented in five major sections:

- Demographic characteristics of respondents
- Knowledge of recommended Infant and Young Child Feeding Practice (IYCF)
- Infant and Young Child Feeding Practices and perceptions
- Assessment of IYCF practices based on WHO/UNICEF indicators.

4.2 Demographic characteristics of respondents

4.2.1 Background Information

The demographic characteristics of respondents is shown in Table 4.1 below. Mean age of the respondents was 29.2 ± 6.8 years while 153 (51.3%) of the children being males. Very few 14 (4.7%) respondents had ≥ 5 number of children. When asked about place of delivery, a large proportion (81.0%) of the respondents said they delivered their children in a health facility. Educationally, about 88 (29%) of the respondent had no formal education, (83.7%) were married. Christianity and Islamic religion were the two major religions practiced by the respondents.

4.2.2 Market activities of respondents

Respondents were equally selected 75 (25.0%) from each of the four market areas and about 127 (42.3%) of the respondents traded in an open space or outside a building while 84 (28.0%) were either hawkers or carriers (these help customers carry their stuff around).

Majority of the respondents came to market at least 4 times per week and many 252 (84.0 %) admitted that they brought their children to the market always. out of these, 246 (97.6%)

indicated that they and only 57 (22.6%) fed their children at least 3 times in a day. When asked about how many times they usually feed their children in the market, different responses were given including once 13 (4.4%), twice 65 (22.0%) seven (2.4%) indicated that they only breastfed their children and did so as often as possible. Among the respondents who said they only breastfed their children, 3 (43.0%) of the children were more than 6 months. The respondents were also asked how they manage their business with feeding their children on a typical busy day, a greater number 139 (47.0%) admitted that attending to their customers is of prior importance, other response given is shown in Figure 4.2.1 below. Table 4.2.2 summarizes the market activities of the respondents.

Table 4.2.1: Background information on market women in the survey

Variables	Frequency	Percentage
Respondent's age (in years) 15-19		
	10	3.3
20-29	144	48.0
30-39	126	42.0
40 and above	20	6.6
Mean ± SD	29.2 ± 6.8	
Age of child (in months) 0-5	17	5.7
6-11	89	29.7
12.17	98	32.7
18-23	96	32.0
Mean ± SD	2.9 ± 0.9	
Educational status		
No formal education	88	29.3
Junior Secondary	123	41.0
Senior Secondary	62	20.7
Vocational	9	3.0
Tertiary	18	6.0
Religion		
Christianity	174	58.0
Islamic	125	41.7
African Traditional Religion	1	0.3
Marital status		
Never married	33	11.0
Married	251	83.7
Divorced/ separated/ Widowed	16	5.3
Place of delivery		
Home	44	14.7
Traditional birth attendant	13	4.3
Health facility	243	81.0
Number of children 1-4		
children	286	95.3
5 or greater than 5 children	14	4.7

Sex of child		
Male	154	51.3
Female	146	48.7

Table 4.2.2: Market Activities among respondent in the selected markets

Variable	Frequency	Percentage
Market area		
Kantomanto	75	25.0
Okaishie	75	25.0
Lome	75	25.0
Rawllings park	75	25.0
Market space/structure		
Enclosure/Within a building	89	29.7
Open space/outside a building	127	42.3
Hawkers and carriers	84	28.0
Days spent in the market in a week?		
1-3	21	7.0
4-6	224	74.7
Everyday	55	18.3
Bringing of child to market?		
Always	252	84.0
Sometimes	44	14.7
Never	4	1.3
Number of times child is fed in the market on a normal day? (n=296) Once	13	4.4
Twice	65	22.0
Thrice	145	49.0
At least four times	66	22.3
I only breastfeed, and do so as often as possible	7	2.4
Managing business and child feeding on busy market days		
Attending to my customers is priority		
Feeding my child is more important	139	47.0
	108	36.5
I come with a relation who helps me	44	14.9
My fellow market women do assist me	5	1.7

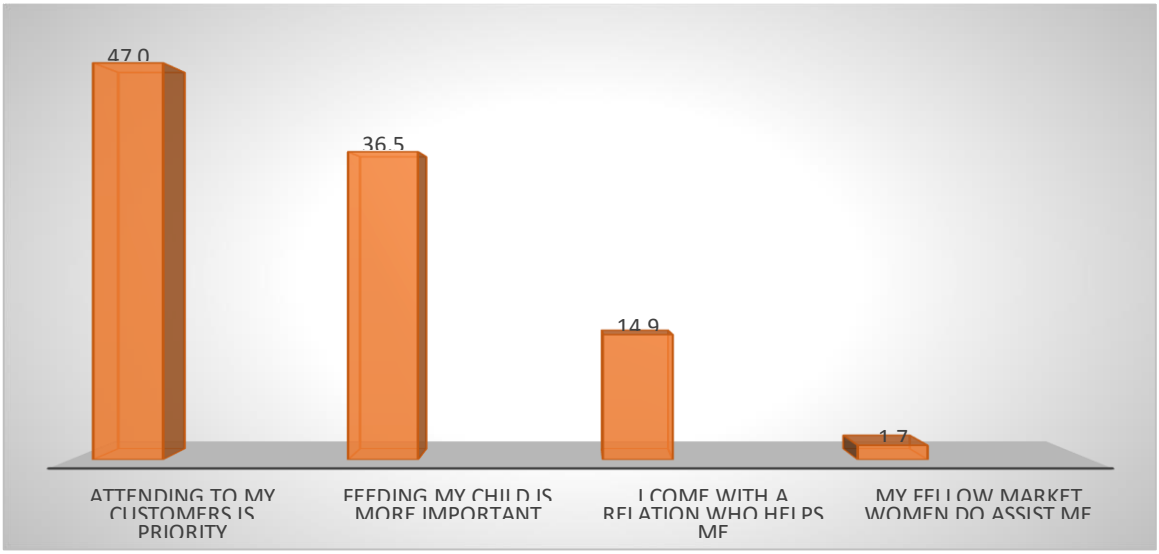

Figure 4.2.2 Responses given by respondents on how they balance busy market schedule and feeding their children

4.3 Knowledge of recommended Infant and Young Child Feeding Practice (IYCF)

A large proportion (70.3%) of respondents claimed they know what colostrum is. However, about 63.3% of respondents actually gave it to their baby others discarded it. With respect to practicing recommended IYCF, 204 (68.0%) could not correctly mention the risk of not practicing recommended IYCF. More than half (59.0%) of respondents stated that it is not necessary washing a child's (6-9 months) hands with water. Respondents were also asked if they had ever heard of responsive feeding, only 55 (18.3%) gave a positive response, out of these, 11 (20.0%) associated it with feeding on demand, 7 (12.8%) admitted they did not know, however 37 (67.3%) indicated it was feeding on schedule. When asked about the 4 star food/diet, a larger proportion (62.0%) indicated that they did not know what it meant.

An 18-point score was designed to assess the knowledge of IYCF among respondents, Respondents were graded based on their responses to 10 knowledge questions in the questionnaire, 7 of the questions were given 1 mark each for correct response, while 2 questions which required multiple response were given 4 marks each, and another similar one given 3 marks, giving a total of 18 marks. In summary, Knowledge of IYCF appears poor among many of the respondents. Table 4.3.1.1 reveals further information.

Table 4.3.1.1: Knowledge of recommended Infant and Young Child Feeding Practice (IYCF)

Variables	Percentage	Frequency
Knowledge of colostrum		
Yes	211	70.3
No	89	29.7
Use of first yellowish milk at delivery		
Gave it to my baby	190	63.3
Discarded it	110	36.7
Infants from 6-9 months and eating of food from animal sources		
Yes	149	49.7
No	151	50.3
Knowledge of risk of not practicing recommended IYCF		
Yes	125	41.7
No	175	58.3
Consequences of not practicing recommended IYCF* (n=125)		
Anaemia	3	2.4
Brain loss	1	0.8
Cholera	7	5.6
Cold	1	0.8
Cough	1	0.8
Death	1	0.8
Diarrhoea	16	12.8
Fever	3	2.4
Kwashiokor	38	30.4
Loss of weight	25	20.0
Malaria	12	9.6
Malnutrition Obesity	3	2.4
	1	0.8
Rashes	1	0.8
Stomach pain/ulcer	6	4.8
Stunted growth	36	28.8
Weakness	5	4.0
Knowledge of daily minimum feeding frequency for children based on age group 6-		
9 months (n = 68)	3.6 ± 1.2	
9-12 months (n = 99)	3.4 ± 1.3	

12-18 months (n = 65)	3.7 ± 0.9	
18-23 months (n = 68)	3.4 ± 0.8	
Not Necessary to wash 6-9 month old child's hand though not self-fed?		
Yes	177	59.0
No	123	41.0
Knowledge texture of food for a 6-9 month old child		
Very light	51	17.0
Light	163	54.3
Thick	39	13.0
Very thick	47	15.7
Recommended food for Child at 6 month?		
Light porridge or kooko	214	71.3
Thick porridge or kooko	86	28.7
Hygiene practices associated with IYCF known*		
Wash hands before feeding my child	267	89.0
Giving child a warm food	182	60.7
Using/washing clean plates/cups/spoons	173	57.7
I do not know	10	3.3
Washing breast before breastfeeding	1	0.3
Ever heard of responsive feeding		
Yes	55	18.3
No	245	81.7
Briefly describe responsive feeding (n=55)		
Feeding on schedule	37	67.3
Feeding on demand	11	20.0
Whenever child is crying	4	7.3

I don't know	3	5.5
Knowledge of the 4 star food/diet		
Yes	114	38.0
No	186	62.0
Groups that make up the 4 star diet		
Protein	108	36.0
Vitamin	100	33.3
Mineral	80	26.7
Fats	79	26.3
Knowledge of recommended Infant and Young Child Feeding Practice (IYCF)		
Very Poor (0-4)	49	16.3
Poor (5-9)	171	57.0
Good Knowledge (10-18)	80	26.7
Mean Knowledge score	7.5 ± 3.1	

Note: Multiple response included*

4.3.1. Factors affecting knowledge of recommended Infant and Young Child Feeding Practice (IYCF)

The knowledge of respondents according to socio-demographic characteristics and market activities is shown in Table 4.3.1.2. There was significant association between respondents' Knowledge level and their educational status, age group, religion, market area, market structure, place of child's delivery, frequency of days in the market and frequency of times that the child is brought to market at $p < 0.05$. No significant relationship existed between knowledge level and marital status, age of child, sex of child and number of children at $p > 0.05$.

Table 4.3.1.2: Factors associated with respondents' knowledge on knowledge of recommended Infant and Young Child Feeding (IYCF) Practice

Variables	Knowledge category			
	Poor	**Good**	**X^2**	**P value**
Educational status				
Any formal education	137 (64.6)	75 (35.4)	28.04	**0.001**
No formal education	83 (94.3)	5 (5.7)		
Age group				
15-24 years	70 (85.4)	12 (14.6)	8.36	**0.004**
≥ 25 years	150 (68.8)	68 (31.2)		
Religion				
Christianity	111 (63.8)	63 (36.2)	20.50	**0.000**
Islamic	109 (87.2)	16 (12.8)		
Marital status				
Currently married	186 (74.1)	65 (25.9)	0.466	0.495
Not currently married	34 (69.4)	15 (30.6)		
Market area				
Kantomanto	57 (76.0)	18 (24.0)	14.32	**0.003**
Okaishie	48 (64.0)	27 (36.0)		
Lome market Rawllings park	49 (65.3)	26 (34.7)		
	66 (88.0)	9 (12.0)		
Market space/structure				
Enclosure/ within a building	56 (62.9)	33 (37.1)	20.89	**0.000**
Open space/outside a building	87 (68.5)	40 (31.5)		
Hawkers/carriers	77 (91.7)	7 (8.3)		
Age of child				
0-5 months	11 (64.7)	6 (35.3)	1.84	0.606
6-11 months	63 (70.8)	26 (29.2)		
12-17 months	76 (77.6)	22 (22.4)		
18-23 months	70 (72.9)	26 (27.1)		
Sex of child				
Male	115 (74.7)	39 (25.3)	0.29	0.589
Female	105 (71.9)	41 (28.1)		
Number of children				
1-4 children	209 (73.1)	77 (26.9)	0.21	0.650
≥ 5 children	11 (71.4)	3 (21.4)		
Place of delivery				
Home	**41 (93.2)**	**3 (6.8)**	**11.90**	**0.003**
Traditional Birth Attendant	**11 (84.6)**	**2 (15.4)**		
Health facility	**168 (69.1)**	**75 (30.9)**		

Market attendance in a week				
1-3 times				
4-6 times	11 (52.4)	10 (47.6)	8.74	**0.021**
Everyday	163 (72.8)	61 (27.2)		
	46 (83.6)	9 (16.4)		
Number of times child is brought to market in a week				
Always	192 (76.2)	60 (23.8)	8.89	**0.003**
Sometimes	24 (54.5)	20 (45.5)		

4.3.2. Logistic regression analysis on factors associated with knowledge of Infant and Young Child Feeding (IYCF) Practice

A logistic regression was run on all the statistically significant factors associated with respondents' knowledge of recommended Infant and Young Child Feeding (IYCF) Practice. Respondents with no formal education were 6.7 times (OR = 0.15, p = 0.001) the odds of having good knowledge compared to those with any formal education. Similarly respondents who trade in Okaishie were about 5 times (OR = 5.14, p = 0.001) the odds of having good knowledge of recommended IYCF practices. Other factors such as mother's age group, religion, market structure, place of delivery, frequency of days to market in a week had no significant association with knowledge of recommended IYCF practices.

Table 4.3.1.3: Logistic regression analysis on factors associated with respondents' knowledge of recommended Infant and Young Child Feeding (IYCF) Practice

Variable	P value	OR	95%CI	
			Lower	Upper
Educational status				
Any formal education (Reference) No formal education	**0.001**	0.150	0.051	0.441
Mother's age group 15-24 years	0.139	0.548	0.247	1.215
≥ 25 years (Reference)				
Religion				
Christians (Reference)				
Muslims	0.362	1.406	0.675	2.928
Market area				
Kantomanto	0.115	2.194	0.826	5.829
Okaishie	**0.001**	5.135	1.956	13.478
Lome market	0.974	5.218	1.980	13.753
Rawllings park (Reference)				
Market structure				
Enclosure/ within a building (Reference)				
Open space/outside a building	0.082	0.545	0.135	1.128
Hawkers/carriers	0.082	0.391	0.275	1.081
Place of delivery				
Home	0.238	0.450	0.119	1.698
Traditional Birth Attendant	0.375	0.383	0.046	3.186
Health facility (Reference)				
How often do you go to market in a week?				
1-3 times (Reference)				
4-6 times	0.180	0.435	0.129	1.468
Everyday	0.166	0.358	0.084	1.530
How often do you bring your child to the market?				
Always (Reference)				
Sometimes	0.138	1.874	0.818	4.294

4.4 Infant and Young Child Feeding Practices and perceptions

More than half (63.0%) of the respondents admitted not washing their child's hand during the last meal given. Two respondents (0.7%) indicated that their children were never breastfed while 64 (21.3%) admitted that they were no longer breastfeeding their children; among the respondents no longer breastfed their children, 4 (6.3%) and 5 (7.8%) stopped breastfeeding when their children were 0-5 months and ≥ 23 months respectively, Figure 4.4.1.1 is pictorial representation of this information. Respondents were also asked about how long it took them before breast feeding their children for the first time after delivery, only about (49.3%) indicated that they breastfed within first hour of delivery. When asked about what their children were given before breastfeeding for the first time, some admitted that they gave milk (3.7%), plain/ripe water (15.3%), and infant formula (10.7%). Only 126 (42.0%) of the respondents confirmed that they first gave solid or semi-solid food to their children at 6 months, while 121 (40.3%) fed their children with solid or semi-solid food before 6 months, out of the latter, 90 (74.4%) said that they had insufficient breast milk while about 27 (22.3%) added that it was because of their business. This is represented in

Figure 4.4.1.2 below. For the assessment of respondent's practices and perception, 16 (5.3%) respondents whose IYCF practice could have been influenced by congenital abnormalities, complications or death of mother at delivery, were omitted to ensure an unbiased evaluation. A 6-point scale comprising six purposely selected questions with 1 mark for each correct answer was used. Majority of the respondents (73.6%) had very poor perceptions/practice of the IYCF recommended practices. Table 4.4.1.1 reveals further information. Table 4.4.1.2 is a summary of the various food stuffs normally used by respondents to prepare food for their children; Similarly Figure 4.4.1.3 is a pie chart showing the distribution of the food stuffs used according to the WHO/UNICEF recommended 4 star foods for children.

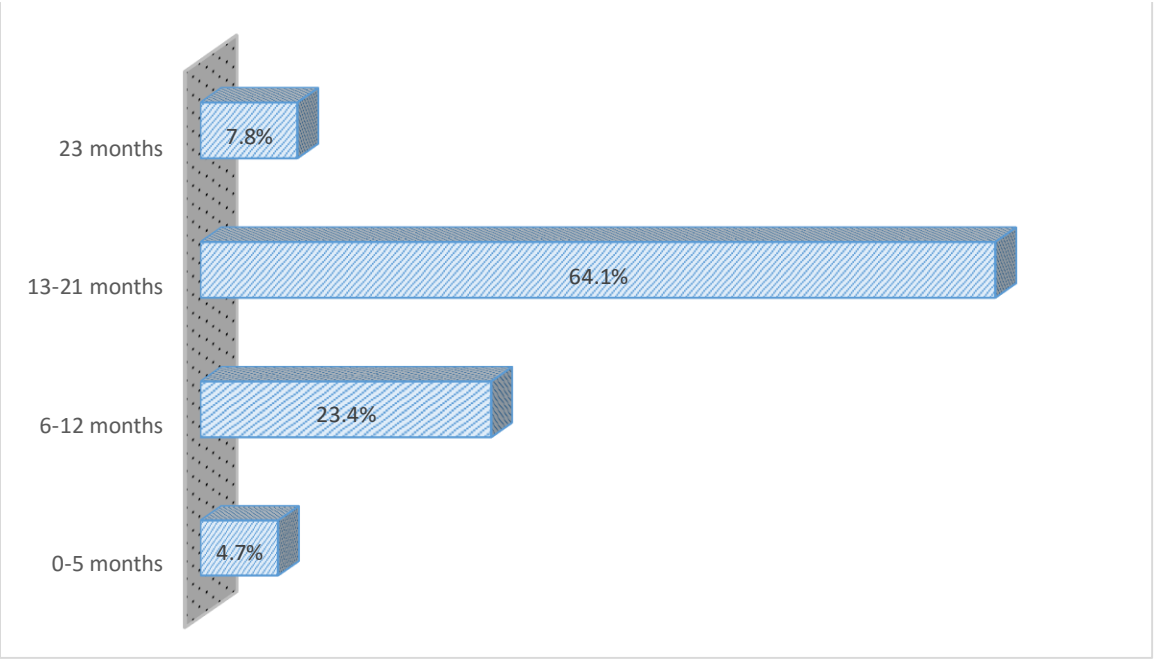

Figure 4.4.1.1: Age of children at time of cessation of breastfeeding by mother

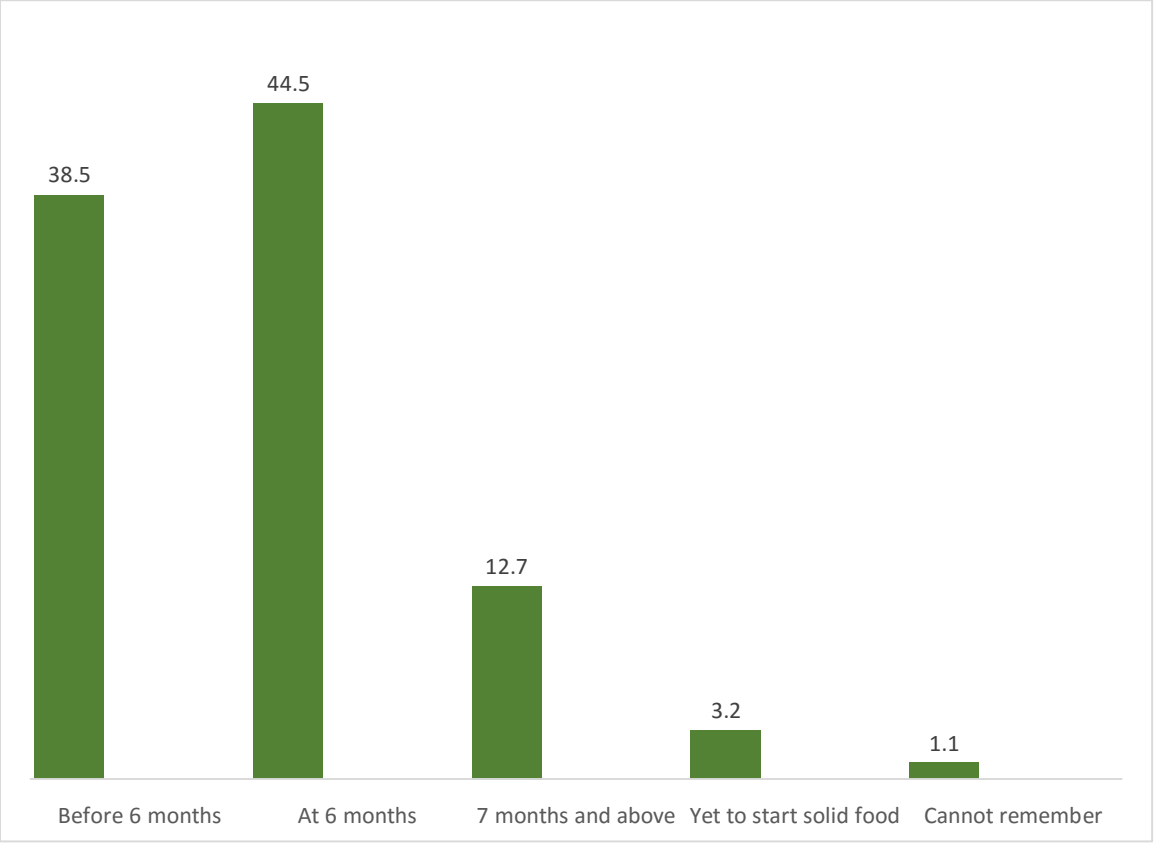

Figure 4.4.1.2: Age of children at time of introduction of solid food (for children ≥ 6 months)

Table 4.4.1.1: Infant and Young Child Feeding Practices and perceptions among the market women

Variables	Frequency	Percentage
Washing of child's hands for the last meal given**		
Yes	111	37.0
No	189	63.0
Children still breastfeeding** Yes	234	78.0
No	64	21.3
Never breastfed	2	0.7
Age at which child stopped taking breast milk (n=64)		
0-5 months	4	6.3
6-12 months	15	23.4
13-21 months	40	62.5
23 months	5	7.8
Milk feeding frequency before 6 months (n=2)	2	100.0
Five or more times a day		
Time taken to breast feed child for the first time**		
Within first hour of delivery	148	49.3
2-23 hours after delivery	93	31.0
Next day or More than 24 hours	55	18.3
Do not remember	2	0.7
Never breastfed	2	0.7
Food given to child before breastfeeding **		
Nothing	199	66.3
Plain water	34	11.3
Infant formula	32	10.7
Gripe water	12	4.0
Milk(other than breast milk)	11	3.7
Cannot remember	10	3.3
Never breastfed	2	0.7
Age of child when solid/semi solid food was given for the first time Before 6months	121	40.3
At six months	126	42.0

Seven to 9 months	15	5.0
After nine months	21	7.0
Yet to start	14	4.7
Cannot remember	3	1.0
Reasons for feeding child with solid food before six months (n=121)*		
Because of my business	27	22.3
Insufficient breast milk	90	74.4
Child was not satisfied with breast milk only	8	6.6
Congenital abnormality	2	1.7
child rejected breast milk	2	1.7
Mothers illness	1	0.8
Because of mothers death	1	0.8
Because I had twins	1	0.8
Still bottle feeding? **		
Yes	185	61.7
No	115	38.3
Correct daily minimum feeding frequency of solid/semi solid foods for a child aged 6-9 months? **		
Once only	9	3.0
2-3mealwithfrequencybreastseeds	259	86.3
2-3mealsplusbreastfeeds and 1-2 snack	23	7.7
At least 4 times	9	3.0
Practice/perception of recommended Infant and Young Child Feeding Practice (IYCF)		
Poor practice/perceptions (0-3)	209	73.6
Good practice/perceptions (4-6)	75	26.4
Mean practice score	2.8 ± 1.3	

Note: Multiple response included*, Six questions selected for Practice/perceptions assessment**

Table 4.4.1.2: various food stuffs used by respondents to prepare food for their children

Food stuff	Frequency	Percentage
Maize	247	82.3
Soyabean	233	77.7
Fishpowder	147	49.0
Groundnut	49	16.3
Vegetables (Cabbage, carrot, garden egg, tomatoes, Nkontomire, okro)	34	11.3
Rice	34	11.3
Millet	17	5.7
I don't cook	8	2.7
Eggs	7	2.3
Cassava	3	1.0
Fruits	3	1.0
Meat	3	1.0
Yam	3	1.0
Cocoyam	1	0.3
Plantain	1	0.3
Grounded shrimp	1	0.3
Dawadawa	1	0.3

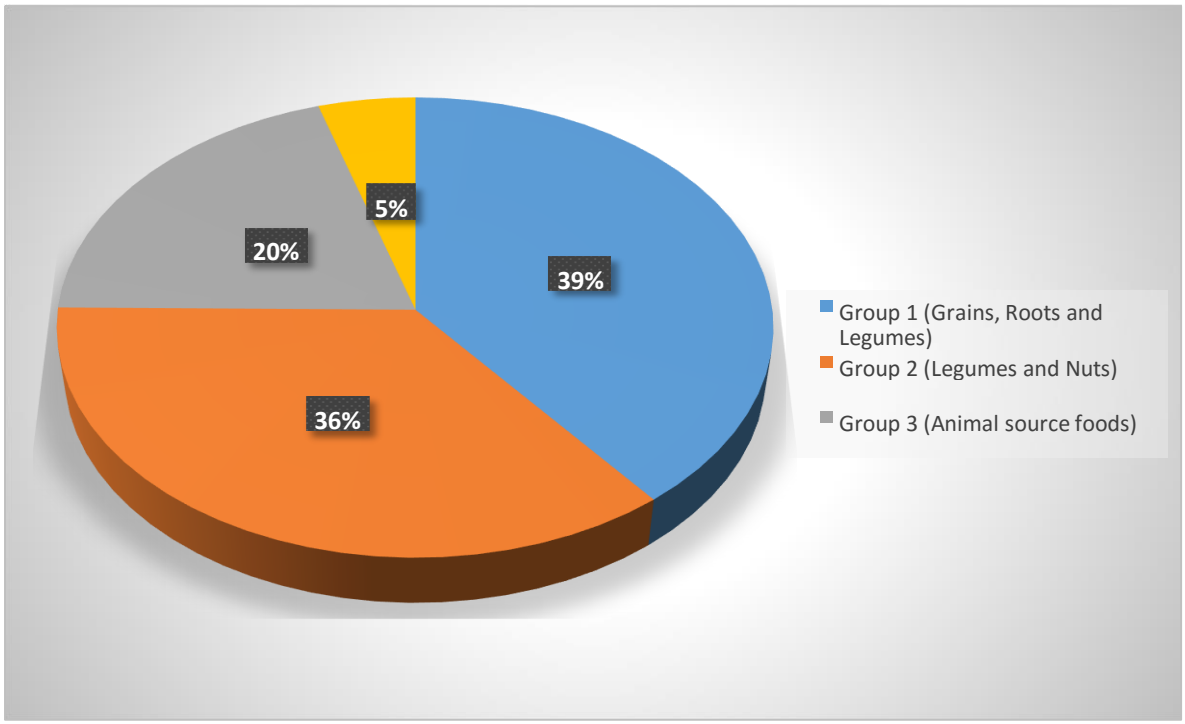

Figure 4.4.1.3: Classification of the food stuffs used by respondents to prepare their children's food, based on the 4-star diet groups

4.4.1 Respondents' preference and choice of formula feeding

Majority 208 (69.3%) of the respondents mentioned "Cerelac" as their most preferred formula food. However many 219 (73.0%) admitted that they did not prefer formula foods to local food, main reasons given were it is expensive 112 (51.1%), local foods are more healthy 63 (28.8%) and more. For the few (25.3%) who indicated preference of formula food over other foods, about 59 (77.6%) of them said their children liked formula food more than other foods. When asked about advantages of using infant feeding formula, some 32 (42.1%) affirmed that it was easy to prepare and saved time, while others 31 (40.8%) indicated that it boosted their children's growth. They were also asked about other things that influenced their preference for formula feeding, one-half 38 (50.0%) stated that they did not like to expose their breasts in the public and about one-quarter 19 (25.0%) said it was because of their business. Respondents associated, high costs 45 (59.2%), diarrhea 25 (32.9%), obesity 9 (11.8%) excess sugar 32 (42.1%) with major disadvantages of using feeding formula. More on this information is revealed in Table 4.4.2.1 below.

Table 4.4.2.1: Respondents' preference and choice of formula feeding

Variable	Frequency	Percentage
Formula food given to child apart from breast milk and family foods Cerelac		
I don't use formula feed	208	69.3
Lactogen	76	25.3
SMA	56	18.6
NAN	14	4.7
	11	3.7
Do you prefer formula foods to local food?		
No	219	73.0
Yes	76	25.3
Still breastfeeding only	5	1.7
Why (n=219)*		
It is expensive	112	51.1
Local foods are more healthy	63	28.8
My child prefers local foods	46	21.0
They cause serious health issues like cancer, kidney problem etc	3	0.5
Reasons for preference* (n=76)		
My child's likes it more than other foods	59	77.6
They are cheap	16	21.5
I use it as supplement	6	7.9
Frequency of formula feeding in a day (n=76)		
Once	17	22.4
Twice	40	52.6
Thrice	8	10.5
Four times	8	10.5
Five times or more	3	3.9
Advantages of using infant feeding formula (n=76)		
Easy to prepare and saves time	32	42.1
Boosts my child's growth	31	40.8
Makes my child strong/full of strength	6	7.9
It is more nutritious	6	7.9
Used as supplementary food	1	1.3
Other things that will make you opt for formulae feeding*(n=76)		
I don't like exposing my breast in public	38	50.0
Because of my business	19	25.0
Insufficient flow of breast milk	8	10.5

Nothing else	7	9.2
I want to maintain shape of my breast	6	7.9
Child's illness	5	6.6
Mother's illness	4	5.3
Child's preference	3	3.9
Diet diversity	1	1.3
Multiple birth	1	1.3
Disadvantage of using feeding formula*(n=76)		
Costs/It is expensive	45	59.2
Causes diarrhea	25	32.9
Causes obesity/overweight	9	11.8
Contains excess sugar	32	42.1
I don't think there is any disadvantage	12	15.8
I don't know	2	2.6

Note: Multiple response included*,

4.4.2 Factors affecting Infant and Young Child Feeding Practices and perceptions

There were significant relationship between the IYCF practices and perceptions of the respondents and their educational status, knowledge level, age of child, frequency of going to market in a week, and frequency of times child is taken to market ($p < 0.05$). Table 4.4.3.1 summarizes this information.

Table 4.4.3.1: Factors associated with respondents' Infant and Young Child Feeding Practices and perceptions

Variables	Practice category			
	Poor	**Good**	**X_2**	**P value**
Educational status				
Any formal education	136 (68.0)	64 (32.0)	10.89	**0.001**
No formal education	83 (94.3)	5 (5.7)		
Age group			3.68	
15-24 years	63 (81.8)	14 (18.2)		0.055
≥ 25 years	146 (70.5)	61 (29.5)		
Religion				
Christianity	115 (70.6)	48 (29.4)	1.82	0.177
Islamic	94 (77.7)	29 (22.3)		
Marital status				
Currently married	172 (72.3)	66 (27.7)	1.32	0.250
Not currently married	37 (80.4)	9 (19.6)		
Knowledge level				
Poor	165 (79.3)	43 (20.7)	13.12	**0.000**
Good	44 (57.9)	32 (42.1)		
Market area				
Kantomanto	59 (83.1)	12 (16.9)	4.44	0.218
Okaishie	51 (69.9)	22 (30.1)		
Lome market	47 (70.1)	20 (29.9)		
Rawllings park	52 (71.2)	21 (28.8)		
Market space/structure				
Enclosure/ within a building	60 (72.3)	23 (27.7)	0.622	0.733
Open space/outside a building	86 (72.3)	33 (27.7)		
Hawkers/carriers	63 (76.8)	19 (23.2)		
Age of child				
0-5 months	12 (75.0)	4 (25.0)	10.68	**0.017**
6-11 months	56 (65.1)	30 (34.9)		
12-17 months	65 (69.9)	28 (30.1)		
18-23 months	76 (85.4)	13 (14.6)		
Sex of child				
Male	102 (72.3)	39 (27.7)	0.23	0.635
Female	107 (74.8)	36 (25.2)		
Number of children				
1-4 children	199 (73.7)	71 (26.3)	0.04	0.851
≥ 5 children	10 (71.4)	4 (28.6)		
Place of delivery				
Home	33 (84.6)	6 (15.4)	2.88	0.238
Traditional Birth Attendant	9 (69.2)	4 (30.8)		
Health facility	167 (72.0)	65 (28.0)		

How often do you go to market in a week?				
1-3 times	9 (47.4)	10 (52.6)	8.14	0.017
4-6 times	158 (74.2)	55 (25.8)		
Everyday	42 (80.8)	10 (19.2)		
How often do you bring your child to the market? (n=252)				
Always	181 (76.1)	57 (23.9)	5.97	0.015
Sometimes	25 (58.1)	18 (41.9)		

4.4.2.1 Logistic regression analysis on factors associated with respondents' Infant and Young Child Feeding Practices and perceptions

Results from the logistic analysis revealed that educated respondents were 2.6 times the odds of having good IYCF practice compared to those with no formal education (OR = 0.375, p = 0.012); also Respondents with children aged 6-11 months and 12-17 months were 4 times the odds (OR = 4,092, p = 0.001); and 2.7 times the odds (OR = 2.787, p = 0.012) respectively, to having good practice compared to respondents with children aged 0-5 months. However, all other factors as shown in the table below were not significant (p > 0.05).

Table 4.4.3.2: Logistic regression analysis on factors associated with respondents' Infant and Young Child Feeding Practices and perceptions

Variable	P value	OR	95%CI	
			Lower	Upper
Educational status				
Any formal education (Reference) No formal education	0.012	0.375	0.175	0.804
Knowledge category				
Poor	0.046	0.525	0.279	0.988
Good (Reference)				
Age of child				
0-5 months (Reference)				
6-11 months	0.001	4.092	1.796	9.325
12-17 months	0.012	2.787	1.250	6.213
18-23 months	0.585	1.465	0.372	5.766
How often do you go to market in a week?				
1-3 times (Reference)				
4-6 times	0.175	0.459	0.149	1.415
Everyday	0.219	0.438	0.117	1.636
How often do you bring your child to the market?				
Always (Reference)				
Sometimes	0.068	2.208	0.942	5.175

4.5 Assessment of IYCF practices based on WHO/UNICEF indicators

The IYCF practices of the respondents were assessed based on the 15 WHO/UNICEF global indicators for IYCF. A little below half, of the respondents (49.3%) initiated breastfeeding within one hour of birth and among 17 (5.6%) of children aged 0-5 months, only 5 (29.4%) were exclusively breast fed. Only 17 (6.0%) of children aged 6-23 months satisfied the required dietary diversity for their age group. Also bottle feeding was a common practice among 61.7% of the respondents. Table 4.5.1 shows the calculation, values and percentage estimates for each indicator.

However the data for this survey was not collected based on information collected for previous day. For indicators 12, 13 and 15, no data was computed as the data available from this study was not sufficient to compute the variables.

Table 4.5.1: Assessment of IYCF practices based on WHO/UNICEF indicators

	Indicator	Calculation	Value	Percentage
1.	Early initiation of breastfeeding	Children born in the last 24 months who were put to the breast within one hour of birth / Children born in the last 24 months x 100	**148/300**	**49.3**
2.	Exclusive breastfeeding under 6 months	Infants 0–5 months of age who receive only breast milk / Infants 0–5 months of age x 100	**5/17**	**29.4**
3.	Continued breastfeeding at 1 year	Children 12–15 months of age who receive breast milk / Children 12–15 months of age x 100	**75/80**	**93.8**
4.	Introduction of solid, semi-solid or soft foods	Infants 6–8 months of age who receive solid, semi-solid or soft foods / Infants 6–8 months of age x 100	**39/46**	**84.8**
5.	Minimum dietary diversity	Children 6–23 months of age who received foods from ≥4 food groups / Children 6–23 months of age x 100	**17/283**	**6.0**
6.	Minimum meal frequency	Breastfed children 6–8 months of age who receive solid, semi-solid or soft foods or milk feeds at least 2 times / Breastfed children 6–8 months of age x 100	**46/46**	**100.0**
		Breastfed children 9-23 months of age who receive solid, semi-solid or soft foods or milk feeds at least 3 times / Breastfed children 9-23 months of age x 100	**220/235**	**93.6**
7.	Minimum acceptable diet	Breastfed children 6–8 months of age who receive at least the minimum dietary diversity and the minimum meal frequency / Breastfed children 6–8 months of age x 100	**3/46**	**6.5**
	Breastfed children 9–23 months of age	**Breastfed children 9–23 months of age who receive at least the minimum dietary and the minimum meal frequency / Breastfed children 9–23 months of age x 100**	14/235 **diversity**	6.0

8.	Consumption of iron-rich or iron-fortified foods	Children 6–23 months of age who receive an iron-rich food or a food that was specially designed for infants and young children and was fortified with iron, or a food that was fortified in the home with a product that included iron / Children 6–23 months of age x 100	**272/283**	**96.1**	
9.	Children ever Children born in the last 24 months	Children born in the last 24 months	**280/300**	**93.3**	
10.	Continued breastfeeding at 2 years	Children 20–23 months of age who receive breast milk / Children 20–23 months of age x 100		**18/51**	**35.3**
11.	Age-appropriate breastfeeding	Children 6–23 months of age who Received breast milk, as well as solid, semi-solid or soft foods / Children 6–23 months of age x 100		**209/283**	**73.9**
12.	Predominant breastfeeding under 6 months	Infants 0–5 months of age who received breast milk as the predominant source of nourishment / Infants 0–5 months of age x 100		**Not applicable**	
13.	Duration of breastfeeding	when 50% of children 0–35 Months did not receive breast milk. x 100		**Not applicable**	
14.	Bottle feeding	Children 0–23 months of age who were fed with a bottle / Children 0–23 months of age x 100		**185/300**	**61.7**
15.	Milk feeding frequency for non-breastfed children	Non-breastfed children 6–23 months of age who received at least 2 milk feedings / Non-breastfed children 6–23 months of age x 100		**Not applicable**	

4.5.1 Factors associated with respondents' preference of formula foods over local foods.

This study also considered possible factors that could have influenced respondents' preference of formula foods over local foods. There was no significant relationship between the socio-demographic, family and market- related characteristics and the respondents' preference of formula foods over local foods. Table 4.5.2.1 below is a representation of the analysis.

Table 4.5.2.1: Factors influencing preference of Formula food over local foods by respondents

Variables	Do you prefer formula foods to local food?			
	Yes	**No**	**X_2**	**P value**
Educational status				
Any formal education	56 (26.9)	152 (73.1)	0.50	0.48
No formal education	20 (23.0)	67 (77.0)		
Age group				
15-24 years	21 (25.3)	62 (74.7)	0.01	0.91
≥ 25 years	55 (25.9)	157 (74.1)		
Religion				
Christianity	51 (29.5)	122 (70.5)	3.49	0.06
Islamic	24 (19.8)	97 (80.2)		
Marital status				
Currently married	65 (26.4)	181 (73.6)	0.34	0.56
Not currently married	11 (22.4)	38 (77.6)		
Market area				
Kantomanto	16 (21.6)	58 (78.4)	6.44	0.09
Okaishie	17 (23.0)	57 (77.0)		
Lome market	16 (21.6)	58 (78.4)		
Rawllings park	27 (37.0)	46 (63.0)		
Market space/structure				
Enclosure/ within a building	19 (21.8)	68 (78.2)	1.02	0.6
Open space/outside a building	34 (27.0)	92 (73.0)		
Hawkers/carriers	23 (28.0)	59 (72.0)		
Age of child				
0-5 months	**3 (21.4)**	**11 (78.6)**	**6.40**	**0.09**
6-11 months	**30 (34.5)**	**57 (65.5)**		
12-17 months	**18 (18.4)**	**80 (81.6)**		
18-23 months	**25 (26.0)**	**71 (74.0)**		
Sex of child				
Male	38 (25.3)	112 (74.7)	0.03	0.86
Female	38 (26.2)	107 (73.8)		
Number of children				
1-4 children	71 (25.3)	210 (74.7)	0.76	0.383
≥ 5 children			5 (35.7)	9 (64.3)

Place of delivery				
Home	12 (27.3)	32 (72.7)	1.27	0.531
Traditional Birth Attendant	5 (38.5)	8 (61.5)		
Health facility	59 (24.8)	179 (75.2)		
How often do you go to market in a week? 1-3 times				
4-6 times	6 (28.6)	15 (71.4)	0.09	0.954
Everyday	56 (25.6)	163 (74.4)		
	14 (25.5)	41 (74.5)		
How often do you bring your child to the market? (n=252)				
			0.68	0.41
	65 (26.3)	182 (73.7)		
Always	9 (20.5)	35 (79.5)		
Sometimes				
Knowledge category				
Poor	57 (26.3)	160 (73.7)	0.11	0.74
Good	19 (24.4)	59 (75.6)		
Practice category				
Poor	56 (27.3)	149 (72.7)	0.53	0.47
Good	17 (23.0)	57 (77.0)		

4.5.2 Factors influencing early initialization of breastfeeding

The association between respondents' socio-demographic, family, market- related characteristics and whether they initialized breastfeeding early or late, was tested. Of all the factors tested, no statistical difference was found among the various categories. Table 4.5.3.1 gives a summary of the test.

Table 4.5.3.1: Factors influencing early initial of breastfeeding

Variables	Initiation category			
	Early	**Late**	**χ^2**	**p value**
Educational status				
Any formal education	109 (51.4)	103 (48.6)	1.25	0.263
No formal education	39 (44.3)	49 (55.7)		
Age group				
15-24 years	41 (49.4)	42 (50.6)	0.00	0.989
≥ 25 years	107 (49.3)	68 (50.7)		
Religion				
Christianity	90 (51.7)	84 (48.3)	1.09	0.296
Islamic	57 (45.6)	68 (54.4)		
Marital status				
Currently married	124 (49.4)	127 (50.6)	0.003	0.957
Not currently married	24 (49.0)	25 (51.0)		
Market area				
Kantomanto	37 (49.3)	38 (50.7)	2.027	0.567
Okaishie	34 (45.3)	41 (54.7)		
Lome market	42 (56.0)	33 (44.0)		
Rawllings park	35 (46.7)	40 (53.3)		
Market space/structure				
Enclosure/ within a building	38 (42.7)	51 (57.3)	2.484	0.289
Open space/outside a building	68 (53.5)	59 (46.5)		
Hawkers/carriers	42 (50.0)	42 (50.0)		
Age of child	7 (41.2)	10 (58.8)	0.84	0.840
0-5 months	42 (47.2)	47 (52.8)		
6-11 months	50 (51.0)	48 (49.0)		
12-17 months	49 (51.0)	47 (49.0)		
18-23 months				
Sex of child				
Male	74 (48.1)	80 (51.9)	0.21	0.648
Female	74 (50.7)	72 (49.3)		
Place of delivery				
Home	17 (38.6)	27 (61.4)	4.15	0.126
Traditional Birth Attendant	9 (69.2)	4 (30.8)		
Health facility	122 (50.2)	121 (49.8)		
How often do you go to market in a week?	13 (61.9)	8 (38.1)	3.17	0.205
1-3 times	104 (46.4)	120(53.6)		
4-6 times	31 (56.4)	24 (43.6)		
Everyday				
How often do you bring your child to the market? (n=252)				
Always	117 (46.4)	135 (53.6)	7.09	0.008
Sometimes	30 (68.2)	14 (31.8)		
Knowledge category				
Poor	106	114 (51.8)	0.438	0.508

Good	(48.2) 42 (52.5)	38 (47.5)		
Practice category				
Poor	75 (35.9)	134 (64.1)	72.89	0.000
Good	70 (93.3)	5 (6.7)		

CHAPTER FIVE

DISCUSSION

5.0 Discussion

This study showed the result of an exploratory study of market women's knowledge on infant and young child feeding practices in Ashiedu Keteke sub-metropolis of the greater Accra region Ghana. Amongst the findings, represented include demographic characteristics of the respondents, knowledge of the recommended infants and young child feeding practice (IYCF) , perception and practice of infant and young child feeding. Correspondingly, assessment of IYCF practices based on WHO/UNICEF indicators and factors that influence choices of IYCF practice among the respondents were explored.

5.1 Demographic characteristics of respondents

Findings from this study reveal a preponderance of mothers aged 20-39 years. This follows similar age group distribution as reported in similar studies in England (Durham Region, 2016) and Ethiopia (Abera *et al*., 2013). Also a greater percentage of the respondents in this study were educated. This is in line with the report from England (Durham Region, 2016) this indicates a laudable advancement in the education of the female gender in the region.

Also in this study, more than three quarter delivered their children in health facilities than at home or with traditional birth attendants. A similar finding in China (Wu *et al*., 2014) also showed a high rate (98.7%) of women who utilized the health facility for delivery. Almost all the respondents brought their children to market every day. This is common practice as also observed in a recent study among market women in Enugu State of Nigeria (Ene-obong *et al*., 2016). Thus majority of children born to these respondents mostly spend the period of their infancy and early developmental period in the market, suggesting nonresponsive feeding practices which will be detrimental to the overall growth and development of the children.

Hence, public health intervention and proper education is needed to address this situation, particularly among market women.

In the same way, close to half of respondents admitted that, on a very busy day, attending to their customers is more important than their children's feeding and care. Thus feeding of infants and children is no doubt affected by their busyness and perceived priorities and in the long run the child will be denied the benefits associated with responsive feeding such as developing healthy eating behavior and optimal skill for self-regulation and self-control of food intake (Harbron, Booley, Najaar , 2013).

5.2 Knowledge of recommended Infant and Young Child Feeding Practice (IYCF)

A large majority of the respondents have poor knowledge of the recommended IYCF. This compares well with the study carried out in two districts of Zambia by (Katepa-bwalya *et al.*, 2015) where poor knowledge of IYCF were found among a large proportion of women involved. Although a greater percentage of the women reported to have given the first milk (colostrum) to their child just at birth, their ignorance about the colostrum should not be ignored. Mothers should be made to understand the health benefit of colostrum to their newborns and also encouraged to inform their peers who are not otherwise knowledgeable. More than half of the respondents admitted that it is not necessary to wash a child of 6-9 months old hands before feeding since they are fed by their mothers or caregiver, this draws attention to the need for health education and promotion and improved behavioral change communication strategies to achieve a positive hygiene practices among mothers.

However, only few respondents (18.3%) had ever heard of responsive feeding, this is different from findings in Australia, however this inconsistency could be related to differences in socio-economic characteristics of the participants and also due to better organized health care system in the study location (Jani, Mallan, Mihrshahi, & Daniels, 2014). However, a larger proportion of about 62% have no idea of four star food/diet. This should be considered

important, considering the consequences of malnourished, unbalanced diet in the overall growth and development of a child. UNICEF has recommended that diet for children aged 6-23 months should be diversified to include protein, vitamins, minerals and fats (FAO, 2011; UNICEF, 2013, USAID, 2011).

5.3 Factors affecting knowledge of recommended Infant and Young Child Feeding Practice (IYCF)

In this study, there was a significant association between the respondent's knowledge level and their educational status, age group, religion, market area, market structure, place of delivery, frequency of days in the market and frequency of time the child is brought to the market at ($p < 0.05$). Beginning with age, those aged 25 years and above had more knowledge than those between 15-24 years of age. This could be related with experience and maturity of the older mothers compared to those of the younger age group. Religion was also one of the contributing factors to poor knowledge and practice of the recommended IYCF practices with high significant difference between Christians and Islam. Reasons for this is not very clear, however due to the greater tendency of churches to organize educative programmes that support mothers and better social interactions attributable to Christian mothers, their level of knowledge might be higher than Muslim mothers.

Also market area and space/enclosure was also a contributing factor, in that those in Rawllings Park have poorer knowledge compared to the other areas. There is no information available which compared market zones and type of business as IYCF risk factor among women. But this could be traced to lower socio-economic status of those in Rawllings market compared to the other areas, because cheaper articles and food stuffs are sold there compared to the market areas where majority of the traders seem well to do and sold costlier, sophisticated materials. Hawkers/carriers also had about 91.7% poor knowledge of the recommended IYCF practice. This could be due to the fact that many of them migrated from the north where most

females, as they, have little or no education and thus lack knowledge of the recommended IYCF.

However, frequency of bringing child to the market and frequency of coming to the market was another risk factor, more than half of those who brought their children always to the market had poor knowledge compared to those who brought their child to the market once in a while. This could be traced to the fact that being so busy and almost always in the market, they do not have opportunity to seek for and obtain knowledge of recommended IYCF practices compared to those who brought their children once a while to market.

Considering place of delivery as a factor, those who delivered in the hospital had a better knowledge compared to others, although generally knowledge level was poor. This indicates that the health facility has been an effective avenue to communicate and properly educate and inform mothers on recommended IYCF. However there is the need for increased efforts for better effectiveness. This was also reported in a study in China (Wu *et al.*, 2014). However at logistic regression only education and market area remained significant. The significant association between education and knowledge is logical considering that education encourages enlightenments and should be further employed as a solution to the many problems of child and reproductive health. If the female gender is well educated it follows that they will be more knowledgeable and understand how to take proper care of their children themselves and family leading to a healthier population of the Ghana Child.. This is similar with a study in Ethiopia (Abera, Berihu, Berhe, & Kidanu, 2013) where knowledge increased in parallel with educational level and income.

Only market area and educational status remained significant. Those who trade in Okaishie market area has about 5 times (OR =5.14, p = 0.001) more likely to have good knowledge of the recommended IYCF practices. Other factors were insignificant.

5.4 Infant and Young Child Feeding Practices and perceptions of the respondents

A greater percentage 63% of respondents did not wash their children's hands before feeding them for last meal as at the time of the interview. Reasons for this could be related to lack of adequate knowledge about hygienic practices which is encompassed in the recommended IYCF practices. This study observed a low proportion for early initiation of breastfeeding 49.3%, exclusive breastfeeding 29.4%, and continued breastfeeding up to the age of two 7.8%. Similar findings was reported from a study carried out in China (Wu et al., 2014) where less than 10% of the children received exclusive breastfeeding and only 22.4% was put to breast immediately after delivery. Also in this study, among children ever-breast fed, close to half, 40.3% of children were introduced to solid or semi-solid food before 6 months. Mothers should be strongly advised to discontinue from these practice as they have been linked to diarrhea in children, proneness to infections and childhood diseases and even child mortality. Also exclusive breastfeeding has been proven to also beneficial to the health and well-being of mothers, reduces the risk of ovarian and breast cancer and also helps space pregnancies (UNICEF, 2015; WHO, 2016). Also the prevalence of bottle feeding was very high among the respondents with about 61.7%. This is unacceptable and possible reasons could be because the market women are always too busy to feed their children. More so, many of them are not knowledgeable about the risks of bottle feeding hence the high proportion of poor knowledge of IYCF recommended practices in the study is evident.

Findings on various food stuffs mostly used by the respondents when preparing meals for their children showed that grains were predominant (82.3%) and only 11.3% mentioned vegetables. This supports the earlier observation that a large proportion 62.0% of the respondents were not knowledgeable about the 4-star diet as recommended for children and the consequences mentioned still hold.

Considering the factors associated with respondents perceptions and practice, educational status of the respondents remained significant with 2.6 times (OR = 0.3, p = 0.012) likelihood for good IYCF practice compare to those with no formal education, this could be because majority of the respondent delivered their children in health facility or maybe because of the information obtained from reading of the news or use of internet. This was also reported in a study carried out in Ethiopia by (Abera *et al*., 2013) were respondents sources of information was through newsletters, radio, and from auxiliary midwives/doctors, and health educators and IYCF practice among respondents increased accordingly.

5.5 Assessment of IYCF practices based on WHO/UNICEF indicators

The Proportion of children whose mothers practiced early initiation of breast feeding as recommended was less than half (49.3%). This result does not show a significant increase to a previous National survey report conducted in Ghana by the World Health Organization, where about half 52.3% of children aged 0-23 months had early initiation of breast feeding. This also raises the need for regional assessments to critically understudy the true proportions by different settings and locations of the country (WHO, 2010).

As for exclusively breast-fed children, this study observed only 29% of children aged less than 6 months, although the sample size was small. This is in contrast to the WHO national survey in Ghana where a greater proportion of 62.8% was reported. This is probably due to the larger sample size used as earlier mentioned, there is need for a more localized assessment for these indicators across the various regions of Ghana for a better representation. Also on minimum dietary diversity, only 6.0% of children aged 6-23 months of age received foods from at least four food groups, whereas almost all (>90%) the children received the recommended minimum meal frequency. This simply suggest that almost all the respondents in this study have less knowledge of recommended food groups for children's growth. For bottle feeding also, a larger proportion of children 61.7% in this study were bottle-fed, this is

different from the 13.5% in the WHO National survey in Ghana. Reasons for this is not very clear but might be related to the populations and settings used in both surveys. Regassa, (2014) in a prior study conducted in Ethiopia observed similar unpleasant proportion 30.5% and noted that bottle feeding is associated with unhygienic conditions and poor preparation of infant formula, infants are exposed to greater risk of illness, resulting in increased risk of mortality.

5.6 Respondents' preference and choice of formula feeding

Findings from this study among all types of formula used by the respondents, majority (69.3%) of the respondents prefer Cerelac, in all, 25.3% said they don't use formula feeds and 18.6% uses SMA formula. This was similarly reported by (Tshikovhi, Gericke, & Becker, 2015) on formula feed preference.

However more than three quarter of the respondent indicated preference of local food to formula food, relating their choice to cheapness, nutritional value of local foods and possibility of serious health issues from formula foods. It is noteworthy the fact that formula food might be of higher nutritional contents and beneficial to the children compared to the local foods given to the children which are more or less poor in recommended diversity. This finding is in line with an earlier study in Ghana (USAID, 2011) where only 38% of respondents fed their children formula foods due to common perception and cultural believes similar to reasons given by respondents in this study.

About half of the respondents who preferred formulae food indicated not being comfortable to breastfeed in public, less than half of reported being engaged with their business while others 25% gave reasons like, insufficient flow of breast milk, multiple birth, shape maintenance, child and mother's illness respectively. This points to the need for health workers to intensify child health education and recommended IYCF practice among mothers to enable better understanding of the dangers associated with poor child care (GHS, 2011).

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.1. Conclusion

This study was conducted on a sample of 300 market women with children between the aged of 0-23 months from Ashiedu Keteke Accra Metropolitan in greater Accra region Ghana. The findings of this study indicate that few mothers of children in the Makola market of the Greater Accra Region have good knowledge of the recommended IYCF Practices. Secondly, their IYCF practices are very poor, however educational status remained a very significant factor affecting knowledge, perception and practice of recommended Infant and Young Child Feeding Practices among the market women.

In addition, the busyness of the mothers influenced the level of commitment and care they provided to their children. Responsive feeding was not practiced and were not even known by many of the respondents. This simply means that the children's nutritional intake depend on what is available in the market at a particular point in time.

Correspondingly, these factors expose these children to unhealthy eating habit in the early stages of life and will no doubt negatively affect their growth and development. They will be more prone to childhood infections and diseases since they do not receive required nutritious and care. There is, need for immediate action to design intervention programmes peculiar for market women in Ghana, considering that their children need proper growth and healthy living as required for other Ghanaian children. Usually, the market population are not always considered in most health education and promotion programmes. This study highlights the need for market campaigns and specially designed programmes for market women. Additionally, there are also certain practices that require attention which include the widespread use of feeding bottles, early and delayed introduction of

formula/complementary foods, and low dietary diversity throughout the first two years of life. It was observed that most of the food prepared were more of grains than other required food groups, there is need to teach and instruct mothers on how to improve upon this to ensure better nutritious meals for their children. The health facilities need to be fully utilised to provide high quality feeding counselling especially through antenatal programmes and market campaigns. Cost and availability of formula foods is also perceived as a barrier in accessibility of recommended formula foods, and since the health benefits of formula foods cannot be neglected for children greater than 6 months, it is important that these products including fortified foods/supplements, be made affordable and accessible for the population usage.

6.2. Recommendations

- Health education through the health facilities should be intensified for improvement of mothers' knowledge and awareness of the WHO/UNICEF global recommended Infant and Young Child Feeding practices especially during antenatal and post-natal visits
- Regular market campaign should be designed and carried out in collaboration with the Ghana Health Service, donors and concerned stakeholders educate and improve the knowledge and practice of the market women on recommended Infant and Young Child Feeding Practices. Food demonstration programmes can also be implemented within this strategy to practically teach mothers how to correctly ensure adequate minimum food diversity as recommended.
- There is a need to design programmes by the Health Promotion Unit of the Ghana Health Service that will reveal the true picture of knowledge and practice towards recommended IYCF in different regions of the country, this is because most of the available data is based on national statistics. This will enable planning and prioritization of scarce resources for the target population.

- Appropriate training should target community health nurses, midwives and other health care professionals to ensure that they promote and encourage breastfeeding uncompromisingly, advise mothers and/ or caregivers on appropriate indications for infant formula.
- Social and behavioral change communication (BCC) should be employed by the Ghana Health Service to promote positive life style among mothers on recommended IYCF practices, and also use every avenue including handbills, pamphlets and billboards to disseminate information on proper hygiene.
- Immediate intervention is needed by interested stakeholders and the Government to ensure the cost of formula foods could be subsidized to encourage its usage among the poor and vulnerable group. Social marketing strategies should be employed to subsidize cost of infant formula and promote access and usage of the recommended formula /complementary feeds by mothers and caregivers.
- In the long term, education for the female and gender empowerment should be strongly advocated, this will no doubt ensure better enlightenment, understanding, knowledge and practice of recommended feeding and hygienic practices, thus improving their roles as mothers for their children and family.

6.3 Limitations to the study

The study was conducted in only one of the numerous markets in Accra without involving other market women in the Accra Metropolis. This limits generalization of findings to the wider population.

Being a cross-sectional study, observations were only to a point in time and this does not allow for assessment of women's knowledge and practices relative to IYCF over time.

Due to funding, financial constraints with respect to funding of the study, the study was limited to only one market out of the multiple markets in the Accra metropolis.

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APPENDICES

Appendix 1. Questionnaire on Market Women's Level of Knowledge on Infant and Young Child Feeding Practice

BACKGROUND (DEMOGRAPHICS) INFORMATION QUESTIONNAIRE

A.BACKGROUND INFORMATION

1.Age of child in months: _____

2. Sex of child:
1. ☐ Male 2. ☐ Female

2b. How many children have you?
_____

3. Place of delivery:
1. Home
2. Traditional Birth attendant ☐
3. Health facility ☐ ☐

4. What is your highest level of education attended?
1. ☐ Middle/JSS 2. ☐ Secondary/SSS
3. ☐ Tertiary
4.Others (specify)
_____

5. Respondent age
Age:_____

6. Age group:
1. 15-19yrs ☐ 2. 20-29yrs ☐ 3. 30-39 yrs ☐
4. 50-60 yrs ☐

7. What is your marital status?
1 .Never married ☐ 2. .Married
3. Divorce/separate ☐ 4. Widowed
5. Others _____

8. What is your religion?
1. Christianity
2. Islamic
3. ATR
Other specify……..

9. Family size:
_____
_____

10. What position is this child among your children?
_____
_____

B. MARKET ACTIVITIES

11. What business do you transact in the market?
1.Table top business ☐ 2..Kiosk
3.Shop or store ☐ 3.Wares on the open market
5.Food vendors ☐ 6. Hawking ☐

12. How many days do you spend in the market in a week?
1. 1-3 ☐ 2. 4-6 ☐ 3. Everyday ☐

13. How often do you bring your child to the market?
1. Twice a week ☐
2. Three times a week
3. Every day

14. How many times do you feed your child in the market?
1.Once ☐ 2.Two times ☐ 3. Three times

Others……..

15. On a very busy day in the market how do you manage your business and your child's feeding?
1. I come with a relation who helps me ☐ 2.Attending to my customers ☐ is priority
3. Feeding my child is more important 4. ☐ 4. Others specify,
_____

_____
C. KNOWLEDGE ON THE RECOMMENDED INFANT AND YOUNG CHILD FEEDING

16. Do you know what colostrum (yellowish milk that comes out first from the breast) is? 1.☐ Yes 2. ☐ No	**17.** When you delivered what did you do with the first yellowish breast milk? 1.Gave it the baby ☐ 2. Discarded it Others (specify)……..
18. It is believed that infants from 6-9 months are not supposed to eat any food from animal sources such as meat, fish and others meat products. 1. ☐ Yes 2. ☐ No	**19.** Do you know the risk of not practicing recommended IYCF? 1. Yes 2. No **(If Yes go to 20, if No go to 21)**

Date of Interview: ---------- Interviewer name :---------- Serial no:----------

20. Name some of the outcomes:

_____

_____

21. How many times should one feed a child aged (refer to child's age) in a day?

1. 6-9 months _____ 2. 9-12 months _____

3. 12-18months_____ 4. 18-23months……

22. It is not necessary washing a child's (6-9months) hands with water and soap since they are not eating by themselves?

1. ☐ Yes 2. ☐ No

D. ATTITUDE AND PRACTICE ON RECOMMENDED INFANT AND YOUNG CHILD FEEDING

23. Did you wash your child's hand for the last meal he/she was given? 1. ☐ Yes 2. ☐ No

24. Is your child still breast feeding?

1. ☐ Yes 2. ☐ No 3. ☐ Never breastfed

If Yes, go to 27, If No, go to 25, If 'Never breastfed' go to 26

25. If No, when did you stop breast feeding your child? …(in months)_____

26. If No 3,(never breastfed), how often did you feed your child with milk **between 0-6months**?

1. ☐ Once a day 2. ☐ Twice a day 3. ☐ 3 times a day 4. ☐ 4 times a day 5. ☐ Five or more times a day

27. After delivery, how long did it take you to breastfeed your child for first time?

1. Within first hour of delivery
2. 2-23 hours after delivery
3. Next day or more than 24 hours
4. Do not remember

28. Before putting the child to the breast for the first time after delivery, what was the child given to drink?

1. Nothing
2. Milk (other than breast milk)
3. Plain water
4. Gripe water
5. ☐ Fruit juice
6. ☐ Infant formula
7. Tea / coffee
8. Others (specify)…….

29. At what age did you first give solid or semisolid food to your child? **(Go to question 30 if "before 6 months was selected", if not, skip to question 31)**

1. ☐ Before 6 months 2. ☐ At Six months
3. ☐ Seven to 9 months 4. ☐ After nine months
5. ☐ Yet to start 6. ☐ Don't know

30. Why did you prefer giving solid food to your child before 6months?

1. Problem with the breast .
2. ☐ Congenital abnormalities
3. ☐ Child rejected breastmilk from onset
4. Others, specify _____

31. Are you bottle-feeding this baby?

1. ☐ Yes 2. ☐ No

32. From 6-9 months, how many times in day do you/will you… feed your child with solid or semisolid foods?

1. ☐ Once only 2. ☐ 2-3mealswithfrequencybreastfeeds 3. ☐ 2-3mealsplusbreastfeedsand1-2snacks	
33. What should the food for a child of 6 months be in terms of texture? 1. ☐ very light 2. ☐ light 3. ☐ thick 4. ☐ very thick	**34**. At six months, it is recommended that the child should be given: 1. Light porridge/ kooko like breast milk 2. Thick porridge or kooko 3. ☐ Others specify……
35. Mention the hygiene practices associated with infant and young child feeding practices you know. 1. ☐ Wash hands before feeding my child 2. Giving the child a warm food 3. Using/washing clean plates/cups/spoons 4. ☐ Others, specify……..	**36**. Have you ever heard of responsive feeding? 1. ☐ Yes 2. ☐ No ***If No, skip to question 38***

37. Briefly explain or describe responsive feeding?

1. Feeding on demand (child cries)
2. Feeding on schedule
3. I don't know
4. Others, specify _____

_____

38. Mention some of the foodstuffs you normally use to prepare food for your children

1. ☐ Soyabean 2. ☐ Groundnut

3. ☐ Maize 4. ☐ Fish powder

5. ☐ Others, specify _____

_____

_____

39. Do you know the 4 star food/diet? (Balanced diet is?) 1. Yes ☐ 2. No ☐ **If No, go to Q41**

40. Mention the food groups that make up the 4 star diet (balanced diet)

1. ☐ Vitamin 2. ☐ Protein 3. ☐ Fats 4. ☐ Mineral 5. Others……..

E . DATA ON FORMULAE FEEDING AND CHOICE OF FORMULA FEEDING

41. Apart from the breast milk and family foods, what other foods do you give to your child? Probe formulae foods.

1. ☐ Cerelac 2. ☐ Lactogen 3. ☐ SMA
4. Others, _____

42. Do you prefer formula foods to local food?

1. Yes ☐ 2. No

If No, why?

43. Why do you prefer that formula food to the rest?

☐ 1. They are cheap
2. I am always busy
3. My child likes it more than others
4. Others…….

……

44. How often do you feed your child with formulae foods?

1. ☐ Once a day 2. ☐ Twice a day
3. ☐ Three times a day 4. ☐ Four times a day
5. ☐ Five or more times a day

45. Mention or explain any reasons or importance of using infant feeding formula:

_____

_____

_____

_____

46. What other things will make you opt for formulae feeds for your child instead of breastfeeding and complementary foods? 1. I don't like exposing my breast in public 2. Child's illness 3. Mothers 'illness 4. I want to maintain shape of my breast 5. Others specify, _____ _____	**47.** Mention any disadvantage of using infant feeding formula 1. Costs/it is expensive 2. Causes diarrhoea 3. Causes obesity/overweight 4. Contains excess sugar 5. Others:_____ _____ _____ _____

CONSENT FORM

I am a student from the School of Public Health, University of Ghana conducting a research on infant and young child feeding practice. I would like to take about 15 minutes of your time and ask you a few questions regarding your infant and young child feeding practice, timely and responsive feeding and the type of formula feeds you prefer to use for your infants and young child so as to see if it suits the WHO and the UNICEF recommended procedures for infant feeding. This research has been reviewed and approved by the Ethical Review Committee of the Ghana Health Service. If you have any questions about your rights as a research participant you can contact the Ethical Review Coordinator (Ms. Hannah Frimpong, *+2330302681109/233-0302679323).*

Consent:

Now that the study has been well explained to me and I fully understand the content of the study process, I hereby give my consent to take part in the programme.

Name of caregiver _____ Signature/thumbprint _____

Date_____

Name of witness_____ Signature/thumbprint_____

Date_____

Appendix 2: Consent form for market women's knowledge on infant and young child feeding practices.

CONSENT FORM

Form number [1]

Project Title: An Exploratory Study of Market Women's Knowledge on Infant and Young Child Feeding Practices in Ashiedu Keteke Sub-Metropolis of the Greater Accra Region.

Name and address of Principal Investigator

Onwuka Onyinyechi Confidence Department of Population, Family and Reproductive Health, University of Ghana, Accra, Legon. Mobile: 0577416345/ +234-8036467933

Email Address: confyg2010@yahoo.com

Institution affiliated

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

Introduction

I am a student from the School of Public Health, University of Ghana conducting a research on infant and young child feeding practice. I would like to take about 15 minutes of your time and ask you a few questions regarding your infant and young child feeding practice. Issues to be covered will include breastfeeding, complementary feeding, the use of infant formula and water hygiene and sanitation. All information collected will be treated as confidential and no one will be able to trace any information back to you.

Procedure

The study is actually targeted to the market women with children from age 0 to 23 months in mokola market. It involve questions and responses. Questions to be asked will include information about your knowledge on feeding practice , timely and responsive feeding and the type of formula feeds you prefer to use for your infants and young child so as to see if it suits the WHO and the UNICEF recommended procedures for infant feeding.

Your rights as a Participant

This research has been reviewed and approved by the Ethical Review Committee of the Ghana Health Service. If you have any questions about your rights as a research participant you can contact the Ethical Review Coordinator (Ms. Hannah Frimpong, *+233-0302681109/233-0302679323)*

Do you have any questions to ask me?… (If yes, note questions below)

Voluntary agreement form for Care Givers of children between the ages of 0- 23 months

The above document describing the benefits, risks and procedures for the research topic on "the exploratory Study of Market Women's Knowledge on Infant and Young Child Feeding Practices in Ashiedu Keteke Sub-Metropolis of the Greater Accra Region" has been read and explained to me in English or in Ewe or Twi that i can understand. I have been given an opportunity to ask any questions about the research. I agree to participate as a participant.

Name……Date……..

Signature/thumbprint……

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

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

Name……Date…….

Signature/Thumbprint……

Interviewer's statement

I……..the undersigned, have explained to the subject in the language he/she understand and the subject has agreed to take part in the study.

Signature of interviewer…… Date ……