SOURCES, CONTENT, MATERNAL KNOWLEDGE AND PRACTICES ON EXCLUSIVE BREASTFEEDING AMONG MOTHERS WITH INFANTS (0-6 MONTHS) IN KIBERA SLUMS NAIROBI COUNTY, KENYA

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SEPTEMBER, 2016
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“This thesis is my original work and has not been presented for a degree in any other University.”

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DEDICATION

This work is dedicated to my sister Dr. Monica Mucheru-Muna; my parents Mr. John Wagema Mucheru and Hellen Waithira Mucheru for their commitment and sacrifice towards my education; to my wife Ann Wanjiru and son Ryan Mucheru.
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OPERATIONAL DEFINITION OF TERMS

Exclusive breastfeeding – This means giving a child no other food or drink including water, other than breast milk with the exception of medicines, vitamin drops or syrups and mineral supplements until the infants reaches six months (WHO, 2008)

Informal settlements/slums- Living condition in which a household lacks one or more of these conditions; access to improved water, access to improved sanitation facilities, sufficient living area not overcrowded, structural quality/durability of dwellings and security of tenure.

Breastfeeding practices- these includes ever breastfed the child, breastfeeding initiation, pre-lacteal feed given, post-lacteal feed given, introduction to food and breastfed within the last 24 hours

Post lacteal feed- this is giving food or drink to the infants after breastfeeding has been initiated with the exception of medicines, vitamin drops or syrups and mineral supplements until the age of five months

Source – A person, publication or a document that gives information on exclusive breastfeeding

Content – Refers to information and experiences that provide value for the target person. It can be expressed through medium such as speech, writing, demonstration or other mediums.
Information on breastfeeding – This refers to data that is received from relatives, media, TBA (traditional birth attendants), friends and some health workers can lead to an increase to understanding on breastfeeding

Maternal knowledge - Mothers understanding, information, awareness and familiarity about exclusive breastfeeding based on the guiding principles on exclusive breastfeeding.
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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>AMREF</td>
<td>African Medical Research Foundation</td>
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<tr>
<td>ANC</td>
<td>Antenatal Clinic</td>
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<td>BFHI</td>
<td>Baby Friendly Hospital Initiative</td>
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<tr>
<td>CHVs</td>
<td>Community Health Volunteer</td>
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<tr>
<td>CSPro</td>
<td>Census and Survey processing system</td>
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<td>DMOH</td>
<td>District Medical Officer of Health</td>
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<td>EBF</td>
<td>Exclusive Breastfeeding</td>
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<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>GOK</td>
<td>Government of Kenya</td>
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<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>IYCF</td>
<td>Infant and Young Child Feeding</td>
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<td>KDHS</td>
<td>Kenya Demographic Health Survey</td>
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<td>KNBS</td>
<td>Kenya National Bureau of Statistics</td>
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<td>KII</td>
<td>Key Informant Interview</td>
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<td>MCH</td>
<td>Maternal and Child Health</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
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<td>MIYCN</td>
<td>Maternal and Infant Young Child Nutrition</td>
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<tr>
<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>NACOSTI</td>
<td>National Commission for Science, Technology and Innovation</td>
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<tr>
<td>SPSS</td>
<td>Statistical package for social sciences</td>
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<tr>
<td>TBA</td>
<td>Traditional Birth attendants</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
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ABSTRACT

Exclusive breastfeeding (EBF) has been demonstrated to have numerous benefits both to the mother and the infant. Inappropriate feeding practices can have profound consequences for the growth, development and survival of infants and children. EBF protects infants against infections such as respiratory infections, diarrhoea and reduces the risk of the mother developing obesity, breast and ovarian cancer among others. Despite various efforts to promote exclusive breastfeeding, the rate in Kenya is still low at 61% though there has been major improvement. Various research findings have documented inadequate knowledge on exclusive breastfeeding as a contributing factor to the rate of exclusive breastfeeding. However, there is limited scientific data on the gap between the sources of information, content and maternal knowledge on exclusive breastfeeding in relation to exclusive breastfeeding of infants in Kenya’s urban slums. This study aimed to investigate the sources and content of maternal knowledge on exclusive breastfeeding among mothers with infants aged 0-6 months in Kibera urban informal settlements, Nairobi. The study adopted a cross-sectional analytical design and targeted 293 mothers-infant pairs who were selected using systematic random sampling. Simple random sampling was used to select ten health facilities where mothers from Kibera seek health services. A researcher-administered questionnaire was used to collect data on EBF. A key informant guide was administered to the nutritionists to elicit in-depth information on maternal knowledge on exclusive breastfeeding and information gap in relation to practice of exclusive breastfeeding. Focus group discussions (FGDs) were conducted with mothers in various health facilities to build up on the discussion. Data was entered using CS Pro software and analyzed using SPSS version 16 software. Results showed that more than a half (54.8%) of the mothers first learnt or heard about exclusive breastfeeding from the health professional, 30.5% obtained the information from relatives and friends while 2.1% obtained from television and mothers booklet respectively. Among the mothers who participated in the study, 57% reported that they had learnt about exclusive breastfeeding, 17% reported that breast milk improves immunity while 7% had learnt about proper attachment. The mean knowledge score for all mothers on exclusive breastfeeding was 7.70 ± 1.47 which was an indication that mothers were knowledgeable on exclusive breastfeeding. There was a significant association between sources and content received by the mothers (chi-square test; p=0.02). Moreover, there was a significant correlation between content and the knowledge scores among the mothers (Pearson correlation; r=0.93, p=0.01). There was no significant association between maternal knowledge and the mothers who ever breastfed their infants (chi-square test; P=0.93), maternal knowledge and breastfeeding initiation (chi-square test; P=0.75), maternal knowledge and mothers who gave pre-lacteal feeds (chi-square test; P=0.09), maternal knowledge and mothers who gave post-lacteal feeds (chi-square test; P=0.53), maternal knowledge and breastfeeding within the last 24 hours (chi-square test; P=0.19). However, There was a significant association between maternal knowledge and introduction to food by the mothers (chi-square test; P=0.01). The community needs to be more sensitized on EBF information. This will ensure that the friends/relatives or even the grandmothers are aware of the correct information on EBF therefore not misleading the nursing mothers.
CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

Exclusive breastfeeding is essential for neonatal and infant survival, health impact on child nutrition as well as child development. Epidemiological evidence indicates that exclusive breastfeeding in the first six months stimulates babies’ immune system and protects them from acute respiratory infections and diarrhoea, the two major causes of infant mortality in the developing world (Cai et al., 2012; UNICEF, 2006). Estimates show that 22% of newborn deaths are preventable if breastfeeding is started within the first hour after birth and 16% if breastfeeding started within the first 24 hours (Masson et al., 2013). Exclusive breastfeeding during the initial months of infants’ life and continued breastfeeding throughout the first year of life reduces the burden of infections (Fisk et al., 2010). Exclusive breastfeeding reduces infections and mortality among infants, improves mental and motor development, protects against obesity and metabolic diseases later in the life (Horwood et al., 2001; Jones et al., 2003; Langley-Evans, 2009).

Exclusive breastfeeding is reported to have short term and long term benefits to the mother. Early initiation of breastfeeding encourages the release of oxytocin which aids in the uterine contractions and reduces postpartum bleeding. Mothers who exclusively breastfeed also return to pre-pregnancy weight faster than those who use formula feed (Labbok, 2001). Mothers, who exclusively breastfeed enjoy some benefits such as natural form of birth spacing, reduce the risk of obesity, breast and ovarian cancer (Kumar, 2011). Due to the low levels of exclusive breastfeeding in Kenya, the Government is implementing various strategies aimed at improving child health. Some of these strategies include the introduction of the baby friendly hospital
initiative (BFHI) initiated by WHO and UNICEF in 2009 where there is implementation of ‘Ten steps to successful breastfeeding’ (UNICEF/WHO, 2009).

Approximately 6.9 million children under five years were reported dead globally in the year 2011. An estimated 1.45 million lives could have been saved by the practice of exclusive breastfeeding (Katara et al., 2011; UNICEF, 2010). Approximately 1.5 million infants die each year because of lack of adequate knowledge about exclusive breastfeeding benefits (Nguyen, 2009). Poor urban informal settlements present unique challenges concerning child health and survival (Kimani-Murage et al., 2011). These slums have characteristics such as poor environmental sanitation and livelihood conditions. Infants born in slums are reported to have high prevalence of morbidity and mortality rates than any other sub-group in Kenya including the rural areas (Kimani-Murage & Ngindu, 2007; UNHABITAT, 2003). However this may be reversed if the mothers have correct and adequate knowledge on exclusive breastfeeding and consequently practice EBF. However, according to a study done by Ukegbu among nursing mothers in Anambra state, Nigeria showed that mothers had adequate knowledge but, did not show significant association with the practise. This shows that factors other than knowledge about EBF influenced maternal decisions (Ukegbu et al., 2011).

Empowering women with knowledge enables them to make informed decision and therefore improve the rates of exclusive breastfeeding. Inadequate knowledge on the benefits of breastfeeding is one of the factors that hinder exclusive breastfeeding practices (LINKAGES, 2004; Ochola, 2008). According to a study done in Molo by Mututho (2012), majority of the mothers (74.2%) were documented to get their
information on exclusive breastfeeding from the health facilities. However, the rates of exclusive breastfeeding is still low at 61% (KDHS, 2014) despite the increase from 32% according to Kenya demographic health survey 2008-09 and hence the need for this study whose aim was to understand whether the information obtained from the health facilities is adequate and the influence it has and whether there are other avenues for the mothers to get information.

1.2 Problem Statement

Various studies done in urban slums have generated information on various factors affecting exclusive breastfeeding. Inadequate knowledge by the mothers has been documented as a contributing factor in Peri-urban slum in Kenya (Mututho, 2012). The Ministry of Health in Kenya has adopted various initiatives such as the Baby Friendly Hospital Initiatives (BFHI) to ensure that the rates of exclusive breastfeeding increases. The health workers in health facilities are also equipped with information on exclusive breastfeeding; though, according to a study carried out in three comprehensive health centres of Nnamdi Azikiwe University teaching hospital, Anambra state, some of the health workers were reported to have inadequate knowledge on EBF (Ukegbu et al., 2011).

Kibera slum is one of the slums found in Kenya. Some of the areas are not well accessible and the living conditions are poor (GOK, 2010). General awareness regarding optimal breastfeeding practices exists in urban poor settings. However, this knowledge is not always translated into practice, leading to sub-optimal breastfeeding practices. Women in urban poor settings face an extremely complex situation with regards to breastfeeding due to multiple challenges and risky behaviors often dictated
to them by their circumstances and context (Kimani-Murage et al., 2015); therefore, the need to conduct this study in Kibera slum. A study conducted in Kibera slum showed that exclusive breastfeeding was rare with over 65% of the mothers reported introducing post-lacteal feeds between the first day and five months of infant’s life (Maina, 2006). A two-year prospective study which was conducted in Kangemi found that by one month, 75% of the infants had received the post-lacteal feeds/fluids and by the fourth months, 94% had received post-lacteal feeds/fluids (Muchina and Waithaka, 2010).

Though mothers have some knowledge on exclusive breastfeeding, it is inadequate and for others not correct because of cultural influence. A mother in Kibera slum said, “I would not practice exclusive breastfeeding because it is obvious that a baby needs water just like adults do”, (Ochola, 2008). This indicates that regardless of the various initiatives which are being put in place, some mothers are not still practising EBF.

Various studies have been done on factors affecting exclusive breastfeeding; Mututho (2012), but few studies have been done on sources of information and the influence of maternal knowledge on the practise of exclusive breastfeeding and particular in the urban slums. This study therefore seeks to assess why the rates are still low (61%) despite the health facilities being equipped with trained staff and information regarding exclusive breastfeeding; considering that most of the mothers rely on health facilities as the main source of exclusive breastfeeding information in Kibera slum.
1.3 Purpose of the Study

The Purpose of the study was to investigate sources, content, level of maternal knowledge and practices on exclusive breastfeeding among mothers with infants aged 0-6 months in Kibera slum, Nairobi County.

1.4 Research Objectives

The study objectives were:

1. To establish the demographic and socio-economic characteristics of mothers with infants aged 0-6 months in Kibera slum.
2. To establish the sources and content of information received by mothers with infants aged 0-6 months on exclusive breastfeeding in Kibera slum.
3. To assess the level knowledge on EBF among mothers with infants aged 0-6 months in Kibera slum.
4. To determine exclusive breastfeeding practices among mothers with infants aged 0-6 months in Kibera slum.
5. To determine the relationship between knowledge levels and breastfeeding practices among mothers with children aged 0-6 months in Kibera slum.

1.5 Research Hypotheses

The study hypotheses were:

H₀₁ There is no significant relationship between sources and content of information among mothers with children aged 0-6 months in Kibera slum.

H₀₂ There is no significant relationship between content and knowledge levels of mothers with children aged 0-6 months in Kibera slum.
There is no significant relationship between maternal knowledge and breastfeeding practices among mothers with children aged 0-6 months in Kibera slum.

1.6 Significance of the Study

The findings of the study may be useful to the Ministry of Health (MOH) and other agencies working on child health and survival programmes. The findings of the study will facilitate re-orientation of the strategies on the promotion of EBF by also focusing on sources and content of information given to the mothers on exclusive breastfeeding and therefore this may contribute in raising the rate of exclusive breastfeeding in the area and other similar areas.

1.7 Delimitation of the Study

The study was carried out among mothers with children aged 0-6 months living in Kibera slum Nairobi County, Kenya and therefore the research findings can only be applied to other areas with similar characteristics.

1.8 Limitation of the Study

Maternal knowledge and practices are ideally described over a long period of time. Therefore the study being cross-sectional will not reveal if the relationship varies with time.

1.9 Conceptual Framework

Breastfeeding is a complex process involving various factors such as Contextual factors (employment policies, breastfeeding support); maternal factors (employment status, workload and knowledge on breastfeeding); socioeconomic and demographic factors (age, education, religion, marital status and poverty levels) and cultural factors
such as cultural breastfeeding practices (Figure 1.1). Sources of information on EBF and content on exclusive breastfeeding, knowledge on EBF, socio-economic and demographic factors and breastfeeding practices influences the mothers attitudes towards EBF and this in turn ultimately affects the practices on EBF. Knowledge level on exclusive breastfeeding is one of the factors that affect exclusive breastfeeding. According to a study done by Mututho (2012), knowledge was obtained from various avenues with the highest being obtained from health facilities (74.2%) whereas the others come from media, family members, mother to mothers among others.

Figure 1.1: Conceptual framework on factors affecting exclusive breastfeeding

Source: Adapted and modified from Ochola (2008)
CHAPTER TWO: LITERATURE REVIEW

2.1 Exclusive Breastfeeding

Exclusive breastfeeding means giving a child no other food, including no water, in addition to breastfeeding with the exception of medicines, vitamin drops or syrups and mineral supplements (WHO, 2000; WHO/UNICEF, 2003) until the age of six months. The World Health Organization (WHO) and United Nations Children’s Fund (UNICEF) jointly recommend that women exclusively breastfeed infants for the first six months and continue to breastfeed into second year of life or longer (Abba et al., 2010; KNBS & ICF macro, 2010).

2.2 Benefits of Exclusive Breastfeeding

2.2.1 Benefits of Exclusive Breastfeeding to the Infant

The first two years of life are essential for a child healthy growth and development. Any damages emanating from the nutritional deficiencies during this period might lead to low economic productivity, impaired cognitive development and compromised educational achievement (Grantham-McGregor et al., 2007; Victora et al., 2008). Breastfeeding is an unequalled way of providing ideal food for the growth and development of infants. Breastfeeding contributes to infant nutrition and health through a number of important mechanisms (Utoo et al., 2012). It provides a complete source of nutrition for the first six months of life, half of all the requirements in the second six months of life and one-third of the requirements in the second year of life.

Breast milk promotes sensory and cognitive development and protects the infant against infectious and chronic diseases. Colostrum is the baby’s first immunization as it contains high levels of antibodies, vitamin A and other protective factors. It is the most potent natural immune system booster known to science (Masson et al., 2013;
Riordan, 2005). Some of the benefits of breastfeeding are most likely to occur when the infants are exclusively breastfed. Lower rates of diabetes and cancers have been reported to infants who were exclusively breastfed (Ortega-Garcia et al., 2008; Owen et al., 2006). However, infants who receive complementary feeding when they are below six months are reported to have a higher rates of gastrointestinal infections compared to infants who were exclusively breastfed (Khadivzadeh & Parsal, 2004).

Breastfeeding presents both short-term and long-term benefits to the infants. In a study conducted in Dar es salaam, Tanzania it was found that in children born to HIV infected women, every additional month of exclusive breastfeeding was associated with a 49% reduction in mortality from birth to six months of age (Natchu et al., 2012). Breastfed children exhibit greater resistance to infectious diseases and stronger immune system and therefore experience lower rates of chronic diseases. Further research has demonstrated the lower rates of infectious diseases among the breastfed infants; this is because of breast milk which is attributed to the secretory immunoglobulin A secreted in the mother’s milk (Clark, 2003). Moreover, in a study conducted in Ghana, it was reported that early initiation can reduce neonatal deaths by 16% (Edmond et al., 2006)

It is well documented that exclusive breastfeeding leads to a remarkable reduction in morbidity and mortality from childhood infectious diseases such as diarrhoea and respiratory illnesses. These infections still account for the highest proportions of mortality in infants and children under five years of age in Africa, Asia and other less developed and developing regions of the world (Clark, 2003; Ochola, 2008). In
developing countries, exclusive breastfeeding for the first six months was associated with approximately 13% reduction in childhood deaths (Jones et al., 2003).

If every infant was breastfed within the first hour of life, it is estimated that 830,000 deaths could be avoided (Masson, 2013). Twenty-two (22%) of newborn deaths could be prevented if breastfeeding started within the first hour after birth and 16% if breastfeeding started within the first 24 hours (Edmond et al., 2006). Exclusive breastfeeding has also been shown to reduce the likelihood of obesity later in life. The prevalence of childhood obesity in the developing countries has recently been on the rise. This has been associated with lack of breastfeeding by the mothers (Langley-Evans, 2009).

2.2.2 Benefits of Exclusive Breastfeeding to the Mothers

Various scientific literatures demonstrate various advantages of exclusive breastfeeding to mothers. Short term benefits of breastfeeding include the enhancement and the release of hormone oxytocin which help in the expulsion of placenta, contraction of uterus and help reduce bleeding (Leon-cava et al., 2002), thereby reducing the blood loss, preventing anaemia as iron stores are not exhausted (Stein & Kuhn, 2009). Lactating mothers seem to regain their pre-pregnant weight sooner and in the long terms, reduce the risk of obesity; osteoporosis is reduced from the community and family perspective. Exclusive breastfeeding reduces fertility perhaps for several months, affording a natural form of birth spacing (Kumar, 2011; Stein & Kuhn, 2009). Further, breastfeeding saves money for the family and nation, helps fertility and is eco-friendly (Gupta, 2006; Kumar, 2011).
Exclusive breastfeeding has been shown to reduce the risk of breast cancer in the long term (Collaborative Group on Hormonal Factors in Breast Cancer, 2002; Leon-cava et al., 2002) and ovarian cancer (Leon-cava et al., 2002; Riman et al., 2002). Exclusive breastfeeding also helps the mother in reducing the hospital costs such as paying for a laboratory cost for the examination of the stool in case of diarrhea and time that the mother would have used in taking care of the ill infant (Drane, 2004) as well as reducing the cost of buying formula milk and other breast milk substitutes. Exclusive breastfeeding has also been shown to positively correlate with women’s mental health. Mothers also establish a close bond thus strengthening the feelings of security in a child in life (Mika, 2011). It is therefore important for the mothers to understand the benefits so that it can be more sustainable to breastfeed.

2.3 Sources of Information for Mothers on Exclusive Breastfeeding

Sources of breastfeeding information are very important as they may influence the practise of EBF. According to Ochola (2008), the main sources of breastfeeding information are the health facility and relatives with 56.0% of the mothers receiving breastfeeding counselling from health facilities; 44.0% from relatives; 25.0% from the radio and 12.5% from schools and neighbours in Kibera slum, Nairobi Kenya. A study conducted in Nigeria, revealed that Government health facilities served as the main source of breastfeeding education for the mothers (55.2%) and that only (2.3%) received breastfeeding education from the media. In respect to the time of breastfeeding education, 55.2% and 36.2% of the mothers received education during antenatal and postnatal visits respectively (Ukegbu et al., 2011).
Government health facilities in Kibera slum served as the main sources of breastfeeding education, similar to what had been reported in a study conducted in Kasarani informal settlement in Molo by Mututho (2012) where 74.2% received breastfeeding information from health facilities, 12.6% from family/friends/relatives, 7.3% from media and 5.3% from other sources such as church. Others got information from their own mothers or mother-in-laws and Traditional Birth attendants (TBAs). The role of the mass media in breastfeeding education is has been helpful (Petit, 2008). Mothers exposed to mass media have been reported to have increased awareness and use of health intervention strategies. The use of radio and television should be encouraged among mothers as an additional source of health information, because of their wide coverage. Mothers in this study did not fully understand majority of the health benefits of breastfeeding, to both the infant and the mother, suggesting a need to emphasize this information in antenatal breastfeeding education in the population studied (Mbwana et al., 2013; Ukegbu et al., 2011).

The content given is varied depending on the information, education and communication strategies. Health care providers also require education and training in breastfeeding support and management. However, more research needs to be done on why healthcare providers do not discuss the benefits of breastfeeding with women (Dhandapany et al., 2008). Increasing the breastfeeding knowledge among the healthcare providers have been shown to increase breastfeeding initiation rates (Dyson et al., 2005), and further support from the healthcare providers have the tendency to increase the length of time mothers exclusively breastfeed (Britton et al., 2007).
According to a study done among mothers in East London, felt that they did not get enough attention and support concerning exclusive breastfeeding. Additionally, some of the mothers acknowledged receiving conflicting and inappropriate advice which was not helpful and made the mother to be more confusing. This was from the family, friends and health professionals (Graffy & Taylor, 2005). The quality of knowledge and support has a crucial role in the success of breastfeeding. Women who attended antenatal care from tertiary care centres and from private practitioners had better breastfeeding scores (Ekambram et al., 2010). This study sought to establish the sources as well as the content of information on EBF.

2.4 Maternal Knowledge on Exclusive Breastfeeding

Scientific evidence reveals that maternal knowledge on exclusive breastfeeding in certain aspects has been reported to be positively associated with initiation, exclusiveness and duration of breastfeeding (Alemayehu et al., 2009). According to a study conducted by Ochola (2008), most of the mothers in Kibera slum had limited knowledge on exclusive breastfeeding. Some of the mothers did not even know what exclusive breastfeeding was. However, in Goba District Ethiopia, lack of adequate knowledge was also acknowledged by some mothers. Besides the inadequate knowledge, health workers acknowledged that despite the effort that they had put in some of the mothers did not consider breast milk as adequate and important (Setegn et al., 2012).

Mothers from Kasarani slums in Molo, said they were educated on how to introduce food when the child is six months old; clean the breasts before breastfeeding the child; breastfeed for at least fifteen minutes on each breast and that when a child is born
should be put to the breast after 30 minutes. Mothers were knowledgeable on benefits on EBF, meaning of EBF and some of them agreed with message given (Mututho, 2012). Due to varying information given then it was important to understand more on the knowledge on EBF among mothers.

2.5 Exclusive Breastfeeding Practices

Majority of the mothers in Africa fail to practice exclusive breastfeeding as per the WHO guidelines (UNICEF, 2006a). Nonetheless exclusive breastfeeding for infant less than six months is on the rise. The global proportion of children exclusively breastfed for six months increased from 32% in 1995 to 39% in 2010 (Masson et al., 2013). Globally, less than 35% of infants are exclusively breastfed during their first four months of life (WHO/UNICEF, 2003). In developing countries, only 37% of infants less than six months old are exclusively breastfed. In Africa, less than one third of infants under six months old are exclusively breastfed (UNICEF, 2009).

Global initiatives such as the UNICEF and WHO Baby-friendly Hospital Initiative (BFHI) and the International Code of Marketing of Breast-milk Substitutes shows that, with political will and dedicated resources, it is possible to achieve dramatic improvement. Sri Lanka has a strong health infrastructure and a breastfeeding training programme for health workers. The country, for example, saw a dramatic increase in its exclusive breastfeeding rate from 17% in 1993 to 76% in 2007; Cambodia’s exclusive breastfeeding rate was just 12% in 2000 but it had increased to 74% by 2010; Ghana’s rose from a low level of 7% in 1993 to 63% in 2008 (Masson, 2013). According to NBS & ICF Macro (2010), only 50% of the women in Tanzania exclusively breastfed their infants for six months.
According to KNBS & ICF macro (2010), the mean duration of breastfeeding was shortest in Nairobi province at 15 months and longest in eastern province at 26 months. However the percentage of children breastfed 6 times in the last 24 hours was 95.3%. This is evident that more needs to be done in terms of breastfeeding.

The rate of exclusive breastfeeding in Kenya among infants below 6 months rose from 13% (KDHS, 2003) to 32 % (KNBS & ICF macro, 2010) and to 61% (KDHS, 2014). The prevalence of exclusively breastfeeding at six months has also increased from 3.2% in 2003 to 3.6 % (KNBS & ICF macro, 2010). Despite the improvement, Kenya is ranked among the lowest in east Africa region where the prevalence is 42% (UNICEF, 2009b). Due to the low levels of exclusive breastfeeding in Kenya, the government is implementing various strategies aimed at improving the child health. However regardless of these efforts to improve, more still need to be done especially to raise the awareness among the mothers.

2.6 Knowledge Level on exclusive breastfeeding and Exclusive Breastfeeding Practices

Various studies have documented that the level of knowledge on exclusive breastfeeding has a significant relationship with exclusive breastfeeding. A randomized clinical controlled trial conducted in a tertiary hospital in Singapore revealed that if mothers receive antenatal breastfeeding education and postnatal lactation support, as single intervention in the hospitals, there were significant improvements in the rates of exclusive breastfeeding up to six months after delivery (Su et al., 2007). Therefore education on exclusive breastfeeding has been shown to increase the rate of exclusive breastfeeding among breastfeeding women. Women in
Tanzania who gained knowledge on exclusive breastfeeding showed a remarkable improvement in the rate of exclusive breastfeeding and therefore providing adequate information to the women can help to raise the prevalence of exclusive breastfeeding significantly (Petit, 2008).

However, according to a study done by Ochola (2008) in Kibera slum, knowledge about the duration of breastfeeding positively influenced exclusive breastfeeding practice but knowledge about the appropriate duration of exclusive breastfeeding was not associated with exclusive breastfeeding. Mothers with correct knowledge on duration of exclusive breastfeeding were more likely to practise EBF continuously since birth in kasarani slum, Molo (Mututho, 2012). Information, education and communication strategies may have a positive influence on the practise (Dhandapani et al., 2008).

2.7 Other Factors that Influence Exclusive Breastfeeding

2.7.1 Demographic and Socio-economic Characteristics

Exclusive breastfeeding is affected by various factors other than the information and the knowledge by the mother on exclusive breastfeeding. Due to different set-ups the factors manifest differently. Maternal level of education has been reported to be positively associated with initiation, exclusiveness and duration of breastfeeding (Alemayehu et al., 2009; Nyanga et al., 2012). According to Kimani-Murage et al. (2011), several factors associate with breastfeeding duration, including the mother’s marital status, education level, socioeconomic status, or the child’s sex and perceived size.
2.7.2 Maternal Factors

Infants from rural area are commonly exclusively breastfed compared to those who are in urban areas (Tan, 2011). Non working mothers were positively associated with exclusive breastfeed. However, working mothers are affected by early introduction of food in preparation to go back to work, maternal fatigue and difficulty in juggling the demands of work and breastfeeding (Nyanga et al., 2012; Tan, 2011). However, according to a study done by Shirima in Tanzania socioeconomic factors had no significant association with exclusive breastfeeding (Shirima et al., 2001).

A woman’s education and social class in the society has been shown to affect her motivation to exclusively breastfeed. A higher maternal education level was noted to support exclusive breastfeeding (Chudasama et al., 2009). Similar findings were observed in Srilanka (Agampodi et al., 2009). Improved maternal education increases the mothers’ appreciation and understanding of the benefits of exclusive breastfeeding therefore empowering them to resist external pressures (Uchendu et al., 2009). However, according to KNBS & ICF macro (2010), mothers with no education exclusively breastfed longer than those who were more educated.

2.7.3 Contextual Factors

Exclusive breastfeeding was more common among mothers with supportive husbands on breastfeeding compared to non-supportive husbands in Peninsular Malaysia. The mother does not have the power in most African societies to decide everything on her own on how to feed the infant. Exclusive breastfeeding often meets opposition from the older generation of women and hence family need to support the mother to make exclusive breastfeeding a success (Tan, 2011; Nyanga et al., 2012).
2.7.4 Cultural Factors

Among other obstacles to exclusive breastfeeding, include the belief that colostrums could cause diarrhea, contained dirt and was bad for the infant. In Eastern Uganda there is a belief that breast milk alone cannot give the baby sufficient energy and that is why other foods are introduced as soon as possible (Engebresten, 2010). In a study done by Ochola (2008) a mother in Kibera said that, ”I would not practice exclusive breastfeeding because it is obvious that a baby needs water just like adults do”. Mothers also felt that they did not have sufficient breast milk and therefore could not exclusively breastfeed the infant.

2.8 Summary of Literature Review

Exclusive breastfeeding is essential for neonatal and infant survival, health and child development. Exclusive breastfeeding during the first six months of infants’ life and continued breastfeeding throughout the first year of life reduces the burden of infections (Fisk et al., 2010). Approximately 1.5 million infants die each year because of lack of knowledge about exclusive breastfeeding benefits (Nguyen, 2009). Poor urban informal settlements present unique challenges concerning child health and survival (UNHABITAT, 2003; Kimani-Murage et al., 2011). Infants are reported to have high prevalence of morbidity and mortality rates than any other sub-group in Kenya including the rural areas (UNHABITAT, 2003). However, this may be reversed if the mothers have correct and adequate knowledge on exclusive breastfeeding. Various studies have been conducted regarding the factors affecting exclusive breastfeeding but few studies have focused on various sources of information and the effects of the knowledge on the practise of exclusive breastfeeding. This study therefore seeks to assess maternal knowledge in relation to
exclusive breastfeeding, the major sources of information on exclusive breastfeeding mothers rely on in Kibera slum as well as the content received.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

A cross-sectional analytical design was used in this study (Katzenellenbogen et al., 2002). This is because a cross-sectional research gives an overview of the variables of interest. The study is analytical because it is anticipated to show the association between maternal knowledge and exclusive breastfeeding practises among mothers receiving information from various sources.

3.2 Variables

3.2.1 Dependent Variables

The dependent variables for the study were: Knowledge levels and breastfeeding practices of mothers with infants aged 0-6 months in Kibera slum.

3.2.2 Independent Variables

The independent variables for the study were: Demographic and Socio-economic characteristics, Sources of information on exclusive breastfeeding; content on Exclusive breastfeeding and maternal knowledge on breastfeeding of mothers with infants aged 0-6 months in Kibera slum.

3.3 Study Area

The study was carried out in various health facilities located around Kibera slum Nairobi County, Kenya. Kibera settlement is located on two Nairobi divisional administrative areas; Dagoretti and Lang’ata divisions. The slum is divided into 14 villages Soweto West, Kambi Muru, Kianda, Olympic, Laini Saba, Gatwekera, Raila, Karanja, Kisumu Ndogo, Makina, Mashimon, Lindi, Silanga and Soweto East. According to 2009 census Kibera slum had a total population of approximately, 170 070 (GOK, 2010). The houses are temporary or semi-permanent in structure. The area
is not well accessible through the road network and the living conditions such as access to adequate water supply, sanitation facilities and living area are poor (GOK, 2010). Lack of employment opportunities in Kibera has increased poverty and therefore leads to an increase in informal trading manifested in form of kiosks (Mulumba et al., 2004).

3.4 Target Population

The study targeted mothers with infants aged 0 to 6 months living in Kibera slums and attending the selected health facilities (AMREF, Kibera DO, Undugu, Makina clinic, Chemichemi, Lindi clinic, St Mary Karanja, St. Mary container clinic, Langata Health centre and Ushirika clinic). The estimate of mothers obtained from the selected health facilities records was 2000.

3.4.1 Inclusion Criteria

 Mothers with infants aged 0 to 6 months and were residents in Kibera slums for at least six months and consented to participate in the study.

3.4.2 Exclusion Criteria

 Mothers who were HIV positive and not practicing EBF and infants with chronic illnesses that may contraindicate breastfeeding were not included determined by the mother child booklet.

3.5 Sampling Techniques

The study was carried out in various health facilities located around Kibera slums which served as the catchment areas for Kibera slum (Figure 3.1). The slum was selected purposively because of the information gap in relation to exclusive
breastfeeding (Ochola, 2008). The ten health facilities were selected using table of random numbers. Mothers with children below 6 months were selected from ten health facilities as most of them attended the clinic for other health services such as immunization. The sampling frame was an average of 15-20 mothers per day based on the health centers average daily attendance. To calculate the sampling interval, the number in the sampling frame per day (15) was divided by the number of mothers (6) who could be interviewed per day as established during the pre-testing of the questionnaire and therefore the resulting sampling interval was 3. The first mother was randomly sampled by use of Table of Random Numbers and then the second picked after the third mother until the desired sample was obtained.

Figure 3.1: Flow chart on the sampling procedure
3.6 Sample Size Determination

The sample size was 293 mother-infant (0-6 months old) pairs calculated using a formula by Cochran (in Israel, 1992).

\[ \text{No} = \frac{Z^2pq}{e^2} \]

No = the desired sample size

Z = standard normal deviate at 95% confidence level (1.96)

P = estimated proportion of the target population estimated to be exclusively breastfeeding (32%) (KNBS & ICF macro, 2010)

\[ e = \text{desired level of precision (0.05)} \]

The prevalence of 32% (KNBS & ICF macro, 2010), has been used to estimate the proportion of infants 0-6 months, receiving exclusive breastfeeding in Kibera slums.

q = 1 - P; therefore

\[ \text{No} = \left( \frac{1.96}{0.68} \right) = 334 \]

Finite population correction was done because estimated sample size was less than 10,000. It was also done to produce a sample size that is proportional to the population therefore the sample size will be calculated as;

\[ n = \frac{\text{no}}{1 + \frac{(n)}{(N)}} \]

where no= desired sample size

\[ n = \frac{334}{1 + \frac{(334)}{(2000)}} = 286 + 10\% \text{ attrition} = 313 \]

Due to the possibility of non-response an allowance of 10% of the respondent was added to get a total of 313 mother-infant pair. However, the study obtained 293 mother-infants pair.
3.7 Research Instruments

3.7.1 Researcher-administered Questionnaire

A researcher-administered questionnaire was used to collect information on sources, content of information received on exclusive breastfeeding, maternal knowledge as well as the practice. The questionnaire consisted of both closed and open ended questions to ensure better coverage of information. The questionnaires were administered to the mothers with infant aged 0-6 months and visiting the selected health facilities.

3.7.2 Focus Group Discussion Guide

A focus group discussion (FGD) guide was administered to the selected mothers with infants aged 0-6 months in order to elicit maternal perceptions on exclusive breastfeeding practices, sources, content as well as how to improve on exclusive breastfeeding.

3.7.3 Key Informant Interview Guide

A key informant interview guide (KII) was prepared to solicit out information on infant feeding practices with special interest on exclusive breastfeeding practices, knowledge levels, information about exclusive breastfeeding as well as where it was obtained and other factors influencing breastfeeding practices. Nutritionists and other health workers in antenatal clinic attending the mothers in the selected health facilities were used as the key informants.

3.7.4 Pre-testing of Instruments

In order to pre-test the questionnaire’s length, content, wording and language level twenty eight respondents from a clinic in Korogocho were interviewed prior to the
study representing ten percent of the sample size. Korogocho was used because of similar characteristics with the main study participants. This facilitated modifications and adjustments to the questionnaires by reviewing the questions correcting mistakes and eliminating ambiguous ones. This ensured that the instruments elicit the required information therefore enhancing validity and reliability.

3.7.5 Validity and Reliability of the Questionnaire

All steps of research process were followed to verify for internal validity. A panel of nutrition experts to ensure that the questions acquire the information anticipated reviewed the questions. Test-retest method was used to test reliability. Twenty-eight mothers were interviewed two times (within a span of one week between the interviews). The reliability of the data collection instrument was tested using Cronbach’s coefficient test. For this study, a reliability of 0.7 was used (Cronbach and Richard, 2004; Mugenda et al., 2003).

3.8 Recruitment and Training of Research Assistants

The researcher recruited five research assistants. They had attained Kenya Certificate of Secondary Education and fluent in English and Kiswahili. Experience in conducting nutrition surveys was an added advantage during the selection process. The research assistants were trained by the principal researcher on the study objectives, purpose and interviewing techniques based on the research instrument. They were also trained on how to probe for comprehensive response as well as questionnaire administration. The training was done in three days extensive training that entailed the use of lectures, role-plays and discussions.
3.9 Data Collection Procedure

The researcher assisted by the research assistants administered the questionnaires to the mothers in face-to-face interviews at the health facilities. Mothers were asked specific questions to get information on exclusive breastfeeding practices, demographic and socio-economic characteristics as well as sources and content of information obtained regarding exclusive breastfeeding. Face to face interviews were conducted with 10 key informants, each lasting for about 45-60 minutes to elicit in-depth information. A total of 4 focus group discussions (FGD) each lasting for about 45-90 minutes were conducted with the mothers. Each FGD group consisted of 10 mothers. Members of the FGD were recruited by the researcher with the help of community leaders and community health volunteers (CHVs). The researchers facilitated the discussions. The FGD were conducted after the data was collected and ensured that mothers who were earlier sampled were not included. Data was entered daily after data collection to ensure that the information collected was reliable.

3.10 Data Analysis and Presentation

The data underwent daily checking to identify mistakes and corrected at the field on a daily basis by the researcher. Data was coded, cleaned and analyzed using SPSS software version 16 software. Descriptive statistics such as frequency, means and percentages was used to summarize the data. Chi-square test was used to establish whether there was any association between maternal knowledge score on EBF and various practices on exclusive breastfeeding. A total of ten responses were computed to form the Knowledge score. A correct answer got a score of “1” while a wrong answer got a score of “0”. The knowledge score was categorized into three levels; high, average and low knowledge score where 0-4 was low knowledge score; 5-7 was average knowledge score while 8-10 was high knowledge score.
Chi-square test was also used to establish whether there was any association between sources and content of information on EBF. A total of six responses were used to form the content score. The content score was categorized into three categories; low, average and high content score. The respondent who scored 0-2 had a low content score; 3-4 had an average score while the one who scored 5-6 had a high score.

Pearson correlation was used to establish the relationship between the content and knowledge score. Both of the variables used for analysis were continuous data. Qualitative data from the key informant and focus group discussion (FGD) was transcribed, coded and emerging themes established. Selected responses were used to build up on the discussion from the quantitative data.

3.11 Logistical and Ethical Consideration

Authority to conduct the study was granted by Graduate School, Kenyatta University. Ethical clearance was granted by Kenyatta University Ethical Review Committee. Permission to conduct the research was granted by the National Commission for Science, Technology and Innovation (NACOSTI). Permission to conduct the study was obtained from the DMOH Lang’ata sub County addressing the Medical superintendent in-charge of the health facilities. At the facility level, informed signed or thumb print consent was granted by the respondents. Confidentiality was assured before carrying out the research.

3.11.1 Care and Protection of Research Participants

The researcher clearly informed the participants that this study was for academic purposes only, hence participation was completely voluntary. As stated in the consent
form attached, participants were informed that they were free to withdraw from the study at any time which involves no penalty.

3.11.2 Protection of Research Participants’ Confidentiality

All the respondents were briefed about the purpose of the study by the researcher. The researcher made it clear to the research participants that the study was for education purposes and no one was allowed to access the information before it was translated into a study report. The respondents were also informed and their individual information such as names shall appear nowhere even in the final report and that the report shall have group data hence their identity remained anonymous. All information obtained was kept confidential. In addition to these, data was coded to hide the identity of the participants and no names were included in the study.

3.11.3 Informed Consent Process

‘The participants’ consent was sought at the beginning of the study after briefing and no one was coerced into participating in the study. Only those who willingly gave their consent participated in the study. The information in the consent was clearly explained to the potential respondents and after they agreed to it, they were asked to sign the consent form before being recruited into the study. All the recruited participants were given an opportunity to have any question answered or even withdraw from the study at any time and this would not jeopardise them in any way. The researcher ensured that the mothers were comfortable in order to ensure that they responded to the questions accordingly.
3.11.4 Community Consideration

The researcher sought permission from the area administration by briefing him or her about the purpose of the study in the area. Permission was also sought from the Lang’ata sub-county DMOH in Charge before commencement as well as the various hospitals in charge. Any other interested member of the community shall be allowed to inquire about the current study and its significance well explained to that member. On completion of the study, research findings will be made available to the hospitals involved in the study.
CHAPTER FOUR: RESULTS

This study investigated sources, content and level of maternal knowledge on exclusive breastfeeding practices among mothers with infants aged 0-6 months. A total of 313 respondents were included but the final sample for the study was 293 reflecting a response rate of 93.6% due to inconsistent and incomplete questionnaire.

4.1 Characteristics of the Study Population

4.1.1 Characteristics of the Infants

Both sexes were almost equally represented with 49.1% of the infants being males and 50.9% females. About half of the infants were in the age range of 2-3 months with a mean age of 2.5±1.4 months (Table 4.1).

<table>
<thead>
<tr>
<th>Infants characteristics</th>
<th>N=293</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex of the child:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>149</td>
<td></td>
<td>50.9</td>
</tr>
<tr>
<td>Male</td>
<td>144</td>
<td></td>
<td>49.1</td>
</tr>
<tr>
<td>Infant age (months)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1 months</td>
<td>99</td>
<td></td>
<td>33.8</td>
</tr>
<tr>
<td>2-3 months</td>
<td>115</td>
<td></td>
<td>39.2</td>
</tr>
<tr>
<td>4-5 months</td>
<td>79</td>
<td></td>
<td>27.0</td>
</tr>
<tr>
<td>Mean (SD) Age</td>
<td>2.5±1.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.1.2 Maternal Demographic Characteristics

The Majority (88.1%) of the mothers were married while only 2.0% were separated (Table 4.2). Mothers involved in the current study had low levels of education with (36.2%) having completed primary school education, 12.3% had not completed primary education, 10.2% had a diploma/certificate, it was notable that only 1.7% had university and over 1.4% had no education. Half of the mothers (55.6%) were protestant, 25.3% catholic and 19.1% Muslims. The majority of the mothers (64.1%)
were multiparous while 35.8% were primiparous. In this study the youngest mother was 15 years while the oldest was 43 years with the mean age for all the mothers being 25.4 ±4.5 years.

Table 4.2: Demographic Characteristics among mothers with infants aged 0-6 months in Kibera slums

<table>
<thead>
<tr>
<th>Mothers demographic characteristics</th>
<th>N=293</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age (completed years):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-20</td>
<td>19</td>
<td>6.5</td>
</tr>
<tr>
<td>20-24</td>
<td>138</td>
<td>47.1</td>
</tr>
<tr>
<td>25-30</td>
<td>101</td>
<td>34.5</td>
</tr>
<tr>
<td>30-35</td>
<td>25</td>
<td>8.5</td>
</tr>
<tr>
<td>36-43</td>
<td>10</td>
<td>3.4</td>
</tr>
<tr>
<td>Mean age (SD)</td>
<td>25.4±4.5</td>
<td></td>
</tr>
<tr>
<td>Marital status:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>258</td>
<td>88.1</td>
</tr>
<tr>
<td>Single</td>
<td>28</td>
<td>9.6</td>
</tr>
<tr>
<td>Divorced</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>Widowed</td>
<td>1</td>
<td>0.3</td>
</tr>
<tr>
<td>Mothers education level:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>4</td>
<td>1.4</td>
</tr>
<tr>
<td>Primary complete</td>
<td>106</td>
<td>36.2</td>
</tr>
<tr>
<td>Primary incomplete</td>
<td>36</td>
<td>12.3</td>
</tr>
<tr>
<td>Secondary complete</td>
<td>74</td>
<td>25.3</td>
</tr>
<tr>
<td>Secondary incomplete</td>
<td>38</td>
<td>13.0</td>
</tr>
<tr>
<td>Diploma/certificate</td>
<td>30</td>
<td>10.2</td>
</tr>
<tr>
<td>University</td>
<td>5</td>
<td>1.7</td>
</tr>
<tr>
<td>Mother’s religion:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protestant</td>
<td>163</td>
<td>55.6</td>
</tr>
<tr>
<td>Catholic</td>
<td>74</td>
<td>25.3</td>
</tr>
<tr>
<td>Muslims</td>
<td>56</td>
<td>19.1</td>
</tr>
<tr>
<td>Parity:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiparous</td>
<td>188</td>
<td>64.1</td>
</tr>
<tr>
<td>Primiparous</td>
<td>105</td>
<td>35.8</td>
</tr>
</tbody>
</table>

4.1.3 Socio-economic Characteristics of the Study Participants

In this study (64.2%) of the mothers were housewives, 15.0% were in business, 7.8% were casual labourers, 2.0% were unemployed, 2.7% were students, 7.5% had formal employment and 0.7% were house-helps (Table 4.3). More than half (66.2%) of the participants depended on their spouses, 5.1% owned a business, 10.6% on salaried job, 9.9% owned a business as well as depending on their spouses, 3.8% were on
casual jobs, 0.7% received salary but still dependent on their spouses. However, 3.8% of the mothers were still living in their parent’s home and depended on their parents.

Table 4.3: Socio-economic Characteristics among mothers with infants aged 0-6 months in Kibera slums

<table>
<thead>
<tr>
<th>Mothers socio-economic characteristics</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal occupation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>188</td>
<td>64.2</td>
</tr>
<tr>
<td>Business</td>
<td>44</td>
<td>15.0</td>
</tr>
<tr>
<td>Casual labourer</td>
<td>23</td>
<td>7.8</td>
</tr>
<tr>
<td>Formal employment</td>
<td>22</td>
<td>7.5</td>
</tr>
<tr>
<td>Student</td>
<td>8</td>
<td>2.7</td>
</tr>
<tr>
<td>Unemployed</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>House help</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>Maternal income sources:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Husband</td>
<td>194</td>
<td>66.2</td>
</tr>
<tr>
<td>Salary</td>
<td>31</td>
<td>10.6</td>
</tr>
<tr>
<td>Own business and husband</td>
<td>29</td>
<td>9.9</td>
</tr>
<tr>
<td>Own a business</td>
<td>15</td>
<td>5.1</td>
</tr>
<tr>
<td>Parent</td>
<td>11</td>
<td>3.8</td>
</tr>
<tr>
<td>Casual job</td>
<td>11</td>
<td>3.8</td>
</tr>
<tr>
<td>Salary and husband</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>Ownership of items:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td>242</td>
<td>82.6</td>
</tr>
<tr>
<td>Radio</td>
<td>216</td>
<td>73.7</td>
</tr>
<tr>
<td>Sofa set</td>
<td>197</td>
<td>67.2</td>
</tr>
<tr>
<td>Television</td>
<td>191</td>
<td>65.2</td>
</tr>
<tr>
<td>Video player</td>
<td>175</td>
<td>59.7</td>
</tr>
<tr>
<td>Chicken</td>
<td>121</td>
<td>41.3</td>
</tr>
<tr>
<td>Donkey or oxen cart</td>
<td>83</td>
<td>28.3</td>
</tr>
<tr>
<td>Land</td>
<td>53</td>
<td>18.1</td>
</tr>
<tr>
<td>Bicycle</td>
<td>25</td>
<td>8.5</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>18</td>
<td>6.1</td>
</tr>
<tr>
<td>Cooker or meko</td>
<td>18</td>
<td>6.1</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>12</td>
<td>4.1</td>
</tr>
<tr>
<td>Vehicle</td>
<td>8</td>
<td>2.7</td>
</tr>
<tr>
<td>Source of lighting:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td>260</td>
<td>88.7</td>
</tr>
<tr>
<td>Tin lamp</td>
<td>28</td>
<td>9.6</td>
</tr>
<tr>
<td>Candle</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td>Kerosene lamp</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>Cooking fuel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stove (kerosene)</td>
<td>112</td>
<td>38.2</td>
</tr>
<tr>
<td>Gas</td>
<td>93</td>
<td>31.7</td>
</tr>
<tr>
<td>Charcoal and stove (kerosene)</td>
<td>43</td>
<td>14.7</td>
</tr>
<tr>
<td>Charcoal</td>
<td>42</td>
<td>14.3</td>
</tr>
<tr>
<td>Firewood</td>
<td>2</td>
<td>0.7</td>
</tr>
<tr>
<td>Firewood and charcoal</td>
<td>1</td>
<td>0.3</td>
</tr>
</tbody>
</table>
Majority (94.9%) of the study participants lived in rented houses while 5.1% were living with their parents. Stove (kerosene) was the main source of cooking fuel for (38.2%) of the households, 31.7% used gas, 14.7% used charcoal and stove, 14.3% used charcoal, 0.3% used firewood and charcoal while only 0.7% used firewood. Majority (88.7%) of the households used electricity for lighting, 10.3% used kerosene while only 1.0% used candle. Generally most of the women in Kibera slums lived in poverty conditions characterized by poor housing conditions and crowding. Majority of them were living in rented rooms with low quality construction materials. Majority of the households did not own items such as land, bicycle and cookers while most of them owned mobile phones and radio (Table 4.3).

4.2 Sources and Content of Information

4.2.1 Sources of Information

Source of information in this study refers to a person, publication or a document that gives information on exclusive breastfeeding while content refers to information and experiences that provide value for the target person. It can be expressed through medium such as speech, writing, demonstration or other mediums.

In this study majority (95.2%) of the study participants had learnt or heard of exclusive breastfeeding (Figure 4.1). More than half (54.5%) of the mothers first learnt or heard about exclusive breastfeeding from a health professional, 30.5% obtained the information from relatives and friends, 10.4% of the mothers first learnt or heard about exclusive breastfeeding from radio. whereas 2.2% of the mothers first learnt or heard about EBF obtained from television and mothers’ clinic booklet respectively.
4.2.2 Content on Exclusive Breastfeeding

Content on exclusive breastfeeding was based on the information that the mothers received from their various sources. It was mainly based on the information received on exclusive breastfeeding. This information was necessary in order to understand whether the content received was adequate in terms of what the mothers are supposed to be educated on according to the current guidelines on MIYCN 2013.
Among the mothers who participated in the study 57% reported that they had learnt about exclusive breastfeeding while 38% reported that breast milk was good for the infant (Figure 4.2). Another 17% of the mothers reported that the breast milk improves the immunity of the infants while 7% of the mothers reported that they learnt about attachment of the baby to the breast. However, only (4%) reported that they had learnt on how exclusive breastfeeding helps in the growth of the infant (Figure 4.2). One of the Key informant (KI) reported “the content is not fully covered due to shortage of staff and therefore not able to give one on one counselling session” (KI, Kibera 2015).
4.3 Maternal Knowledge

4.3.1 Maternal Knowledge on Breastfeeding aspects

Table 4.4: Maternal Knowledge on Different Aspect of Breastfeeding among mothers with infants aged 0-6 months in Kibera slums

<table>
<thead>
<tr>
<th>Knowledge aspects</th>
<th>N=293</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive breastfeeding is beneficial</td>
<td>288</td>
<td>98.3</td>
</tr>
<tr>
<td>Breast milk should be given immediately after birth</td>
<td>287</td>
<td>98.0</td>
</tr>
<tr>
<td>Colostrum should be fed to the baby</td>
<td>280</td>
<td>95.6</td>
</tr>
<tr>
<td>Infant to be breastfed on demand</td>
<td>277</td>
<td>94.5</td>
</tr>
<tr>
<td>Correct definition of EBF</td>
<td>275</td>
<td>93.9</td>
</tr>
<tr>
<td>Infants should be exclusively breastfed for 6 months</td>
<td>234</td>
<td>79.9</td>
</tr>
<tr>
<td>Correct benefits on EBF</td>
<td>210</td>
<td>71.7</td>
</tr>
<tr>
<td>Infant should be put on breast within 1 hour</td>
<td>182</td>
<td>62.1</td>
</tr>
<tr>
<td>Baby should be breastfed for 2 years and more</td>
<td>173</td>
<td>59.0</td>
</tr>
<tr>
<td>Benefits of colostrums (N=281)</td>
<td>54</td>
<td>19.2</td>
</tr>
</tbody>
</table>

Maternal knowledge was based on different aspects of breastfeeding aspects. The knowledge aspects were determined using ten-point scale and then determined the percentage that got the aspects correct. Overall, the mothers were knowledgeable on breastfeeding. Almost all of the mothers (98%) said that breastfeeding should be the baby's first feed while 93.9% of them gave the correct definition of exclusive breastfeeding (Table 4.4).

Majority of the mothers 98.3% reported that exclusive breastfeeding is beneficial and 95.6% knew that colostrums should be fed to the baby. Almost all (94.5%) of the mothers knew that infant should be breastfed on demand, 79.9% knew that infants should be exclusively breastfed for six months without giving anything else.
Moreover, 71.7% and 62.1% of the mothers knew the correct benefits on exclusive breastfeeding and that the infant should be put to breast within 1 hour respectively. 59% said that the baby should be breastfed for 2 years or longer. However, it is only 19.2% that knew the benefits of colostrums.

4.3.2 Maternal Knowledge score on Exclusive Breastfeeding

Maternal knowledge score on exclusive breastfeeding was based on two scales (“1”, “0”). A score of ‘1’ was awarded for a correct answer while a score of ‘0’ was awarded for a wrong answer. A total score was computed for each of the mothers out of a maximum score of 10. The mothers’ knowledge on exclusive breastfeeding was categorized into three; low for those who had a score of 0-4; average for those with a score of 5-7 and high for those who scored 8 and above (Karimi et al., 2014; Kigaru et al., 2015). The knowledge score was computed from the knowledge based on the exclusive breastfeeding guidelines in MIYCN 2013. The scores were derived from the guidelines that are supposed to be followed and rephrased as questions to obtain the knowledge the mother has in relation to what she is supposed to know.

Table 4.5: Maternal Knowledge score on Exclusive Breastfeeding among mothers with infants aged 0-6 months in Kibera slums

<table>
<thead>
<tr>
<th>Maternal knowledge score</th>
<th>N=293</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>Score categories:</td>
<td></td>
</tr>
<tr>
<td>Low knowledge (0-4)</td>
<td>11</td>
</tr>
<tr>
<td>Average knowledge (5-7)</td>
<td>104</td>
</tr>
<tr>
<td>High knowledge (8-10)</td>
<td>178</td>
</tr>
</tbody>
</table>

Mean knowledge score (SD) 7.7±1.4
Almost two-thirds (60.8%) of the mothers had high knowledge on exclusive breastfeeding, about one third (35.5%) of the mothers had average knowledge whereas a few (3.8%) of the mothers had low knowledge on exclusive breastfeeding. The mean knowledge score for all mothers on exclusive breastfeeding was 7.7 ± 1.4 (Table 4.5).

### 4.4 Breastfeeding Practices

Mothers who practiced exclusive breastfeeding were 60.8% (Table 4.6). The rate of timely initiation of breastfeeding (within 1 hour of birth) was 73.4% while those who initiated after 1 hour were 26.6%. Various reasons were given by mothers for delaying the initiation of breastfeeding such as having undergone caesarean section (9%) while 18% said their infants were sick. Some of the mothers (30.8%) admitted that they were sick, 21.8% had delayed milk secretion while 5.1% had post-partum haemorrhage and 5.1% were advised by mother-in laws to delay breastfeeding initiation. However, 10.2% were as a result of the infant being asleep. One of the KI reported “Some of the mothers don’t practice what we tell them to do. Because they are the bread winners and due to the poverty levels here, most of them cannot manage to do exclusive breastfeeding” (KI, Kibera 2015).

The study findings revealed that a few of the respondents (4.8%) gave pre-lacteal feed to their infants. The most commonly given pre-lacteal feeds were; plain boiled water (35.7%), water, sugar and salt solution (21.4%), thin porridge (14.3%) while cows’ milk and formula each at 14.3%.
Table 4.6: Breastfeeding Practices among mothers with infants aged 0-6 months in Kibera slums

<table>
<thead>
<tr>
<th>Breastfeeding Practices</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive breastfeeding:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>178</td>
<td>60.8</td>
</tr>
<tr>
<td>Breastfeeding initiation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within 1 hour</td>
<td>215</td>
<td>73.4</td>
</tr>
<tr>
<td>After 1 hour</td>
<td>78</td>
<td>26.6</td>
</tr>
<tr>
<td>Reasons for delayed initiation (N=78)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother was sick</td>
<td>24</td>
<td>30.8</td>
</tr>
<tr>
<td>Delayed milk secretion</td>
<td>17</td>
<td>21.8</td>
</tr>
<tr>
<td>Baby was sick</td>
<td>14</td>
<td>18.0</td>
</tr>
<tr>
<td>Baby was asleep</td>
<td>8</td>
<td>10.2</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>7</td>
<td>9.0</td>
</tr>
<tr>
<td>Post-partum haemorrhage</td>
<td>4</td>
<td>5.1</td>
</tr>
<tr>
<td>Advised by mother-in law</td>
<td>4</td>
<td>5.1</td>
</tr>
<tr>
<td>Pre lacteal feed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>4.8</td>
</tr>
<tr>
<td>Pre lacteal feed given (N=14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>5</td>
<td>35.7</td>
</tr>
<tr>
<td>Water, sugar and salt solution</td>
<td>3</td>
<td>21.4</td>
</tr>
<tr>
<td>Thin porridge</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>Milk</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>Formula</td>
<td>2</td>
<td>14.3</td>
</tr>
<tr>
<td>Post lacteal feed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>124</td>
<td>42.3</td>
</tr>
<tr>
<td>Post lacteal feed given (N=124)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>45</td>
<td>36.3</td>
</tr>
<tr>
<td>Water, sugar and salt solution</td>
<td>41</td>
<td>33.1</td>
</tr>
<tr>
<td>Thin porridge</td>
<td>17</td>
<td>13.7</td>
</tr>
<tr>
<td>Cows milk</td>
<td>12</td>
<td>9.7</td>
</tr>
<tr>
<td>Honey</td>
<td>5</td>
<td>4.0</td>
</tr>
<tr>
<td>Formula milk</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>Reasons for giving post lacteal (N=133)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stomach ache</td>
<td>75</td>
<td>56.4</td>
</tr>
<tr>
<td>Mother was not around</td>
<td>21</td>
<td>15.8</td>
</tr>
<tr>
<td>Constipation</td>
<td>16</td>
<td>12.0</td>
</tr>
<tr>
<td>Lack of milk and stomach ache</td>
<td>12</td>
<td>9.0</td>
</tr>
<tr>
<td>Baby was hungry</td>
<td>5</td>
<td>3.8</td>
</tr>
<tr>
<td>Due to vomiting and diarrhoea</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td>Muslims give honey</td>
<td>2</td>
<td>1.5</td>
</tr>
</tbody>
</table>

About half (42.3%) of the mothers gave post-lacteal feeds to their infants. The most common post-lacteal feeds were; plain boiled water (36.3%), water, sugar and salt solution (33.1%), thin porridge (13.7%), honey (4.0%) while cow’s milk were at 9.7%. However, only (3.2%) of the mothers gave formula milk. A mother during the FGD reported “I have a baby boy and he suckles so much and more frequent to an
extent I feel like I can collapse. I am a widow and I don’t have a job so the food that I get is not enough for both of us. Another mothers said that “Humans are born to eat and therefore the breast milk is not enough for my baby” (FGD, Kibera 2015).

About half of the mothers (56.4%) gave post-lacteal feeds to soothe stomach pain, 15.8% gave because they were not around and 12% gave because they thought that the infant had constipation, 1.5% of the mothers gave post lacteal feeds after the infant vomited and had a diarrhoea, while 9% gave because they believed that the child had a stomach ache and lack of enough breast milk. While only (3.8%) gave because they thought that the infant was hungry, 1.5% gave honey to the infant because of their religion. A mother during the FGD reported that “Doing exclusive breastfeeding personally is not possible because I must go to work and I cannot afford a fridge to keep the expressed breast milk. The rich people are the ones who can afford” (FGD, Kibera 2015).

Among the 293 mothers who participated in the study, 98.3% breastfed their infants in the previous 24-hours (Table 4.7). About a quarter (24.2%) of the mothers gave liquid/ semisolids to their infants. Thin Porridge was the most commonly given liquid at (28.2%), plain water was at 19.7%, glucose water 16.9% while water, sugar and salt solution was at 12.7%. while cow’s milk was 16.9%. However, only 5.6% gave formula milk.

The most common reason for giving liquid/semisolid was advice from friends/neighbours (39.5%), some mothers 25% gave because they thought that the baby was hungry, 11.8% gave because of the work pressure and 13.2% gave because...
they were not producing enough milk. While only 3.9% of the respondents gave because of the pressure from the relatives, only 3.9% and 2.6% gave because of constipation and stomach ache respectively.

Table 4.7: Breastfeeding Practices (24 hours) among mothers with infants aged 0-6 months in Kibera slums

<table>
<thead>
<tr>
<th>Breastfeeding practices in the previous 24 hrs</th>
<th>N=293</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfed in the last 24 hours</td>
<td>288</td>
<td>98.3</td>
</tr>
<tr>
<td>Given liquid/semisolid in the last 24 hrs</td>
<td>71</td>
<td>24.2</td>
</tr>
<tr>
<td>What liquid did you give (N=71)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porridge</td>
<td>20</td>
<td>28.2</td>
</tr>
<tr>
<td>Plain water</td>
<td>14</td>
<td>19.7</td>
</tr>
<tr>
<td>Glucose water</td>
<td>12</td>
<td>16.9</td>
</tr>
<tr>
<td>Water, sugar and salt solution</td>
<td>9</td>
<td>12.7</td>
</tr>
<tr>
<td>Cow’s milk</td>
<td>12</td>
<td>16.9</td>
</tr>
<tr>
<td>Formula milk</td>
<td>4</td>
<td>5.6</td>
</tr>
<tr>
<td>Reason for giving liquid (N=76)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advised by a friend/neighbour</td>
<td>30</td>
<td>39.5</td>
</tr>
<tr>
<td>Thought the baby was hungry</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>Work pressure</td>
<td>9</td>
<td>11.8</td>
</tr>
<tr>
<td>Not producing enough milk</td>
<td>10</td>
<td>13.2</td>
</tr>
<tr>
<td>Pressure from the relatives</td>
<td>3</td>
<td>3.9</td>
</tr>
<tr>
<td>Constipation</td>
<td>3</td>
<td>3.9</td>
</tr>
<tr>
<td>Stomach ache</td>
<td>2</td>
<td>2.6</td>
</tr>
</tbody>
</table>

** Multiple responses

4.5 Relationship between Content and Sources

A cross-tabulation and a chi-square were computed to establish whether there was any association between content and sources. In addition it was also used to establish whether various sources of information gave different content. Both of the variables were categorical data.
There was a significant association between sources and content received by the mothers ($X^2=17.40$, $p=0.026$) (Table 4.8). Majority (54.8%) of the mothers first obtained information from the health professional at the health facility, 46.7% had a low score and 50.8% had an average score while 63.7% had a high knowledge. About 30.5% of the mothers first received the information from the relatives and their friend, 33.3% had a low score and 34.8% had an average score while 23.5% had a high score. Television had a total of 2.2% of the mothers where 6.7% had low knowledge and 1.5% had an average score while only 1% had a high level of knowledge. 2.2% of the mothers first obtained the information from mothers booklet where 6.7% of the mothers had a low knowledge, 2.3% had an average score but there was none in the high score category. While 10.4% of the mothers first obtained the information from the radio 6.7% had a low score and 10.6% had an average score while 11.8% had a high score.

Table 4.8: Relationship between Content and Sources among mothers with infants aged 0-6 months in Kibera slums

<table>
<thead>
<tr>
<th>Source</th>
<th>Low score</th>
<th>Average score</th>
<th>High score</th>
<th>Total</th>
<th>$X^2$</th>
<th>$P$ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health professional</td>
<td>21(46.7%)</td>
<td>67(50.8%)</td>
<td>65(63.7%)</td>
<td>153(54.8%)</td>
<td>0.026**</td>
<td></td>
</tr>
<tr>
<td>Relative/friend</td>
<td>15(33.3%)</td>
<td>46(34.8%)</td>
<td>24(23.5%)</td>
<td>85(30.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television</td>
<td>3(6.7%)</td>
<td>2(1.5%)</td>
<td>1(1%)</td>
<td>6(2.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mothers booklet</td>
<td>3(6.7%)</td>
<td>3(2.3%)</td>
<td>0(0%)</td>
<td>6(2.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio</td>
<td>3(6.7%)</td>
<td>14(10.6%)</td>
<td>12(11.8%)</td>
<td>29(10.4%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at <0.05
4.6 Relationship between Content of information received and Knowledge

A Pearson correlation was computed to determine the relationship between the content and knowledge. This is to give insight on whether the content that the mother had received and whether it had any influence on the knowledge of the mothers. Both of the variables were continuous.

There was a positive significant correlation between content and the knowledge among the mothers (r=0.932, p=0.001). The relationship was a very strong positive correlation. This suggests that as the content of mothers increases the knowledge of the mothers’ increases (Table 4.9).

Table 4.9: Relationship between Content and Knowledge among mothers with infants aged 0-6 months in Kibera slums

<table>
<thead>
<tr>
<th>N=293</th>
<th>Total knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>Pearson correlation (r)</td>
</tr>
<tr>
<td></td>
<td>R²</td>
</tr>
<tr>
<td></td>
<td>Sig (P value)</td>
</tr>
</tbody>
</table>

**Significant at <0.05

4.7 Maternal Knowledge and Breastfeeding Practices

A cross-tabulation and a chi-square were computed to determine whether there was any association between maternal knowledge and various breastfeeding practices. However, it was to also establish whether maternal knowledge was high or low and whether it has any effect on the exclusive breastfeeding practices.

There was no significant association between maternal knowledge and the practice on whether the mothers ever breastfed their infants (Chi square, P=0.935). Majority
(60.7%) of the mothers who ever breastfed had high knowledge levels, 35.5% had average knowledge while only 3.8% of the mothers had low knowledge levels. However, among mothers who had never breastfed their child 66.7% had high knowledge levels, 33.3% had average knowledge while there was none who had low knowledge score.

Table 4.10: Relationship between Maternal Knowledge and Breastfeeding Practices among mothers with infants aged 0-6 months in Kibera slums

<table>
<thead>
<tr>
<th>Breastfeeding practices</th>
<th>Low knowledge n (%)</th>
<th>Average knowledge n (%)</th>
<th>High knowledge n (%)</th>
<th>$X^2$</th>
<th>P value</th>
<th>Likelihood ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever breastfed the child</td>
<td>Yes</td>
<td>11(3.8)</td>
<td>103(35.5)</td>
<td>176(60.7)</td>
<td>0.935</td>
<td>Ns</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0(0)</td>
<td>1(33.3)</td>
<td>2(66.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breastfeeding initiation</td>
<td>Correct initiation</td>
<td>4(5.1)</td>
<td>27(34.6)</td>
<td>47(60.3)</td>
<td>0.755</td>
<td>Ns</td>
</tr>
<tr>
<td></td>
<td>Wrong initiation</td>
<td>7(3.3)</td>
<td>77(35.8)</td>
<td>131(60.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-lacteal feed given</td>
<td>Yes</td>
<td>2(14.3)</td>
<td>5(35.7)</td>
<td>7(50)</td>
<td>0.099</td>
<td>Ns</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>9(3.2)</td>
<td>99(35.5)</td>
<td>171(61.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-lacteal feed given</td>
<td>Yes</td>
<td>5(3.8)</td>
<td>51(38.9)</td>
<td>75(57.3)</td>
<td>0.530</td>
<td>Ns</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>6(3.7)</td>
<td>53(32.7)</td>
<td>103(63.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction to food</td>
<td>Correct introduction</td>
<td>4(1.5)</td>
<td>89(33.7)</td>
<td>171(64.8)</td>
<td>0.001*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wrong introduction</td>
<td>7(24.1)</td>
<td>15(51.7)</td>
<td>7(24.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breastfed within the last 24 hours</td>
<td>Yes</td>
<td>11(3.8)</td>
<td>104(36.1)</td>
<td>173(60.1)</td>
<td>0.193</td>
<td>Ns</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0(0)</td>
<td>0(0)</td>
<td>5(100)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There was no significant association between maternal knowledge and the practice on breastfeeding initiation (Chi square, $P=0.755$). Majority (60.9%) of the mothers who gave a correct response towards breastfeeding initiation had a high knowledge level, 35.8% had average knowledge levels while only 3.3% had low knowledge levels. However, among the mothers who gave a wrong response towards breastfeeding initiation 60.3% had high knowledge levels, 34.6% had average knowledge levels while only 5.1% had low knowledge levels.
There was no significant association between maternal knowledge and the practice on giving pre-lacteal feeds (Chi square, $P=0.099$). Half of the mothers who gave pre-lacteal feeds had a high knowledge levels, 35.7% had average knowledge while only 14.3% had low knowledge score. However, among the mothers who never gave pre-lacteal feeds, majority (61.3%) had high knowledge levels, 35.5% of the mothers had average knowledge levels while only 3.2% of the mothers had low knowledge score.

There was no significant association between maternal knowledge and the practice on giving post-lacteal feeds (Chi square, $P=0.530$). Majority (63.6%) of the mothers who never gave post-lacteal feeds had a high knowledge score, 32.7% of the mothers had average knowledge levels while only 3.7% of the mothers had low knowledge score. However, among the mothers who gave post-lacteal feeds more than a half (57.3%) of the mothers had high knowledge, 38.9% had an average knowledge while only 3.8% of the mothers had low knowledge score.

There was a significant association between maternal knowledge and the practice on introducing food to the infant by the mothers (Chi square, $P=0.001$). Majority (64.8%) of the mothers who gave correct response towards introduction to food had a high knowledge score, 33.7% had an average knowledge while only 1.5% had a low knowledge score while 1.5% had a low knowledge. However, among the mothers who gave a wrong response almost a quarter (24.1%) had a high knowledge score, 51.7% had an average knowledge while 24.1% of the mothers had a low knowledge score.
There was no significant association between maternal knowledge and the practice on breastfeeding within the last 24 hours (Chi square, \( P=0.193 \)). Majority (60.1\%) of the mothers who said yes had high knowledge levels, 36.1\% had an average knowledge levels while only 3.8\% had a low knowledge score. However, among the mothers who never breastfed in the last 24 hours, (100\%) attributing to five mothers only had a high knowledge score.

4.8 Summary of the main areas in Focus group discussions

Most of the mothers said that they got information concerning breastfeeding from the health facilities. However, some of the mothers obtained the information from their own mothers, relatives, mother in-laws, friends and media. One of the mothers said ‘I have received information on breastfeeding from various places but mainly we are taught here during the clinics’.

The mothers reported that they had received various messages about breastfeeding. Some of the messages they received included the message that one should breastfeed exclusively for 6 months, initiate breastfeeding within 1 hour, should breastfeed within thirty minutes time after delivery; act as a natural family planning; breastfeed frequently as long as the child demands; breastfeeding helps the child to grow strong; breastfeed exclusively for six months. However it is worth noting that some of the mothers were informed by their neighbours, friends as well as relatives to feed the baby with porridge when the child cries and when the child hiccups to give breast milk water. Some of the mothers also gave food at 3 months and 5 months as they believed that the breast milk was not enough for the infant and pressure from mothers
in law. Most of the mothers didn’t know about the benefits of EBF to the mothers and benefits on colostrum.

Exclusive breastfeeding was not a common practice in Kibera as most of the mothers never did exclusive breastfeeding. Feed were introduced as early as one month due to resuming back to work or being the sole bread earner in the family. Some of the mothers acknowledged expressing the first milk and discarding it as that was their customs. Mothers who were Muslims gave honey to their infant as this is according to their culture. The mothers reported that they concurred with messages given regarding breastfeeding counseling and one of the mothers acknowledged realizing the benefits ‘My child has improved in terms of weight and falls ill less often compared with my first born’.

4.9 Summary of the Key informant interviews findings

The health care providers were faced with constraints in counselling the mothers this is because the numbers of personnel were few in comparison with the number of the mothers needed to handle. They are overwhelmed as they cannot be able to give detailed one on one counselling to the mothers.

One of the nutritionist said that ‘The information we give to the mothers might not be adequate because there is no time to handle mothers individually and therefore a general talk is usually given’. Most of the mothers practice selectively on what we teach them here based on various issues. Some of them don’t practice because they are the sole bread earner and others are because of the pressures from family, friends as well as mother in laws. However, others are unable because of circumstances they
face such as going back to work early and most are casual labourers. But quite a number practice what they are told.

One of the nurse acknowledged that they never received the formula milk, baby bottles and teats from any organizations as this was against the guidelines. The nutritionist and the nurses were knowledgeable on the guidelines of infant feeding and especially on exclusive breastfeeding. One of the nutritionist said ‘it is easier for me to educate the mothers because I have done it myself’.
CHAPTER FIVE: DISCUSSION

5.1 Introduction

Improving exclusive breastfeeding practices in infant aged 0-6 months is critical to improved nutrition, health and development (WHO, 2008). There is limited scientific data on sources and content of the information received by the mothers who are practicing exclusive breastfeeding in urban slums in Kenya. Most of the studies have focused on breastfeeding practices and knowledge levels of mothers (Ochola, 2008; Kimani-murage et al., 2011; Muchina and Wathaka, 2010) while few studies (Mututho, 2012) have focused on sources and content on exclusive breastfeeding.

Epidemiological evidence indicates that exclusive breastfeeding in the first six months stimulates babies’ immune system and protects them from acute respiratory infections and diarrhoea the two major causes of infant mortality in the developing world (UNICEF, 2006; Cai et al., 2012). Estimates indicate that 22% of newborn deaths are preventable if breastfeeding is started within the first hour after birth and 16% if breastfeeding started within the first 24 hours (Masson et al., 2013). Exclusive breastfeeding reduces infections and mortality among infants which is very important in attaining the sustainable development goals in reducing child mortality.

To improve on exclusive breastfeeding mothers’ knowledge is considered as one of the important aspects. The source and content of the information received may influence the maternal knowledge. The study adopted a cross-sectional analytical study design to determine the sources and content of maternal knowledge on exclusive breastfeeding practices.
5.2 Socio-economic and Demographic Characteristics of the Mothers

Education is one of the key resources that enables and empowers women to provide appropriate care for their infants (Paudel & Giri, 2014). Findings from this study found out that majority of the mothers were housewives with low levels of education. These findings conform to a study done on factors influencing EBF among infant less than 6 months in Kasarani informal settlent, molo, Mututho (2012) and similarly with a study done on determinants of breastfeeding in Korogocho and Viwandani urban informal settlement (Kimani-Murage et al., 2011). Almost a half of the mothers were involved in small businesses and formal employment. However, it was notable that some mothers were unemployed, students and/or house helps.

Majority of the mothers in Kibera slum relied on their husband for income. This study finding was in agreement with a study done in Kahawa west public centre (Kimwele, 2014). Therefore, this could mean that mothers may have limited choices on the food to be consumed in the house because of decision making restricted by the amount of money given. Majority of the mothers’ households owned mobile phones and radios. The most common source of lighting was electricity which may have been contributed by the urban electrification project. It was evident that most of the household had video players which may have been as a result of the electrification. Nevertheless, some of the mothers used tin lamp as a source of lighting which may be an indication that some households still didn’t have access to electricity. Kerosene stove was the common source of cooking fuel probably because the cooking paraffin was available and “cheap”. The mother could buy paraffin worth as low as ten shillings which is affordable to many. This may have been attributed by the high poverty levels among some of the mothers (Kimani-Murage et al., 2011; Mututho, 2012).
Majority of the mothers in this study were young and married but some were still living in their parents’ home and depended on their parents. This was in consistent with a study done in Kahawa west public health centre where high poverty levels among mothers were also reported (Kimwele, 2014). High poverty levels in Kibera slums as reported by the mothers during FGDs may have resulted to early school dropout by most of the girls and therefore leading to early marriages. Similarly in a study done in Korogocho on complementary feeding, reported high levels of poverty which may also have contributed to students discontinuing their studies because of the lack money to finance their education (Korir, 2013). Most of the women in Kibera slums lived in poor conditions characterized by poor housing and crowding. Majority were living in rented rooms. However, some of the mothers were living in good houses (Mututho, 2012).

5.3 Sources and Content of Information on Exclusive Breastfeeding

Sources of exclusive breastfeeding information are very vital because it will contribute to information that the mother know. Scientific evidence has demonstrated that health facilities serve as the main source of exclusive breastfeeding information to some mothers (Subhaprada, 2015). However, apart from the health facilities mothers also rely on audio and visual media such as radio and television. This was in agreement with a study on breastfeeding knowledge and practices in Islamabad which acknowledged that print media such as the mothers’ clinic booklet and from friends and relatives are also additional sources of information (Ahmed et al., 2014). Moreover, in a study conducted in Mvomero, Tanzania it was observed that most of the mothers received information on breastfeeding from their mothers, grandmothers,
relatives and friends (Mbwana et al., 2013). Different sources provide unique set of information to the mothers concerning exclusive breastfeeding.

In this study most of the mothers first learnt or heard about exclusive breastfeeding from the health facilities. This was in concurrent with other studies done in Kumasi, Ghana; Mvomero, Tanzania and in urban slum Kurnool, India (Danso, 2014; Mbwana, 2012; Subhaprada, 2015). However, these findings are comparable to those found in Kasarani informal settlement in Molo (Mututho, 2012) and in a cross-sectional study among mothers in Debre Markos, Northwest Ethiopia (Mekuria and Edris, 2015). Moreover, other sources contribute to the information that the mothers have received (Petit, 2008). In the current study some of the mothers received their information from relatives and friends regardless of whether the information was correct or wrong. This was confirmed by the FGDs. Other sources of information besides health facilities and relatives and friends as reported by a study on breastfeeding in infancy conducted in Bangladesh were television, mothers’ clinic booklet and radio (Haider et al., 2010). According to these findings this may imply that most of the mothers in Kibera slums relied on health facilities as well as relatives and friends.

The content of the information that a mother receives has been shown to be fundamental. In the current study content was translated into knowledge. This was in agreement with a study done on barriers to exclusive breastfeeding and nutritional status of non-exclusively breastfed infant in Eldoret (Wanyonyi, 2010). Majority of the mothers had knowledge on exclusive breastfeeding and importances of exclusive breastfeeding. This was similar with a study done in Kasarani informal settlement,
Molo (Mututho, 2012). However, one of the key informants reported that “The content is not fully covered due to shortage of staff and therefore not able to give one on one counselling session” (KI, Kibera 2015)

Conclusions from the FGDs revealed that some of the mothers were not satisfied with the content of exclusive breastfeeding counseling offered at the public health facility that most of the mothers visited. It may be important to have more time and if possible to have individual sessions where the health worker can be able to pass on the information efficiently and based on the needs of the mother. However, one of the KI reported that they have a challenge in terms of number of staffs in the health facilities.

5.4 Maternal Knowledge on Exclusive Breastfeeding

Maternal knowledge on exclusive breastfeeding is one of the vital elements in ensuring that the mothers take optimal care to their infants. Maternal knowledge may be based on experiences or may be learnt from various avenues or both (Mbwana, 2012).

In this study majority of the mothers gave correct definition of exclusive breastfeeding, breastfeeding on demand, benefits of exclusive breastfeeding to the infants, whether colostrums should be given, exclusively breastfeeding for six months and giving breast milk immediately after birth and this show that they were knowledgeable. WHO and UNICEF recommendations specify that children should be exclusively breastfed for 6 months and that breast feeding continues for two years and beyond (WHO, 2006). Nevertheless, just some few mothers understood the benefits
of colostrums. During the FGDs most of the mothers acknowledged that they didn’t know how exclusive breastfeeding was of any benefits to them. This is in agreement with a study done in Mvomero, Tanzania on exclusive breastfeeding (Mbwana, 2012).

In this study majority of the mothers had a high knowledge score based on a maximum score of “10”. The mean knowledge score was 7.70 ± 1.47 out of the possible total score of 10. This was comparable with a study by (Mututho, 2012). This may imply that most of the mothers were aware of what they are expected to do in terms of exclusive breastfeeding. This might have been attributed to the increased awareness on exclusive breastfeeding by the government and the provision of the “beyond zero containers” pioneered by the first lady Margaret Kenyatta to ensure that maternal mortality as well as infant mortality is reduced. This is to ensure that the sustainable development goals addressing infant mortality is addressed.

Similarly, in Tanzania in a study by Ladunuri (2012), majority (89%) of the respondents were knowledgeable about exclusive breastfeeding. The findings are also consistent with those of Sholeye et al. (2015) in Nigeria, where more than 95% of mothers had adequate knowledge on exclusive breastfeeding especially the benefits of breastfeeding. Maternal knowledge that colostrum should be fed to the baby was high although most of the mothers didn’t know the benefit of colostrums. This is in contrast with a study done by Shirima et al. (2001) which documented that mothers had satisfactory knowledge on importance of colostrums. However, few mothers knew about the benefits of exclusive breastfeeding to the mothers.
5.5 Exclusive Breastfeeding Practices

Scientific evidence has constantly revealed that exclusive breastfeeding from birth to 6 months plays an important role in ensuring proper growth and development of a child. In this study almost all the mothers had breastfed their infants. In this study, almost all the children had been breast fed and this is comparable with the Kenya national figures as reported in Kenya Demographic Health Survey (KDHS, 2014), in Korogocho slum Nairobi (Korir, 2013), in Kibera slum Nairobi (Kimani-Murage et al., 2011) and in Kasarani informal settlement (Mututho, 2012).

In this study majority of the mothers had exclusively breastfed their infants and this is comparable with the Kenya national figures as reported in Kenya Demographic Health Survey (KHDS, 2014). Moreover this is similar with a study done in Bankura district, west Bengal India (Sinhababu et al., 2010).

Majority of the mothers had initiated breastfeeding within 1 hour. This is in agreement with a study conducted in India among lactating mothers (Choudhary et al., 2015). Moreover, it was similar with a cross sectional study done in Kolkata slum area in India (Dasugpta, et al., 2014). The results of this study are similar to other previous studies by Ochola (2008), in Tanzania by Saka (2012) and Nkala & msuya (2011) and elsewhere in Sub-Saharan African countries that have showed that breastfeeding is the culture and well accepted practice where most of the infants are breastfed at one point in time.

In the current study, some of the mothers delayed breastfeeding initiation and the most common reason for delaying initiation was the mother being sick. The study
findings are similar to those reported in Korogocho slums by Korir (2013) in terms of the mothers who delayed initiation but it differed because of the reason given. The main reason for not initiating breastfeeding in Korogocho slums was lack of breast milk. This was similar in other studies conducted in other informal settlements in Nairobi, (Kimani-Murage et al., 2011 and Ochola, 2008). Similarly this was found in a study done in India by Dasgupta et al., (2014) which found out that most of the mothers had also delayed initiation.

Few mothers gave pre lacteal feeds and the most commonly given pre lacteal feeds were plain water. This study findings are similar to those reported urban slums of Vadodara (Katara et al., 2011), and a mixture of water, sugar and salt solution. According to Ochola (2008), some of the pre-lacteal feeds given include; glucose water, plain boiled water and salt solution given by relatively smaller percentages of mothers. Similarly in other Kenyan informal settlements, two in five of the children were provided with something to drink other than the mothers’ breast milk within three days from the time of delivery (Kimani-Murage et al., 2011). Overall in Kenya, almost half of children are given pre-lacteals (KNBS & ICF Macro, 2010). These results are in concurrence with the Kenyan statistics conducted by Kenya national bureau of statistics on the practice of pre-lacteal feeding which indicated that the most commonly given pre-lacteal feeds were; plain boiled water, glucose water and formula milk (KNBS & ICF Macro, 2010). Similarly these results are in concurrence with a study conducted in north eastern Ethiopia (Legesse, 2014). However, this was contrary to a study conducted in western Tanzania which reported almost a quarter of the mothers giving pre-lacteal feeds (Nkala & Msuya, 2011).
About a half of the mothers gave post-lacteal feeds and the most commonly given post-lacteal feed was water as well as a mixture of water, sugar and salt solution. The most commonly given reasons for giving post-lacteal feeds were that the mothers thought that the infant had a stomach ache and that the mothers were away from the infant. Giving of post lacteals before achieving six month exclusive breastfeeding is a common practice as reported for Kibera, Kenya whereby one-quarter of mothers had given post lacteal feeds to their infants (Ochola, 2008). In a study carried out in Kolkata, 32% of mothers had introduced complementary feeds before attaining the age of 6 months (Dasgupta et al., 2014). This was confirmed by the FGDs where some of the mothers said that they gave the post lacteal because of extreme poverty. One of the mothers said “I have a baby boy and he suckles so much and more frequent to an extent I feel like I can collapse. I am a widow and I don’t have a job so the food that I get is not enough for both of us. Another mothers said that “humans are born to eat and therefore the breast milk is not enough for my baby” (FGD, Kibera 2015).

In this study almost all the mothers’ breastfed their infants in the last twenty four hours. This was in agreement with a study done in Kasarani informal settlement, Molo (Mututho, 2012). However, almost a quarter of the mothers gave post lacteal feeds in the last twenty four hours. The most commonly given post lacteal feed was porridge and water. The reason for giving post lacteal in the last twenty four hours was advice from neighbours and friends and mothers thought that the infants were hungry. This was also in agreement with a study done in Kasarani informal settlement, Molo (Mututho, 2012). This may imply that neighbours and relatives contributed to the decisions of the mothers in giving the post lacteal feed which is
against the ten steps of successful breastfeeding (UNICEF/WHO, 2009). During the FGDs some of the mothers acknowledged that they usually don’t do what they are told to do at the health facility because of the various challenges they face. One of the mother said “Doing exclusive breastfeeding as an individual is not possible because I must go to work and I cannot afford a fridge to keep the expressed breast milk. The rich are the ones who can afford” (FGD, Kibera 2015)

5.6 Association between Sources and Content

Various sources of information on exclusive breastfeeding are more likely to influence the content that the mother receives. Mothers who receive information from the health facilities are more likely to have better and more accurate content than a mother who have received information on exclusive breastfeeding from the relatives and friends.

In this study there was a significant association between the sources and content. This was in agreement with the findings of a study conducted in Mvomero, Tanzania (Mbwan et al., 2013; Shirima et al., 2001). However, this was in disagreement with a study done in Calabar, Nigeria which showed that mothers who obtained information on exclusive breastfeeding from neighbours practiced more than those who obtained the information from the health facilities (Essien et al., 2009). Hence the study’s null hypothesis that there is no significant associationship between sources and content on exclusive breastfeeding among mother with infants aged 0-6 months was rejected. This suggests that content on exclusive breastfeeding was influenced by the various sources that the mothers received.
5.7 Relationship between Content and Knowledge on Exclusive Breastfeeding

A mother who has more content is more likely to be more knowledgeable than a mother who has low content (Gupta, 2012). In this study mothers who had more content on exclusive breastfeeding turned out to have more knowledge on exclusive breastfeeding than mothers who had low content on exclusive breastfeeding. There was a significant relationship between content and knowledge. This was in agreement with the findings of a study conducted in Debre Markos, Northwest Ethiopia (Mekuria & Edris, 2015) and a study done in Uganda on perception and knowledge on exclusive breastfeeding among women attending antenatal and postnatal clinics which showed that the more the content a mother has the more she is likely to be knowledgeable (Petit, 2008). Hence the null hypothesis that there is no significant relationship between mothers’ content on exclusive breastfeeding and knowledge on exclusive breastfeeding among mothers with infants aged 0-6 months was rejected.

5.8 Association between Maternal Knowledge and Breastfeeding Practices

Maternal nutritional knowledge is considered to have a significant impact on the infants’ nutritional status as she has the capacity to determine conscious decisions. Varying maternal knowledge levels may determine various exclusive breastfeeding practices. General awareness concerning optimal breastfeeding practices exists in urban poor settings. Nevertheless, the maternal knowledge is not translated into practice and therefore leading to sub-optimal breastfeeding practices (Kimani-Murage et al., 2015). This was substantiated by a KI who said that “some of the mothers don’t practice what we tell them to do. Because they are the bread winners and due to the poverty levels here, most of them don’t manage to do exclusive breastfeeding” (KI, Kibera 2015)
There was no significant association between maternal knowledge and breastfeeding initiation. This was in agreement with the findings of a study conducted in Tanzania (Exavery et al., 2015). It was also in agreement with a study done in Akransas which showed that mothers who had more knowledge were able to have the correct initiation as well as continued breastfeeding (Moore, 2015). However; the above findings were in disagreement with the findings of the study conducted in southern Ethiopia (Adugna, 2014) and a longitudinal study done in Southwest Sydney Australia (Wen et al., 2012). Hence the study’s null hypothesis that there is no significant associationship between maternal knowledge and the practice of breastfeeding initiation among mother with infants aged 0-6 months was not rejected.

There was no significant association between maternal knowledge and giving of pre-lactic feeds. This was in agreement with the findings of a study conducted in Raya Kobo, North Eastern Ethiopia (Legesse et al., 2014). Nevertheless, a study in India conducted among prenatal mothers showed that education was important in order to reduce the incidences of mothers giving pre lacteal feeds (Divyarani & Goudappa, 2015). Hence the study’s null hypothesis that there is no significant associationship between maternal knowledge and the practice of mothers who gave pre-lacteal feeds among mother with infants aged 0-6 months was not rejected.

There was no significant association between maternal knowledge and mothers who gave post-lacteal feeds. This was in agreement with the findings of a study conducted in Korogocho where mothers had poor knowledge and due to that there was early introduction of post lacteal feed (Kimani-Murage et al., 2015). However, this was in disagreement with a study done in Ethiopia which showed that a significant number
of mothers who were knowledgeable did not give post lacteal but instead practiced exclusive breastfeeding (Gelaw et al., 2015). Hence the study’s null hypothesis that there is no significant associationship between maternal knowledge and the practice of mothers who gave post-lacteal feeds among mother with infants aged 0-6 months was not rejected.

There was a significant association between maternal knowledge and introduction to food by the mothers. This was in agreement with the findings of a study conducted in Kasarani informal settlement in Molo (Mututho, 2012) and similarly a study done in Arba Munich on maternal knowledge of optimal breastfeeding practices (Tamiru, 2013). Hence the study’s null hypothesis that there is no significant associationship between maternal knowledge and the practice on introduction to food by mothers among mother with infants aged 0-6 months was rejected.

There was no significant association between maternal knowledge and breastfeeding within the last 24 hours. However, the above findings were in disagreement with the findings of the study conducted among Saudi women (Saied et al., 2013; Spear, 2006). In addition, this was also in disagreement with a study conducted among mothers attending selected public health institution in Addis Ababa which showed that there was a significant association (Hiwot, 2015). Hence the study’s null hypothesis that there is no significant associationship between maternal knowledge and the practice on breastfeeding within the last 24 hours among mother with infants aged 0-6 months was not rejected.
CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This was a cross-sectional analytical study whose purpose was to determine sources and content of maternal knowledge on exclusive breastfeeding practices among mothers with infants (0-6 months) in Kibera slums.

6.1.1 Summary of the Findings

The most common source of information on breastfeeding was health facilities but mothers still relied on other sources of information such as radio, television, friends and relatives. Some of the information provided to the mothers was well understood. Most of the mothers knew that breast milk should be given immediately after birth, exclusive breastfeeding is beneficial, colostrums should be fed to the baby and infants need to be breastfed on demand. However, some of the content given was not adequate because although they understood, some of the mothers were unaware of some issues like advantages of exclusive breastfeeding to the mothers. Moreover, some of the information given from the relatives and friends was not correct. For instance a mother being advised by a friend to give water to the infant because they believe the infant had a stomachache.

Most of the mothers were knowledgeable about exclusive breastfeeding but due to a number of factors surrounding the urban slums like high level of unemployment and poverty, they are unable to maintain exclusive breastfeeding for six months. There is a great improvement among mothers regarding exclusive breastfeeding practices. Nevertheless, early initiation of breast feeding, giving colostrums as well as
advantages of exclusive breastfeeding to mothers, no pre lacteal feeds, no post lacteal feeds and exclusive breast feeding are not practiced at a desired level.

6.2 Conclusions

The first objective of the study was to establish the demographic and socio-economic characteristics of the mothers. Results showed that the majority of the respondents were mostly young women. The Majority of the mothers were married only a few were separated. Mothers had low levels of education most of them mainly had completed primary school education. They were mainly of low socio-economic status with the main sources of income being from their husbands. Stove (kerosene) was the main source of cooking fuel for the households. Majority of the study participants lived in rented houses. However, only a few of the mothers were still living in their parent’s home and depended on their parents. The results from this objective showed that mothers in Kibera slums are subjected to poverty and other poor living conditions which affected the exclusive breastfeeding practices.

The second objective of the study was to establish the sources and content of information received by mothers. Results showed that more than a half of the mothers first learnt or heard about exclusive breastfeeding from the health professional while a quarter obtained the information from relatives and friends. Almost half of the mothers learnt on exclusive breastfeeding. However, it is only a few of the mothers who had learnt on attachment and that breast milk helps the baby to grow respectively. The results from this objective showed that mothers in Kibera slums were knowledgeable on exclusive breastfeeding and the source of this information was mainly the health facilities.
The third objective of the study was to determine exclusive breastfeeding practices among mothers. The results demonstrated that the rate of exclusive breastfeeding in Kibera slum had improved. The rate of timely initiation of breastfeeding was almost three quarters while those who initiated after 1 hour were a quarter. Various reasons were given by mothers for delaying the initiation of breastfeeding but the common reason was the mother being sick.

In this study it was found out that a few of the mothers gave pre-lacteal feed to their infants. The most commonly given pre-lacteal were; plain boiled water. About a half of the mothers gave post-lacteal feeds to their infants. The most common post-lacteal feed was; plain boiled water. Most of the mothers gave post-lacteal feeds to soothe stomach pain, while majority of the mothers said that the infant should be put to breast within 1 hour, about a half said that the baby should be breastfed for 2 years and more. Almost all of the mothers knew that infant should be breastfed on demand. However, it is only a few that knew the benefits of colostrum. The results from this objective showed that the rate of initiation of breastfeeding was relatively high, some mothers still gave pre-lacteal feeds and the most common given was plain boiled water.

The fourth objective of the study was to assess the level of maternal knowledge on breastfeeding practices among mothers. Results showed that almost two-thirds of the mothers had high knowledge on exclusive breastfeeding; about one third of the mothers had average knowledge whereas a few of the mothers had low knowledge on exclusive breastfeeding. The results from this objective showed that the mean knowledge score for all mothers on exclusive breastfeeding was relatively high.
The fifth objective of the study was to determine the relationship between knowledge levels and exclusive breastfeeding practices among mothers. There was a significant relationship between maternal knowledge and time for introducing food to the infants. However, there was no significant relationship between maternal knowledge and breastfeeding initiation, pre-lacteal feed given, post-lacteal feed given, ever breastfed the child and breastfeeding within the last 24 hours.

There was a significant association between sources and content received by the mothers. Majority of the mothers first obtained information from the health professional at the health facility.

There was a significant correlation between content and the knowledge levels among the mothers. The relationship was a very strong correlation. This suggests that as the content of mothers increases the knowledge of the mothers’ increases as well. There was no significant association between various breastfeeding practices such as; mothers who ever breastfed their infants, breastfeeding initiation, mothers who gave pre-lacteal, mothers who gave post-lacteal and breastfeeding within the last 24 hours. However, there was a significant association between maternal knowledge and introduction to food by the mothers.

6.3 Recommendations

6.3.1 Recommendations for Policy

i. Government of Kenya should put into place strategies that should encourage more mother participations in EBF initiatives which may have a better effects to enhance better practices like the mother to mothers support groups
6.3.2 Recommendations for Practice

i. The community needs to be more sensitized on EBF information and practices. This will ensure that the friends/relatives or even the grandmothers are aware of the correct information on EBF therefore not misleading the nursing mothers.

6.3.3 Recommendations for Further Research

i. Similar studies should be conducted in others areas besides slum areas and other context to establish the quality of information given in terms of adequacy and correct information concerning exclusive breastfeeding.

ii. More studies need to be conducted to understand the disconnect between the maternal knowledge and practices concerning exclusive breastfeeding.

iii. More studies need to be conducted on the sources and content of exclusive breastfeeding especially in the rural slums areas.
REFERENCES


Uchendu U. O., Ikefuna A. N. and Emidi I. J. (2009). Factors associated with Exclusive breast feeding among mothers seen at the University of Nigeria Teaching Hospital. SAJCH May 2009 Vol. 3 No. 1


APPENDICES

APPENDIX A: Letter of Introduction and Informed Consent

Introduction
Hello. My name is Patrick Kamau M and I am a Kenyatta University student pursuing a Master of Science in Foods, Nutrition and Dietetics carrying out a study on maternal knowledge on exclusive breastfeeding. I would like to explain to you about the research after which you can ask any questions that you may have. You may then decide if you would like to participate in the research or not.

The aim of this study is to identify the sources and content of maternal knowledge on exclusive breastfeeding practices among mothers with infants aged 0-6 months. Participation in the study is voluntary and will be highly appreciated. There are no consequences of declining to participate in the study. Confidentiality will be highly maintained and any information obtained from this study will only be used for the purpose of this study only. Please note that participation in this study has no financial or other personal benefits

Procedure that will be followed
Participation in this study will require that I ask you some questions and then I will record the information that you provide in a questionnaire. The interview should take approximately 15-20 minutes of your time. There is no right or wrong answer. Anything you say will be interesting and helpful for me and very valuable to this study.

Community Considerations
The study will ensure that the participants with inadequate sources and content on exclusive breastfeeding will be given advice.

Benefits to the Research Participant
As a result of participating in this study you will benefit by understanding the sources and content of maternal knowledge furthermore understand more on the exclusive breastfeeding practices among mothers with infants’ aged 0-6 months in Kibera. Advice on the appropriate action will be taken in the event that the sources and content will be found to have a problem.
**Discomforts and Risks**

Some of the questions asked during the interview may make you uncomfortable. If this happens, you may decline to answer them if you so choose. In addition, you may also stop the interview at any time.

**Care and Protection of the Research Participant**

The study procedures will be carefully explained to the respondent to ensure and assure them that there are no risks associated with the procedure to the mother, their breastfeeding child, their family or even the health facility now or in future.

**Confidentiality**

There will be no direct reference of your name nor will your contact information be published at the end of the study. The information that you will provide will be compiled and analysed together with other mothers. It will therefore not be possible to identify your responses and will be treated with utmost confidentiality.

If you have any concerns regarding this study or your right as a participant, please you may get in touch with the contact given below:

Mr. Patrick Kamau M  
Kenyatta University  
PO BOX 25159-00100,  
Nairobi, Kenya.  
Tel: +254-725 771 021

Or  
P.O. Box 43844-00100  
Nairobi, Kenya.  
Tel: +254 20 8710901, +254 20 8711622

**Participant’s Statement**

This research study has been explained to me. I have had the opportunity to ask questions. I therefore voluntarily agree to participate in this research study.

_________________________________________  ____________________________  
Participants signature or thumb print  Date

**Interviewer’s Statement**

I, the undersigned have explained to the respondent the procedures in the study, the benefits and the risks involved in participating in the study in a language she understand.

Name of interviewer

Interviewer signature  Date
KIAMBATISHO A: FOMU RIDHAA NA BARUA YA UTANGULIZI

Utangulizi


Utaratibu ambao utakuwa ukifuatiwa

Kushiriki katika utafiti huu itahitaji kwamba mimi kukuuliza baadhi ya maswali na kisha kuiandika habari ambayo wewe umetoa katika dodoso. Mahojiano inapaswa kuchukua takriban dakika kumi na tano hadi dakika ishirini ya muda wako. Hakuna jibu lililo sahihi au la makosa. Chochote utakacho kwa taktukiwa kwa kuvutia na manufaa kwa ajili yangu na manufaa kwa utafiti huu.

Usumbufu na hatari kwa mshiriki

Baadhi ya maswali nitakuuliza kwa mshiriki yake na mahojiano labda inaweza kukufanya uwe na wasiwasi. Kama hali hii itatokea, unaweza kukataa kufaidika kwa kuuza vitendo cha mwanasa na kutoa muda kwa kuuza. Aidha, unaweza kusimamisha kwa ajili ya kutafuta wakati kwa wakati wowote.

Faida kwa mshiriki utafiti

Kwa ajili ya kuuza vitendo cha maarifa utafiti huu itakuwa kwa uwe na yangu ya kuwasiliana na watoto wachanga wenye umri wa miezi 0-6 kwa kuuza kwa Kibera.
Ushauri juu ya hatua mwafaka zitachukuliwa katika tukio hilo kuwa vyanzo na maudhui kupatikana kwa kuwa tatizo.

**Huduma na ulinzi wa mshiriki utafiti**
Utaelezwa utaratibu wa utafiti huu kwa makini kuhakikisha na kuwa hakuna hatari zinazohusiana na utaratibu huu kwa mama, mtoto anayenyonyeshwa, familia zao au hata kituo cha afya sasa au katika siku zijazo.

**Masuala ya jamii**
Utafiti huu utahakikisha ya kwamba washiriki utafiti wenye uhaba wa vyanzo na yaliyomo kwenye maziwa ya mama pekee watapewa ushauri.

**Usiri wa mshiriki utafiti**
Hakutakuwa na kumbukumbu moja kwa moja ya jina lako wala ambayo itachapishwa mwishoni mwa utafiti. Maarifa utakayonipa yatachambuliwa pamoja na yale yatakayopewa na akina mama wengine. kwa hivyo haitawezekana kubainisha majibu yako na itatibiwa na usiri mkubwa.

Kama una wasiwasi wowote kuhusu utafiti huu au haki zako kama mshiriki, ta fadhali unaweza kuwasiliana kutumia nambari zilizo hapa chini:

Patrick Kamau M
Namba za anwani 25159-00100, 20 8711622
Nairobi, Kenya.
Namba ya simu: +254-725 771 021, +254 20 8710901, +254 20 8711622

**Taarifa ya mshiriki**

__________________________________    _______________________
Sahihi ya mshiriki    Tarehe

**Taarifa ya mhojaji**
Mimi, niliyetia sahihi nimemfahamisha mshiriki utaratibu katika utafiti huu, faida na hatari ya kushiriki katika kushiriki katika utafiti katika lugha anayoelewa.

Jina la Mhojaji __________________________
Sahihi la Mhojaji __________________________ Tarehe __________________________
APPENDIX B: Structured Questionnaire

Form 1- Questionnaire for Interview Schedule

SOURCES AND CONTENT OF MATERNAL KNOWLEDGE ON EXCLUSIVE BREASTFEEDING PRACTICES AMONG MOTHERS WITH INFANTS (0-6 MONTHS) IN KIBERA SLUMS, NAIROBI

Questionnaire ID NO: ___________________________ Clinic name: ___________________________
Day: ___________________________ Village: ___________________________

SECTION A. Infant Information
Date of birth (DD/MM/YY) ___________ Age (months) ___________
Sex ___________ 0.male [ ] 1.female [ ]
Is this your 1st, 2nd or 3rd child?
1. One [ ] 2. two [ ] 3. three [ ]
4. Specify ……………

SECTION B. DEMOGRAPHIC AND SOCIO-ECONOMIC STATUS

B1. Age of the mother in completed years (Specify) ___________________________

B2. Mothers ethnic group
1. Luo [ ] 2. Luhya [ ] 3. Kamba [ ]

B3. Which is your highest level of Education? (Circle where applicable)
1. None [ ] 2. Preschoolers [ ]
3. Primary complete [ ] 4. Primary incomplete [ ]
5. Secondary complete [ ] 6. Sec incomplete [ ]
7. Diploma/certificate [ ] 8. University [ ]
9. Informal education [ ]

B4. What is your main Occupation? (Circle where applicable)
1. Housewife [ ] 2. Business [ ] 3. Farmer [ ]
4. Casual labourer [ ] 5. Unemployed [ ] 6. Student [ ]
7. Retired (pensionable) [ ] 8. Formal employment [ ]

B5. If working away from home, do you take the baby with you?
1. Yes [ ] 2. No [ ]

B6. How many children do you have?
1. One [ ] 2. Two [ ] 3. Three [ ]
4. More (state the number) _______

B7. What is your Religion?

1. Catholic [ ]  
2. Protestant [ ]  
3. Islam [ ]  
4. Others (specify) ______________________________

B8. What is your marital status?

1. Married [ ]  
2. Single [ ]  
3. widowed [ ]  
4. Divorced [ ]

If married what is your husband’s occupation?

1. Casual worker [ ]  
2. Formal/regular (specify type of job) _________

3. Self employed (specify) ______________________

B9. What are your sources of income? (Indicate if multiple and specify)

1. Own a business [ ]  
2. salary [ ]  
3. husband [ ]  
4. others (specify) ___________________________

B10. Which of the following items do you own? (Circle where applicable)

1. Television [ ]  
2. Radio [ ]  
3. Bicycle [ ]  
4. Telephone [ ]  
5. Vehicle [ ]  
6. Land [ ]  
7. Motorcycle [ ]  
8. Sofa set [ ]  
9. Video player [ ]
10. Refrigerator [ ]  
11. cooker/meko [ ]  
12. donkey/oxen cart [ ]  
13. chicken [ ]

B11. Do you live in a rented house?

1. Yes [ ]  
2. No [ ]

If YES how much do you pay per month ______________

1. 1-500 [ ]  
2. 501-1000 [ ]  
3. 1001-2000 [ ]  
4. 2001-3000 [ ]  
5. 3001-4000[ ]  
6. 4001-5000 [ ]  
7. 5001-10000 [ ]

B12. What is your main source of cooking fuel?

1. Gas [ ]  
2. firewood [ ]  
3. charcoal [ ]  
4. other (specify) __________

B13. How much money do you use on food per month?

1. 1-500 [ ]  
2. 501-1000 [ ]  
3. 1001-2000 [ ]  
4. 2001-3000 [ ]  
5. 3001-4000 [ ]  
6. 4001-5000 [ ]  
7. 5001-10000[ ]

B14. What is your main source of lighting?

1. Electricity [ ]  
2. Kerosene [ ]  
3. tin lamp [ ]  
4. Candle [ ]  
5. Solar [ ]  
6. Others (specify) __________

SECTION C. Practices on EBF
C1 Have you ever breastfed this child?
  1. Yes [   ] 2. No [   ]

C2. When did you place your child on the breast for the first time after delivery?
  1. Immediately after delivery [   ]  2. Within 1 hour [   ]  3. 2-3 hours [   ]
  4. Days (mention) ………

C3 If delayed more than one hour, what were reasons that made you delay in breastfeeding initiation?
  1. Caesarian section [   ]  2. Baby was sick [   ]  3. Mother was sick [   ]
  4. Delayed milk secretion [   ]  5. Others (Mention)………………

C4 Are you currently breastfeeding your Child?
  1. Yes [   ]  2. No [   ]

C5 If the baby is still breastfeeding do you give your child any other food or liquid like water/juice apart from breast milk
  1. Yes [   ]  2. No [   ]

C6 After delivery, did you give your baby anything to eat/drink before starting breastfeeding?
  1. Yes [   ]  2. No [   ]

C7 If yes, what did you give your baby?
  1. Water [   ]  2. Thin porridge [   ]  3. Milk [   ]
  4. Others (specify)…………

C8. Since your baby was born has he/she been given anything else besides breast milk?
  1. Yes [   ]  2. No [   ]
If yes what has the baby been fed on?
  1. Water [   ]  2. Thin porridge [   ]  3. Milk [   ]
  4. Others (specify)…………

C9. When should the food be introduced to the child?
  1. Immediately after birth [   ]  2. After 2 weeks [   ]  3. After 1 month [   ]
  4. After 3 months [   ]  5. After 6 months [   ]  6. Other (specify) _______

C10. Has the baby breastfed in the last 24 hours?
  1. Yes [   ]  2. No [   ]
If no, what is the reason?
___________________________________
C11 a) Have you given your baby any liquid in the last 24 hours? (If no skip question 11 and move to 12)
   1. Yes [ ]  
   2. No [ ]

If YES what was the liquid that you gave?
   1. Breast milk [ ]  
   2. Formula milk [ ]  
   3. Cow’s milk [ ]  
   4. Glucose water [ ]  
   5. Salt solution [ ]  
   6. Sugar-salt solution [ ]  
   7. Porridge [ ]

b) What was the reason for giving your baby the liquid?
   1. Advised by a friend/neighbour [ ]  
   2. Not producing enough milk [ ]  
   3. Thought the baby was hungry [ ]  
   4. Pressure from the relatives [ ]  
   5. Other (specify) ______________________

C12 a) Are you experiencing any problem in breastfeeding your baby?
   1. Yes [ ]  
   2. No [ ]

If YES what problem are you experiencing?
   1. Inadequate breast milk [ ]  
   2. Baby refusing to breastfeed [ ]  
   3. Pain in the breasts [ ]  
   4. Workload [ ]
   5. Pressure from relatives and family members [ ]  
   6. Others (specify) ______________________

b) Have this interfered with breastfeeding
   1. Yes [ ]  
   2. No [ ]

SECTION D. Knowledge on Exclusive Breastfeeding

D1. What is exclusive breastfeeding?
   ________________________________________________________________
   ________________________________________________________________
   1. Correct answer [ ]  
   2. Wrong answer [ ]  
   3. No idea [ ]

D2. Where did you first learn/heard about exclusive breastfeeding?
   1. Health professional [ ]  
   2. Relative/friend [ ]  
   3. Radio [ ]  
   4. Television [ ]  
   5. Other (specify) _____________________________

D3. What should be given to the baby immediately after birth?
   1. Breast milk [ ]  
   2. Formula milk [ ]  
   3. Cow’s milk [ ]  
   4. Glucose water [ ]  
   5. Salt solution [ ]  
   6. Sugar-salt solution [ ]

D4. How soon after birth should you put the baby on the breast
1. Does not know [ ] 2. within half an hour [ ] 3. from 1 hr to 9 hrs [ ]
4. After 12 hours [ ] 5. any other (specify) ______________

D5. How long should the baby be breastfed?
1. 1 month [ ] 2. 1-2 months [ ] 3. 3-4 months [ ]
4. 4-6 months [ ] 5. 1 year [ ] 6. 2 years [ ]
7. Other (specify) ______________

D6. How often should a baby be breastfed?
1. On demand [ ] 2. After specific amount of time [ ]
3. Other (specify) ______________

D7. How long should breast milk be given to the baby before introducing food or even water?
1. 1 month [ ] 2. 1-2 months [ ] 3. 3-4 months [ ]
4. 4-6 months [ ] 5. 1 year [ ] 6. 2 years [ ]
7. Other (specify) ______________

D8. Do you think that exclusive breastfeeding is beneficial to the child?
1. Yes [ ] 2. No [ ]

What are the benefits of exclusive breastfeeding?
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

D9. Should the first yellow milk/colostrum be fed to the baby?
1. Yes [ ] 2. No [ ]

If YES does colostrum have any benefits?
_____________________________________________________________________
_____________________________________________________________________

D10. Is exclusive breastfeeding common in your community?
1. Yes [ ] 2. No [ ]

SECTION E. Sources of Information
E1 Have you learnt/heard about exclusive breastfeeding?
1. Yes [ ] 2. No [ ]

E2. Where did you first learnt/heard about exclusive breastfeeding?
1. Health professional [ ] 2. Relative/friend [ ] 3. Radio [ ]
4. Television [ ] 5. Magazines [ ] 6. Other (specify) _____________
E3. What did you learn on exclusive breastfeeding?

_____________________________________________________________________
_____________________________________________________________________

E4. A) During this pregnancy/since this baby was born has anyone told you or suggested to you about exclusive breastfeeding?

1. Yes [ ]
2. No [ ]

Who was that person?

1. Health professional [ ]
2. Relative/friend [ ]
3. Traditional birth attendant [ ]
4. Other (specify) _____________________

What did they say?

_____________________________________________________________________
_____________________________________________________________________

Other than this is there anything else that you have been advised concerning exclusive breastfeeding?

_____________________________________________________________________
_____________________________________________________________________

_____________________________________________________________________
**KIAMBATISHO B: MUUNDO DODOSO**

Fomu 1- Dodoso kwa ratiba mahojiano

**VYANZO NA HABARI, MAUDHUI, MAARIFA YA UZAZI NA MAZOEYA YA MAZIWA YA MAMA PEKEE MIONGONI MWA AKINA MAMA WENYE WATOTO WACHANGA CHINI YA MIEZI SITA KATIKA KIBERA, NAIROBI**

Dodoso Idadi kitambulisho.............................. Jina ya kliniki ........................................

Siku ......................................................

**SEHEMU YA A. Habari ya watoto wachanga**

Tarehe ya kuzaliwa (DD / MM / YY) __________________

Umri (miezi) __________________ Jinsia_________________ 0.Kiume 1.Kike

Je huyu ni mtoto wako wangapi?


**SEHEMU YA B. KIDEMOGRAFIA NA KIJAMII NA KIUCHUMI**

<table>
<thead>
<tr>
<th>NO.</th>
<th>MASWALI</th>
<th>MAJIBU</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1.</td>
<td>Wewe ulizaliwa lini?</td>
<td>DD/MM/YY [....,...,...]</td>
</tr>
<tr>
<td>B3.</td>
<td>Ulihitimu katika kiwango gani cha elimu?</td>
<td>Hakuna [ ] Shule ya kitalu [ ] Nilikamilisha shule ya msingi [ ] Siku kamilisha shule ya msingi [ ] Nilikamilisha shule ya upili [ ] Siku kamilisha shule ya upili [ ] Shahada/cheti [ ] Chuo kikuu [ ] elimu ya wenyeji [ ]</td>
</tr>
<tr>
<td>B5.</td>
<td>Kama unafanya kazi mbali na nyumbani, wewe huenda na mtoto wako?</td>
<td>Ndio La</td>
</tr>
<tr>
<td>B6.</td>
<td>Uko na watoto wangapi?</td>
<td>Moja Zaidi (Andika ni wangapi)______</td>
</tr>
<tr>
<td>B7.</td>
<td>Wewe ni wa dini gani?</td>
<td>Kikatoliki [ ] Kiprotestanti [ ] Uislamu [ ] wengine (taja) __________</td>
</tr>
<tr>
<td>B8.</td>
<td>Hali yako ya ndoa ni gani?</td>
<td>Ndoo [ ] Bado sijaoa [ ] mjane [ ] talaka [ ]</td>
</tr>
<tr>
<td>B9.</td>
<td>Ni nini Vyanzo vyako ya mapato?</td>
<td>Mwenyewe biashara [ ] mshahara [ ] mume[ ] wengine (taja) __________</td>
</tr>
</tbody>
</table>
### B11
Je, wewe kuishi katika nyumba ya kukodi?

Ndio [ ] La [ ]

Kama ndio kiasi gani cha fedha unalipa kwa mwezi ____

### B12
Je, Ni nini chanzo chako na nishati ya kupikia?

Gesi [ ] kuni [ ] makaa [ ]

nyingine (taja) __________

### B13
Je, unatutumia kiasi gani cha fedha kwa mwezi juu ya chakula?

______________________________

______________________________

### B14
Je, ni nini chanzo chako kuu cha taa?

Umeme [ ] mafuta ya taa [ ] batu taa [ ]

Mshumaa [ ] Solar [ ]

nyingine (taja) ________________

---

### SEHEMU YA C. Mazoea ya maziwa ya mama pekee

| C1 | Je, umewahi kunyonyesha motto huyu? | Ndio
La |
| C2 | Ulianzisha kunyonyesha motto huyu mara ya kwanza lini tangu kujifungua? | Mara baada ya kujifungua
Ndani ya saa moja masaa 2-3
Siku (kutajwa) ...........
| C3 | Kama ulichelewa zaidi ya saa moja, ni nini sababu ya kuchelewa katika kuanzisha kunyonyesha? | Kupasulwa ili kupata mtoto
Mtoto mchanga alikuwa mgonjwa
Mama alikuwa mgonjwa
Kuchelewa kutoa maziwa
Nyingine (Taja) ..............
| C4 | Je, sasa unanyonyesha mtoto wako? | Ndio
La |
| C5 | Kama mtoto bado unamnyonyesha wewe humpatia mtoto wako chakula nyingine yoyote au kioevu kama maji/juusi mbali na maziwa ya mama? | Ndio
La |
| C6 | Baada ya kujifungua, je ulimpatia mtoto wako kitu kingine chochote cha kula/kuwya kabla ya kuanza kunyonyesha? | Ndio
La |
| C7 | Kama ndio ulimplatia mtoto wako nini? | maji
Uji mwambamba maziwa
Nyingine (taja) ..............
| C8 | Tangu mtoto wako alizaliwa ameshawahi kupewaa kitu kingine chochote isipokuwa maziwa ya mama? | Ndio [ ] La [ ]
Kama ndio ulimpatia nini? | ________________________
| C9 | Ni wakati gani ulikuwa wa kwanza kumpatia mtoto wako chakula? | Mara baada ya kuzaliwa [ ]
baada ya wiki 2 [ ]
baada ya mwezi 1 [ ]
Baada ya miezi 3 [ ]
baada ya miezi 6 [ ]
nyingine (taja) ________________
<table>
<thead>
<tr>
<th>C10</th>
<th>Je, mtoto amepewa maziwa ya mama katika masaa ishirini na nne iliyopita?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ndio [ ] La [ ] Kama ni la, nini ilisababisha kufanya hivyo</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C11</th>
<th>a) Je, umempatia mtoto wako kioevu yoyote katika masaa 24 iliyopita?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Kama la enda kwa swali D13</td>
</tr>
<tr>
<td></td>
<td>Ndiyo [ ] La [ ] Kama NDIO ni kioevu gani ulimpatia?</td>
</tr>
<tr>
<td></td>
<td>maziwa ya ya matiti [ ] maziwa ya Formula [ ] maziwa ya ng'ombe [ ]</td>
</tr>
<tr>
<td></td>
<td>maji ya Glucose [ ] chumvi ufumbuzi [ ] ufumbuzi sukari-chumvi [ ]</td>
</tr>
</tbody>
</table>

|     | b) Ni sababu gani ilifanya umpatie mtoto wako kioevu?              |
|     | Kushauriwa na rafiki / jirani [ ] sikutoa maziwa ya kutosha [ ]    |
|     | Nilidhani mtoto alikuwa na njaa [ ] shinikizo kutoka kwa ndugu [ ] |

<table>
<thead>
<tr>
<th>C12</th>
<th>Je, Unapaitia shida yoyote unapomnyonyesha mtoto wako?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ndio [ ] La [ ] Kama ndio, nii tatizo gani inayokukabili?</td>
</tr>
<tr>
<td></td>
<td>Upungufu wa maziwa [ ] mtoto kukataa kunyonyeshwa [ ] Uchungu</td>
</tr>
<tr>
<td></td>
<td>katika matiti [ ] nyingine (taja)</td>
</tr>
</tbody>
</table>

|     | b) Je, unafikiri hii inazuia kunyonyeshwa mtoto wako?            |
|     | Ndio [ ] La [ ]                                                  |

### SEHEMU YA D. Maarifa juu maziwa ya mama pekee

<table>
<thead>
<tr>
<th>D1.</th>
<th>Mazwi ya mama pekee ni nini?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mtaalamu wa afya [ ] Jamii/rafiki [ ]</td>
</tr>
<tr>
<td></td>
<td>Redio[ ] Televisheni [ ] nyingine (taja) _______________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D2.</th>
<th>Ni wapi wewe kujifunza/kusikia mara kwanza kuhusu maziwa ya mama pekee?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Maziwa ya matiti [ ] Mazwi ya formula [ ] maziwa ya ng'ombe [ ]</td>
</tr>
<tr>
<td></td>
<td>maji ya Glucose [ ] chumvi ufumbuzi [ ] ufumbuzi sukari-chumvi [ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D3.</th>
<th>Je, Ni nini inafaa itolewe kwa mtoto mara baada ya kuzaliwa?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mazwi ya matiti [ ] Mazwi ya formula [ ] maziwa ya ng'ombe [ ]</td>
</tr>
<tr>
<td></td>
<td>maji ya Glucose [ ] chumvi ufumbuzi [ ] ufumbuzi sukari-chumvi [ ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D4.</th>
<th>Ni kwa muda gani unaofaa kuweka mtoto kwa matiti baada ya kuzaliwa?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hajui [ ] ndani ya nusu saa [ ] kutoka 1 hr kwa 9 hrs [ ] Baada ya masaa 12 [ ] nyingine yoyote (taja) _______________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D5.</th>
<th>Je, ni kwa muda gani lazima mtoto anafaa kunyonyeshwa?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mwezi moja [ ] miezi 1-2 [ ] miezi 3-4 [ ] miezi 4-6 [ ] 1 mwaka [ ] Miaka 2 [ ] nyingine (taja) _______________________</td>
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<tr>
<th>D6.</th>
<th>Ni mara ngapi lazima mtoto anafaa kunyonyeshwa?</th>
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<td>Anapohitaji [ ] baada ya kiasi maalum ya muda [ ]</td>
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<tr>
<td>D7.</td>
<td>Ni kwa muda gani lazima mtoto apewe maziwa hata bila maji?</td>
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<tr>
<td>D8.</td>
<td>Je, unaamini kwamba maziwa ya mama pekee ni faida kwa mtoto?</td>
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<tr>
<td>D9.</td>
<td>Je maziwa ya kwanza ya njano/ kolostramulo kulishwa kwa mtoto?</td>
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<tr>
<td>D10.</td>
<td>Je, ni kawaida kunyonyesha mtoto katika jamii yako?</td>
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**SEHEMU YA E. Vyanzo vya habari**

| E1. | a) Umejifunza / kusikia kuhusu maziwa ya mama pekee? | 1. Ndiyo [] 2. La [] |
| E2. | b) Je, ni wapi ulijifunza au kusikia mara ya kwanza kuhusu maziwa ya mama pekee? | Kituo cha afya [ ] Jamii/rafiki [ ] Redio [ ] Televisheni [ ] Magazine [ ] nyingine (taja)__________ |
| E3. | Ulijifunza nini juu ya maziwa ya mama pekee? | ____________________________________________
| E4. | c) Je, kwa kipindi cha mimba hii/tangu mtoto huyu azaliwe kuna mtu yeyote amekuambia au kukushauri wewe binafsi kwamba unafaa kutumia maziwa ya mama pekee? | Ndio [ ] La [ ] Ni nani huyo? Mtaalamu wa afya [ ] Jamii/rafiki [ ] wakunga wa jadi[ ] nyingine (taja)__________ |
| d) | Je, walisema nini? | Hana jibu [ ] Jibu________________________________ |
| e) | Kando na hiyo kuna kitu ingine yoyote umeshauriwa kuhusu kunyonyesha? | ____________________________________________
|     |                                                                 | ____________________________________________
|     |                                                                 | ____________________________________________
|     |                                                                 | ____________________________________________
APPENDIX C: Key Informant

Form 2- Key Informant

Health facility__________________

Type of health worker (*circle one which applies*)

Medical doctor [ ] Nurse [ ] Clinical officer [ ] Nutritionist [ ]

Others (specify)__________________

1. Have any personnel from companies producing baby milk, drinks, baby bottles and teats visited here in the last 6 months?

   Yes [ ]   No [ ]   Don’t know [ ]

IF NO OR DONT KNOW GO TO QUESTION 6. IF YES CONTINUE

<p>| | | | |</p>
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<tr>
<td>2. Which company/Companies made the visit? WRITE IN COMPANY NAME (S)</td>
<td>3. How many times (each)? IF ANSWER is ‘don’t know’ WRITE 99</td>
<td>4. What was the purpose of the visit (s)? USE THE CODE BELOW</td>
<td>5. was the visit requested by staff at this health facility</td>
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**CODE for QUESTION 4:**

1. To seek direct contact with mothers
2. To provide samples to the mothers
3. To provide information to the mothers
4. To give product information to the health professionals
5. To give samples to health professionals
6. Others (specify) ______________________
6 How long does it take to initiate breastfeeding after the baby is born?
   Immediately [   ] after thirty minutes [   ] after 1 hours [   ]
   After 6 hours [   ] after 12 hours [   ] other (specify) __________

7 Do you educate mothers on exclusive breastfeeding?
   Yes [   ] no [   ]
   If yes how often do you do it?
   Once a week [   ] twice daily [   ] everyday [   ]
   other (specify) __________
   Is the education done on individual mothers [   ] or as a group [   ]

8. What information do you equip the mother with on exclusive breastfeeding?
   ____________________________________________________________________
   ____________________________________________________________________

9. Do you have any support group that you refer mothers for breastfeeding support?
   ____________________________________________________________________
   ____________________________________________________________________

10. Do you think the information given here is adequate to equip the mother on exclusive breastfeeding?
    ____________________________________________________________________
    ____________________________________________________________________

11 A. Do the mothers practice what they are advised to do? Yes/no
    ____________________________________________________________________

B. if no, why do you think so?
    ____________________________________________________________________
    ____________________________________________________________________

12 A. Do you face any constraints in the counselling of mothers on EBF? Yes/no
    ____________________________________________________________________

B. If yes, what are the constraints? And how do you think they can be overcome?
**KIAMBATISHO C: WATOA HABARI WAKUU**

Kituo cha afya________________________________

Aina ya mhudumu wa afya

<table>
<thead>
<tr>
<th>Daktari</th>
<th>Muuguzi</th>
<th>Maafisa wa kliniki</th>
<th>Mtaalamu wa lishe</th>
<th>Wengine (taja)</th>
</tr>
</thead>
</table>

1. Je, kuna mtu yeyote kutoka kwa kampuni za kutengeneza maziwa ya fomula, kinywaji, chupa cha kulisha au chuchu, ametembea hapa kwa muda wa miezi sita iliyoita? Ndio / La / Sijui

**KAMA LA AU SIJUI RUKA HADI SWALI 6, KAMA NDIO ENDELEA**

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<tbody>
<tr>
<td>Ndio / La / Sijui</td>
<td>Ndio / La / Sijui</td>
<td>Ndio / La / Sijui</td>
<td>Ndio / La / Sijui</td>
<td>Ndio / La / Sijui</td>
</tr>
</tbody>
</table>

**KANUNI ZA SWALI 4:**

1. kutafuta kuwasiliana moja kwa moja na mama
2. Kutoa sampuli na mama
3. Kutoa taarifa kwa mama
4. Kutoa taarifa ya bidhaa kwa wataalamu wa afya
5. kutoa sampuli kwa wataalamu wa afya
6. Wengine (taja) _______________________
7. Je, ni muda gani inachukua ili kuanzisha kunyonyeshwa baada ya mtoto kuzaliwa? Masaa dakika Mara [ ] baada ya dakika thelathini [ ] baada ya saa 1 [ ] Baada ya masaa 6 [ ] baada ya masaa 12 [ ] nyingine (taja) __________
8. Je, wewe huelimisha akina mama kuhusu maziwa ya mama pekee? Ndio [ ] La [ ] kama ndio unaweza kufanya hivyo mara ngapi?
Mara baada ya wiki [ ] mara mbili kwa siku [ ] kila siku [ ]
Nyingine (taja) ___________
Je, mafunzo unayowapatia ni kwa mama binafsi ama ni akina mama wakiwa kikundi

8. Je, ni habari gani wewe huwapatia akina mama juu ya maziwa ya mama pekee?

_____________________________________________________________________

9. Je, una kikundi chochote cha msaada ya kwamba wewe huwaambia akina mama waende juu ya kupewa msaada kuhusu kunyonyesha?

_____________________________________________________________________

10. Je, unafikiri maelezo yaliyotolewa hapa ni ya kutosha kuwaandaa akina mama juu ya maziwa ya mama pekee?

_____________________________________________________________________

11 A. Je, akina mama hufanya mazoezi ya kile wanashauri kufanya hapa? Ndio/La

_____________________________________________________________________

B. kama La, kwa nini unafikiri hivyo?

_____________________________________________________________________

12 A. Je, unakumbana na changamoto yoyote ukiwashauri akina mama kuhusu maziwa ya mama pekee? Ndio/

_____________________________________________________________________

B. Kama ndio, ni changamoto gani? Na unaweza kuzitatua kivipi?

_____________________________________________________________________

_____________________________________________________________________

_____________________________________________________________________
APPENDIX D: Focus Group Discussion Guide

Focus group discussion guide

1. What are the sources of infant feeding information in this community?
2. Are there other sources of exclusive breastfeeding information in this community apart from the health facility?
3. What are some of the information that you get regarding breastfeeding from the various sources for e.g health facilities?
4. Do you agree/concur with these messages? If no, why?
5. Where do most of the mothers get information on EBF from?
6. From your understanding, what are the benefits of breastfeeding?
7. Do you believe that a baby can be fed on breast milk alone without even water for the first six months?
8. Is exclusive breastfeeding a common practice in this community?
9. Why do some mothers choose not to practice exclusive breastfeeding?
10. Do you have suggestions on what can be done to encourage mothers to practice exclusive breastfeeding for six months in this community?
11. Is it appropriate for a mother to express milk for the baby?
12. Do traditional beliefs and culture influence exclusive breastfeeding practices? Which ones and how?
13. Any other information that you would want to tell me about exclusive breastfeeding practices.
KIAMBATISHO D: Majadiliano ya makundi lengo mwongozo

Mjadala mwongozo kundi lengo

1. Vyanzo vya watoto wachanga kulisha habari katika jamii hii 1. ni nini?
2. Je, kuna vyanzo vingine vya kunyonyesha habari katika jamii hii mbali na kituo cha afya?
3. Je, ni baadhi ya taarifa kwamba wewe kupata kuhusu kunyonyesha kutoka vyanzo mbalimbali kwa ajili ya vifaa kwa mfano h?
4. Je, unakubaliana / wanakubaliana na ujumbe huu? Kama hapana, kwa nini?
5. Ni wapi zaidi ya akina mama kupata taarifa juu ya EBF kutoka?
6. Kutokana na ulewa wako, nini faida za kunyonyesha ni?
7. Je, unaamini kwamba mtoto anaweza kulishwa juu maziwa ya mama peke yake bila hata maji kwa kipindi cha miezi sita?
8. Je kipekee kunyonyesha ni jambo la kawaida katika jamii hii?
9. Kwa nini baadhi ya kina mama kuchagua si kufanya mazoezi maziwa ya mama pekee?
10. Je, una mapendekezo juu ya nini kifanyike ili kuwafia moyo akina mama kufanya mazoezi maziwa ya mama pekee kwa miezi sita katika jamii hii?
11. Je, ni sahihi kwa mama kueleza maziwa kwa mtoto?
12. Je, imani za jadi na ushawishi utamaduni mazoea kunyonyesha? Ambayo ndio na jinsi gani?
APPENDIX E: Focus group discussion guidelines

The guidelines followed for focus group discussion were;
1. The caregivers discussed selected questions related to sources, content maternal knowledge and exclusive breastfeeding practices
2. All the responses from all the respondents was suitable, tape recorded and taken into consideration
3. Confidentiality concerning any issues in the focus group was maintained by both the researcher and the respondents.
4. Information from focus group discussion was only specifically used for the purpose of this study.
MWONGOZO E: Majadiliano ya makundi lenge mwongozo
Miongozo na kufuatiwa kwa ajili ya majadiliano ya vikundi walikuwa;
1. walezi kujadiliwa maswali kuchaguliwa kuhusiana na vyanzo, bidhaa maarifa ya uzazi na mazoea kunyonyesha
2. Majibu yote kutoka washiriki wote ilikuwa mzuri, mkanda kumbukumbu na kuzingatiwa
3. Usiri kuhusu masuala yoyote katika kundi lenge mara iimarishwe na wote mtafiti na washiriki.
4. Taarifa kutoka mjadala vikundi ilikuwa tu hasa kutumika kwa madhumuni ya utafiti huu.
APPENDIX F: Map of the Study Area
APPENDIX G: Research Approval from Kenyatta University Graduate School

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

FROM: Dean, Graduate School
TO: Mucheru Patrick Kamau
C/o Foods, Nutrition & Dietics Department
Kenyatta University

DATE: 13th December, 2014
REF: H60/CTY/P/22412/2012

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board, at its meeting of 10th December 2014, approved your Research Proposal for the M.Sc. Degree Entitled, “Sources and Content of Maternal Knowledge on Exclusive Breastfeeding Practices among Mothers with Infants (0-6 Months) in Kibera Slums Nairobi, Kenya”.

You may now proceed with data collection, subject to clearance with the Permanent Secretary, Ministry of Higher Education, Science and Technology.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking forms per semester. The form has been developed to replace the progress report forms. The supervision Tracking forms are available at the University's website under Graduate School webpage downloads.

Thank you.

JOHN ODENG
FOR DEAN, GRADUATE SCHOOL

c.c. Chairman, Department of Food, Nutrition and Dietetics

Supervisors:

1. Prof. Judith Wanado
   C/o Department of Food, Nutrition and Dietetics
   Kenyatta University

2. Dr. Peter Chege
   C/o Department of Food Nutrition and Dietetics
   Kenyatta University
APPENDIX H: Ethical clearance by Kenyatta University Ethical Review Committee

KENYATTA UNIVERSITY
ETHICS REVIEW COMMITTEE

Email: chairman.kenerc@knu.ac.ke
      secretary.kenerc@knu.ac.ke
      ccms2008@gmail.com

P. O. Box 43844 - 00100 Nairobi
Tel: 8710901/12
Fax: 8711242/8711575
Website: www.ku.ac.ke

Our Ref: KU/R COMM/51/422

Date: 27th February, 2015

Muchuru Patrick Kamau
Kenyatta University
P.O. Box 43844 - 00100, Nairobi.

Dear Muchuru,

APPLICATION NUMBER FKU/300/1272 – “SOURCES AND CONTENT OF MATERNAL KNOWLEDGE ON EXCLUSIVE BREASTFEEDING PRACTICES AMONG MOTHERS WITH INFANTS (0-6 MONTHS) IN KIBERA SLUMS NAIROBI, KENYA”.

1. IDENTIFICATION OF PROTOCOL
The application before the committee is with a research topic, “Sources and Content of Maternal Knowledge on Exclusive Breastfeeding Practices among Mothers with Infants (0-6 Months) in Kibera Slums Nairobi, Kenya”. Received on 15th January, 2015, discussed on 17th February, 2015.

2. APPLICANT
   Muchuru Patrick Kamau

3. SITE
   Kibera Slums Nairobi, Kenya.

4. DECISION
The committee has considered the research protocol in accordance with the Kenyatta University Research Policy (section 7.2.1.3) and the Kenyatta University Ethics Review Committee Guidelines AND APPROVED that the research may proceed for a period of ONE year from 27th February, 2015.

5. ADVICE/CONDITIONS
   i. Progress reports are submitted to the KU-ERC every six months and a full report is submitted at the end of the study.
   ii. Serious and unexpected adverse events related to the conduct of the study are reported to this board immediately they occur.
   iii. Notify the Kenyatta University Ethics Committee of any amendments to the protocol.
   iv. Submit an electronic copy of the protocol to KUERC.

When replying, kindly quote the application number above.

If you accept the decision reached and advice and conditions given please sign in the space provided below and return to KU-ERC a copy of the letter.

[Signature]

PROF. NICHOLAS K. GIKONYO
CHAIRMAN ETHICS REVIEW COMMITTEE

[Signature]  Dated this day of …………………………, 2015.

[Stamp]
APPENDIX I: Research permit by National Commission For Science Technology and Innovation

NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

Ref: No. 8th April, 2015

NACOSTI/P/15/5107/5276

Patrick Kamau Mucheru
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Sources and content of maternal knowledge on exclusive breastfeeding practices among mothers with infants (0-6 months) in Kibera Slums Nairobi, Kenya” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for a period ending 28th September, 2015.

You are advised to report to the County Commissioner and the County Director of Education, Nairobi County before embarking on the research project.

On completion of the research, you are required to submit two hard copies and one soft copy in pdf of the research report/thesis to our office.

DR. S. K. LANGAT, OGW
FOR: DIRECTOR GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.
APPENDIX J: Authorization by the Nairobi City Council

NAIROBI CITY COUNTY

Telephone 020 344194
web: www.nairobi.go.ke

City Hall,
P. O. Box 30075-00100,
Nairobi,
KENYA.

COUNTY HEALTH SERVICES

REF: PHD/1/13/(05) - 015

TO: PARTRICK KAMAU MUCHERU
KENYATTA UNIVERSITY
P O BOX 43844 - 00100
NAIROBI

DATE: 27TH APRIL, 2015

RE: RESEARCH

Reference is made to a letter from the Director Human Resource Management

Authority is hereby granted to you to carry out research on “Sources and content of maternal
knowledge on exclusive breastfeeding practices among mothers with infants (0-6 months)” in
Health Facilities within Langata Sub – County.

Please note that your research runs for three (3) months w.e.f from 23rd April, 2015 to 23rd July,
2015.

During the course of your research you are expected to adhere to the rules and regulations
governing the Nairobi City County.

You will also be expected to submit a copy of your research project to the office of the
undersigned.

You will be expected to pay a research fee of Ksh. 5,000/-.

By a copy of this letter, the DMOH Langata District is requested to accord you the necessary
assistance.

EUNICE MUSAU
CHIEF ADMINISTRATIVE OFFICER –(CHS)

Cc: SCMHO - Langata
    SCHAO - Langata
APPENDIX K: Authorization by the DMOH Lang’ata Sub-County

NURSING OFFICER INCHARGE
ALL HEALTH FACILITIES
LANGATA SUB COUNTY

RE: RESEARCH AUTHORIZATION – PATRICK KAMAU MUCHERU

The above named student from Kenyatta University has been authorized to carry out his research for (3) months with effect from 23rd April, 2015 to 23rd July, and 2015. The research is on “Sources and Content of Maternal Knowledge on Exclusive Breastfeeding Practices among Mothers with Infants (0-6 months)” in Health Facilities within Langata Sub County.

This is therefore to request you to accord him the necessary assistance, during his research in your respective health facility to make his research successful.

[Signature]
DOMITILA OGARO (SCCO)
FOR: SUB COUNTY MEDICAL OFFICER OF HEALTH
LANGATA SUB COUNTY

cc. Patrick K. Mucheru
Kenyatta University
Submit a copy of the findings to the office of the undersigned upon completion of your study.