Exclusive Breastfeeding and Its Determinants Among Adolescent Mothers in Kibera Informal Settlement, Nairobi County, Kenya

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ABSTRACT

Exclusive breastfeeding for the first six months is recommended as the optimal way to feed infants (WHO,2019). The study sought to assess the practice of exclusive breastfeeding and its determinants among adolescent mothers in Kibera informal settlement. A cross-sectional descriptive study design was used. A sample of 300 adolescent mothers were interviewed together with 10 Key informants. Multistage Sampling was the technique used to select villages and households with adolescent mothers with infants less than 6 months. A questionnaire was used to collect data through face-to-face interviews with adolescent mother and key Information Interview guide was used to collect the qualitative data from health care workers at Carolina For Kenya facility. Quantitative data was coded, entered into SPSS software. Descriptive statistics was carried out for all variables whereby categorical variables were evaluated using percentages and frequencies. The chi-square test was applied at a bivariate level to assess relationships associated with exclusive breastfeeding. Significance levels were set at $\alpha=0.05$. The qualitative data obtained were analyzed according to major themes raised during the interviews. The findings were that most (89%) of the adolescent mothers were unemployed and their mean age was 17 years ($\pm SD=2.19$). More than a half (64%) attained secondary as the highest academic level. The mean birth weight of the infants was 2.7kgs ($\pm SD=1.13$) and 61% were females. The prevalence rate of exclusive breastfeeding was low 7.3% while complementary feeding rate was high at 80.7%, Almost half (48.7%) of the infants were being given water and complementary foods like milk (30.3%) and dilute porridge (21%). The variables that were significantly ($p<0.05$) associated with exclusive breastfeeding were age ($\chi2=27.992$, $p=0.006$) and knowledge on exclusive breastfeeding ($\chi2=23,836$, $p=0.000$). Most (80%) of the professionals had been trained for 2 years and above while the remaining 20% had already undergone training for one year and were still enrolled for some more training. The practice of exclusive breastfeeding was low and many adolescent mothers introduced complementary feeding before six months.

Key Words: *Exclusive Breastfeeding, Adolescent Mothers, Kibera Informal Settlement*

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1.0 Introduction

The mother and infant get many health benefits from breastfeeding. Breast milk as every nutrient is needed by an infant in the first six months after birth. It gives protection against diarrhea and common childhood diseases like pneumonia while the child and mother can also get longer-term health benefits like obesity and overweight risk reduction in ` and childhood. Exclusive breastfeeding refers to an infant receiving breast milk only, without any other solid or liquids, with the exception of minerals and vitamin drops or oral rehydration (WHO, 2019). According to the World Health Organization (WHO), defines an adolescent as any person between 10 and 19 years old. The term "adolescent" is a synonym of "teenager". Thus, "adolescent pregnancy" is when a 10–19 years old woman becomes pregnant (WHO, 2019)

Global targets have been set by the World Health Assembly to raise the exclusive breastfeeding rate for 0-6 months old infants to a minimum of 50% in 2012–2025. Adhering to the guidelines is difference globally, for the first six months after birth, only 38% of infants are breastfed exclusively (Dylan Walters , *et al* 2016). The prevalence rate of exclusively breastfeeding of high-income nations like the USA is 19%, Australia 15%, and United Kingdom 1% exclusively breastfeed for less than six months than the middle- and low-income nations. Although, in middle- and low-income nations, only 37% of infants are breastfed exclusively (Victoria and Bahl *et al*, 2016). The exclusive breastfeeding rates in infants below six months old were reported at 44% in south Asia and 20% in the central and eastern European (Jara-Palacios, *et al* 2015). There is poor breastfeeding in adolescent mothers in Thailand (Price, S.A, *et al* 2014).

In Ecuador, it is higher than the national average 43% vs. 63% (Hackett, K.M, *et al* 2015). The breastfeeding practice is a complex issue, since environmental, socio-cultural, biological, and personal factors influence it (Akhtaruzzaman, M. *et al*, 2015). The 2022 Kenya demographic health survey reported an increase of 3% among 15-year-olds to 31% in the 19-year-olds in 15–19-year-old women who have ever been pregnant. In Kenya exclusive breastfeeding (EBF) prevalence estimates in infants below 6 months old have gone up to 60% in 2014 from 32% in 2008. Kenya had the third-highest rate of teen pregnancy 82 births out of every 1000 births (Global Childhood statistics report, 2019) implying a notable increment in adolescent pregnancies. An adolescent girl's offspring health and long- and short-term health outcomes as a mother are significantly and negatively affected by adolescent pregnancy (Okoth, 2020).

In developing regions, WHO (2020) globally reported approximately 12 million 15–19-year-old and at least 777,000 girls below 15-year-old girls give birth annually. In Bangladesh, 65% of children <6 months old are breastfed exclusively (BDHS, 2016). However, similar information is not available regarding adolescent mothers' EBF practices even with the young mothers and children being vulnerable because of high early childbearing and marriage rates and poverty. The 2022 Kenya Demographic and Health Survey states that the national exclusive breastfeeding rate was 61.4% in Kenya as of 2014, as of 2022 it's 60% which indicates a decrease in the practice of exclusive breastfeeding. In Kibera, the largest informal settlement in Africa, Kenya, 25% of 15–19-year-old girls have given birth already because of inadequate education and empowerment on premarital sexual associations. Hence early pregnancies leading to an estimate of 30% of school drop out for girls in Kibera" (Brian, 2017).

According to Africa Population and Health Research Center (APHRC), about 41% of adolescent girls living in Nairobi's informal settlements have experienced a pregnancy, nearly half of which are unintended.Most of the public health facilities in Nairobi slums do not have skilled personnel

or the basic equipment needed to provide quality maternal and child health information and services. In the facilities that do exist, perinatal mental health is usually not prioritized due to other competing health challenges that require urgent attention Kenya's existing mental health and adolescent sexual and reproductive health policies are silent on maternal mental health. Therefore, the mental health and wellbeing of these teenage mothers is constantly under threat (APHRC, 2019). With the statistics that have been reported, this can lead to adverse health consquences among the adolescent mothers and also increase of child mortality and child malnutrition. There are no available studies on the practice of Exclusive Breast feeding among this vulnerable age group that is balancing the challenges of motherhood and other social pressures.

2.0 literature review

2.1 Review of Related Literature

2.1.1 Prevalence of exclusive breastfeeding among adolescent mothers

Global breastfeeding scorecard (2018), globally, breastfeeding rates are lower. Exclusive breast feeding is required in protecting the children and women's health optimally. In newborns, less than half are breastfed within one hour after birth. 41% of infants below 6 months old are breastfed exclusively, which is way below the 70% global target. By two years old, the rate of breastfeeding drops to 45% since breastfeeding goes on for at least one year in over two-thirds of mothers. According to UNICEF (2018) data analysis of 123 countries indicates that worldwide, majority of the infants' breastfeed at some point, with 95% ever getting breast milk. However, the rates are widely different between in high, middle- and low-income nations. In high-income nations, more than 1 in 2 or 21% do not get breast milk, in middle- and low-income nations, 1 in 25 infants or 4% never breastfeed.

Whereas a high percentage of infants get some milk in the middle- and low-income nations, the breastfeeding period substantially differs by the household's wealth status. In the poorest homes, almost 62% of the infants breastfeed at 2 years old, as WHO and UNICEF recommend, contrary to 41% in the richest household. The gap is big in West and Central Africa – 26% of infants are breastfed at 2 years in rich households compared to 63% in the poorest households. The gap is small in Central Asia and Eastern Europe – the poorest and wealthiest households have low breastfeeding rates at 2 years: a respective 31 and 23% (UNICEF 2018). A journal article on "Breastfeeding and human milk use" published in 2012 reported that there are disproportionately low rates of breastfeeding in adolescent mothers. As compared to 80% of women above 30 years old, breastfeeding is initiated by 60% of mothers below 20 years, according to National data. In addition, at 6 months, 50% of the older women still breastfeed as opposed to 20% of the younger women.

In Ecuador, a research study was done on adolescent mothers the finding stated that about 98.7 % of the women interviewed in this study, stated having initiated breastfeeding within the first days of the baby's life. However, 88.0 % of them continued EBF after the baby reached the first month of age. This percentage continued to decrease over time; 80.8 % of the mothers decided to continue this activity three months after delivery. By the month six after birth, 62.9 % of the infants were being nourished with breast milk exclusively. (Miguel Á, *et al* 2015). Numerous researchers from Bangladesh have pointed out breastfeeding practice determinants in mothers across all age brackets (Nguyen PH, *et al* 2020). However, particular researches focusing on adolescent mothers' breastfeeding are few. Key attributes related to poor breastfeeding practices in Bangladesh mothers include child abuse and violence, lack of an intimate partner and non-pre

lacteal feeding practices (Islam MJ, *et al* 2020), receiving post and antenatal care, counseling, non-cesarean birthing, home birthing, and access to mass media.

In rural Bangladesh, different research explored exclusive breastfeeding determinants and trends in adolescent mothers using data from both Health and Demographic Surveillance (HDSS) system areas of the government service area (GSA), Bangladesh service area (ISA), and the International Centre for Diarrheal Disease Research and reported that on average, EBF prevalence was 43%, with no notable connection between exclusive breastfeeding in the multivariate analyses and the study factors (Rahman A, *et al* 2020). An accelerated global action was called by WHO in 2016 to enhance adolescent health, with immediate effect on adolescent mothers' infants. Findings from both high-income nations like Australia (Ogbo FA, *et al* 2019) and LMICs example India (Senanayake P, *et al* 2019), Brazil (Luthje E.H, *et al* 2020), and Nigeria (Agho KE, *et al* 2016) demonstrate that as compared to older mothers, adolescent mothers are less probable to breastfeed their babies. The studies identified barriers like poor health service contact, low socioeconomic status, a lack of a maternal attitude towards breastfeeding and socioeconomic disadvantage affected the optimal breastfeeding behaviors uptake in adolescent women.

2.1.2 Social factors associated with exclusive breastfeeding among adolescent mothers

In different African contexts, giving birth is considered an entry mark to adulthood or a social expectation fulfilment (Kane S, Miedema E,*et al* 2019). According to a journal article on 'Adolescent Pregnancy is a serious social Problem' (Franjić S, 2018) reported that teenage parents most probably bear low birth-weight babies, live in poverty and be unemployed. The association with social exclusion implies that teenage parents will be probably have poor access to social and health support, be in poor health and get poor health results for self and their infants. Whereas some teenagers consider their pregnancy as fulfilling and positive, others disclose negative effects. Studies disclose that your parents get poor social and health results, which are related to lack of accessibility to proper support and care.

Knowledge is a social factor that is a determinant of exclusive breastfeeding, health care professionals and nurses caring for mother-infant dyads ought to have the knowledge and illustrate the required competence in providing evidence-based and consistent breastfeeding data and support before, during and after delivery (AWHONN, 2014). Maternal age is connected to exclusive breastfeeding. An investigation in rural Kenya associated maternal age to breastfeeding practices; EBF was not practiced by lower aged mothers (Talbert *et al*., 2020). In addition, older mothers were likely to breastfeed in the North-Eastern region of Kenya (Mohamed *et al*., 2020).

A study in Nairobi by Mututho *et al*. (2017) indicated that exclusive breastfeeding was more likely practiced by younger mothers. An estimate of 74% of the adolescent mothers breastfed their infants before giving any formula, according to an article on Turkish Adolescent Mothers' Initiation and Exclusive breastfeeding rates and the associated factors. Mothers who started early breastfeeding had boy infants, delivered vaginally, educated for breastfeeding and had planned pregnancies (Elif Yilmaz, *et al* 2016). As compared to those mothers who began breastfeeding later than 2 hours, the ones that started earlier had longer total breastfeeding times, had longer EBF times and frequently did it at night. Early breastfeeding was notably associated to having a boy infant, vaginal delivery, and planned pregnancy. EBF predictors included formula initiation time, frequent breastfeeding at night, postpartum education, planned pregnancy, and age

2.1.3 Cultural factors associated with exclusive breastfeeding among adolescent mothers

Some of the challenges of optimal EBF challenges highlighted are misconceptions, myths and and cultural beliefs and are among the causes of poor EBF practices. Human nutrition is highly influenced by cultural norms and beliefs and are among the EBF practice determinants (Wanjohi. M, *et al* 2017). Mothers were prompted to give pre lacteal feeds to their babiesdue to the belief that colostrum is not healthy to infants and that it is only from the third day that fresh milk is produced (Nyanga,*et al* 2012). Among social or community health workers and mothers, giving an infant gripe water, glucose/sugar or salt and water is believed to relieve stomach problems in infants; this affects the EBF duration (Kimani M, *et al* 2015). In his research, Paddington T. Mundagowa, *et al* 2019) reported that young mothers < 25 years old less probably practiced EBF in Gwanda District. This agrees with a study in China where 15-24 year old mothers less likely practiced EBF because of the general prelacteal feeding traditional practice in the rural regions. Additionally, a research in Brazil made a conclusion that compared to older mothers, EBF was less likely practiced by adolescent mothers (Dias de Oliveira L, *et al* 2014).

According to a journal the findings stated that feeding babies on colostrum is considered a taboo and discouraged among the Sukuma community; the Mapenga community from Tanzania do not feed their babies on colostrum, the mothers express colostrum for the two days before brestfeeding the infants (Wanjohi M, *et al* 2017). Additionally, the results have role to play in intervention activities development and implementation by community workers based on role modeling motivational theory highlighting the role models' power serving as a behavioral change agents and inspiration source to adolescent lactating mothers in Kibera

2.1.4 The influence of media on the practice of exclusive breastfeeding

Exclusive breastfeeding is communicated through various communication channels, television, radio, newspaper, magazines, new media, flairs, banners, poster, interpersonal communication, and infant welfare at hospital and antenatal classes. To actualize the desired behavioral change. Digital technologies, such as social media, mobile social networking applications, and geo-technologies, have significantly revolutionized information dissemination and communication (Wadham, *et al* 2019). Social media is any interactive, shareable and user-controlled communication forms (Guse *et al*., 2012). As social media increasingly become popular, it becomes imperatives that they are used for health communication. Social media can assist lactating and expecting mothers in learning the steps and importance of EBF. Individuals always look for information on assistive medicinal products helping them attain better wellbeing and health (Catalán-Matamoros, *et al* 2019).

Digital and mainstream media are among the very first foundations for information associated to health education and medical innovations to the public. The impacts of the media to their audiences are well archived, and the information volume and category presented in the media can shape beliefs, attitudes, and perceived norms, that in turns, influences behaviors (Catalán-Matamoros ,*et al* 2019). Social media platforms in general and Facebook in particularly were sought for communication, entertainment and advice among other reasons (Tomfohrde, *et al* 2016). On their part, in a study that explored how social media influenced EBF practice, Alianmoghaddam, et al 2019) revealed that lactating mothers need reliable online infant feeding information, smart phone applications, and access to information via Facebook. They recommend that breastfeeding advocates ought be aggressively utilize social media to promote and support exclusive breastfeeding practice (Alianmoghaddam *et al*, 2019).

According to (Odesanya *et al*. 2015), mass media such as radio, television, and other forms of media can be effective in shaping people's attitudes. They went on to say that the media can be a powerful tool not just for spreading knowledge and understanding about advances, but also for pushing people to seek out more information especially on exclusive breastfeeding and assisting them in applying that information to their own attitudes. Similarly, communication specialists are beginning to favour the entertainment-education strategy, which employs the element of enjoyment in the mass media to transmit intended messages. Songs and dances are used to convey essential messages to the audience in this approach. In situations where radio is limited, such as when a demonstration is required, television has proven to be beneficial (Atakiti & Ojomo, 2015).

In a study on broadcast media messages and maternal health among reproductive women in Ilorin, Utalor (2019) discovered that women in Ilorin rely on broadcast media as a major source of maternal health information, but that radio is more effective than television in disseminating maternal health messages 58.2%. Maternal health messages were rarely pushed through other programs other than discussion shows and health programs 31.4% women agreed that broadcast media has a favorable impact on their attitudes about maternal health. In addition, it was discovered that women used broadcast media as a primary source of maternal health information, and that women had a favorable opinion of maternal health messages broadcast on television.

2.1.5 The influence of parents and guardians on the practice of exclusive breastfeeding

Teenage mothers' age and developmental phase implies that they often depend on their mothers of close relative for support or guidance. Consequently, teenagers get guidance from friends and families. Older family members take up the role of parental extension from the teenagers to the newborns once they are born. Emotional and financial support after giving birth primarily comes from the mother's family once the partners' support has declined. Young mother's feeding choices is greatly affected by support from partners, friends and family support (Hill L.M, *et al* 2015). According to a study done on, "Exclusive breastfeeding practice and associated factors among first-time mothers" reported that participants who were supported by their husband and family members were found to practice exclusive breast feeding four times more likely compared with their counterparts. The finding is similar to the prior studies conducted in Motta, Ethiopia (Tewabe T, 2017) .This infers that husbands play an important role in the decision making about family and household affairs and which affects many aspects of family life including infant feeding practices.

Previous study have revealed that husbands' support could improve the success of exclusive breastfeeding. On the other hand, a study from Nepal has demonstrate that mothers who received support from their husbands were ten times more likely to report confidence on breastfeeding than those who did not receive support (Bungmati. J, 2018). A study was done in Ghana and found that almost 66% of the mothers practiced EBF for the first 6 months and of those who failed to adhere to EBF, 65% were due to insufficient breast milk. One-third of the mothers had complaints about EBF from either their spouse or parents although about 58% of support was from their spouse, parents, extended family members or health personnel when they had difficulties with EBF (Dadzie.B, 2023).

2.2 Theoretical Framework

The study adopted the self-efficacy theory. The psychological theory of self-efficacy grew out of the research of Albert Bandura. He noticed that there was a mechanism that played a huge role in people's lives that, up to that point, hadn't really been defined or systematically observed. This mechanism was the belief that people have in their ability to influence the events of their own lives. Bandura proposed that perceived self-efficacy influences what coping behavior is initiated when an individual is met with stress and challenges, along with determining how much effort will be expended to reach one's goals and for how long those goals will be pursued (1999).

Breastfeeding self-efficacy is a social cognitive theory adapted by Dennis (Dennis CL, *et al* 1999) Breastfeeding self-efficacy captures how a mother perceives her ability to breastfeed rather than her actual ability to succeed at breastfeeding. Mothers with high self-efficacy are often able to overcome barriers that those with low self-efficacy would find overwhelming (Schwarzer R,*et al* 1996).Breastfeeding self-efficacy is informed by four sources of information: (i) performance accomplishments, (ii) vicarious experience of seeing other mothers breastfeed, (iii) verbal persuasion by influential others, and (iv) the mother's physiological/affective state (Bandura A 1997). Breastfeeding self-efficacy can predict breastfeeding outcomes at 1 and 2 months postpartum in mothers of full-term infants (Brockway M, *et al* 2017) and it is a modifiable factor that can influence breastfeeding success (Tuthill EL, *et al* 2014). Few studies have been conducted using breastfeeding self-efficacy theory in mothers of preterm infants (Gerhardsson E, *et al* 2018). Interventions to improve breastfeeding self-efficacy may improve breast milk feeding rates and subsequent health outcomes for moderate and late preterm infants.

Dennis's breastfeeding self-efficacy theory was developed in 1999 and was the foundation for the development that same year of the Breastfeeding Self-Efficacy Scale (Dennis, 2010). Breastfeeding self-efficacy theory addresses several influences on a mother's decision to breastfeed and her ability to sustain her personal breastfeeding goals. Goal attainment can be identified as the product of adequate breastfeeding support and self-efficacy.

3.0 Research Methodology

A cross-sectional research design was deployed because it allows researchers to analyze many different variables at the same time, whereas mixed method approach was utilized. Both qualitative data focused on the Key Informant Interviews (KIIs) and quantitative on the households were collected. Qualitative and quantitative approaches were applied during data gathering, evaluation and display. The qualitative data complemented and triangulated the quantitative results. This study was undertaken in Kibera which is the largest slum in Africa in Sarangombe ward Gatwekera village, because it has a high number of adolescents residing in that area Kibera has 5 administrative wards with a total estimated population of 193,322. (District Health Information Software, 2020).

The Socio-economic status of the community members in that area are of low income who constitute 55% of the sub-county population which has led to unemployment rates to be high (District Health Information Software, 2020). Majority of women, Men and children living in the slum do not basic services like food, running water, and electricity. According to Kenya Demographic and Health Survey 2022, pregnant women aged 15-24 in Kibera are estimated at 6,573 whereby 21% are young female adults. This study targeted adolescents up to 19 years to find if they were practicing exclusive breastfeeding. The study excluded adolescent mothers who had children less than six months and were sick. Multistage sampling was used to select villages

with adolescent mothers who were exclusively breastfeeding. A list of households with adolescent mothers with babies less than 6 months was presented by Community Health Volunteers from 5 wards in Kibera respectively which was randomly sampled. The target population was defined, the sample size was 358 households, and the households were randomly numbered by marking the doors. Out of 358 households only 300 adolescent mothers responded to the survey.The remaining households had children who were sick and some of them did not complete the survey as required.

The data was collected from one household to another and if from the selected household the mother was absent a call back was to be done once the mother was present. The study area was in Kibera informal settlement which was purposively sampled because it is the biggest slum in Nairobi and it's divided into 5 wards. The Key Informant Interviews (KIIs) was done through open-ended questions that produced narrative answers in Carolina for Kibera health Facility which included the Maternal Child Health nurse, Nutritionists and Maternal Child health providers. The key informants were guided with questions that focused on the socio-demographic characteristics, cultural practices, the challenges that they face with the adolescent mothers and the knowledge they share with adolescent mothers on exclusive breastfeeding. Snowball sampling technique was used to identify the Key informants, three informants were identified by the researcher and included in the study then the researcher relied on those initial participants to help identify additional study participants for the interviews.

The sample size was 358 which was determined by EPI info software by using 95% confidence level with an estimated prevalence of 63% in Ecuador (Price, S.A, *et al* 2014). The Ecuador prevelance rate was used in identifying the sample size because that was the only reported study done that targeted adolescent mothers in that age group.

Interviewer administered Questionnaires- A guided questionnaire was used to collect the social determinants, cultural determinants, the age infant, the adolescent mother's age, the ethnic group of the respondent, influence of media and parental guidance towards exclusive breastfeeding

KII-Key Informant Interviews- A guided Key Informant guide collected information from nutritionists, Maternity nurses and maternal health care workers from a health facility in Kibera known as Carolina for Kibera. The interviews gathered information of how many adolescent mothers are practicing exclusive breastfeeding, how many adolescent mothers have delivered in the facility and also if they offer maternal health trainings to adolescent mothers.

To ensure that the data obtained represents the variables of the study and that research measures what it was intended, standard data collection tools and methods were used. A structured questionnaire was used to collect data. Triangulation was used to ensure quality of data by asking similar questions to the respondents in different ways. The research assistants engaged had done training concerning the study. The purpose of the study was fully explained to the respondents so that they would not withhold vital information. Reliability of research instruments refers to the extent to which the results of the study can be reproduced when a similar methodology is used. Reliability measures the stability of research instruments across two or more attempts. Reliability of the research instrument was pilot-tested in Kibera, Kianda ward. The split -half procedure was used to test the reliability of the questionnaire after the pilot testing. This procedure was chosen given that it was the simplest.

The researcher recruited two research assistants with a minimum of a Diploma in their studies. They were required to and be fluent in both English and Kiswahili languages and have had previous experience in nutrition surveys. Training of the research assistants was conducted for 4 days

focusing on completing the questionnaires, interview techniques, research ethics, and questionnaire tracking and storage. This was done using through role plays, demonstrations and lectures and ensured that the COVID-19 protocols were observed strictly. The study assistants were exposed to a practical experience in interview conduction in the questionnaire pre-testing which was in Kibera Kianda ward in 18 households that have adolescent mothers who have children < 6 months. The investigator recorded the responses and the right advices were given on places of improvement. Data was collected for two weeks every day. The researcher did a formal self-introductory, participants were given an informed consent form to sign for data collection to take place. KIIs and face-to-face interviews were adopted as the data-gathering techniques.

Coding, entry into SPSS, and analysis of data from the questionnaires which are the social demographic, economic, cultural factors and influence of the media, infant feeding practices, and parents' indicators was done. Sorting, categorizing and cleaning up were done for the information based on the research variables then saved in password-protected computer. Graphs, bar charts and tables presented the results using percentages, frequencies and numbers. For categorical variables, Descriptive statistics included, percentages and frequencies and of continuation, dispersion and central tendency. Chi square test helped find and ascertain significant relationship with exclusive breastfeeding. Logistic regression ascertained exclusive breastfeeding determinants. Results were displayed as adjusted odds ratio with 95% confidence interval. A $p < 0.05$ was deemed statistically significant. The qualitative data was transcribed and the similarities or differences of the data were thematic placed and categorized.

The first step in data collection was for the researcher to get approval from the supervisors to proceed for field work. The approval letter was granted from Ethics scientific and research committee in Amref International University for the study. Clearance was obtained from NACOSTI through an approval letter for the study to take place. For the research to take place in the study area permission was given from the chief who governs the area. The researcher got consent for participation from the participants by giving an explanation of the study's purpose, nature, risks, and benefits of taking part, expected duration, and procedures. Rights to confidentiality and privacy were made known to the adolescent mothers with infants < 6 months - potential participants. The respondent and the researcher reviewed and discussed the consent encouraging the respondent to ask questions, and review them given enough time for consultation. The researcher read the consent to the respondents who could not read or had comprehension and later on would sign if they agreed.

4.0 Results

4.1 Infant Breastfeeding Practices

Nearly all 93% of the interviewed adolescent mothers' breastfed their infants, 87% were currently breastfeeding and more than a half 62.3% initiated it within one hour post-delivery and the remaining percentage delayed the process. Caesarean section 17.6% and delayed milk secretion 81.7% were the primary reasons why initiating breastfeeding was delayed.

Nearly all 95.3% of the infants did not receive pre-lacteal feeds immediately after birth. While 53.7% admitted that they gave food supplements while breastfeeding.

Table 1 infant feeding Practices

Variables	Frequency	Percentage
Food given immediately after birth		
Yes	14	4.7
No	286	95.3
Giving Food supplements		
Yes	161	53.7
No	109	36.3
Food Supplement issued		
Water	146	48.7
Dilute porridge	63	21
Milk	91	30.3
Who influenced on the supplement		
Parents/Guardians	133	44.3
Media (TV and radio)	3	1
Friends	164	54.7

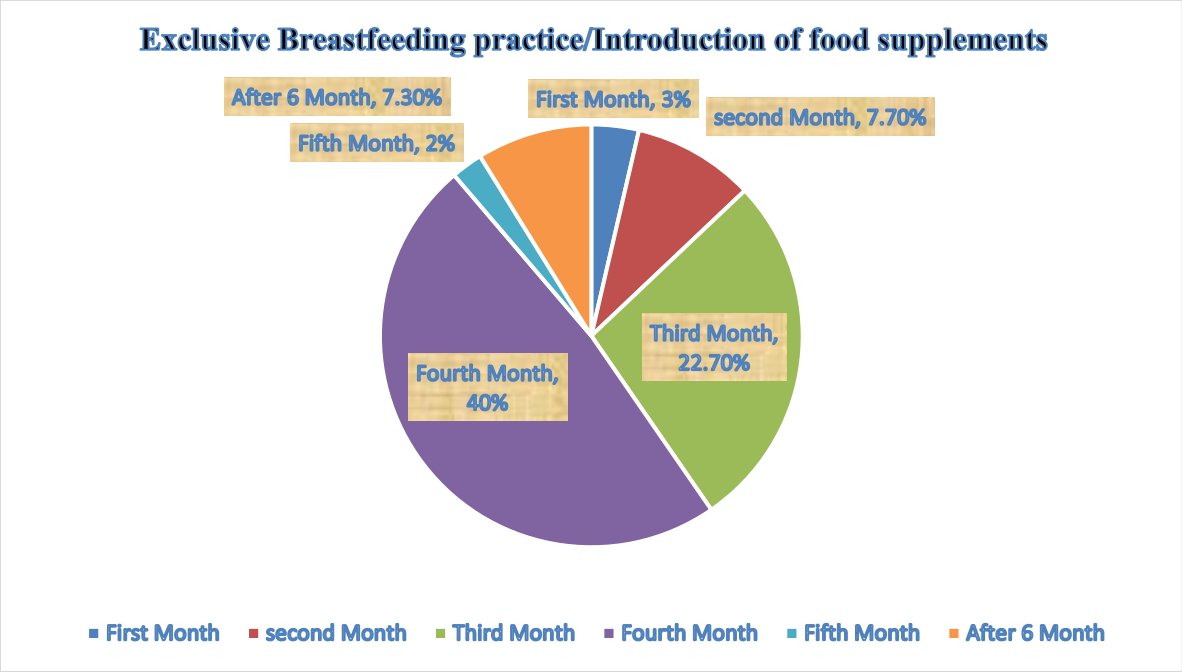

Figure 1: ***Exclusive breastfeeding practices and introduction of food supplements***

The percentage of adolescent mothers that practiced exclusive breastfeeding was very low at 7.30% meaning that they introduced other feeds after 6 months, the fifth month 2% of the adolescent mothers introduced food supplements, the first month 3%, the second month 7.70%, and the third month 22.70%. Figure 1 shows the details on how the adolescent mothers practiced exclusive breastfeeding

4.2 Reasons for Food giving Supplement

Figure 4.2 shows the reasons for introducing supplements were-; illness of the infant 3.7%., illness of the mother 2.7%, sore nipples 3.3% and insufficient milk 90%.Most common reason given was insufficient milk 90.3% among the adolescent mothers.

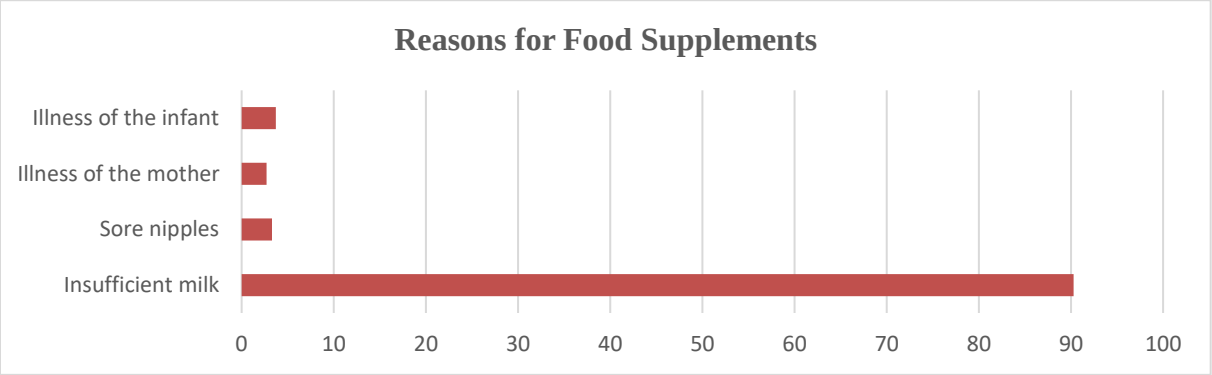

Figure 2: ***Reasons for giving Food Supplements***

4.3 Cultural Determinants on exclusive breastfeeding among adolescent mothers

The study established 44.6% of the adolescent mothers did not mention their ethnic background, 7% stated that they are Kikuyus, 13.3% Abagusi, 12.7% Luhya's and 22.3% Luo's. Ethnic groups play a major determinant in exclusive breastfeeding. The ethnic groups among the adolescent mothers influenced the practice of exclusive breastfeeding because the adolescent mothers had different believes considering the practice of exclusive breastfeeding.

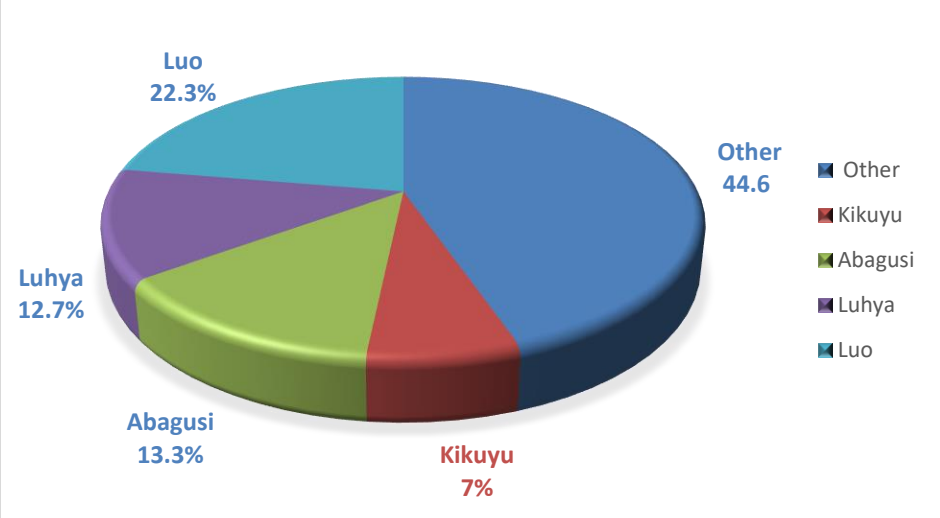

Figure 3: ***Effect of Tribe on Exclusive breastfeeding among adolescent mothers***

4.4 Association between socio-demographics variables on exclusive breastfeeding

The table below illustrates the relationship between socio-demographic determinant and the EBF practice among the adolescent mothers

Table 2: Multivariate Analysis

	Currently Practicing EBF			Test Statistics
Variable	Yes	No	Adjusted Odd Ratio(AOR)	
Education Level				P<=0.697, X^2=6.420
Primary	61(59.8)	41(40.2)	1.48	
Secondary	100(52.1)	92(47.9)	1.08	
Tertiary	4(90.0)	1(10.0)	4	
Age				
15-17	55(49.1)	57(50.9)	1.40	P=<0.006, X^2=27.992
18-19	110(58.5)	78(41.5)		
Place of Delivery				
Health facility	163(54.7)	135(45.3)	1.21	P=<0.649, X^2=1.647
At home	2(100.0)	0(0.0)		
Occupation				
Employed	163(55.4)	131(44.6)	1.24	P=<0.017, X^2=20.201
Unemployed	2(33.3)	4(66.7)	0.50	
Religion				
Christian	151(53.4)	132(46.6)	1.14	P<=0.111, X^2=10.347
Muslim	13(86.7)	2(13.3)	6.50	
Marital Status				
Married	126(53.2)	111(46.8)	1.34	P<=0.722, X^2=3.666
Single	39(61.9)	24(38.1)	1.63	
Influence of Media/parents				
Yes	160(54.4)	134(45.6)	1.20	P<=0.745, X^2=1.234
No	2(33.3)	4(66.7)	0.50	
Knowledge on EBF				
No	1(33.3)	2(66.7)	0.50	P<0.000, X^2=23.836
Yes	161(54.2)	136(45.8)	1.18	

4.5 Qualitative Findings on Key Informant Interviews

Below are the major themes that were identified during the transcription of the data.

4.5.1 Maternal Child Health training

The findings of the key informants' interview conducted in Carolina For Kenya on the selected key informants who were the Maternal Child Health nurse, Nutritionists and Maternal Child health providers, confirmed that they had undergone Maternal, Newborn and Child Health training. Most of the professionals had been trained for 2 years and above while a few had already undergone training for one year and were still enrolled for some mores training. They findings reported that in the facility the health workers especially the maternal child health nurses usually have health education with the mothers who deliver in their facilities especially the adolescent mothers.

K[1] *"We usually have 3 health education sessions with our young mothers, we educate them on the importance of good hygiene, delivery procedures and postnatal checkups. We usually encourage and allow them to come with their parents so that they guide them on areas that they cannot understand".*

K[2] "*Once the mother has delivered, every 3 hours we keep reminding them to breastfeed the child because some of them keep forgetting. Every day they have the training sessions on how to hold the child until they are discharged from the hospital".*

4.5.2 Exclusive Breastfeeding practices

On the practice of exclusive breastfeeding there is a lot of information on the benefits of exclusive breastfeeding and the association it has with physical and intellectual development. Infants who are exclusively breastfed were said to be very intelligent, strong, with better health compared to those who are not. A young mother for instance believed that children who are exclusively breastfed perform well and are very sharp.

K[1]"*We as the Nutrionists in this facility we ensure we educate the young mothers who deliver in our facility on the importance of exclusive breastfeeding whereby they need to practice it for six months without introducing any other foods, most of them tend not to follow the instructions that is why the rate of exclusive breastfeeding in most slum areas especially Kibera is very low but never the less we keep encouraging them".*

K[2] "*Hygiene is also key when practicing exclusive breastfeeding, but you find the young mothers in this area their hygiene level is very poor which can lead to infectious diseases to the child and also to the mother. We as the health workers, personally I ensure once I have sessions with them I educate them on the importance of practicing good hygiene so that the child and the mother can be safe".*

4.5.3 Beliefs

A common belief among the adolescent mothers is that they believe that breastfeeding for a long duration will make their breasts sag which will make them look unattractive.

"For some, the more they breastfeed, the more they lose weight or the more they breastfeed the baby the more the breasts sag/flatten so they stop breastfeeding the baby" For this reason young mothers reported stopping exclusive breastfeeding their children as early as possible to prevent their breasts from sagging.

4.5.4 Colostrum

K[1]Most of the key informants reported that feeding colostrum to infants is highly recommended to feed the infant immediately after birth. One of the Maternal health nurse during the interview reported that during her training sessions,one of the adolescent mothers told her that *" That yellowish milk is considered dirty in their ethnic community and it's not healthy for the baby".*

K[2] "*In sarangombe ward, there are many tribes.You find these young mothers dont know the difference between the yellow milk and the white milk because most of them stay with their parents or grandparents when the mother delivers you find some parents of the young mothers pushing the daughter who has delivered not to give the colostrum because some cultures believe that it can make the baby sick and die.Its a major challenge to us but with the training session that we usally have with them some tend to accept while few tend not to adhere*".

4.5.5 Knowledge on exclusive breastfeeding

One of the maternal health worker who was a nutritionist stated that, *"majority of the young mothers have heard of exclusive breastfeeding from health facilities despite them having that knowledge they end up not practicing neither following the instructions that we guide them with, it's a bit of a challenge but we make sure we do follow ups when they come for the clinic checkups"*.

Even though the health workers said that most of the young mothers had heard about EBF, the practice of EBF was low as confirmed by the prevalence rate of mothers practicing exclusive breastfeeding for the first 6 months. Therefore, it is clear that just having a good knowledge of EBF does not suggest that mothers would breastfeed exclusively for the first 6 months though knowledge is vital in improving EBF

4.5.6 Influence

K[1]"*Most of the young girls who give birth in our facility mostly stay with their parents because you find they have not completed school. You find the parents have more influence on them because some of them are below 18 years so making decisions on some things is very difficult and that influences they was the young mother with interact with the child and how they will practice EBF".*

K[2] "*You find among these young mothers there is peer pressure among themselves you find some of them educating each other through finding some information online especially radio, One of the adolescent mother told me that they have created a whatsapp group where they support each other once they have challenges and are scared to come for the checkup".*

5.0 Conclusions and Recommendations

5.1 Conclusion

This study indicates that in Kibera informal settlement that is in Nairobi, cultural and social demographic and influence of media, parents and relatives influence exclusive breastfeeding practices. The Global Strategy for Infant and Young Child Feeding emphasizes on the need for those involved in promoting breastfeeding to understand the determinants of exclusive breastfeeding practices, the evidence presented in this study is therefore useful in design and implementation of behavior change interventions targeting improved breastfeeding practices, especially among the adolescent mothers.

Generalization of this knowledge may be done to other nations and be investigated as a platform for promoting EBF among adolescent mothers to promote programs in other middle- and low-income nations, particularly, the ones socially and culturally similar to Kenya. Lastly, as adolescent mothers are dealing with multiple hurdles in achieving a successful EBF practice,

guides for EBF policies particularly adolescent mothers considering the findings and limitation be developed.

5.2 Recommendations

The health department of Kibera should identify and encourage adolescent mother on the importance of exclusive breastfeeding practices in order to increase the rate of exclusive breastfeeding. Adolescent mothers should be encouraged and supported by the health workers in the health facilities to breastfed their infants within the first hour of delivery, on demand and until six months old. The medical director, county government, and nongovernmental institutions that deal with child health to enhance knowledge on EBF by creating awareness within the community particularly on the adolescent mothers. Adolescent mothers attending post and ante-natal clinics to be issued brochures which are clear and simple to comprehend addressing the issues on breastfeeding problems, negative attitudes and cultural beliefs with solutions

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