KNOWLEDGE, ATTITUDES, AND PRACTICES OF LACTATING MOTHERS TOWARDS COMPLEMENTARY FEEDING AT KATEETE HEALTH CENTRE II, NTUNDA SUB-COUNTY, MUKONO DISTRICT

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2015-BNS-TU-013

AN UNDERGRADUATE RESEARCH REPORT SUBMITTED TO THE SCHOOL OF NURSING IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR'S DEGREE IN NURSING SCIENCES OF INTERNATIONAL HEALTH SCIENCES UNIVERSITY

NOVEMBER, 2018

DECLARATION

I Wanyenze Rita, declare that this research study work is of my own effort and has not been carried out by anyone else and submitted to International Health Sciences University or any other University or Institution of higher learning for any award of a degree.

Signature: ……

Date: ……..……

APPROVAL

This is to certify that this report under the title of Knowledge, Attitudes and practices of lactating mothers towards complementary feeding at Kateete Health Center 11, Ntunda Sub-county, Mukono District has been written under my supervision and is now ready for submission to academic board with my due approval.

Signature:…….

Ms. NABACWA OLIVER NORAH

SUPERVISOR

Date:……

DEDICATION

I dedicate this piece of work to my family especially my husband, my children, the staff of Kateete Health Center 11, and all mothers from Kateete who tirelessly supported me in all aspects, and not forgetting my supervisor Ms. Nabacwa Oliver Norah for her exceptional guidance and assistance. May the Lord bless you all.

ACKNOWLEDGEMENT

I am very grateful to the Almighty God for giving me life, wisdom and the strength to carry on even at times I felt like I could not do it anymore up to this level.

Special appreciation goes to my supervisor Ms. Nabacwa Oliver Norah for her excellent guidance and her patience towards me throughout the whole work. Thank you for all your guidance, knowledge, advice, and time you accorded to me during the completion of this research report.

My heartfelt gratitude goes to my family members. Thank you for being there for me at all times. I appreciate the financial support from my husband especially the frequent travels to and from Kateete.

I am immensely grateful to the facility in-charge, the Maternal and Child Health (MCH) in-charge of Kateete Health Center 11, and my colleagues for the support, assistance and encouragement they gave me even when I felt I couldn't hold on any more, may the good Lord bless and reward you abundantly for the valuable time and support during this study.

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LIST OF ACRONYMS

ANC	Ante-natal Care
ART	Anti-Retroviral Therapy
BF	Breast Feeding
C F	Complementary Feeding
DHS	District Health Service
HIV	Human Immune Virus
IYCF	Infant and Young Child Feeding
MCH	Maternal and Child Health
MoH	Ministry of Health
MUAC	Mid-Upper-Arm-Circumference
NBS	National Bureau of Standards
NCHS	National Center for Health Statistics
NPC	National Population Commission
PAHO	Pan American Health Organization
TBA	Traditional Birth Attendant
UDHS	Uganda Demographic Health and Survey
UNICEF	United Nations International Children Education Fund
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

In this research study, the triad of knowledge, attitude, and practice constitutes the hierarchical structure to understand the patterns of complementary infant feeding practices among lactating mothers at Kateete Health Center 11.

Knowledge: Knowledge can be defined as "the set of facts, information, and ideas that are acquired by a person" (UNICEF, 2014). In this research study, the term knowledge is referred to the facts, information, and conditions that are possessed by the study participants with regard to the topic of complementary infant feeding at Kateete Health Center 11.

Attitude: Is defined as "ways of thinking or feeling about something or someone and are not always observable"(UNICEF, 2014,). In this research study, the concept of attitudes refers to the belief, feeling, and behaviors of the study participants expressed regarding complementary infant feeding practices at Kateete Health Center 11.

Practice: Is defined as "the observable behaviors, habits or skills, often performed without a conscious decision and in response to something in the environment or to knowledge or attitudes" (UNICEF, 2014). In this research study, the term practice refers to the observable use of knowledge and attitudes that result in performing complementary infant feeding practices among mothers who have children aged between 0 to 24 months at Kateete Health Center 11.

Complementary Feeding: the term complementary feeding is defined as "the process of transition from exclusive breastfeeding to family foods when breast milk alone is no longer sufficient to meet the nutritional requirements of infants and continued until the age of 24 months and beyond (WHO, 2016).

ABSTRACT

Background: Complementary feeding is defined as the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. The transition from exclusive breastfeeding to family foods – referred to as complementary feeding typically covers the period from 6 - 24 months of age, even though breastfeeding may continue up to two years of age and beyond.

Objective: The purpose of the study was to determine knowledge, attitude and practices of lactating mothers towards complementary feeding in order to reduce the morbidity and mortality among the under-five children**.**

Methods: This was a cross-sectional study and descriptive in nature, employing quantitative methods of data collection which was used to assess knowledge, attitude and practices of lactating mothers towards complementary feeding among 108 lactating mothers at Kateete health center II who were selected using systematic sampling method, data was analyzed using SPSS version 20.

Results: From the data analyzed, all 100% of the respondents knew that the baby should be breastfed on demand and most of them 88.9% exclusively breastfed their babes for six months, 70.4% of the respondents knew that fruits and vegetables are suitable complementary foods, 75.9% had knowledge that a child should be assisted to eat until 2 years of age, 82.4% of the respondents knew that breastfeeding should be initiated within an hour after birth. Three quarter of the respondents strongly disagreed that it is not possible for baby to survive on breastfeeding for six months while 65.7% of them also strongly agreed that exclusive breastfeeding is enough for the child before six months. 58.3% of the respondents initiated complementary feeding before six months. Half 50.9% of the respondents fed their children three times a day, and 64.8% washed their hands with soap before feeding the baby

Conclusions and Recommendations: In conclusion, this study revealed that knowledge of the mothers towards CF was good, the attitude was moderate and the practices of CF was poor as majority introduced CF before six months. Therefore, the study recommends accurate information and education to be given to mothers and caregivers about appropriate timing of initiating CF, CF foods, preparation and practices to prevent malnutrition and improve the health status of the children. Emphasize the need of teaching mothers the importance of infant feeding.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter describes the introductory part of the study. Specifically, the chapter contains background to the study, statement of the problem, general objective, the specific objectives, research questions, scope of the study, justification of the study and conceptual frame work.

1.1 Background Information

According to WHO (2017), complementary feeding is defined as the process starting when breast milk alone is no longer sufficient to meet the nutritional requirements of infants, and therefore other foods and liquids are needed, along with breast milk. The transition from exclusive breastfeeding to family foods – referred to as complementary feeding typically covers the period from 6 - 24 months of age, even though breastfeeding may continue up to two years of age and beyond (World Health Oragnization, 2010). This is a critical period of growth during which nutrient deficiencies and illnesses contribute globally to higher rates of under nutrition among children under five years of age (Senarath *et al.*, 2012).

Exclusive breastfeeding of infants from birth through initial 6 months is important for optimal health, growth, and development (World Health Oragnization, 2010). As infants grow and become more active in the first six months of life, breast milk alone falls short of providing the full nutrition requirements thereby creating nutrition gaps Therefore, complementary feeding plays a critical role in bridging these gaps. In addition, infants are able to absorb and digest breast milk more easily than baby formula (OTAIGO, 2014).The transition from exclusive breastfeeding to family foods is very critical in a child's life because it's the time when malnutrition starts in many infants, contributing significantly to high nutrient deficiencies and illnesses. Globally, untimely complementary feeding has resulted into higher rates of under-nutrition among children under five years of age ((McMillan *et al.*, 2016).

An estimated 96% of children are breastfed at some point in their lives, and more than 80% of children continue to be breastfed at 2 years of age (Dibley *et al*. 2010; UNICEF 2015). Data from across Asia indicate that the majority of South Asian children are not fed as per the internationally agreed upon recommendations of complementary feeding; only about half (56%) of infants 6–8 month olds are fed on soft, semi-solid or solid foods; and a mere 21% of

children 6–23 months old are fed a diet that meets the minimum requirements in terms of feeding frequency and diet diversity (Senarath *et al*. 2012; UNICEF 2015). In view of this situation, researchers and practitioners have not hesitated to refer to IYCF in South Asia as a crisis (Memon 2012).

In Nigeria, according to the 2013 Demographic and Health Survey (DHS), the national prevalence of appropriate complementary feeding practices among children aged 6-23 months was 1 in 10 children. In States such as Lagos, Akwa-Ibom, Imo, Zamfara and Benue, the prevalence rates of appropriate complementary feeding practices were only 3.2%, 8.1%, 9.3%, 1% and 12.4% respectively. (National Population Commission (NPC) and ICF International, 2014). In addition, more than 50% of infants are given complementary food too early which is usually of poor nutritional value. In many countries including Nigeria, less than a fourth of infants within the age 6–23 months meet the criteria of dietary diversity and feeding frequency that are appropriate for their age (Agunbiade *et al.*, 2014). Thus, only few children receive nutritionally adequate and safe complementary food (World Health Oragnization, 2010).

In Uganda, there is high use of pre-lacteals (fluids given before initiating breastfeeding at birth) and poor exclusive breastfeeding practices (Uganda Bureau of Statistics, 2016). It is estimated that in low-income countries, where the relative benefits of optimal feeding are greatest, fewer than 50% of children under 6 months of age are exclusively breastfed (Singer et al, 2013). In addition, the scanty information available suggests that there is inappropriate timing of introduction and frequency of complementary feeding and that the nutrient content of traditional complementary recipes is inadequate (Aggarwal *et al.*, 2008).

Although most lactating mothers initiate complementary feeding after 6 months of age, many infants develop malnutrition before they celebrate their first birthday (Shahnaz et al, 2014). Therefore, it is within this introduction that the researcher seeks to explore the knowledge, attitude and practices of lactating mothers towards complimentary feeding at Kateete Health Center 11, Ntunda sub-county, Mukono district.

1.2 Problem statement

Complementary feeding interventions are usually targeted at the age range of 6–24 months, which is the time of peak incidence of growth faltering, micronutrient deficiencies and infectious illnesses in developing countries (Singer et al, 2013). However, Hasibullah *et al.*, (2018) noted that after 2 years of age, it is much more difficult to reverse the effects of malnutrition on stunting, and some of the functional deficits may be permanent. Therefore, interventions that are effective at reducing malnutrition during this vulnerable period should be of high priority. Uganda, through the National Integrated Early Childhood Development and IYCF policies, has consented to several types of interventions targeted to this age group such as micronutrient supplementation and postnatal counselling. Timely and adequate complementary feeding provides all the necessary food values that are important in regulating the growth and development of a child (Stewart *et al.*, 2013).

Despite the extensive information on infant feeding by health workers and other policy implementers on radios, television and other sources of information, and the availability of nutritious foods in the local markets, health facilities in Uganda remain flocked with children under five years of age presenting with forms of acute malnutrition ((Uganda Bureau of Statistics, 2016). According to the UDHS, (2016), only 14% of children aged 6-23 months met the minimum acceptable diet recommended by WHO (2014). At Kateete Health Center 11, records indicate that in 2017, 25% of children 8-59 months had Mid Upper Arm Circumference (MUAC) of >11.5 to <12.5 cm. According to the classification of nutrition guidelines using Mid Upper Arm Circumference, these measurements indicate moderate acute malnutrition (Panagides *et al.*, 2010).

Several studies have been carried out in Mukono district on malnutrition in under-five (Singer et al, 2013), HIV in children (MOH, 2016), and prevalence of malaria (Namiiro et al 2014), however, little has been recorded on knowledge, attitude and practices of lactating mothers towards complementary feeding. At Kateete Health Center 11, studies on complementary feeding remain unknown. Therefore, it is within this gap that the researcher seeks to establish the knowledge, attitudes and practices of lactating mothers towards complementary feeding at Kateete Health Centre II, Ntunda sub-county, Mukono district.

1.3 Purpose of the study

The purpose of the study is to explore the knowledge, attitude and practices of lactating mothers towards complementary feeding in order to reduce the morbidity and mortality among the under-five children.

1.4 Specific Objectives.

1. To assess the knowledge of lactating mother towards complementary feeding at Kateete Health Centre II, Ntunda sub-county, Mukono district.
2. To determine the attitude of lactating mothers towards complementary feeding at Kateete Health Centre II,Ntunda sub-county, Mukono District.
3. To establish the practices of lactating mothers towards complementary feeding at Kateete Health Centre II,Ntunda sub-county, Mukono District.

1.5 Research questions.

1. What is the knowledge ofmothers towards complementary feeding at Kateete Health Centre II,Ntunda sub-county, Mukono district?
2. What is the attitude of mothers towards complementary feeding at KateeteHealth Centre II,Ntunda sub-county, Mukono District?
3. What are the practices ofmothers towards complementary feeding at Kateete Health Centre II, Ntunda sub-county, Mukono District?

1.6 Significance of the Study.

The findings of the study might be useful to educational practitioners, policy makers and other stakeholders in the following ways.

Lactating mothers and community members

Addressing the influence of complementary feeding practice of mothers on nutritional status of children may be an important approach towards reducing the burden of child malnutrition. Therefore, this study will generate information on knowledge, attitude and practices of mothers towards complementary feeding and its association with the nutritional status of their infants in a rural setting.

Policy makers and civil service organizations

The findings of the study will assist programme implementers, and stakeholders make evidence-based decisions in the improvement of children's health by promoting better feeding practices to reduce the prevalence of malnutrition in Uganda, particularly in the vulnerable first year of life. The information will be used in raising awareness on the best complementary feeding practices in that population.

The findings and recommendations will be used by policy makers at the Ministry of Health and health institutions through imparting knowledge and skills to lactating mothers.

Academicians and researchers

The results of the study will also add to the existing body of literature on complementary feeding practices. Additionally, the study results will also be used as a reference for other researchers in other institutions undertaking similar research.

1.7 Conceptual Framework.

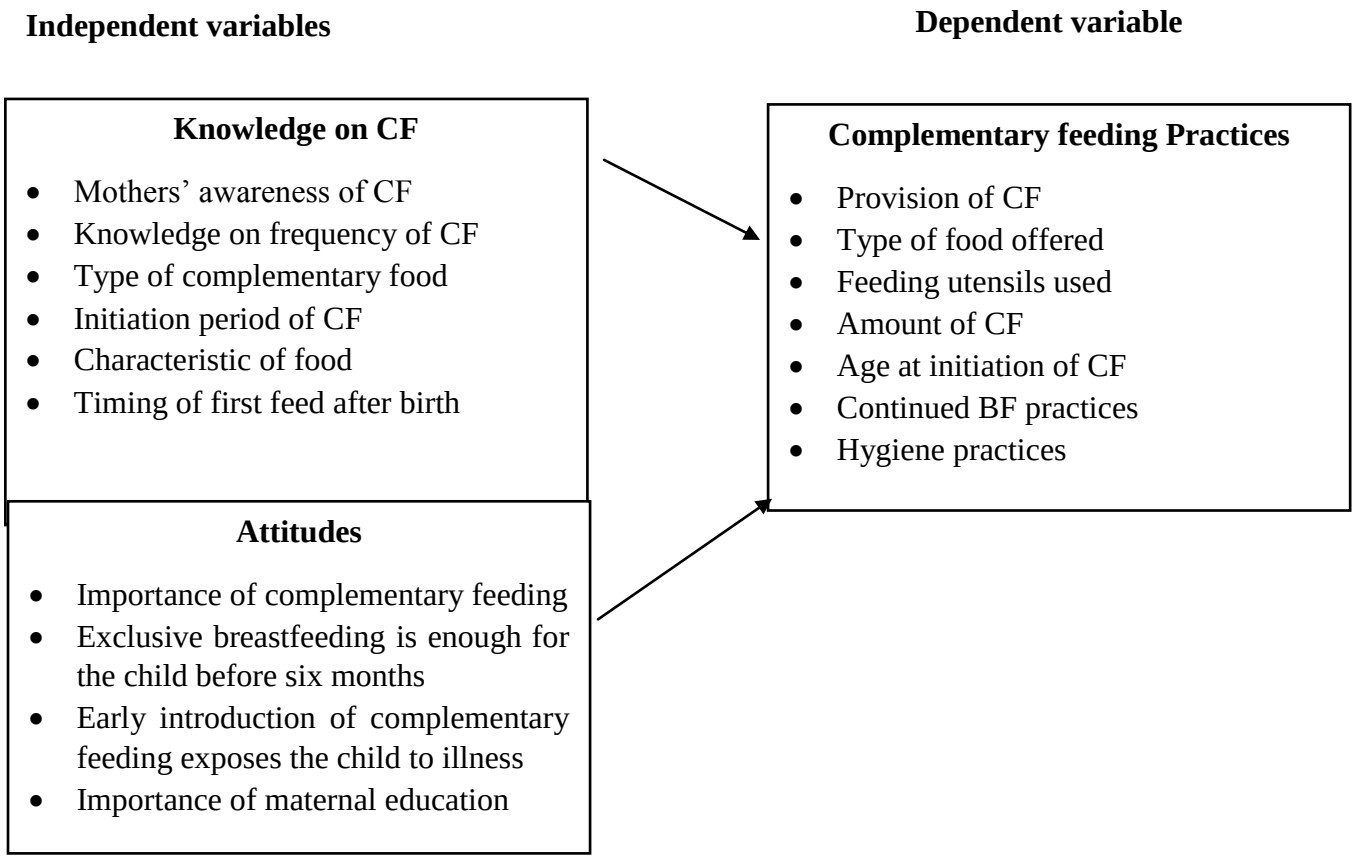

Figure 1:Conceptual Framework

1.7.1 Description of conceptual framework

The figure above is an illustration of the conceptual framework on knowledge, attitude, and practices of lactating mothers towards complementary feeding.

The independent variables have been defined as knowledge, attitudes and practices of lactating mothers, which was defined as a multi-concept variable.

1.7.2 Dependent variable

The dependent variable is complementary feeding practices such as provision of CF, type of food offered, feeding utensils used, amount of CF, age at initiation of CF, continued BF, hygiene practices and continued breastfeeding.

1.7.3 Independent variables

Knowledge of lactating mothers towards complementary feeding include; mothers' awareness of CF, Knowledge on frequency of CF, Type of complementary food, Initiation of CF, Characteristic at CF and timing of first feed after birth.

Attitudes of lactating mothers towards complementary feeding such as; Importance of complementary feeding, Exclusive breastfeeding is thought to be enough for the child before six months, perception that early introduction of complementary feeding exposes the child to illness, and importance of maternal education in relation to infant feeding.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction.

Complementary feeding as a universal practice, varies between cultures, individuals and socioeconomic classes. The period of complementary feeding is a critical time of transition in the life of an infant. Therefore, inappropriate complementary feeding practices with their associated adverse health consequences, remain a significant global public health problem (Dachiet al, 2018).The available complementary foods which the mothers give to their children are often of inadequate nutritional value, and at times given too early or too late. This therefore affects the growth and development of the child. However, having good complementary feeding knowledge among lactating mothers will prevent the consequences of under-nutrition. The acquired knowledge by the mothers will enhance the children's achievement to their full human potential (Stewart *et al.*, 2013). Therefore, breastfeeding and complementary feeding are important determinants of growth and development of a child.

This research is designed to collect descriptive data about lactating mothers' knowledge, attitudes, and practices towards complementary feeding at Kateete Health Center 11, Ntunda sub-county, Mukono district. This chapter presents an overview of previous research in relation to complementary feeding. Sources of information include text books, articles by different researchers and the internet.

2.1 Knowledge towards complementary feeding

2.1.1 Mothers' awareness of CF

World Health Organization and The American Academy of Pediatrics recommend that an infant be breast-fed without supplemental foods or liquids for the first six months of age (also known as exclusive breast feeding). At six months of age, the mother is expected to begin offering complementary foods to the child (WHO, 2016).

A study carried out in the United Kingdom by Chambers *et al.*, (2016) findings revealed that 7 out of 10 mothers had started weaning their infants by 5 months of age. In Australia, however, a study carried out revealed that only 3 out of 10 mothers had breastfed up to 6 months (Lindsay, Le and Greaney, 2018). In United States of America, a study conducted on Chinese migrant mothers showed that mothers knew that breast milk is only nutritious until 6 months of age (Solomons and Vossenaar, 2013)

Stewart *et al.*, (2013), in their study of mothers' knowledge about infant feeding in Botswana, their findings revealed that mothers knew cow's milk as the main drink for the infants during initiation of complementary feeding. In that same study, about a third of the mothers knew that the suitable age for introducing foods is at 6 months. In a study by, De Onis *et al.*, (2016), in urban Angola, it was reported that most educated mothers may be more involved and skilled in promoting child nutrition and health because of the wide spread information about child feeding through the media. In their study, 75% of lactating mothers were aware that complementary feeding should begin at 6 months of age.

According to a study by Rashid et al, (2014), in Ethiopia, 6 out of ten mothers knew that complementary feeding should only be initiated at the age of 6 months. In another study by Hosham et al, (2015) in Egypt, most of the lactating mothers were aware that complementary feeding should begin at six months of age and continued till 24 months of age. Source of knowledge also plays a role on the kind of information the mother receives.

A study done in Kenya among the Maasai community indicated that only 5.9% of the mothers had received information on complementary feeding (Mugo et al, 2013). In Uganda however, a study carried out by Singer et al, (2013), it was reported that most of the mothers received information and were aware of complementary feeding practices from the health workers.

2.1.2 Knowledge on frequency of CF

The World Health Organization recommends that children be fed at least 2 times daily between 6-8 months, and at least 3 times for children between 9-12 months (World Health Oragnization, 2010).

A study conducted at a Civil Hospital in Karachi found out that, 52.9% mothers knew that complementary food should be given to a child at least thrice a day, whereas in that same study, 37% of the respondents considered twice a day was enough for the child (Shazia et al, 2014).

According to a study on lactating mothers from South Asia, it was reported that majority of the mothers knew that 3 meals a day was enough for the child (Chaudhary et al, 2011). However, in another study in northern Asia by Weedley et al, (2014), findings revealed that mothers highlighted the lack of adequate knowledge regarding frequency of CF.

According to a study in Nigeria, it was revealed that 4 out of ten mothers knew the appropriate number of feeds a child should eat in a day. This was further noted in mothers with previous child feeding experience. (Agunbiade *et al.*, 2014). However, in Ghana, a study by Paul et al, (2013) it was reported that majority of the mothers with an education had a better understanding on the number of times a child should be fed according to the child's age.

A Study done in Ethiopia had its findings reveal that most mothers in urban settings knew that a child should be fed at least three times a day than their counterparts in rural areas who are mainly pastoralists and lacked the appropriate knowledge on infant feeding. (Salarkia *et al.*, 2010).

Kimani-Murage *et al.*, (2011) in their study in a rural province in Kenya, reported that 6 out of 10 lactating mothers fed their children 3 times a day on complementary feeds. It was further reported in their study that mothers received the information from health workers, media and their family members. However, in a study by Singer et al, (2013) in one of the rural health facilities Uganda, the researchers reported that although health education classes related to child feeding were carried out at the health facilities, mothers paid less attention to them because of over-crowding, and thus, had less knowledge on matters pertaining to complementary feeding.

2.1.3 Type of complementary food

Scientific knowledge demonstrates that maternal knowledge on complementary feeding may positively influence practice or may lead to no change in feeding practices.

A study by Hellen Keller International (2010) in Baitadi District, Nepal showed that 28% and 42.1% of mothers had the knowledge that children of 6-12 months should not be fed on eggs and flesh meats. A study conducted in Karachi regarding complementary feeding found that most of the lactating mothers knew that children should be given soup and chicken puree at the initial stages of complementary feeding (Shazia et al, 2014).

According to a study by Agunbiade *et al.*, (2014) in one state in Nigeria, it was reported that half of the mothers in that study offered goat's milk to their children, while others offered cow's milk. However, in a study in Ghana, most of the lactating mothers offered cow's milk and fish soup to their children during complementary feeding (Paul et al, 2013).

2.1.4 Knowledge on initiation of CF

A study in Norway showed that 21% of infants were introduced to complementary foods before 4 months of age. At 4 months and 6 months of age, 47% and 91% of the infants, were introduced to complementary foods respectively.(Stewart *et al.*, 2013)

According to a study in India by Aggarwal *et al.*, (2008) mothers' knowledge on all aspects of complementary feeding was low. The findings from that study revealed that only 8 percent of mothers knew the timing of complementary feeding. In another study in southern India however, the researchers found that about 26% of mothers did not have knowledge regarding the right time of introduction of complementary foods to their infants (Mohmood, Srivastava, Shrotriya, & Mishra, 2012)

In a study by Subedi *et al*. (2012) on infant and young child feeding in Chepang communities in Nepal, showed that, 81% mothers had knowledge about appropriate time for introduction of complementary feeding and total time for breastfeeding. Mothers who initiated breastfeeding within one hour were 37% and exclusive breastfeeding up to 6 months were 82% and about 90% of the mothers initiated complementary feeding at the age of 6 months.

A cross sectional study conducted at an urban hospital in China assessed knowledge, attitudes and practices regarding complementary feeding among 492 mothers with children between 6-24 months. Results revealed that 88.4% of respondents had good knowledge of complementary feeding, while only 38.4% of the mothers had good practices regarding time for starting complementary feeding (Berisha et al, 2017).

In a study done among lactating mothers visiting a pediatric department of a hospital in Pakistan, it was reported that more than half of the mothers knew the correct time of initiation of complementary feeding but less than 40 practiced it (Mehwish *et al.*, 2017) In another quantitative cross-sectional survey conducted in Tajikistan to determine the patterns of complementary feeding practices among mothers, the results of the survey showed that 8 out of 10 mothers viewed that complementary foods should be initiated at the age older than 6 months for the child. In that study, only 3% of mothers viewed that complementary foods should be introduced at the age of 4 months for infants (Action against Hunger International, 2017).

Findings from a study carried out by Mohammed, Ghazawy and Hassan, (2014) in Egypt revealed that over 90 percent of mothers defined weaning as breastfeeding cessation; but only 4 out of 10 mothers were aware of the timing to complementary feeding. However, Mehwish *et al.*, (2017) who carried out a similar study in another region in Egypt, reported that half of the respondents knew the correct timing of complementary feeding to be at 6 months.

According to a study in Nigeria, it was revealed that there was a decreasing prevalence of timely introduction of complementary foods and minimum acceptable diet among mothers who were educated (Agunbiade *et al.*, 2014). In their study of mother's knowledge towards complementary feeding in an urban community in Nigeria, it was revealed that knowledge of timing of complementary feeding was low at only 15%. In a similar study in Niger however, according to Shahnaz et al,(2014), it was reported that 4 out of 10 mothers knew the appropriate timing of complementary feeding.

2.1.5 Characteristic of food at CF

A study conducted in Karachi regarding complementary feeding found that 59% of the respondents had the knowledge that common commercial complementary feed and tea crackers should be the first choice of complementary feed, whereas forty five (32%) mothers considered homemade foods as first choice to be given to the child (Shazia et al, 2014).

Marriott et al, (2017) conducted a comprehensive review of demographic household surveys that were operationalized in 20 developing countries from 2014 to 2013 to evaluate the levels of knowledge and practice of caregivers regarding complementary infant feeding. The results of review household surveys showed that the majority of caregivers had minimal knowledge regarding appropriate complementary feeding. The researchers found that caregivers occasionally served semi-solid foods to their infants before the age of 6 months in many developing countries.

2.1.6 Timing of first feed after birth

A community-based cross-sectional study was conducted on 307 rural mothers who had a youngest child aged 2 years or less to describe knowledge, attitude, and actual practices of mothers in a rural area in Egypt regarding breastfeeding, complementary feeding and weaning. The results from this study revealed that 84% initiated breastfeeding immediately

after delivery, and 42.7% of the studied mothers offered pre-lacteal feeds to baby before lactation. About three quarters (74.2%) of mothers fed colostrum to their babies (Eman et al, 2018).

2.2 Attitude towards complementary feeding

In a study carried out on British lactating mothers, it was reported that most of them had a perception that only foods with high nutrient content should be given to the child. However, in that same study, French lactating mothers thought that pleasure and taste development are of primary importance during complementary feeding (Chambers *et al.*, 2016).

A study carried out in China revealed that most mothers considered responsive feeding during child illness and when the child's appetite is often poor (Nousiainen, 2014). In a study by Stewart *et al.*, (2013) in Indonesia, results showed that more than half of the mothers believed that special attention should be offered to a child during complementary feeding in order to yield results. In India however, a study conducted revealed that mothers thought that feeding bananas and curd to their child in the rainy and winter seasons can cause cold and cough (Kruger et al, 2013).

Lindsay et al, (2008), in their study in Brazil, found that mothers thought that giving their children bananas and mangoes, especially during the night would cause illness. However, in an ethnographic study conducted in Mexico, results revealed that mothers cannot give food unless the child has teeth (Monterrosaet al.2012). They also reported that besides gestures, the child's physical appearance can have an impact on the decision to start complementary feeding. In that same study it was reported that lactating mothers had a perception that introducing other foods other than breast milk can protect their children from "evil" or illness (Monterrossa et al, 2012).

In a study on infant feeding decisions among lactating women in Kwa-Zulu Natal, Thairu et al, (2015) reported that lactating mothers had a perception that the choice of foods for children less than five years was determined by the elders in the family. It was believed that only older people had the experience of introducing complementary foods to young children. In another study in South Africa, findings revealed that 7 out of 10 lactating mothers believed that starch-rich foods (excluding maize porridge) or fat should not be given to small children because it was considered overall unsuitable to them (Kruger et al, 2016). Findings from a study carried out in Malawi revealed that 80% of lactating mothers thought that complementary feeding can only be started due to breast milk insufficiency whereas others

thought that as the baby grows bigger, the stomach becomes big and therefore complementary feeding should be initiated (Kerr et al, 2017).

However, in another study by Paul et al, (2013) in Ghana, findings revealed that the beliefs related to complementary foods should be considered in the larger framework of the culture's cuisine, and also by household meals and family eating behaviors. In that study it was reported that most of the mothers thought that children should be fed on food which is only accepted by their culture.

However, Salarkia et al, (2010), in their study in rural Ethiopia, the study findings revealed that most of the mothers also make the decisions to start complementary feeding based on child's perceived appetite. In their findings, more than 60% of the mothers thought that a good appetite of the child is often seen as a sign of good health or as a need to have more food (Salarkia et al, 2010).

According to a study conducted in mid-west Nigeria, Ogbeide et al, (2014), it was reported that 45% of lactating mothers believed that foods like meats and eggs are not supposed to be given to children at an early age. In that study, mothers explained that their children would get used to eating these foods which can lead them to develop habits such as stealing food when they grow (Ogbeide et al 2014). Eighty five percent of mothers in that study believed that breast milk and local porridge were sufficient for the first year of the child's life. About 4 in 10 mothers from that study believed that an earlier introduction of "heavy" solid foods would result in the child becoming "heavy weight. In a similar study in a rural area in Niger however, 75% of lactating mothers thought that giving these foods to children too early would also cause illnesses, choking and trouble with digestion (Ogunlesi et al, 2015).

However, in Pemba, Tanzania, a study carried out on mothers' attitude towards complementary feeding, findings revealed that majority of lactating mothers did not give locally available fish to their children because they believed it would cause tooth decay or worm infestations (Mugyomba et al.2015). In Kenya, another study by Wanyonyi et al, (2016) results revealed that 60% of mothers have a belief that complementary feeding can make their babies obese at an early stage and this affects their natural growth and development. However, according to Singer et al (2015) in their study in Uganda, lactating

mothers believe that complementary feeding is important to the child and they would benefit from it if their partners support them positively.

2.2.1 Early introduction of complementary feeding exposes the child to illness

A study done in India revealed that Early introduction of complementary feeds is coupled with unhygienic preparation and storage conditions which predispose many infants to diarrhea and inadequate diets causing a negative impact on growth and development (Mohsin et al, 2014)

Pantenburg, Ochoa, Ecker, and Ruiz (2014) applied a quantitative research design to study the levels of knowledge, attitudes, and practices of mothers regarding complementary feeding practices during the episodes of diarrhea among infants in Lima. The researchers interviewed 390 mothers in Lima. The researchers found that 72% of the mothers either discontinued or gave lesser foods to their children during the episodes of diarrhea. About 22% of study participants believed that feeding children during illness is harmful. About 40% of caregivers withheld giving fruit and vegetables to their children during the episodes of diarrhea. The researchers concluded that poor awareness of mothers regarding appropriate complementary feeding practices during illness resulted in increasing the risks of malnutrition and mortality among infant and young children. The researchers recommended that providing health education to mothers may create positive behaviors to promoting complementary appropriate feeding practices during and after illnesses in communities in Lima.

A study done in Kenya at Kibera slum areas revealed that in most cases the symptoms of kwashiorkor and marasmus were not associated with inadequate feeding but were seen as being caused by the transgression of sexual taboos by the parents (Owiti, 2013). However, according to Isingoma et al., (2016), diarrhea, respiratory infections, and malaria were exacerbated by malnutrition among children in Uganda. The researchers reported that episodes of disease especially diarrhea influence the patterns of complementary feeding practices among infants in Uganda. They argued that diarrhea reduced dietary intake by more than 40% among infants in Uganda (Isingoma et al., 2016).

2.3 Complementary feeding practices

In a study by Dewey et al, (2015) in Australia, findings revealed that 9 out of 10 mothers had started feeding their child on complementary foods by 4 months of age. However, In Lebanon, Betal et al. (2010) their study highlighted that 21.9% of mothers introduced complementary foods to their infants at the age of 3 to 4 months, and 63.5% of mothers introduced complementary foods at the age of 5 months. Over 60% of mothers introduced solid foods to their infants prior to the age of 6 months, and 90% of mothers had given different types of fluids to their infants at the age of 4 months.

2.3.1 Provision and frequency of CF

The WHO recommends that breastfed children 6-8 months old be fed 2 times per day and those 9-23 months old be fed 2-3 times per a day while the non-breastfed ones be fed 4 times per day (WHO, 2017).

A study done in rural Pakistan on the frequency of child feeding, findings showed higher number of children (63%) aged 6-23 months who were given the minimum recommended number of feeds in a day. In that study, it was reported that 88.2% of mothers had started complementary feeding at 6 months, and 70.6% of children were fed three or more times per day (*Motuma et al, 2016*)

In Kenya, the minimum meal frequency is low as per WHO recommendations, the Kenya Demographic and Health Survey of 2013 revealed that of all the children 6-23 months, only two thirds were fed the minimum number of times (KNBS and ICF Macro, 2010).

A nutrition survey conducted in Marsabit County (Ministry of public of Health and sanitation/UNICEF, 2011), found out that children 6-8 months who were fed at least 2 times or more were 37.3%, and those 9-23 months old who were fed 3 times or more per day were 27.6%.

Isingoma et al. (2016) analyzed the meal frequency practice of complementary foods among mothers as compared to the WHO's guiding principles for complementary feeding of the breastfed child given offering 2 meals at the age of 6 – 8 months, 3 meals at the age of 9-23 and 4 meals at the age of 6 – 23 months for the non-breastfed children in Uganda. The researchers concluded that the meal frequency practice of complementary foods among mothers was low as compared to the WHO's guideline. About 24.2% of infants aged 7 to 8 months were provided with 2 meals a day, 29.2% of infants aged 11-12 months were

provided with 3 meals and 48.5% of children aged 12-24 were provided with 4 meals. The researchers concluded that more than 50% of children did not meet the recommended meal frequency of complementary foods as per the WHO's guideline. The researchers recommended promoting appropriate complementary infant feeding practices at the household level to prevent the negative consequences of malnutrition in early childhood in Uganda (Isingoma et al., 2016).

2.3.2 Timing of introduction of CF

In a study by Kumudha *et al.*, (2010) in Pakistan, findings revealed that only 13% of children were started on complementary food at the correct age of 6 months. A another study in the slums of Dhaka City researchers reported that, (64%) of lactating mothers had started complementary feeding at 6-7 months while only 19.2% started at 4-5 months (Akhtar, *et al.*,2012).

According to a study in Vhembe District of Limpopo Province in South Africa on infant feeding practices of lactating mothers, findings revealed that about 43.2% of the infants had been introduced to foods at the age of three months, 18.9% at four months and above, and 15.2% at two months and below (Mushaphi *et al.*, 2013). About 5.1% of mothers introduced complementary foods to their infants because they did not have sufficient breast milk. About 12% mothers reported that their children have lost weight while complementary foods were introduced to them.

2.3.3 Type of food offered to the children

A diverse diet is likely to provide a variety of nutrients making it healthy. The WHO (2017) recommended minimum dietary diversity for children 6-23 months old is the consumption of foods from ≥ 4 out of 7 groups of food. The consumption of foods from at least 4 food groups means that the child has a high likelihood of consuming at least one animal-source of food and at least one fruit or vegetable that day, in addition to a staple food (grain, root or tuber). Providing a variety of foods from different food groups is seen as a challenge to many mothers.

In a study carried out in Turkey among lactating mothers, the researchers found that 45% of the mothers introduced bread, rice, vegetables, and dairy at the age of 6 months; whereas,

meat, poultry, and fish were introduced after the age of 8 months to their children (Koksal et al., 2015).

A study done in rural Utter Pradesh (Kumudha *et al,* 2010) on lactating mothers of children aged 6-23 months findings revealed that only 30% fed their children on at least three types of food. Another study by Masresha *et al* (2013) on the feeding patterns and stunting during early childhood in rural communities of Ethiopia, results showed that 86% of mothers fed their children on 4 varieties of food.

A study by Qiong *et al* (2013) in Wuyi county, China, findings revealed that mothers' dietary diversity among children aged 6-23 was quite poor as only one out of ten children (10.0%) was fed with foods from at least four food groups. Similarly, a study by Nisha (2012) on inadequate feeding of infants and young children in India revealed that although 92% of children were between the ages 12 and 18 months, only 17% of them were fed adequately from four or more food groups.

Betal et al., (2010) in their study found that certain foods were excessively consumed by infants in Lebanon. In that study, findings revealed that, mothers in rural areas fed their children with more fruits and vegetables but less meat, whereas mothers in urban areas offered lesser fruits and vegetables but gave more meat to their children. The researchers reported that avoidance of consumption of meat, poultry, and fish may influence the optimal growth of children in Lebanon.

In a study conducted on 400 mothers visiting a hospital in Dhaka, Bangladesh it was found that 51.3% of mothers initiated CF at 3 months. The type of first complementary food given to the child was inappropriate as reported in 72.9% mothers and 43.8% had inappropriate frequency of complementary feeding. Rice gruel with milk was the first complementary food used by 26.56% of mothers indicating very early initiation of animal milk in the diet of infants (Rudra et al, 2014).

According to a study in South Africa by Mushaphi et al, (2013), findings revealed that majority of lactating mothers offered at least 3 varieties of food which included both animal and plant protein. In another study in Malawi it was reported that 65% of mothers with

children aged 6-24 months gave their children at least 3-4 food varieties including fruits and vegetables (Paul et al, 2013).

In Uganda, a study conducted in the western part of the country, the researchers used structured questionnaires to collect information regarding 7 food items to assess the nutritional diversity of complementary foods introduced to infants. According to Isingoma,et al, (2016) findings showed that the low level of education of mothers was the key driving factor to influence the practice of nutritionally diverse foods among mothers. The study concluded that 41% of children had access to 4 or more foods, about 50% of children either relied on millet porridge or family foods. The utilization of poultry, fish, dairy, and fruits was at a minimal level among mothers. The study concluded that parents need to utilize locally available foods to increase the appropriate practice of nutritionally diverse complementary foods for the prevention of the consequences malnutrition (Isingoma et al., 2016).

2.3.4 Feeding utensils

Complementary foods should be given using a spoon and cup/ glass (PAHO/WHO, 2013). Baby feeding bottles should be avoided because, in addition to being an important source of contamination for the infant, they interfere with oral dynamics of the child (WHO, 2011).

In India, a study carried out on complementary feeding utensils by mothers, findings showed that, 86% of mothers used a cup and spoon to feed their children. The findings revealed that lactating mothers avoided feeding bottles during child feeding and the reason they gave was inability to appropriately clean the feeding bottles (Sethi *et al.*, 2013). However, in another study by Shamin et al (2016), about infant feeding practices including the use of feeding bottles from economically underprivileged mothers in a Peri-urban area of Karachi, Pakistan, results showed that only 17% of the infants under the age of 3 months were offered bottle feeding.

2.3.5 Quantity of CF

In South Asian country of Nepal, a study carried out among lactating mothers of children aged 6-24 months, about half of them fed their children with an appropriate consistency of food. Whereas 60% fed the correct amounts of CF to their infants, 33.27% followed the appropriate frequency of complementary feeding, but 9.9% offered CF to infants more frequently than recommended (Chapagain RH, 2013). In a hospital-based study from Sri

Lanka, results showed that 48% of mothers were giving satisfactory quantities of CF to their children, 17% of the mothers were following the appropriate frequency, while 9% of them were giving satisfactory quality. (Danasuriya et al, 2013).

According to a study on complementary feeding practices in developing countries, only half of mothers of 6 to 8 months old children give the required amount of complementary foods to their children. (Arabi et al, 2012). In that study researchers reported that most lactating mothers are likely to give their children food quantities based on the child's age and weight.

In a study by Isingoma et al, (2016), findings revealed that most lactating mothers in Uganda do not measure the amount of food they give to their children but practice demand feeding. In that same study, the researchers revealed that the most common foods offered to children before six months were water, cereal, traditional medicine and dry tea. However, in another study, researchers revealed that more than 60% of the mothers did not know that adding oil to complementary food could improve its nutrient content (Wamani et al 2015).
Nankumbi et al, (2015), in their study in one of the rural areas in Mukono, reported that most of the mothers start weaning their children at 6 months with porridge made from maize, millet or cassava flour. However, in that study fewer mothers (<40%) continued with breastfeeding up to 24 months.

2.3.6 Age of introduction of CF

Oiong et al,(2013) reported in their study from three Asian countries that in China, mothers introduced additional food to their children as early as 4 months, whereas in Japan and Maldives mothers were introducing food 5 -6 months respectively. In the same study it was also reported that out of 100 mothers, about 60 of them introduced formula food, while 20 of them introduced cow's milk to their children between 6-12 months of age.

A cross sectional study to assess the practice of mothers having infants less than two years of age on complementary feeding (CF) in two low socio-economic communities of Karachi found out that 32.9% of the respondents had started complementary feeding at six months of age (Abdul et al, 2013).

Betal et al. (2010) analyzed the timing of introduction of complementary feeding foods for infants among mothers in Lebanon. The timing of introduction of complementary foods for

infants was influenced by the status of employment of women in Lebanon. The results of this quantitative research study highlighted that 21.9% of mothers introduced complementary foods for their infants at the age of 2 to 3 months and 63.5% of mothers introduced complementary foods at the age of 4 months. More than 60% of mothers introduced solid foods to their infants prior to the age of 6 months, and 90% of mothers gave different types of fluids to their infants at the age of 4 months Betal et al, 2010).

UNICEF (2014) applied a cross-sectional survey research study to determine the levels of knowledge, attitudes, and practices of mothers and their influence regarding early childhood development in Solomon Island. In this study, results showed that 52% of lactating mothers had introduced complementary foods to their children before the age of 6 months. Solid and semi-solid foods were introduced to infants at the age of 3 to 12 months, 34% of mothers introduced solid foods at the age of 6 months to their infants and 33% of mothers introduced solid foods to their infants at the age of 7 months. About 75% of mothers introduced complementary foods to their infants based on the advice they received from the doctors and other health workers visiting their houses. About 32% of mothers introduced complementary foods based on the advice from their grandmothers and their relatives (UNICEF, 2014).

In Nigeria, a study conducted on infant feeding practices revealed that 6 out of 10 mothers begin complementary feeding too early (at 2 months), and about 2 in 10 mothers begin too late (at 7 months). However, in a study, done in Limpopo Province, 16% of underweight infants were reported to have been introduced to solid foods within the first month of life (Mushaphi *et al.,* 2013).

According to the study by Isingoma et al., (2016), the researchers used a cross-sectional research study to analyze the patterns of morbidity and nutritional status of infant and young children aged 7 to 24 months in Uganda. The researchers found that 52.7% of the mothers introduced complementary foods at the age of 6 months and 36% of mothers introduced complementary foods to their infants after the age of 6 months. A small number of mothers (11.8%) introduced complementary foods to their infants at the age of less than 6 months.

2.3.7 Hygiene practices among lactating mothers

Contaminated complementary foods are the major route of transmission of diarrhea diseases among infants (MOPHS, 2017-2010) and the higher incidence of diarrhea coincides with the increase in the intake of these foods. Maternal practices regarding the management, preparation, administration and storage of complementary foods may reduce their contamination (Monte, 2013). Safe food hygiene practices include the following: proper hand washing with soap and water before and after preparation of food, after using the toilet and before serving meals. Older infants' hands should be washed likewise; kitchen utensils and cooking surfaces should be kept clean; a meal should be prepared and served immediately after preparation; the infant should be fed from a glass or cup, spoon and plate. Infants should not be given leftovers from the previous meal, and if using a fridge, it should be cleaned regularly and any spoilt foods should be thrown away (WHO, 2016).

A descriptive study conducted in Pakistan among lactating mothers regarding complementary feeding, findings revealed that 71.7% of mothers were not boiling drinking water, (Shazia et al, 2014). In a study done in India, it was revealed that majority of mothers, 71.1%, were not boiling drinking water and 86% used bottles for feeding their children (Mohsin et al, 2014).
In another study in India, it was found that only 11.3% of mothers washed hands and utensils properly before cooking the child's food indicating inappropriate practice by mothers regarding hygiene in preparing CF (Saleh et al, 2014).

Saleh et al, (2014) used a cross-sectional quantitative study to measure the practice of safe preparation and storage of complementary foods among mothers who had children less than 2 years of age in the Slum Areas of Dhaka City in Bangladesh. The researchers assessed mothers' hygiene practices during the process of food preparation and feeding as per the WHO's recommended guideline. The results showed that 17% of mothers washed their hands with soap and water after using the toilet, 65% did not boil drinking water while others did not wash child feeding utensils appropriately.

2.3.8 Continued BF

According to a study in Pakistan, findings revealed that 62.3% of mothers continued to breast feed their children in addition to complementary feeding until 2 years of age, 84% of mothers gave cow's milk along with breast milk (Shazia et al, 2014).

In Kenya, the median duration of breastfeeding is slightly longer in rural areas (21 months) than in urban areas (19 months), where shortest periods (15 months) of breastfeeding are reported in Nairobi Province (KNBS and ICF Macro, 2010). (Mukuria, et al, 2016).

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter covers the research design, study setting, study population, sample size, sampling procedure, inclusion and exclusion criteria, sampling instruments, data management, data analysis, ethical considerations, and limitations of the study and dissemination of results in relation to the study.

3.1 Study design

A descriptive cross-sectional study was used employing quantitative methods of data collection which includes a questionnaire with structured questions to facilitate elaborate discussions by respondents. This approach aimed at collecting data without manipulating the research variables or the respondents as it allows collecting information from different categories of respondents at once. Both qualitative and quantitative methods were used to source information. Quantitative and Qualitative methods were used because qualitative methods help to source experiences of respondents and key informants, while quantitative data was used to determine measures of central tendency such as percentages, ratios and chi-squares to establish relationships between variables.

3.2 Study setting

The study was carried out at Kateete health center II, Ntunda Sub-County, Mukono District. Kateete Health center II is about 35 kilometers from Mukono Town. The main economic activity among the residents of Kateete parish is farming and the main foods include matooke, cassava, beans, and maize. Kateete Health Center II was considered based on the fact that it was the only focal point where the researcher could easily access lactating mothers in a group as they came to receive family planning, postnatal and immunization services among others. Thus the researcher easily acquired reliable and dependable information.

3.3 Study population

All lactating mothers who had children aged 6-23 months and who came to receive maternal –child health services at Kateete Health Centre II were eligible for the study. In addition, interviews were conducted amongst key informants (health workers). The purpose of key informants' interviews was not to collect their knowledge, attitudes, practices or recommendations but rather to help the researcher identify the existing national policies,

guidelines and programs related to complementary feeding to complete the information-gathering process.

3.4Sample size determination

Sample size determination was aimed at obtaining a representative sample of the study population being studied. Since the study population was estimated to be 150, therefore the researcher employed Krejcie and Morgan (1970) formula to determine sampling size as follows

$S = X^2NP(1-P)/ d^2(N-1) + X^2P(1-P)$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (1.96^2=3.841). N = the population size. =150

P = the population proportion (assumed to be 0.50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (0.05).

Therefore

$S = 3.841X\ 150\ X\ 0.5\ (1-0.5)/ \{0.05^2(150-1) + 3.841X\ 0.5\ (1-0.5)\}$

= 144.0375/ 1.33545

= 107.856≈ 108

Thus out of a population of 150, a sample of 108 was considered.

3.5 Sampling Procedure

The procedure of selecting respondents involved compiling a sampling frame of target respondents. Using a systematic random sampling technique names of respondents were written on small pieces of papers then drawn in the bowl and shaken, afterwards the researcher randomly picked one by one until the required sample was obtained.

The study involved simple random sampling methods where lactating mothers were chosen from Kateete parish Ntunda Sub-County. A sample of 108 respondents was selected. Selection of the respondents was done by identifying every lactating mother who had a child between 0 and 24 months of age and willing to participate in the study. The researcher handled the mothers individually until the desired number was achieved.

3.6 Inclusion Criteria

Lactating mothers with infants aged 0 to 24 months of age, who were found at Kateete Health Centre II, and had been receiving maternal-child health services at the same health facility for more than one year. Participation eligibility was based on thorough crosschecking of child health cards for the target age group and the willingness of the mothers to participate in the study.

3.7. Exclusion Criteria

Lactating mothers of infants aged 0-24 months who were not receiving maternal and child health services from Kateete Health center 11 for more than one year were not considered for the study. Furthermore, lactating mothers of infants aged 0-24 months who were not willing to participate in the study due to personal reasons or ill-health conditions were excluded.

3.8 Study Variables

The research aimed at understanding the knowledge, attitude and practices of mothers towards complementary feeding. Therefore, according to the study, independent variables included the knowledge and attitude towards complementary feeding, and the dependent variable was complementary feeding practices.

3.9Data collecting tools/instruments

A structured questionnaire with face-to-face interviews was administered by the researcher. There was both open and closed ended questions, and the questionnaire was developed on the basis of literature review.

3.10Data collection procedures

Mothers' knowledge of specific infant and young child feeding issues were assessed using questions that were explained to her until she confirmed interpretation. Data was collected using a well-structured questionnaire which was completed during face-to-face interviews with the respondents. Data included information regarding participants' demographics, knowledge, attitudes, and practices towards complementary feeding.

3.11 Data quality control issues

In order to ensure collection of quality data, the study instruments were pre-tested on 5 eligible mothers (not among the final respondents), as a pilot study to test the reliability of the questions and the time needed to conduct an interview with each lactating mother.

In addition, the instruments were given to the supervisor from Clarke International University to ascertain their validity. After piloting the tools, they were reviewed to ensure that they captured reliable information and modified to improve clarity before undertaking the main study. The reviewed and modified tools were then used to collect data.

3.12 Data analysis

Data analysis was done manually through tallying, coding and editing. Raw data was cleaned and entered into the computer using Microsoft word spread sheet for frequent distribution tables and charts. Data analysis was also based on the response to the questions. Results were presented using frequency distribution tables, charts and graphs.

3.13 Ethical consideration

The researcher obtained a letter of introduction from Clarke International University which was used in the field while gathering data. Coupled to it, Prior permission from relevant authorities (LC1 Chairperson) of Kateete parish, Ntunda Sub-County, Mukono District was sought. A sample questionnaire was given to Kateete health center 11 Maternal- Child-Health (MCH) in-charge in order to clarify issues and obtain their co-operation.

Furthermore, the researcher established a rapport by trying to notify them about the subject of the research and the aims and benefits of the study. Finally, informed verbal consent was sought and respondents were assured of confidentiality of their responses and the right to refuse to partake in the study. This was not in any way going to affect their right to receive services at the health facility. Individual identification was not used in this study. There was guaranteed anonymity of the respondents thus their names were not recorded for confidentiality purposes.

3.14 Dissemination of results

A research report was compiled and copies disseminated to: Clark Internal University formerly International Health Sciences University (IHSU) for award of a Bachelor's Degree in Nursing sciences, Supervisor to avoid duplication, the administration of Mukono District for reference and allowance to carry out my research and a copy for the researcher.

CHAPTER FOUR: PRESENTATION OF RESULTS

4.0 Introduction

This chapter presents the results of the study according to the study objectives. Results are presented in tables and figures and explained details in texts. For most findings, tables have been used in the presentation of the gathered information. A total of 108 respondents were interviewed during the period of data collection yielding 100% response rate.

4.1 Socio Demographic Information

Table 1: Socio-demographic information of the study respondents

Variables	**Frequency n**	**Percentage %**
Maternal age		
18-29	**80**	**74.1**
30-39	**26**	**24.1**
≥40	**2**	**1.9**
Marital status		
Married	**84**	**77.7**
Single	**24**	**22.2**
Mothers religion		
Christian	**14**	**13.0**
Muslim	**19**	**17.6**
Protestant	**25**	**23.1**
Catholic	**50**	**46.3**
Number of children in the family		
1-2	**70**	**64.8**
More than 2	**38**	**35.1**
Child's age		
0-6 months	**80**	**74.1**
6-12 months	**26**	**24.1**
13-24 months	**2**	**1.9**
Highest educational level		
No formal education	**26**	**24.0**
Primary education	**61**	**56.5**
Secondary education	**18**	**16.7**
Tertiary education	**3**	**2.8**
Employment		
Peasant farmer	**90**	**83.3**
Employed (self)	**14**	**13.0**
Unemployed	**4**	**3.7**

Table 1 above indicates that majority of the respondents were in age the range of 18 to 24 years 74.1% (80/108), 77.7%(84/108) were married while 46.3% (50/108) of them were Catholics, Most 64.8% (70/108) of the respondents had 1-2 children and 71.4% (80/108) of these children were between the age of 0-6 months. The highest level of education attained by

the participants 56.5% (61/108) was primary education and most of them were peasant farmers 83.3% (90/108).

4.2 Knowledge about complementary feeding among lactating mothers

4.2.1 Respondents' knowledge about complementary feeding

Table 2: Showing the respondents' knowledge about complementary feeding

Variables	**Frequency n**	**Percentage %**
Frequency of breastfeeding		
On demand	**108**	**100.0**
Duration of exclusive breastfeeding		
Less than six months	**12**	**11.1**
For Six months	**96**	**88.9**
Continued breastfeeding in addition to complementary feeding		
Before 24 months	**49**	**45.4**
Till 24 months	**59**	**54.6**
Source of information on child's feeding		
Family members	**44**	**40.7**
Medical staff	**31**	**23.1**
Media	**25**	**28.7**
Traditional birth attendant	**6**	**5.6**
Other	**2**	**1.9**
Child's main meal should be a mixture of many food items from grains/cereals, meats/eggs/poultry, fish, legumes, roots/tubers, fruits/vegetables, fats/oils		
Yes	**75**	**69.4**
No	**33**	**30.6**
Fruits and vegetables like carrots, mangoes, pawpaw and green leafy vegetables are suitable complementary foods		
Yes	**76**	**70.4**
No	**32**	**29.6**
A mother or a caregiver should assist a child to eat until 2 years		
Yes		
No	**82**	**75.9**
	26	**24.1**
Frequency of complementary feeding (number of feeding times)		
1	**6**	**5.6**
2	**20**	**18.5**
3	**43**	**39.8**
4	**37**	**34.3**
5	**2**	**1.9**
Breastfeeding should be continued up to 2 years and beyond		
Yes	**35**	**32.4**
No	**51**	**47.2**
Not sure	**22**	**20.4**

All 100% (108/108) of the respondents knew that the baby should be breastfed on demand and most of them 88.9% (96/108) exclusively breastfed their babes for six months. Majority

54.6% (59/108) of the respondents continued breastfeeding after introduction of complementary feeding. Regarding sources of information on exclusive breastfeeding, most 40.7% (44/108) heard of it from family members. About seven in every ten 69.4% knew that a child's main meal should be a mixture of a variety of foods. Most 70.4% (76/108) of the respondents knew that fruits and vegetables are suitable complementary foods, three quarters (82/108) had knowledge that a child should be assisted to eat until 2 years of age, 39.8% (43/108) of the respondents knew that a child should feed 3 times a day, while 47.2% (51/108) had an idea that breastfeeding should be continued up to 2 years and beyond.

4.2.1 Respondents' knowledge on initial time of breastfeeding

Figure 2: Showing knowledge of lactating mothers about time of initiation of breastfeeding after birth

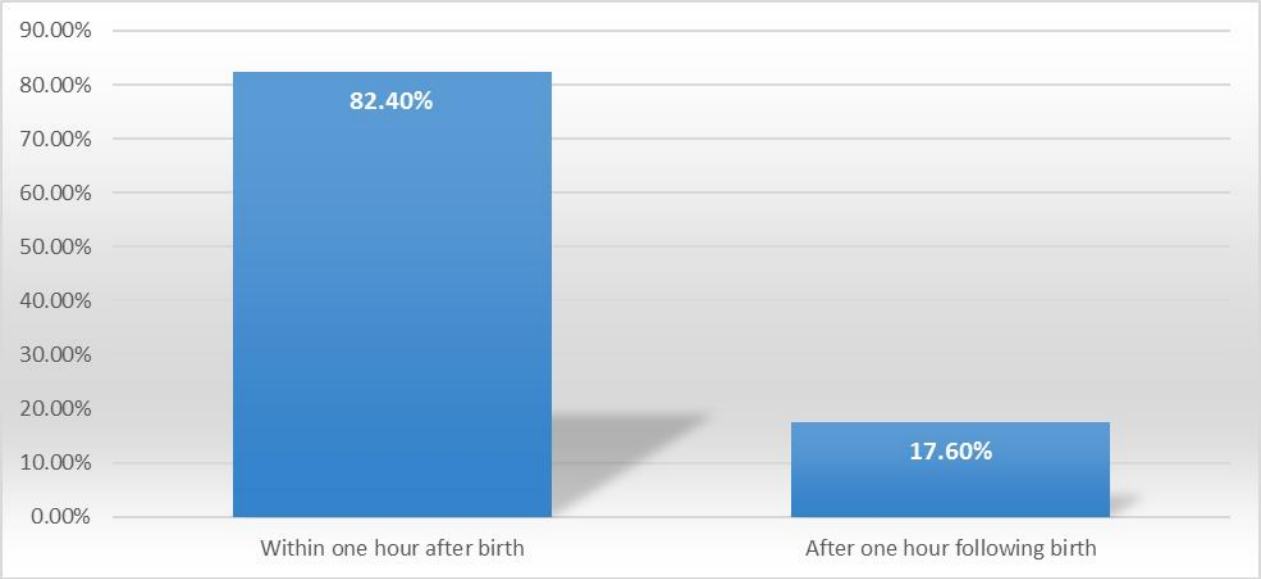

Figure 2 above indicates that most 82.4% (89/108) of the respondents knew that breastfeeding should be initiated within an hour after birth.

4.3 Attitude of lactating mothers towards complementary feeding

4.3.1 Respondents' attitude towards complementary feeding

Table 3: Showing the respondents' attitude towards complementary feeding

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)
It is not possible for a baby to survive on breastfeeding for six months.	**0(0%)**	**0(0%)**	**12(12.0%)**	**14(13.0%)**	**81(75.0%)**
It is important to give the baby some water, honey and other solid foods during the first six months after birth.	**3(2.8%)**	**8(7.4%)**	**22(30.6%)**	**72(66.7%)**	**3(2.8%)**
Malnutrition is caused by witchcraft and evil eye	**0(0%)**	**17(15.7%)**	**31(28.7%)**	**58(53.7%)**	**2(1.9%)**
Some foods are too heavy for the children to digest e.g. eggs.	**12(11.1%)**	**53(49.1%)**	**26(24.1%)**	**12(11.1%)**	**5(4.6%)**
Feeding should be stopped during illness.	**0(0%)**	**15(13.9%)**	**32(29.6%)**	**47(43.5%)**	**14(13.0%)**
Complementary food is vital for child development	**73(67.6%)**	**17(15.7%)**	**13(12.0%)**	**5(4.6%)**	**0(0.0%)**
Exclusive breast milk is enough for the child before six month	**71(65.7%)**	**22(20.4%)**	**13(12.0%)**	**2(1.9%)**	**0(0.0%)**
High level of maternal education for initiation of CF is vital	**39(36.1%)**	**35(32.4%)**	**19(17.6%)**	**15(13.9%)**	**0(0.0%)**
Children should eat from the family pot from 1 year onwards.	**58(53.7%)**	**34(31.5%)**	**14(13.0%)**	**2(1.9%)**	**0(0.0%)**
Feeding bottles are the best option for feeding children who have refused to breastfeed	**49(45.4%)**	**46(42.6%)**	**11(10.2%)**	**2(1.9%)**	**0(0.0%)**

The table above shows that most 75% (81/108) of the respondents strongly disagreed that it is not possible for baby to survive on breastfeeding for six months, 66.7% (72/108) also disagreed that it is important to give the baby some water, honey and other solid food during the first six months after birth, similarly 53.7% (58/108) also disagreed that malnutrition is caused by witchcraft and evil eye. Forty nine percent (53/108) of the respondents agreed that some foods are too heavy for children to digest, whereas 43.5% (47/108) disagreed that feeding should be stopped during illness. Majority 67.6% (73/108) of the respondents strongly agreed that complementary feeding is vital for child development, while 65.7% (71/108) of them also strongly agreed that exclusive breastfeeding is enough for the child before six months. Whereas 36.1% (39/108) strongly agreed that high level of maternal education for initiation of CF is vital. majority 53.7% (58/108) of the respondents strongly agreed that children should eat from the family pot from I year onwards, 45.5% (49/108) of them also strongly agreed that feeding bottles are the best option for feeding children who refused to breastfeed.

4.4 Complementary feeding practices among lactating mothers

4.4.1 Respondents' complementary feeding practices

Table 4: Showing the complementary feeding practices of the respondents

Variables	Frequency n	Percentage %
Age at complementary foods initiation		
Before six months	**63**	**58.3**
At six months	**45**	**41.7**
If introduced earlier than six months, reasons		
Baby was crying a lot	**4**	**6.3**
Work	**24**	**38.1**
Mother didn't have enough breast milk	**27**	**42.9**
Illness	**6**	**9.5**
Others	**2**	**3.2**
Still breastfeeding		
Yes	**92**	**85.2**
No	**16**	**14.8**
At what age of the child did you stop breastfeeding?		
0-6 months	1	**6.3**
6-12 months	13	**81.3**
12-23 months	2	**12.5**
Reasons for stopping breastfeeding before twenty four months		
Mother HIV positive	**10**	**62.5**
Insufficient breast milk	**6**	**37.5**
Add anything to the child's food when preparing it or after cooking?		
Yes	**39**	**36.1**
No	**69**	**63.9**
How many times per day do you feed your child?		
2	**12**	**11.1**
3	**55**	**50.9**
4	**39**	**36.1**
5	**2**	**1.9**
Feeding utensils used		
Bottle	**32**	**29.6**
Cup	**39**	**36.1**
Spoon	**37**	**34.3**
Hand and plates	**23**	**21.3**
Boil drinking water		
Always	**8**	**7.4**
Sometimes	**10**	**9.3**
Never	**90**	**83.3**
Wash your hands with soap before feeding the baby		
Yes	**70**	**64.8**
No	**38**	**35.2**
Child's caretakers		
Mother take her child with her	**98**	**90.7**
Grand mother	**10**	**9.3**
Childs feeding during illness		
Less	**31**	**28.7**
Same	**46**	**42.6**
More	**31**	**28.7**

Table 4 above indicates the complementary feeding practices among lactating mothers: Majority 58.3% (63/108) of the respondents initiated complementary feeding before six months but 85.2% (92/108) of these were still breastfeeding, eighty one percent 81.3% (13/16) of the respondents who were no longer breastfeeding had stopped between 6-12 months and of these 62.5% (10/16) had stopped breastfeeding because the mother was HIV positive and on ART. Most 63.9% of the respondents did not add anything to the child's food when preparing it or after cooking while half 50.9% (55/108) of the respondents fed their children three times a day. Majority 36.1% (39/108) of the respondents fed their children with a cup, 83.3% (90/108) of them never boiled drinking water but 64.8% (70/108) washed their hands with soap before feeding the baby. Nine in every ten (98/108) of the respondents took the baby with them whenever they travelled and 42.6% (46/108) of the respondents said that a sick child should be fed the in the same way as a normal healthy child.

CHAPTER FIVE: DISCUSSION OF RESULTS

5.0 Introduction

This chapter discusses the research findings in relation to the problem statement, literature review of studies conducted elsewhere and in line with the specific study objectives. It also explains the obtained results from the study.

5.1 Knowledge on complementary feeding practices

The study found that all the respondents had heard of complementary feeding and 40.7% of the respondents heard it from family members, 28.7% from media, 23.1% from health workers and 5.6% from TBA. This is in line with Mugo et al, (2013) who found that 81.2% of mothers had received information on CF from their relatives. This is because all the respondents were lactating mothers who knew something about CF from their family members and health workers. This implies that there is established means of delivering information regarding CF to lactating mothers to ensure appropriateness of the information.

The study found that 39.8% and 34.3% of the respondents knew that complementary feeding should be done three to four times respectively. This is in line with Shazia et al, (2014) who found that 52.9% of mothers knew that complementary feeding should be at least thrice a day, although 37% considered twice a day was enough. In addition, World Health Oragnization, (2010) also recommends that children be fed at least 2 times daily between 6-8 months, and at least 3 times for children between 9-12 months. This is probably because mothers were informed on the number of times the child should be fed a day during their visits to the health facility. However, Paul et al, (2014) found that almost all aspects of appropriate CF were lacking in mothers from five countries. The difference in the study finding could probably be because of the difference in the study setting. Whereas this study was done in one country, the comparative study was done in five different countries. This implies that there is need to increase in sensitization on CF in all nations.

The study found that 47.2% of the respondents knew that breastfeeding should be continued up to 2 years and beyond. This is in line with UNICEF, (2014) report where 66.3% of lactating mothers knew that they should breastfeed for at least two or more years.

The study found that 82.4% of the respondents knew that breastfeeding should be initiated within one hour after birth and also continued till two years. This is probably because most of the mothers attended ANC and delivered at a health facility where they are offered health education on infant feeding. Similarly, Subedi*et al*. (2012) reported that 81% of mothers had knowledge that in as much as complementary feeding is initiated at six months, breast feeding should be continued till 2 years and beyond. This is probably because some of the mothers attended ANC and got the appropriate information regarding BF and CF. This implies that women should be encouraged to deliver from health facility and attend ANC regularly as well in order to receive the appropriate information about child feeding.

The study found that 88.9% of the respondents knew that one should breastfeed for six months before introducing any other food to the child. This is due to the fact that they were informed about the breast feeding practices for the child. This is in line with Berisha et al, (2017) who found that 88.4% of respondents had good knowledge of complementary feeding, while only 38.4% of the mothers had good practices regarding time for starting complementary feeding. Similarly, Shazia et al, 2014) also stated that about 60% of lactating mothers considered 4-6 months appropriate to start complementary feeding, whereas about 30% considered <4 months optimal time to start complementary feeding. In addition, Mehwish *et al.*, (2017) found that more than half of the mothers knew the correct time of initiation of complementary feeding but less than 40 practiced it. Mohmood, Srivastava, Shrotriya, & Mishra, (2012) found that about 26% of mothers did not have knowledge regarding the right time of introduction of complementary foods to their infants. This still implies that women and the community need to be health educated on infant feeding practices both during Pre-natal, Ante-natal, and Post-natal care.

5.2 Attitude towards complementary feeding practices

In the study, 49.1% of the mothers strongly agreed that some foods such as eggs are too heavy for the children to digest. This could probably be because of the misinformation and cultural beliefs held by the community. This is supported by Hellen Keller International (2010) who indicated that 28% and 42.1% of mothers had the perception that children of 6-12 months should not be fed on eggs and flesh meats, this translated to only 2.1% and 4.4% of their children being fed on eggs and flesh meats respectively. This implies that mothers should be encouraged to attend ANC during pregnancy in order for them to acquire the right and vital information regarding child feeding especially the nutrient contents of various foods from trained health workers.

The study found that 43.5% believed that feeding should not be stopped during illness. This is probably because these mothers have received information about home management of childhood illnesses and the feeding of a child during illness. This is in line with Mohsin et al, (2014) who reported that a sick child should be given more feeds during illness. In addition, Pantenburg, Ochoa, Ecker, and Ruiz (2014) found that 72% of the mothers either discontinued or gave lesser foods to their children during the episodes of diarrhea. About 22% of study participants believed that feeding children during illness is harmful. About 40% of the caregivers withheld giving fruit and vegetables to their children during the episodes of diarrhea. This implies that providing health education to mothers may create positive behaviors of promoting complementary and appropriate feeding practices during and after illnesses in children.

The study found that 67.6% of the respondents strongly agreed that complementary feeding is vital for child development. This is because respondents knew that at some point the breast milk alone is not enough for the child hence some foods have to be introduced to the child to enhance growth and development. This is in agreement with Mohsin et al, (2014) who noted that Early introduction of complementary feeds is coupled with unhygienic preparation and storage conditions which predispose many infants to diarrhea and inadequate diets causing a negative impact on growth and development. This implies that beside the knowledge on the CF there should be specific information on its importance and how it should be done during the growth of the child.

5.3 Complementary feeding practices

In the study, 58.3% of the respondents introduced complementary foods before 6 months. This is because the mothers believed that breast milk alone is not enough for the baby. This is line with Chambers *et al.*, (2016) who found that 7 out of 10 mothers had started weaning their infants by 5 months of age. Similarly, Lindsay, Le and Greaney, (2018) who revealed that only 3 out of 10 mothers had breastfed up to 6 months. Similarly, Stewart *et al.*, (2013) who revealed that at 4 months and 6 months of age, 47% and 91% of the infants, were introduced to complementary foods respectively. In addition, Betal et al. (2010) who found that 21.9% of mothers introduced complementary foods for their infants at the age of 2 to 3 months and 63.5% of mothers introduced complementary foods at the age of 4 months.

Over 60% of mothers introduced solid foods to their infants prior to the age of 6 months and 90% of mothers gave different types of fluids to their infants at the age of 4 months. Mushaphiet *al., (*2013) revealed that about 43.2% of the infants had been introduced to foods at the age of three months, 18.9% at four months and above and 15.2% at two months and below. This implies that mothers should be health educated about their own feeding practices in order to boost breast milk production for the baby up to six months before introduction of complementary foods.

The study revealed that 50.9% respondents fed their children three times with CF, 36.1% did it four times. This is probably because most of the mothers were health educated on CF during ANC making them informed on frequency on CF. This is inconsistent with Paul et al, (2014) who found that big proportion of mothers from the countries where their study was conducted fed their children with thin CF, others had inappropriate frequency of feeding CF, whereas some chose the wrong first foods or did not maintain adequate hygiene while preparing CF. Further, Kumudha et al, (2010) also found that children 6-8 months who were fed at least 2 times or more were 37.3%, and those 9-23 months old who were fed 3 times or more per day were 27.6%. A study done in rural Utter Pradesh and on the frequency of feeding showed higher number of children (63%) aged 6-23 months who were given the minimum recommended number of feeds. This calls for more information to the mothers and the community at large about the frequency of child feeding at specific age ranges.

The study found that 42.6% of the respondents said the child has the same feeding pattern during illness. This is probably because the mothers are encouraged to feed the child with plenty food and drinks during illnesses. This is inconsistent with Isingoma et al., (2016) who found that episodes of disease especially diarrhea influence the patterns of complementary

feeding practices among infants in Uganda. The researchers argued that diarrhea reduced dietary intake by more than 40% among infants in Uganda. This difference could be probably because of the study objectives in the two studies.

The study found that 69.4% of the respondents said that Child's main meal should be a mixture of many food items from grains/cereals, meats/eggs/poultry, fish, legumes, roots/tubers, fruits/vegetables, fats/oils. This is in line with Koksal et al., (2015) who stated that mothers introduced bread, rice, vegetables, and dairy before the age of 6 months and meat, poultry, and fish after the age of 6 months to their infants in Turkey. Similarly, (Kumudha*et al*, 2010) and Masresha*et al* (2013) found that diet diversity score for the study participants was two, where 86% of the children had dietary diversity below the minimum dietary diversity recommended by the WHO. However, Rudra et al, (2014) found that 51.3% mother initiated CF early, type of 1st CF was inappropriate in 72.9% mother and 43.8% had inappropriate frequency of CF. Rice gruel with milk was the first CF used by 26.56% mothers indicating very early initiation of animal milk in the diet of infants. The difference in the study finding could probably be because of the differences in the study settings. Whereas this study was at a low level health facility, the comparative study was hospital based. This calls for more knowledge through health education to the mothers during breast feeding and weaning.

The study found that 36.1% of the respondents used cups for feeding the baby. This is probably because this is the most available utensil and depending on the type of food given to the babies which is most times liquid in nature. This is consistent with Sethi*et al., (*2013) who stated that 86% of the respondents used cup and spoon to feed their child. This implies that mothers should be taught about the other feeding utensils like the plate which is used for semi-solid and solid foods.

The study found that 64.8% of the respondents washed their hands with soap before feeding the child while 83.3% never boiled their drinking water. This is probably because of the supervision done by the community health workers on mothers and checking on their feeding practices. The high percentage (83.3%) of consuming unboiled water could be because most of them use borehole water which is perceived as safe for drinking without boiling. This is supported by Shazia et al, (2014) who revealed that 71.7% mothers were not boiling drinking water. Similarly, (Mohsin et al, 2014) also found that 71.1% of respondents were not boiling

drinking water and 86% used bottles for feeding. In addition, Saleh et al, (2014) noted that only 11.3% of mothers washed hands and utensils properly before cooking CF indicating inadequate knowledge regarding hygiene for preparing CF in mothers. This implies that promoting safe preparation and practice of complementary foods as per the WHO's standards is important to promote hygiene and appropriate complementary feeding practices.

In the study, 85.2% of the respondents were still breastfeeding after introduction of CF. This is because the mothers knew that CF is in addition to the breast milk insufficiency as the child grows older hence, the need to continue BF. This is in line with Shazia et al, (2014) who found that 94.2% of the mother continued to breast feed their children after starting complementary feeding, 62.3% mothers continued breast feeding till 2 years of age, 84% mothers gave other supplementary milk products along with breast milk and 86%)of them used feeding bottles. This implies that lactating mothers should be informed about the benefits of continued breastfeeding which contributes significantly to the overall nutrient intake. Breast milk offers most of the energy requirements of the child and remains an important source of vitamin A and C, as well as essential fatty acids and can provide to their total energy needs.

CHAPTER SIX: CONCLUSION AND RECOMMENDATION

6.0 Introduction

This chapter deals with the brief summary of the steps taken in the study, conclusions, study findings and implications to health workers and recommendations.

6.1 Conclusions

The study found that 100% of the respondents knew that the baby should be breastfed on demand, 88.9% of the respondents exclusively breastfed their baby for six months, 54.6% of the respondents continued breastfeeding after introduction of complementary feeding, 69.4% knew that child's main meal should be a mixture of foods. Most 70.4% of the respondent's knew that fruits and vegetables are suitable complementary foods, three quarter 75.9% of the respondents said mother should assist a child to eat until 2 years which in all shows good knowledge.

The study found that 75% of the respondents strongly disagreed that it is not possible for baby to survive on breastfeeding for six month, 66.7% of the respondents disagreed that it is important to give the baby some water, honey and other solid food during the first six months after birth and 65.7% of the respondents strongly agreed that exclusive breast milk is enough for the child before six month.

The study shows that there is poor CF practices when the study indicated that 58.3% of the respondents initiated complementary before six months. 85.2% of the respondents were still breastfeeding while 81.3% of the respondent who were not breastfeeding stopped breastfeeding at 6-12 months, 64.8% washed their hands with soap before feeding the baby and 90.7% of the respondents travelled with their baby whenever they went.

Most of the mothers gave their children dry tea, bananas (commonly known as *matooke*), posho and beans without adding nutritious food such as silver fish (commonly known as *mukene),* soya porridge, millet porridge fruits and vegetables which leads to insufficient nutrients to the children hence, malnutrition.

6.2 Recommendations

From the findings of the study, we therefore recommend the following;

Messages on the promotion of appropriate IYCF practices by the Ministry of Health and other organizations dealing with child health should emphasize: appropriate feeding of the sick child and those recovering from illness; the importance of dietary diversity and frequency of feeding especially for non-breastfed children, to improve child's growth and health.

The Ministry of Health and Organizations involved in child health issues should explore factors which influence mothers' knowledge on complementary feeding hence child nutritional status with a view of taking appropriate action to improve complementary feeding practices. Positive cultural beliefs on complementary feeding practices should be encouraged and negative ones discouraged.

The study recommends that accurate information and education should be given to mothers and caregivers about appropriate timing of initiating CF, CF foods, preparation and practices to prevent malnutrition and improve the health status of the children.

Mobilize more experienced mothers to mentor new mothers and help reinforce messages given by health workers by health workers about CF.

Collaborate with Food Security and Livelihood actors to strengthen nutrition messages and reduce practical barriers to increasing dietary diversity.

Women were more likely to have favorable KAP scores, suggesting the need to target men with the similar messages.

Empowering women in terms of formal education as seen in the current study, education positively enhances the correct timing of initiation of complementary feeds.

Health workers during the ANC, child welfare and nutritional clinics should educate mothers, enhance positive cultural beliefs on exclusive breastfeeding and complementary feeding practices in the community, and discourage the negative beliefs and practices in the county as identified in the study.

Complementary feeding education targeting behavioral change especially among young, single and uneducated mothers in developing countries is important to reduce child morbidity and mortality.

It is recommended that nutrition education interventions need to focus on enhancing mothers' awareness about complementary infant feeding, with emphasis on importance of introducing complementary foods at the age of 6 months to every child, meal frequency (2 to 3 meals at the age of 6 to 8 months, 3 to 4 meals at the age of 9 to 11 months, and 4 meals plus 1 or 2 snacks in addition to breast milk at the age 12 to 24 months). The principles of food diversity (grains, vegetables, fruits, meats, dairy products, nuts, oil, animal fat, chocolate, and sweet foods), and principles of responsive feeding (the mother keeps eye contact and talks to her child while feeding him/her, the mother encourages her child to eat by offering a reward, , the mother gives her child a dessert when she eats his/her food, the mother offers another food when her child refuses to eat his/her food or other strategies that persuade a child to eat her/his meal) at the community and household levels in Uganda.

Educating girls and women would turn out to have long-lasting impacts on health and nutrition of children in Uganda. Educating a woman can be seen as impactful as educating the entire family.

Further research

There is need to conduct a longitudinal study to establish the whole array of factors that influence complementary feeding practices and over a period of time since this study only focused on mothers' knowledge, attitudes, and attitudes.

The future studies should work on identifying other factors that are associated with low knowledge and feeding practices of mothers.

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APPENDIX I: INFORMED CONSENT FORM

Study Title: Knowledge, attitude and practices of lactating mothers towards complementary feeding at Kateete Health Centre II, Ntunda sub-county, Mukono district.

Investigator: Wanyenze Rita

Introduction

My name is Wanyenze Rita. I am currently a BNS student in the Clark International University formerly International Health Sciences University, School of Nursing. I would like to request you to participate in my research study. The purpose of this study consent form is to give you information you will need to help you decide whether to participate in the study. Please read or listen to this form carefully. You are free to ask any questions about the study. The investigator will be available to answer any questions that arise during the study and afterwards.

PURPOSE OF THE STUDY

To explore the knowledge, attitude and practices of lactating mothers towards complementary feeding at Kateete Health Centre II, Ntunda sub-county, Mukono district in order to reduce the morbidity and mortality among the under-five children.

STUDY PROCEDURE

If you agree to participate in the survey, the researcher /research assistant will ask you some questions about the way you have been feeding your child. These will take about fifteen (15) minutes.

CONFIDENTIALITY AND PRIVACY

Any information you provide including you and/or your child's identity will be treated with utmost confidentiality. The information will only be used only for the purpose of this study.

BENEFITS

Nutritional advice will be given to you on how to feed your child/children free of charge after the interview.

RISK OF THE STUDY

No invasive procedures will be carried out on you or your child as part of the study meaning there is no risk involved in participating in this study.

VOLUNTARISM

Participation in this study is voluntary and you are free to withdraw from the study if you wish without any penalty.

COMPENSATION

No compensation will be offered for participation in the study.

CONTACT INFORMATIONS

If you have any questions about the study or your participation in the study now or later you may contact:

Principal Investigator: Wanyenze Rita Tel: 0772902696, Email: wanyenzerita@yahoo.com

Mother No…….

CONSENT FORM

I have understood the study aim and procedures. I do hereby agree and give permission to be included in this study as explained to me. I understand that I can withdraw from the study at any stage and that this will not affect me/ my child in any way.

Mother's signature……Date……...……

Researcher's signature……Date…….……....

APPENDIX II: QUESTIONNAIRE

Instructions to the interviewer

Ensure that the respondent has understood clearly all the pertinent details of this study by answering all her questions before taking consent.

Study Title: Knowledge, attitude and practices of lactating mothers towards complementary feeding at Kateete Health Centre II, Ntunda sub-county, Mukono district

Investigator: Wanyenze Rita

SECTION A: SOCIO DEMOGRAPHIC INFORMATION

1. Mother's age (years)……
2. Marital status:

   Single ☐ Married ☐ Separated ☐ Divorced ☐ Widowed ☐

3. Mothers religion:

   Christian ☐ Muslim ☐ Protestant ☐ Catholic ☐

   Others specify

   ……..
4. Number of children in the family……
5. Current child's age

   ……..…….
6. What was the highest educational level you attained?

   No formal education ☐ Primary education ☐

   Secondary education ☐ Tertiary education ☐
7. Employment:

   Employed (formal) ☐ Peasant farmer ☐ Employed (self) ☐ ☐

   Unemployed

SECTION B: KNOWLEDGE ON COMPLEMENTARY FEEDING

1. At what time should the newborn be initiated to breastfeeding?

   Within one hour after birth ☐ After one hour following birth ☐

   One day after birth ☐ I don't know/Not sure ☐

Other. Specify

…..……..

2. How often should you breastfeed your baby?

   On demand ☐ According to the timetable ☐ Not sure ☐

3. How long should you breast feed before giving other feeds? ……..months

4. After introducing other solid foods, how long should you continue breast feeding?

   ……...months or ……..years

5. What is your source of information on feeding your child?

   Family members ☐ Medical staff ☐ Media ☐ Traditional birth attendant ☐

   Other

   (specify)…….

6. A child's main meal should be a mixture of many food items from grains/cereals, meats/eggs/poultry, fish, legumes, roots/tubers, fruits/vegetables, fats/oils

   Yes ☐ No ☐

7. Fruits and vegetables like carrots, mangoes, pawpaw and green leafy vegetables are suitable complementary foods

   Yes ☐ No ☐

8. A mother or a caregiver should assist a child to eat until 2 years

   Yes ☐ No ☐

9. How many times should a child on complementary food be fed a day? .....

10. Breastfeeding should be continued up to 2 years and beyond

    Yes ☐ No ☐

SECTION C: ATTITUDE TOWARDS COMPLEMENTARY FEEDING

s/n	Statement	SA	A	N	D	SD
1	It is not possible for a baby to survive on breastfeeding for six months.					
2	It is important to give the baby some water, honey and other solid foods during the first six months after birth.					
3	Malnutrition is caused by witchcraft and evil eye					
4	Some foods are too heavy for the children to digest e.g. eggs.					
5	Feeding should be stopped during illness.					

6	Complementary food is vital for child development					
7	Exclusive breast milk is enough for the child before six month					
8	High level of maternal education for initiation of CF is vital					
9						
10	Children should eat from the family pot from 6 months onwards.					
11	Feeding bottles are the best option for feeding children who have refused to breastfeed					
12						

SECTION D: COMPLEMENTARY FEEDING PRACTICES

1. At what age did you start feeding the baby on complimentary foods?

   ……..…..

2. If introduced earlier than six months, what were the reasons for introducing complementary food?

   Baby was crying a lot ☐ Work ☐

   Mother didn't have enough breast milk ☐ Illness ☐

   Others (specify)

……..……..…..

3. Are you still breastfeeding?

   Yes ☐ No ☐

   If no, at what age did you stop breastfeeding your child? ……

4. What were the reasons for stopping breastfeeding before twenty four months?

   ……
   …

9. Describe the types and amounts of food eaten by the child in the previous 24 hour period……

10. Do you add anything to the child's food when preparing it or after cooking?

    Yes ☐ No ☐

    If yes specify what is added……..

11. How many times per day do you feed your child?…….…….

12. What feeding utensils do you use to feed the child?

Bottle ☐ Cup ☐ Spoon ☐

Others (specify) ……..…..

13. Do you boil drinking water?

Always ☐ Sometimes ☐ Never ☐

14. Do you wash your hands with soap before feeding the baby?

Yes ☐ No ☐

15. Who takes care of baby when you are away from home/work?

Mother takes her child with her ☐ Husband ☐ Older children ☐

Neighbours/friends ☐ Grandmother ☐

Other (specify).....

16. During illness does the child require less than usual to drink/eat, about the same amount, or

more than usual to drink?

Less ☐ Same ☐ More ☐

Thanks for your time

APPENDIX V: INTRODUCTORY AND CORRESPONDENCE LETTER

IHSU INTERNATIONAL HEALTH SCIENCES UNIVERSITY
sanitas per scientiam

making a difference in health care
Office of the Dean, School of Nursing

Kampala, 16th July 2018

TO: THE IN-CHARGE
KATEETE HEALTH CENTER II
MUKONO DISTRICT

Dear Sir/Madam,

RE: ASSISTANCE FOR RESEARCH

Greetings from International Health Sciences University.

This is to introduce to you **Wanyenze Rita** Reg. No. **2015-BNS-TU-013** who is a student of our University. As part of the requirements for the award of a Bachelors degree in Nursing of our University, the student is required to carry out research.

The topic of research is: **Knowledge, Attitude and Practices of Lactating Mothers towards complementary feeding at Kateete Health center II, Ntunda sub-county Mukono District.**

This therefore is to kindly request you to render the student assistance as may be necessary for the research.

I, and indeed the entire University are grateful in advance for all assistance that will be accorded to our student.

Recieved and permitted to collect data.
MABULYA KANYIKE OLIVER

Sincerely Yours,

IHSU INTERNATIONAL HEALTH SCIENCES UNIVERSITY
18 JUL 2018
SCHOOL OF NURSING
P. O. Box 7782, Kampala - Uganda

KATEETE HEALTH CENTRE II
NTUNDA SUB-COUNTY
MUKONO
DATE 16/7/2018

Ms. Agwang Agnes
Dean, School of Nursing

The International Health Sciences University
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