

DETERMINANTS OF ADHERENCE TO GUIDELINES TO EXCLUSIVE BREAST FEEDING AMONG MOTHERS OF INFANTS AGED 0 – 6 MONTHS ATTENDING MCH CLINIC AT KISUMU COUNTY HOSPITAL

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Abstract: -

Background: Exclusive Breast Feeding of a child remains the best and safest source of nutrition for the vast majority of infants worldwide. However, this recommended practice is hardly adopted by many mothers as no more than 30% of infants are exclusively breastfed globally.

Objective: To determine the factors influencing adherence to EBF among mothers of infants aged 0-6 months attending Maternal Child Health Clinic (MCH) in Kisumu County Hospital

Design: A descriptive cross-sectional study

Study Setting: Maternal Child Health Clinic (MCH) at Kisumu County Hospital.

Study Subjects: All mothers of infants aged 0-6 months and receiving health care services in the MCH clinic at Kisumu County Hospital.

Results: Sixty-four per cent (64%) of the respondents agreed that pre-lacteal feeds should be commenced as soon as a baby is born, 69% of the respondents stated that the number of children a mother has could influence adherence to exclusive breast feeding and 73% stated that infants should be given mixture of feeds during the course of breastfeeding.

Conclusion: Demographic factors such as age of the mother, marital status, level of education and number of children a mother has influences the adherence to exclusive breast feeding.

INTRODUCTION

Exclusive breast feeding (EBF) is a process of feeding breast milk for 6 months of life since birth without feeding any type of food, drinks, even water, except for medicine, vitamins and minerals (Bahl et al. 2015). UNICEF (2011) and WHO (2010) currently recommend that children should be exclusively breastfed during the first 6 months of life.

Exclusive Breast Feeding (EBF) is recommended because breast milk is uncontaminated and contains all nutrients necessary for children in the first few months of life. In addition, the mother's antibodies in breast milk provide immunity to disease, and improved cognitive development (Iiffet al. 2015).

Early supplementation is discouraged for several reasons such as it exposes infants to pathogens and increases their risk of common childhood diseases. Secondly, it decreases infant's intake of breast milk and suckling, which reduces breast milk production, thirdly, in low resource settings, supplementary food is often nutritionally inferior thus causing malnutrition (Bland et al. 2013).

Although there has been improvement in the number of infants breastfed worldwide, the practice is not widespread in many parts of the world as global and regional averages of infants exclusively breastfed are still very modest for example in Afghanistan, Albania and Austria, only (43.3%), (38.6%), and (12.6%) of infants below 6 months of age were exclusively breastfed in 2013 (Kumaret al. 2014).

In African countries especially Sub-Saharan Africa, exclusive breastfeeding rate for 6 months are about 30% (De Cock et al., 2012). Countries like Ethiopia exclusive breastfeeding was recorded to be 47% (Coutsoudis, 2015), while Nigeria, Zambia, Zimbabwe, and South Africa have prevalence rates of exclusive breastfeeding of 20%, 23%, 17% and 29% respectively (Dop 2012).

West African studies reported the cultural practice of giving infants herbal mixture of protection, and belief that milk is not sufficient for infant growth (56%) (Adejuyigbe et al. 2014). In some societies colostrum is discarded because it is believed to be dirty, "like a pus" and believed to be potentially harmful to the infant (Hofmann et al, 2014).

The National rate of exclusive breastfeeding in Tanzania is 19%, regardless of mothers HIV status. Only 49% of children are breastfed within the first hour of birth. The mean duration of exclusive breastfeeding is 2.4 months (Leshabari et al. 2014). A study done at Morogoro, Kilimanjaro and Igunga district, showed that EBF was practiced by only 9% of nursing mothers. Due to cultural beliefs and practices, infants are given fluids or water a few days after delivery. 43% of women in rural areas were discarding colostrum (Burkel, 2014).

It is unfortunate that mixed feeding is still the norm of many infants less than six months old in many countries with high HIV prevalence. Some of these countries including Kenya currently have very low EBF rates at 13% (UNICEF, 2011). Socio-demographic variables like maternal education, parental education, cultural practices and socio-economic status influence decision on practice EBF (Goga et al. 2012). In a cross-sectional study done in Kenya with the aim to identify factors influencing the infant feeding, most of nursing mothers started early pre-lacteal feeding, mainly to wait for the best breast milk flow. About 51.1% of infants were given water-based liquids as pre-lacteal feeds within the first three days of their life (Engbretsen et al., 2010). The main reason of giving pre-lacteal feeds to their children are the mother did not have enough milk; babies were thirsty or hungry and for cleaning the baby's stomach. The most pre-lacteal given were water, herbs and tea (Fadnes et al. 2013). Such feeds can be source of contamination which increases the risk of infection and reduces the frequency of breastfeeding practices exclusive breastfeeding (UNICEF, 2011). In Kisumu County, no information has ever been published about prevalence of exclusive breast feeding. However, anecdotal information available suggests that only 36% of infants below 6 months of age are exclusively breast fed.

Socio-demographic and cultural factors are key determinants of EBF in the county.

MATERIALS AND METHODS

Study Design: A descriptive cross-sectional study design was used to get quantitative information about adherence to exclusive breast feeding as it allows a snap short interaction with a small number of respondents at a time.

Study Setting: The study was carried out in the Maternal and Child clinic at Kisumu County Hospital, located within Kisumu town in Kisumu County, Kenya. The hospital offers general as well as specialized medical services.

Sampling method: Purposive sampling method was used to recruit mothers of infants aged 0-6 months for the study as it is cheap and time saving. The study population consisted of all mothers of infants aged 0-6 months and receiving health care services in the MCH clinic at Kisumu County Hospital.

Sample size determination: The sample size for the respondents at Kisumu County Hospital was calculated using Sloven (1962) formula with precisions of +/- 5% confidence level of 95%. It is given by the expression;

$$n = \frac{N}{1 + N(e)^2}$$

Where N = target population, N = 70 (estimate number of mothers per clinic visit), e = fixed error, e = 0.5, N = 70

$$1 + 70(0.05)^2$$

n = 60 respondents

Therefore 60 respondents were recruited for the study.

Research instrument: A structured questionnaire consisting of open and closed ended questions were used as a tool for gathering information. The structured questionnaire was divided into four sections. The first section was used to collect data about demographic profile. The second section was used to assess demographic factors influencing adherence to exclusive breast feeding. The third section was used to determine socio-cultural factors influencing exclusive breast feeding. The last section was used to assess maternal factor influencing adherence to exclusive breast feeding.

Reliability and validity of research instruments: For reliability and validity, the questionnaire was pretested with a tenth of the sample size outside the study area. The questionnaire was then revised and content adjustments made accordingly. After data collection, questionnaires were checked daily, for completeness, clarity, consistency and uniformity by the researcher.

Data collection procedure: After the sampling process was completed, the researcher introduced herself to the prospective participants and read to the individual participant the consent form that detailed the title and purpose of the study as well as the rights of the participant. After obtaining the written consent, the researcher entered the questionnaire serial number and date of interview and proceeded from the first up to the last question using a language understood by the participant. The researcher entered responses given by the participant ticking the appropriate response and entering the same number in to the coding box. If the numbers were different, it would not be a valid response. The researcher reviewed the questionnaires on a daily basis to ensure they were being completed correctly and errors corrected to avoid being repeated. The process of data collection continued until every effort to contact every study participant in the sample had been exhausted. All completed questionnaires were kept safe by the researcher.

Data analysis procedures: Completed questionnaires were checked for accuracy, missing data and completeness on a daily basis after data collection at the end of the day. This was followed by coding and entry of data in SPSS version 20 for analysis.

Ethical consideration

A letter of introduction was obtained from Uzima University College to permit the researcher to carry out research. All participants were selected on the basis of informed consent. The study was voluntary and information was kept confidential. Participants' anonymity was kept. The study was conducted while upholding the moral, tradition and customary rules and regulations of the community in a manner that did not compromise the scientific inclinations of the research. The researcher ensured adherence to maintaining scientific standards in the method employed in the collection and analysis of data as well as impartial assessment of study findings.

RESULTS

Bio demographic data

Table 1: Bio demographic data of the respondents

Demographic parameter		Frequency	Percentage (%)
Age (Years)	18-25	8	13.3
	26-32	20	33.3
	33-40	31	51.7
	>40	1	1.7
	Total	60	100
Tribe	Luo	53	88.3
	Luhya	-	-
	Others	7	11.7
	Total	60	100
Religion	Christian	43	71.7
	Muslim	17	28.3
	Others	-	-
	Total	60	100
Employment status	Employed	3	5
	Un-employed	21	35
	Self employed	36	60
	Total	60	100
Education level	None	-	-
	Primary	28	46.7
	Secondary	18	30
	Tertiary	14	23.3
	Total	60	100

Most of the respondents (51.7%) were in the age range between 33 – 40 years of age while only 1.7% was above 40 years. Age of the mother can influence tendency to practice exclusive breastfeeding as old mothers tend to act responsibly and heed to medical advice compared to teenage or under age mothers who may be breastfeeding for the first time and are inexperienced.

Majority of the respondents (88.3%) were Luo while only 11.7% were other tribes. Tribes have different traditional practices and beliefs which may interfere with the practice of exclusive breastfeeding or may force them to introduce local so early for example cattle rearing tribes may introduce cow milk to infants early so as to create time for the mother to perform other domestic chores. These study findings are in line with the findings (Fadnes et al. 2013) that concluded a study in Uganda and found out that the main reason for giving the pre-lacteal feeds to their infants was among others cleaning the baby's stomach.

Most of the respondents (71.7%) were Christian while only 28.7% were Muslims. Religious teachings most of the time encourage adoption of healthy behaviors though the reverse may be true for example some churches discourage family planning hence the infants may not breastfeed sufficiently for the recommended period of 6 months as there will be rivalry from the newly born sibling.

Most of the respondents (60%) were self-employed while only 5% were employed either by government or private sector. Employment status influences the economic status of the mother and therefore the quality of life as in they will be able to afford better nutrition which is important for sufficient milk production thus ensuring availability of adequate amount of milk for the infant though employment is also associated with distaste of keeping the mother busy and therefore not giving the infant sufficient time to breastfeed. These study findings agree with the findings of Goga et al. (2012) who stated that socio-demographic variables like socio-economic status influence on decision of practice EBF.

Most of the respondents (46.7%) attained primary level of education while only 23.3% attained tertiary level of education. Educated mothers have better health seeking behaviors and are more likely to heed to medical advice to practice exclusive breastfeeding for 6 months.

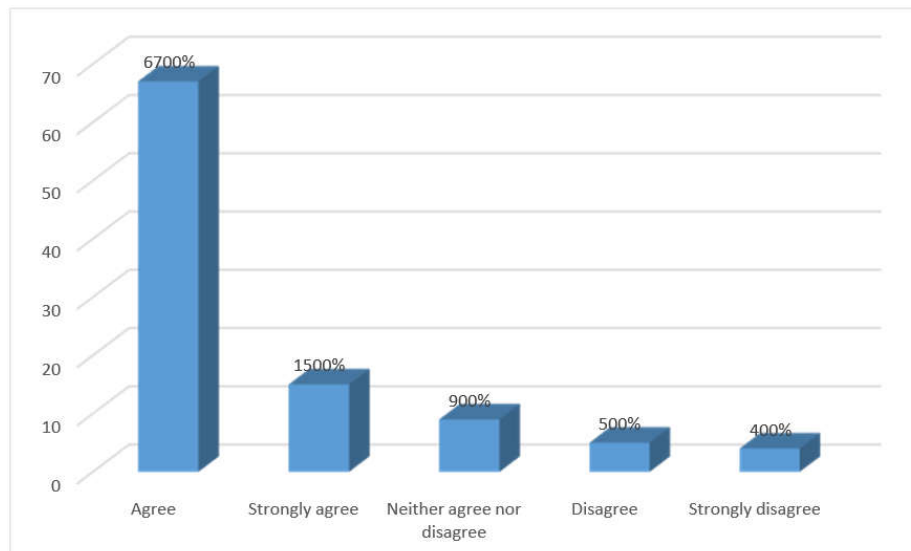
Demographic factors influencing adherence to exclusive breastfeeding

Table 2: Response on whether age of the mother can influence adherence to Exclusive breastfeeding

Response	Frequency (n)	Percentage (%)
Agree	29	48.3
Strongly	19	31.7
Neither agree nor disagree	10	16.7
Disagree	-	-
Strongly disagree	2	3.3
Total	60	100

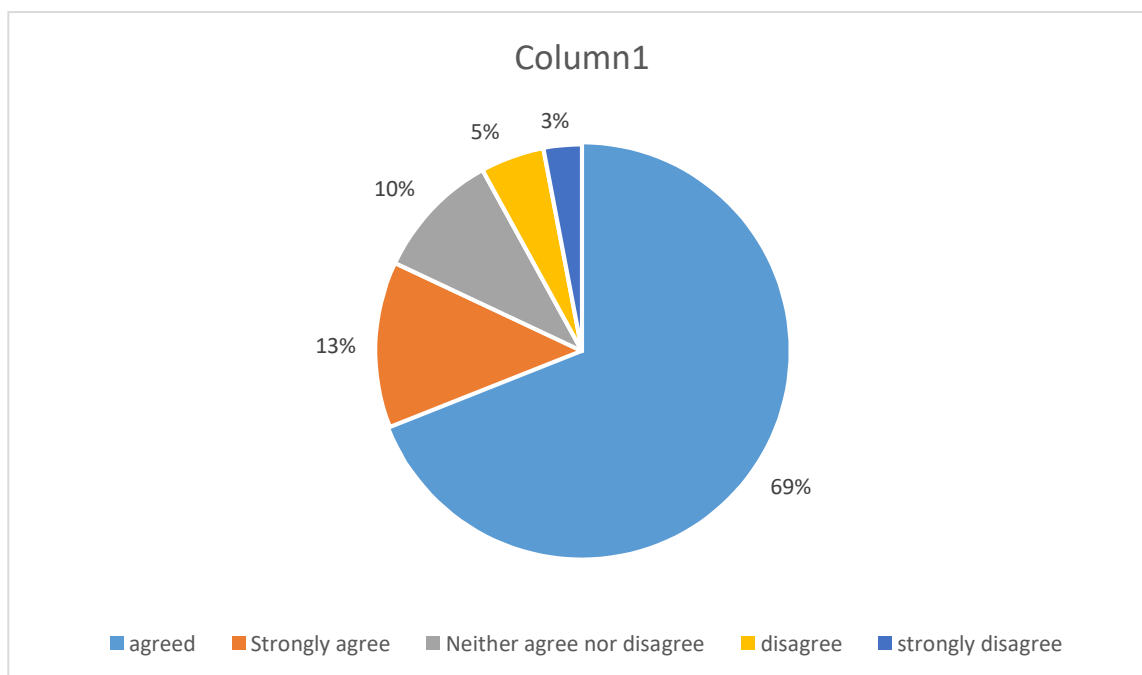
Most of the respondents (65%) agreed that age of the mother can influence adherence to exclusive breastfeeding while only 5% strongly agreed. Young mothers who are experiencing breastfeeding for the first time are always bombarded with different kinds of information some of which can be detrimental to health of infant and since they have no experience in breastfeeding, they are most likely to adopt such unhealthy behaviors. This study findings are taken in tandem with the findings of Ku and Chow, (2012) who investigated the social factors in relation to duration of exclusive breast feeding and found out that as age of the mother increases also the duration of exclusive breast feeding increases, which means that the young mother lacks the breastfeeding experiences and might not be able to make their own decision on how to feed the babies.

Figure 1: Response on whether mother's level of education can influence adherence to exclusive breastfeeding



Most of the respondents (67%) agreed that mother's level of education can influence adherence to exclusive breastfeeding while only 4% strongly disagreed. Educated mothers are better informed than uneducated mothers and take up health information more positively compared to uneducated mothers. They are therefore more likely to practice exclusive breastfeeding compared to uneducated mother. This study findings concur with the findings of Goga et al. , (2012) who conducted a study in Turkey about the factors related to early stopping exclusive breast feeding and found out that the mother with higher level of education was more likely to practice exclusive breastfeeding than those with middle level of education, also mother.

Figure 2: Response on whether numbers of children the mother has could influence adherence to exclusive breast feeding



Most of the respondents (69%) strongly agreed that the number of children a mother has could influence adherence to exclusive breastfeeding while only 3% disagreed. Mothers who had 2 or more may or may not practice exclusive breastfeeding based on previous experience while mothers having a child for the first time are more likely to follow the information obtained from the trusted sources and therefore follow it. Accordingly if the information encourages exclusive breast feeding for 6 months, they may practice it. These study findings agreed with the findings of Kourtiset al.,(2013) who stated another factor that can influence the practice of exclusive breastfeeding either positively or negatively is the number of children. A mother who has had a successful breastfeeding for the previous babies will realize the benefits and will continue to breastfeed. On the other hand, if the mother has experienced difficulties with previous breast feeding practices she may be discouraged. Such problems may include medical conditions like sore nipples, mastitis, and even abdominal pains.

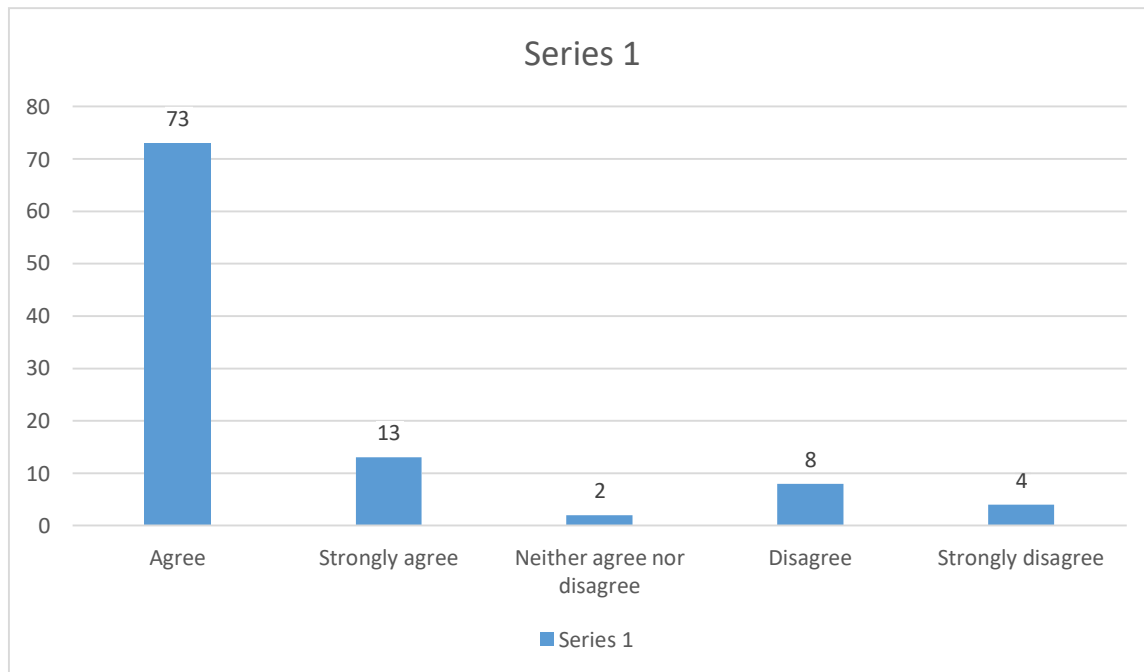
Table 3: Response on whether marital status influences adherence to exclusive breastfeeding

Response	Frequency (n)	Percentage (%)
Agree	11	18.3
Strongly	33	55
Neither agree nor disagree	-	
Disagree	9	15
Strongly disagree	7	11.7
Total	60	100

Most of the respondents (55%) strongly agreed that marital status influences adherence to exclusive breastfeeding while only 11.7% strongly disagreed. Marital status is one of the socio demographic variables that can influence the practice of EBF. The husband and other relatives can encourage EBF as a social support system. This study finding agreed with the findings of Bahet al., (2015) who asserted that fathers have an important influence on maternal decision in relation to breastfeeding and that low commitment levels, lack of social support and lack of prior exposure to breastfeeding were risk factors for abandoning EBF.

Cultural factors influencing adherence to exclusive breast feeding.

Figure 3: Response on whether infants should be given mixture of feeds during the course of breastfeeding.



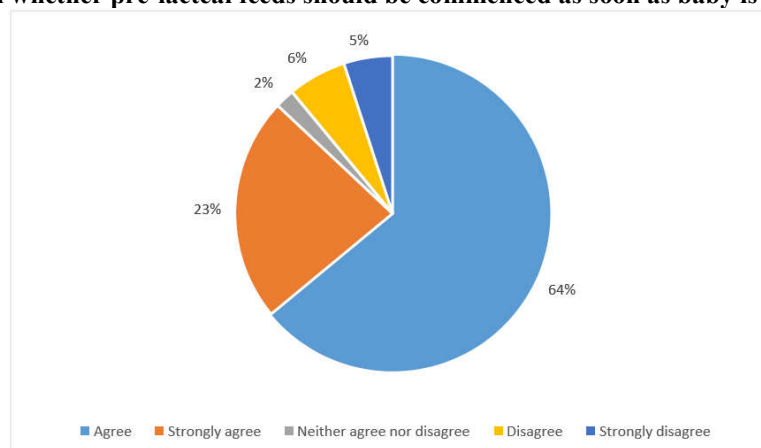
Most of the respondents agreed (73%) that infants should be given mixture of feeds during the course of breastfeeding while only 2% neither agreed nor disagreed. Cultural practices and beliefs influence much, mothers practicing exclusive breastfeeding especially in Sub Saharan countries. Due to cultural beliefs and practices, infants are given fluids or water a few days after delivery. These study findings are in tandem with the findings of Kengne et al., (2014) who in their West African studies reported the cultural practice of giving infant mixture of herbs for protection, and beliefs that milk is not sufficient for growth because “it does not contain enough nutrients for infant.”

Table 4: Response on whether infants should not feed on colostrum as per cultural beliefs(n=60).

Response	Frequency (n)	Percentage (%)
Agree	29	48.3
Strongly	19	31.7
Neither agree nor disagree	10	16.7
Disagree	-	-
Strongly disagree	2	3.3
Total	60	100

Most of the respondents (48.3%) agreed that infants should not feed on colostrum as per cultural beliefs while only 3.3% strongly disagreed. Colostrum is rich with antibodies which help boost up the infant’s immunity therefore denying the infant the benefits of colostrum will be catastrophic to its health. These study findings are in line with the findings of Hoffmana et al., (2014) who stated that in some societies, colostrum is discarded because it is believed to be “dirty,” like pus” and believed that colostrum is potentially harmful to the infant.

Figure 4: Response on whether pre-lacteal feeds should be commenced as soon as baby is born (n=60)



Most of the respondents (64%) agreed that pre-lacteal feeds should be commenced as soon as baby is born while only 2% neither agreed nor disagreed. There is absolutely no health benefit of pre-lacteal introduction of feeds to an infant instead it exposes an infant to danger as the alimentary system is not developed enough to handle hard food. Besides there is a risk of infection in the process of introducing pre-lacteal feeds. These study findings concur with the findings of Adejuyigbe et al., (2014) who conducted a study in Ethiopia and found out that the mothers were pressured by family member (mother-in-law) to introduce to other liquids early.

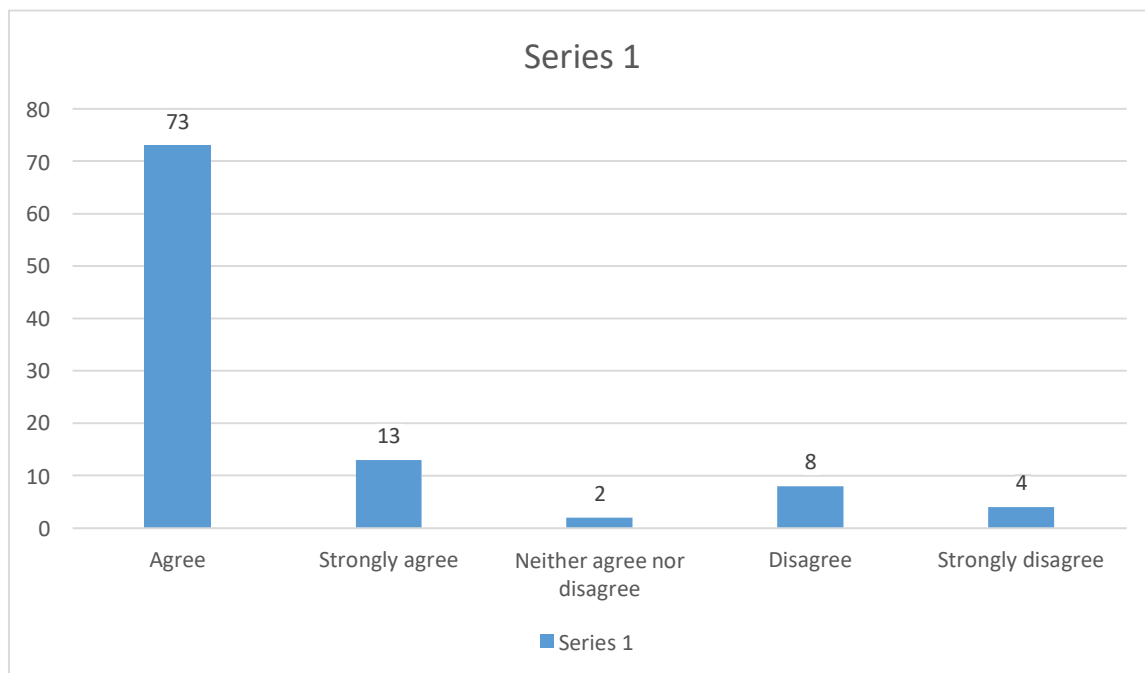
Table 5: Response on whether infants can be given feeds while waiting for mother’s milk to flow

Response	Frequency (n)	Percentage (%)
Agree	24	40
Strongly	31	51.7
Neither agree nor disagree	3	5
Disagree	-	-
Strongly disagree	2	3.3
Total	60	100

More than half of the respondents (51.7%) strongly agreed that infants can be given feeds while waiting for mother’s milk to flow while only 3.3% strongly disagreed. Pre-lacteal feeds can be a source of infection for the infant whose immune system is not yet fully developed. These study findings are in tandem with the findings of Engebretsen et al., (2013) who conducted a study in Kenya to identify factors affecting infant feeding and found out that most nursing mothers started early pre-lacteal feeding, mainly to wait for the breast milk flow and also believed that, water cleans the baby’s throat.

Maternal factors influencing adherence to exclusive breast feeding.

Figure 5: Shows response on whether maternal health status influences adherence to exclusive breast feeding (n=60)



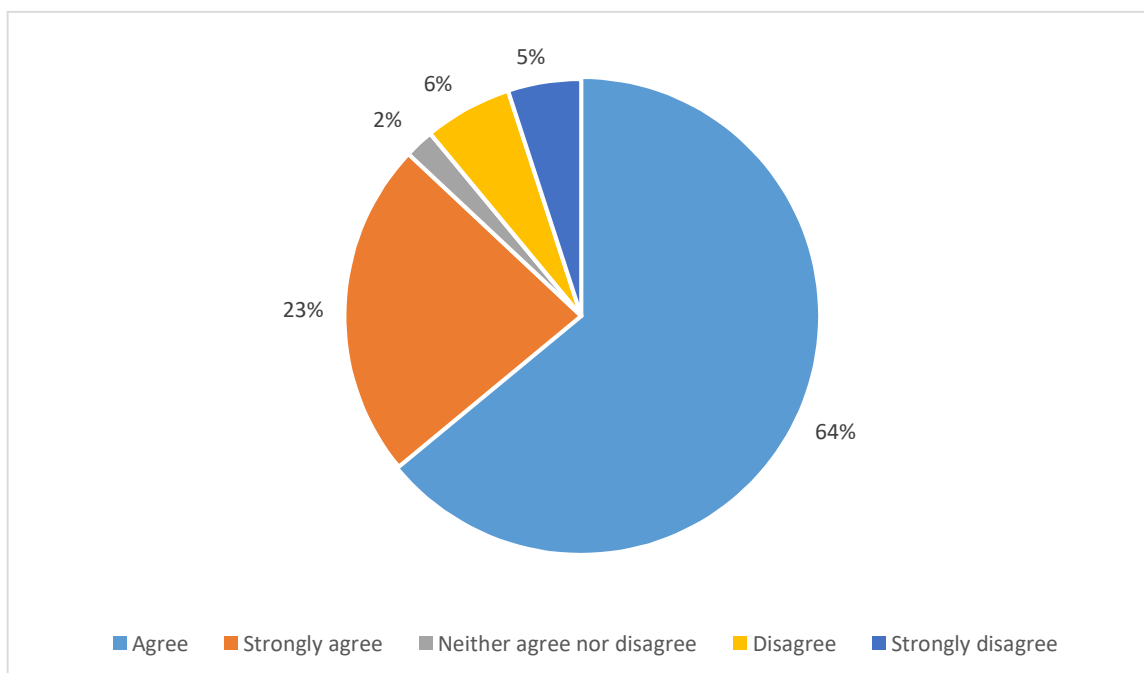
Most of the respondents (73%) strongly agreed that maternal health status influences adherence to exclusive breast feeding while only 4% strongly disagreed. Maternal nutritional status influences her ability to form adequate amount of milk to feed the infant thus well-nourished mother are more likely to have adequate amount of milk and practice exclusive breast feeding compared to poorly nourished mothers. These study findings agree with the findings of Hofmanna et al, (2014) who conducted a study in Nigeria that investigated factors influencing exclusive breast feeding practices among women in Delta State and found out that health of the nursing mother was among the factors associated with inadequate breastfeeding.

Table 6: Response on whether type of job a mother has influences adherence to exclusive breastfeeding

Response	Frequency (n)	Percentage (%)
Agree	24	40
Strongly	31	51.7
Neither agree nor disagree	3	5
Disagree	-	-
Strongly disagree	2	3.3
Total	60	100

Nearly half of the respondents (48.3%) strongly agreed that the type of job a mother has influences adherence to exclusive breastfeeding while only 6.7% disagreed. Certain jobs may not allow mothers sufficient time to breastfeed their infants hence they introduce weaning food early so as to protect their jobs. This study findings are in line with the findings of Bryce et al. (2013) who conducted a study in Ethiopia and found out that unsupportive working environment due to nature of work can affect adherence to exclusive breast feeding for example bankers who were nursing mothers were not able to practice exclusive breastfeeding.

Figure 6: Response on whether maternal knowledge about benefits of exclusive breastfeeding influences adherence to exclusive breast feeding (n=60)



Most of the respondents (64%) strongly agreed that maternal knowledge about benefits of exclusive breast feeding influences adherence to exclusive breast feeding while only 2% neither agreed nor disagreed. A mother who is more knowledgeable about exclusive breast feeding and its benefits is more likely to practice exclusive breast feeding. These study findings agree with the findings of Coutsoydis, (2015) who stated that mothers who have the knowledge regarding the importance of exclusive breast feeding compared to those with limited knowledge on importance of exclusive breastfeeding.

Table 7: Response on whether maternal attitude and perceptions towards breastfeeding influences adherence to exclusive breast feeding (n=60)

Response	Frequency (n)	Percentage (%)
Agree	24	40
Strongly	31	51.7
Neither agree nor disagree	3	5
Disagree	-	-
Strongly disagree	2	3.3
Total	60	100

More than half (56.7%) of the respondents strongly disagreed that maternal attitude and perceptions towards breastfeeding influences adherence to exclusive breast feeding while only 18.3% strongly disagreed. Attitude influences behavior and practice towards breastfeeding thus mothers with better attitudes are more likely to practice exclusive breastfeeding compared to mother with poor attitudes. These study findings are in line with the findings of Burkel, (2014) who reported that successful breast feeding depends not only on a willing mother, a healthy infant, and encouragement by medical personnel, but also on knowledge, attitudes, and beliefs about breastfeeding developed by mothers during pre and post-natal care

DISCUSSION

The study was carried out to determine the factors influencing adherence to EBF among mothers of infants aged 0-6 months attending Maternal Child Health clinic (MCH) in KCH. It was guided by the following objectives, a descriptive cross-sectional design was used to get quantitative information about adherence to exclusive breast feeding. Purposive sampling method was used to recruit 60 mothers of infants aged 0-6 months for the study. A structured questionnaire consisting of open and closed ended questions were used as a tool for gathering information. The researcher found out that. The researcher found that 64% of the respondents were in agreement with idea of commencing pre-lacteal feeds as soon as baby is born, 69% of the respondents stated that the number of children a mother has could influence to exclusive breastfeeding and 73% stated that infants should be given mixture of feeds during the course of breastfeeding.

CONCLUSION

Demographic factors influencing adherence to exclusive breastfeeding include; age of the mother, marital status, level of education and number of children a mother has.

Cultural factors influencing adherence to exclusive breast feeding include; cultural beliefs and practices such as belief that milk alone is not enough for infant before 6 months and belief that colostrum is harmful for infant.

Maternal factors influencing adherence breast feeding include; maternal health status, type of job of a mother about benefits of exclusive breastfeeding and maternal attitudes and practices towards breast feeding.

Recommendations

In order to improve adherence to exclusive breastfeeding, the researcher came up with the following recommendations based on study findings.

- I. Promoting girl child education will encourage more responsible parenting and will raise mothers who understand the benefits of exclusive breast feeding.
- II. Adequate antenatal education will give pregnant mothers insight on how to cope with challenges of breastfeeding and therefore remain adherent to exclusive breastfeeding.
- III. Promoting adequate nutrition for mothers will help ensure availability of adequate milk for the infant.

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