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PREDICTORS OF MOTHERS' COMPLIANCE WITH NATIONAL INFANT AND YOUNG CHILD FEEDING RECOMENDATIONS AMONG CHILDREN AGED 0-24 MONTHS IN NAKURU MUNICIPALITY, KENYA

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Abstract: **Optimal infant and young child feeding (IYCF) is the World Health Organization (WHO) recommended way of feeding children. Much has been done on IYCF, but there still remains a dearth of information in areas related to the application of IYCF recommendations in various regions. Therefore, the study was designed to assess the compliance with IYCF recommendations among mothers with infants aged 0-24 months in Nakuru Municipality, Kenya. This paper presents and discusses the findings from one of the objectives of the study. The paper discusses the mothers' prior plan, sources of information, popular culture, prior teenage exposure to breastfeeding mother and support for IYCF as predictors of their compliance with IYCF recommendations. The study used interview and questionnaires adapted from the WHO questionnaire on the 24-hour recall food diversity. Nine research assistants were trained prior the exercise to help in collecting data from 377 mothers. From the findings, almost half (49.6%) of mothers' had prior plan for exclusive breastfeeding for six months. However, only 14.2% carried through their plan. The main sources of IYCF information was the media (radio and television) according to 39.3% of the mothers. A large majority (95.5%) of the mothers had prior teenage breastfeeding exposure of witnessing a mother frequently breastfeed. The popular culture of IYCF was early (0-3 months) introduction of solids, semi-solids and soft foods (39%). The main sources of reassurance (support) on mothers' IYCF practice was by the community health nurse (46.4%). The mothers' level of compliance with IYCF recommendation was 55%. The study recommends that policy makers should come up with strategies of building capacity to increase the community health nurses' efforts of supporting IYCF. The policy makers need to come up with IYCF policies that would reach the mothers in the community with practical IYCF intervention. County Health System to ensure the CHEW monitor and evaluate of IYCF compliance at family level.**

Keywords: **Prior Plan, Information Sources, Popular Culture, Prior Teenage Exposure, Breastfeeding Mother, Support Compliance, Optimal Infant, Young Child Feeding, IYCF Recommendations.**

1. INTRODUCTION

Infant and young child feeding (IYCF) in the first two years of life is a key determinant of growth and development in children (Lamberti, Fischer, Noiman, Victora & Black, 2011; Lahariya, 2008). Children below 2 years old grow rapidly and are vulnerable to illness (Senarath & Dibley, 2012; World Alliance Breastfeeding Action [WABA], 2010). While under-nutrition usually spikes at the age of 3-18 months making the child's first two years of life are considered 'a critical window of opportunity' for the prevention of growth faultering and under-nutrition (Victora, de Onis, Hallal, Blossne &

Shrimpton, 2010). Prudence therefore calls for capturing of children at this period in life with appropriate interventions to ensure children reach their full growth potential and help prevent irreversible stunting and acute under nutrition (Dewel & Adu-Afarwuah, 2008). In order to engage effective measures to control and eliminate child malnutrition, there is need for mothers' compliance with optimal IYCF recommendations (Arabi, Frongillo, Avula & Mangasaryan, 2012).

Indicators for monitoring IYCF, which were utilized in the study, were derived from literature review and the World Health Organization's (WHO) IYCF recommendations. These were: initiating breastfeeding (BF) within one hour of delivery; exclusive breastfeeding (EBF) for the first six months; introduction of solid, semi-solid and soft foods in 6-8 months of age; minimum dietary diversity; minimum meal frequency, and continued breastfeeding for 2 years (Senarath & Dibley, 2012; Government of Kenya [GoK], 2007).

In Kenya, the IYCF recommendations states that mothers should initiation breastfeeding within one hour of birth, EBF for six months, continue breastfeeding for two years and beyond meanwhile introduce solids, semi-solids and soft food at six months. Meals frequency and food diversity be done as for appropriate age. Assessment of mothers' compliance to this recommendation has not been done in Nakuru as it was revealed in a study done by Kamau-Mbuthia, Ellmadfa and Mwonya (2008). However, a study done in Eldoret (Cherop, Keverenge-Ettyang & Mbagaya, 2009) showed that mothers do not EBF due to inadequate breastfeeding knowledge.

In Nakuru Municipality, within the first half of the year (2012), 16% of the children aged 0-11 months were recorded as underweight in the category of nutritional status with the highest proportion of children followed by faultering weight (2%) (District Health Information System [DHIS] Nakuru, 2012). Therefore, it was necessary to explore the factors that determined mothers' compliance with IYCF on the feeding and nutrition practices of children.

Mothers' Prior Plan of IYCF

Prior plan made for intention to breastfeed as part of IYCF is a strong predictor of behaviour (Di Girolamo, Thopson, Martorell, Fein & Grummer, 2005). Such IYCF intentions are influenced by the opinions of significant others such as the spouse, family and friends (Hill, Arnett & Mauk, 2008). Additionally, maternal knowledge of infants' health benefits of breastfeeding also affects the mothers' intention to breastfeed (Stuebe & Bonuck, 2011). However, having an intention to meet the IYCF recommendation has been weakly and positively associated with the initiation of breastfeeding (Wen, Simpson, Rissel & Baur, 2012).

Mothers' Source of IYCF Information

Mothers obtain information on IYCF from a variety of sources, the quality of which may vary, and is not necessarily evidence-based (Raats, 2010). A study by Halfon, Kuo, Inkelas, Slusser and Maidenberg (2011) found that primary health care providers play a role in disseminating IYCF information at the community level and can thus reduce early introduction of solids, semi-solids, and soft foods. Dissemination of IYCF information to mothers is best delivered through existing health systems, as was recommended by Kabir, Khanam, Agho, Mihrashahi, Dibley and Roy (2012), in a study done in Bangladesh. According to Muluye, Woldeyohannes, Gizachew and Tiruneh (2012), in a study done in Ethiopia, IYCF education aligned to national policy should be strengthened in Primary Health Care (PHC) activities. In Kenya, the Ministry of Public Health and Sanitation (MOPHS) has stipulated the need for mothers to receive IYCF messages during their antenatal visits (DHIS Nakuru, 2012) where many PHC activities are done. Such IYCF messages build confidence in the mother once they return home after delivery at a health facility, as was revealed in a study done in England by Beake, Rose, Bick, Weavers and Wray (2010).

Despite the advantages of daily dissemination of information in support of IYCF, studies done in India and Kenya by Biswas, Das, Roy, Saha, Shrivatava and Mitra (2010) and Lakati, Makokha, Binns and Kombe (2010), respectively, revealed that health education sessions are not carried out as per recommendation due to heavy workload of the Community Health Nurses (CHN) in whose docket it falls. However, according to DHIS Nakuru (2012), there is evidence of IYCF message dissemination during the antenatal and post-natal period, in accordance with the expectations of the Baby Friendly Initiative in Nakuru.

Skilled-trained health workers, such as midwives, have been identified in various studies as being potentially cost effective in IYCF information dissemination (Renfrew *et al.*, 2009; Brown, Reynor & Lee, 2011; Heinig, Follett, Ishii, Kavanagh-Prochaska & Cohen, 2006; Senarath *et al.*, 2010). However, IYCF information dissemination has various challenges amongst the identified sources, such as the health workers providing conflicting advice or guidance, being unavailable and lack of resources, especially time to support the mothers on IYCF practical aspects (Brown *et al.*, 2011;

McInnes & Chambers, 2008). According to Heinig *et al.* (2006), grandmothers are sources of information to mothers. Other sources include the mass media, such as television and the radio, which were depicted in a study done in Nepal by Joshi, Agho, Dibley, Senarath and Tiwari (2012). Unsatisfactory exposure to media is cited as factor that is associated with risks of premature cessation of EBF (Gewa, Oguttu & Savaglio, 2011).

Popular Culture

Mothers base their infant feeding decisions on an array of factors, which include cultural beliefs (Pak, Aliya & Elinor, 2009). As Jellife (1968) points out, "… all different cultures, whether in a tropical village or in a highly urbanized and technologically sophisticated community, contain some practices and customs which are beneficial to the health and nutrition of the group, and some which are harmful. No culture has a monopoly on wisdom or absurdity." Pre-lacteal feeding is a popular culture that has been reflected in various studies done in India, Ethiopia and Tanzania (Dakshayani & Gangadhar, 2008; Alemayehu, Haidar & Habte, 2009; Shirima, Greiner, Kylberg & Gebre-Medhin, 2001). Additionally, early introduction of complementary feeding is common in many cultures and frequently, such feedings are viewed as a means of socializing the infant into the family's diet culture (Pak, Aliya & Elinor, 2009).

Mothers' Prior Teenage Exposure to Breastfeeding Mother

According to Hoddinott, Kroll, Raja and Lee (2010) and Giles, Connor, McClenahan and Mallet (2010), there is a positive association between breastfeeding exposure (witnessing others who are role models breastfeed and knowing someone who has breastfed) and positive breastfeeding attitudes. Therefore, targeting the prior exposure to an IYCF role model of a mother factor may be an important step in positively influencing infant feeding behaviour and moving toward breastfeeding-friendly culture (Kavanagh, Lou, Nicklas, Habibi & Murphy, 2012). It is thus critical to influence the decision-making process among young adults, as this decision is an important predictor of actual infant-feeding behaviour (Kavanagh *et al.*, 2012).

Support for IYCF

IYCF Support Classes

According to Saltan (2008) the modern society is no longer taking breastfeeding included in optimal IYCF as "instinctive, effortless or natural" or "the automatic action" but it is viewed as skills that need to be acquired through learning (Zwelling, 1996). In the urban set up in Nairobi, young couples are availing themselves for classes where they are taught how to take care of their infants and young children (Corroll, 2004). One of the lessons in these classes is breastfeeding (Corroll, 2004; Bingham, 2010). There is need for effective communication of IYCF recommendations, which is an essential element in supporting optimal IYCF (Simmons, 2003). Informational and other forms of support for breastfeeding need to be continuous to produce effective results as well as integrating other types of interventions during different phases of motherhood (Kaunonen, Hannula & Tarkka, 2012).

IYCF Support in Health Facilities

Within the health facility the Baby Friendly Hospital Initiative (BFHI) was established to strengthen and to support optimal breastfeeding by implementing the ten steps to successful breastfeeding; however, not all health facilities (HF) adhere to recommendations, as revealed in a Nairobi study by Lakati *et al.* (2010). Implementation of IYCF recommendations, and health education communication strategies to disseminate IYCF recommendations when undertaken, depicts positive impact on mothers' IYCF behaviour (Lingshi & Jingxu, 2011). Therefore, efforts are made nationally to ensure information on IYCF recommendations are disseminated to mothers in the health facility with the aim of higher EBF rates than those depicted in Kenyan studies (Kimani- Murage *et al.*, 2011; Kamau-Mbuthia *et al.*, 2008).

A study in Kisumu by Morgan, Masaba, Nyikuri and Thomas (2010) revealed that Community Health Nurse (CHN) support influences mothers' decision regarding breastfeeding cessation. CHN support during the birth of the infant also influences the initiation of breastfeeding (Heinig *et al.*, 2006). According to Craig and Dietsch (2010), in a study done in Australia, a mother requires practical skills on breastfeeding, reduction of anxiety, fostering a sense of self-confidence in their ability to breastfeed and ample time for CHN to assists the mothers initiate and continue breastfeeding.

Post-natal care is aimed at supporting the mother especially on initiation, establishing and managing breastfeeding problems. However, health facility post-natal care is chaotic in nature and is not conducive to mothers to learn breastfeeding (Athena, Schmied & Barclay, 2009). Hardly does CHN carry out home post-natal visits to mothers. Such

home visits are left to either the students nurses which is part of their nursing course requirement and the peer support groups (Kruske, Schmied, V., & Cook, 2007). The support for breastfeeding that mothers need includes assistance to latch baby on the breast and breastfeed, support on mothers' need for sleep and need to meet their goal of maternal identity (Athena *et al*., 2009). However, CHN practice of assisting mothers has been shown in a study done in Nairobi by Lakati *et al.* (2010) as not feasible with the current shortages of CHN in many health facilities.

Peers IYCF support

Breastfeeding support is also done by peers. The role of peer support has been identified as the most important intervention during the post-natal period and, if professional support is not available for mothers, then peer support could provide an alternative worth considering (Kaunonen, Hannula & Tarkka, 2012). Peer support significantly decreases the risk of discontinuing EBF, as was reported in a study done in low and middle-income countries (Sudfeld, Fawzi & Lahariya, 2012). Breastfeeding peer support is key in helping improve breastfeeding and exclusive breastfeeding rates (Thomsons, Crossland & Dykes, 2012). The peer supporters provide feedback on mothers and infants' progress, and through praise, reassurance and instilling calm, they helped women to focus their energy to achieve their breastfeeding goals, as revealed in study by Thomsons *et al.* (2012).

Other persons that are key in supporting mothers on IYCF are family members, friends, church members and, occasionally, strangers (Heinig *et al.*, 2006; Morgan *et al.*, 2010). Cultural norms also influence mothers' decision regarding breastfeeding cessation (Morgan *et al*., 2010). Cultural relationships within the extended family, as is a practice amongst the Asian mothers, cause conflict between the mother and mothers-in-law in regard to the best feeding method and cause the mother to end up using formula feed in order to sustain the daughter-in-law/mother-in-law relationship (Choudhry & Wallace, 2012).

Statement of the Problem

Infant Young Child Feeding (IYCF) recommendations in Kenya are given to ensure child survival through interventions that are cost effective. Child malnutrition, morbidity and mortality are reduced when mothers comply with the national IYCF recommendations (Nduati, 2012). Compliance with national IYCF recommendations is in the mothers' domain as they make decisions on how their children will be fed in terms of types of foods in a meal, frequency as well as timing of when to commence and stop breastfeeding. Mothers' non-compliance with IYCF recommendations is manifested in outcomes of children health. No study has addressed the most current mothers' compliance with IYCF recommendations in Nakuru Municipality. There is need to be in touch with current IYCF practice status frequently so as to be aware of the current trends and make interventions in good time to ensure achievement of reduction of child mortality by two thirds by 2015 (World Bank, 2006). Therefore, this study sought to fill the gap by assessing the current situation in mothers' compliance to national IYCF recommendations. Based on the study, this paper presents and discusses the research findings on mothers' prior plan, sources of information, popular culture, past teenage exposure to a breastfeeding mother and support for IYCF practices in Nakuru Municipality, Kenya.

2. MATERIALS AND METHODS

The study was done in Nakuru Municipality in Nakuru County, Kenya. Nakuru is the fourth largest town in Kenya and has been identified as one of the fastest growing towns in Africa. The Nakuru Municipality is cosmopolitan with people of various socio-economic, races, different cultures and ideologies, religious and political aspirations. Since IYCF varies widely within and between populations for various reasons, Nakuru Municipality was chosen as an urban set-up to identify different aspect of IYCF information that is only available in a cosmopolitan area. This would assist in deciding approaches to IYCF recommendation in response to urban settings. At the time of the study, the Municipality hosted 39 health facilities. There were four hospitals and 3 health Centres, five dispensaries, two nursing homes and over 110 private health facilities (Municipality of Nakuru, 2010). The study utilized the cross section descriptive design to assess mothers' compliance to five core IYCF indicators and six optional IYCF recommendations amongst children within their first two years of life.

The target population for the study comprised all children within two years of life who attended clinics on a monthly basis. There were 4356 children aged below two years in Nakuru Municipality (DHIS Nakuru, 2012). The mothers with children aged 0-24 months who resided in Nakuru Municipality, attending 5 clinics in the Municipality and were willing to participate in the study were eligible respondents. Mothers with children aged 0-24 months residing in Nakuru

Municipality but had children too ill requiring immediate medical interventions or were unwilling to participate in the study were excluded.

The health facilities in Nakuru Municipality were stratified into management strata, namely central government, local government, faith based and private health facilities. Purposive sampling was used to select 5 health facilities with the largest mean monthly attendance amongst the health services offered to the mother and child. The health facilities selected were PGH (Government), Mother Kevin (Faith Based), Gate House (Private), Langa Langa and Lanet (Local Government). Purposeful sampling was done to obtain dates to visit the health facilities. Every mother with a child aged between 0-24 months seeking health care services on the day the health facility was visited had an equal chance to be interviewed. Consecutive sampling was done to select the respondents in the health facility.

A sample size of 330 was determined using the formula as recommended by Fisher, Laing, Stockel and Townend (1998). The minimum sample size determined was 330 and for each of the five health facilities; 13% was added to increase the sample size proportionately leading to 377 subjects. Administration of questionnaire was done to 377 mothers whereby interview of respondent by the researcher and research assistants on IYFC indicators was done. The researcher was the lead person and supervised the research assistants as well as provided guidance all through the data collection period.

The data gathered from the interview was on infants and mothers' characteristics, mother's level of knowledge on infant feeding guidelines', current practice of mothers' IYCF obtained from a 24-hour recall and support for optimal IYCF was collected. Maternal level of knowledge on IYCF were assessed using a knowledge scale developed consisting of 13 knowledge items which took approximately five minute to complete. Each correct response received a score of one allowing an overall range in scores of 0-17.

The core indicators assessed in the study relating to mothers' IYCF practices included early initiation of breastfeeding, exclusive breastfeeding for children under six months, continued breastfeeding at 24 months, time introduction of solids, semi-solids or soft foods was done, minimum dietary diversity and minimum meal frequency. To assess dietary diversity, information was collected on different foods from different food groups that would have been given the last 24 hours. Other information gathered included the optimal indicators namely: children ever breastfed, continued breastfeeding at 24 months, duration of breastfeeding and bottle-feeding. Observation of CWC cards (road to health) was used to confirm the ages of infants.

Mothers' IYCF practices and compliance with national IYCF recommendations were the independent variables, which were classified according to WHO (2010) definitions. The mothers were asked a 24-hour recall question: 'yesterday during the day or night what was given to (name of child) to drink or eat' (cross sectional approach) and 'what was (name of child) given to drink in the first three days of life' (retrospective approach), followed by a list of typical infant foods and beverages. Frequency of the meals per day was assessed but the quantity of food was not assessed. A descriptive analysis of age-specific prevalence rates was conducted based on the 24-hour dietary recall data where the age groups of 0-6 months, 7-8 months, 9-12 months and 13-24 months were used. Breast-feeding initiation rates, solids and semi-solid and soft food introduction rates were calculated using descriptive analysis of both cross sectional and retrospective data.

The study on the influence of the different IYCF risk factors (maternal level of education, level of knowledge on IYCF recommendations, support for IYCF, popular culture and teenage exposure to a breastfeeding mother) on the mothers' IYCF practices. The collected data was coded, entered, and analysed using SPSS version 20. Descriptive statistics were computed to determine proportion of timely initiation of breastfeeding and timely introduction of solids, semi-solids and soft foods. Chi-square analysis was computed to determine whether there was any relationship between variables.

3. RESULTS

The study examined mothers' prior plan of IYCF, exposure to breastfeeding mother during teenage, popular IYCF culture, sources of IYCF information and support for IYCF.

Mothers' Prior Plan of IYCF

From the findings of the study, almost half, 187(49.6%), of the mothers had made decision to breastfeed for more than six months, 95(25.2%) had not made a decision, four to six months (76 representing 20.2%), 0 to three months (19 representing 5%), as shown in Figure 1.

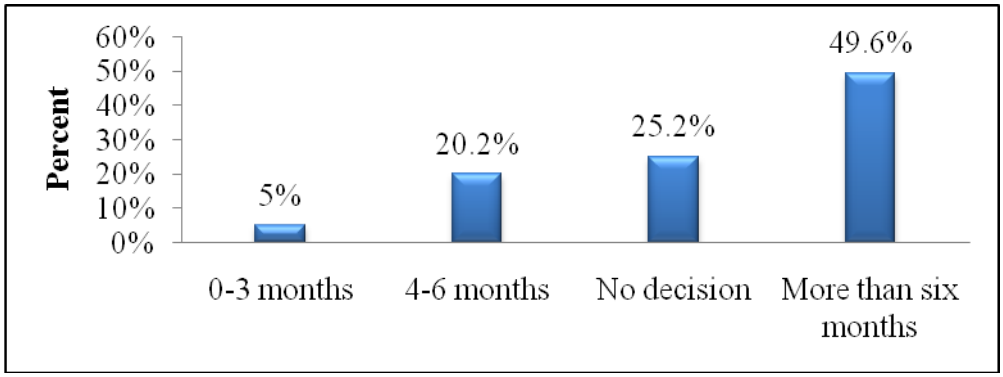

Figure 1: Mothers' prior plan for exclusive breastfeeding practice

Prior Teenage Exposure to Breastfeeding Mother

Majority, 360(95.5%), of the mothers stated that they had been exposed to a role model of a breast feeding mother during their teenage either through own mother, a close relative or neighbour, while 17(4.5%) of the mothers had not witnessed any one breastfeed (Figure 2).

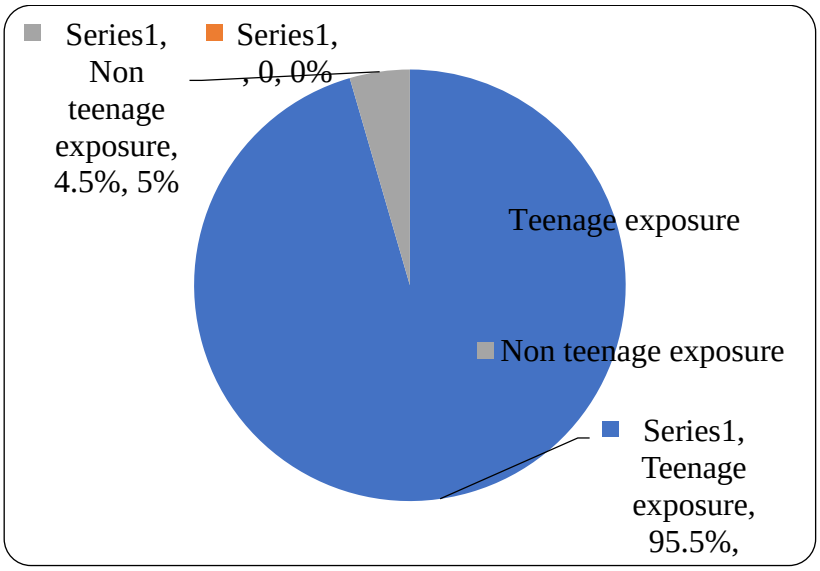

Figure 2: Mothers' prior teenage exposure to role model of breastfeeding mother

Popular IYCF Culture

As regards the popular culturally accepted time to introduce solids, semi-solids and soft food, 147(39%) of the mothers stated 0-3 months, 119(31.6%) did not know and 111(29.4%) stated 4-6 months, as shown in Table 1.

Table 1: Popular Culture for Introducing Solids, Semi-solids or Soft Food

Popular cultural time acceptable to introduce solids, semi solid or soft food	Frequency	Percent
0-3 Months	147	39
4-6 Months	111	29.4
Mothers do not know culturally acceptable time	119	31.6
Total	**377**	**100.0**

Sources of IYCF Information

Majority, 318(84.6%), of the mothers had received IYCF information while 59(15.4%) of the mothers had not. The mothers stated that the IYCF information was received from mass media (all radio and television stations) (148

representing 39.3%), Community Health Nurse (CHN) (108 representing 28.9%), magazines (19 representing 5%), books (15 representing 4%) and internet (7 representing 1.9%) while 58(15.4%) of the mother had never received IYCF information, as shown in Figure 3.

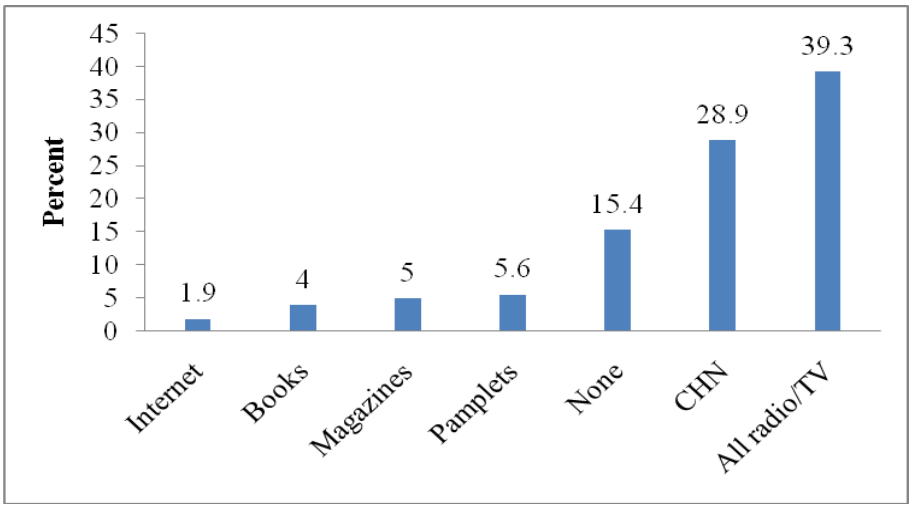

Figure 3: Sources of IYCF practice information

Support for IYCF

The study also assessed the support the mothers had received for their IYCF practices. The findings were depicted as: key person supporting through words of praise; providing reassurance and opportunity to discuss IYCF. About a third, 117(31.1%), of the mothers cited the child's father and community health nurse (CHN), 114(30.2%), as key persons who supported BF through praising the mothers for their efforts. The mother-in-law, as indicated by 16(4.2%), had the least proportion of providing words of praise to the mothers in support of IYCF (Table 2).

Slightly less than half (n= 174, 46.4%) of the mothers cited the health worker as the person who provides reassurance on mothers' practice of breastfeeding. Own mother accounted for n=78, 20.7%, child's father (n = 63, 16.7%), mother in law (n= 16, 5.6%), friend (n=7, 1.9%) and n=33, 8.8% of the mothers had no one to reassure them on breast-feeding (Table 2).

Over half, 215(57%), of the mothers cited the health worker as the person who gave them opportunity to discuss IYCF practices, 70(18.6%) indicated their own mother, 38(10%) said their friend, 15(4%) mentioned the mother-in-law and 12(3.2%) mentioned their relatives, as shown in Table 2. These findings indicated that the Community Health Nurse (CHN) and the child's father were key persons in offering the mothers IYCF support.

Table 2: Support for IYCF

	Support of praise for IYCF efforts	
Support Person	**Frequency**	**Percent**
Child's Father	117	31.1
CHN	114	30.1
Own mother	66	17.5
Mother in law	17	4.3
No one	63	17
Total	**377**	**100**
	Support of Providing reassurance on IYCF	
Child's Father	63	16.7
Own mother	78	20.7
Mother in law	21	5.6
Friend	7	1.9
No one	19	8.8
CHN	175	46.4
Total	**377**	**100**

	Support of giving opportunity to discuss IYCF	
Own mother	70	18.6
Mother in law	12	3.3
Friend	38	10.1
Other relatives	12	3.2
CHN	215	57
No one	8	2.1
Total	**355**	**100**

There was no association between: mothers' prior plan for IYCF (χ^2 [51, n=375] = 45.923, p=.675), popular breastfeeding culture (χ^2 [17, n=375] = 19.764, p = .286), support for IYCF by giving mother words of praise for breastfeeding (χ^2 [68, n = 375] =145.079, p = .000) and sources of IYCF information (χ^2 [102, n = 375] = 106.78, p = .353), with positive IYCF practices since the p-value was more than .05. Therefore, the null hypotheses was not rejected.

Exposure of the mothers' during her teenage phase to a role model mother breastfeeding (χ^2 [68, n=375] =101.347, p = .005) and response with concern to mothers' satisfaction (χ^2 [68, n = 375] =105.826, p = .002) showed positive IYCF practices where p-value was less than .05, suggesting that the null hypotheses was rejected (Table 3).

Table 3: Determinant Variables of IYCF Association with Mothers' IYCF

Determinant IYCF practice factors (Variables)	Chi square	Degree of Freedom	P value	N
Mothers' prior plan of IYCF	χ^2= 45.92	51	.675	375
Mothers' prior teenage witness of BF mother	χ^2 =101.3	68	.005*	375
Popular culture of BF	χ^2 =19.76	17	.286	375
Source of IYCF information	χ^2 =106.7	102	.353	375
Support via giving word of praise for BF	χ^2 =145.1	68	.000	375
Support via responding satisfactorily to concern on BF	χ^2 =105.8	68	.002*	375

Note: -p–value was.005; where p-value of less than .005 was computed with *.

4. DISCUSSION

From the findings of the study, the mothers had the opportunity to make choices on how to feed their infants after receiving information on IYCF. Many of mothers had received IYCF information from the all the radio and TV stations, some from community health nurses and others from pamphlets, magazines, books, and internet. The study also showed that a few of the mothers in Nakuru Municipality visited antenatal and post-natal clinics as recommended. However, the information they had received may not have been effective to change the mothers' IYCF practices to comply with the recommendations. They made choices that were contrary to even their prior plans made before the baby was born. The mothers' preferred means of IYCF information dissemination was the health facility-based interventions. This would mean improving the health facilities' interventions in place to address the gap.

Almost half of the mothers had made a decision to exclusively breast feed for six months. However, a few of them had followed their decisions. This finding showed a willingness by mothers to comply with the IYCF recommendations. However, they lacked the push by family, relatives and community members to follow up with those recommendations. This finding was similar with the view by Wen *et al.* (2012) that having an intention to meet IYCF recommendations is weakly associated with initiation of breastfeeding only and not duration.

This study found that community health nurses (CHN), health workers and own mother were key persons in: provision of IYCF support of giving praise words on mothers' efforts of BF; providing opportunity for discussion, reassurances, responding satisfactorily to mothers' concerns on IYCF, and motivating the mothers on IYCF. However, the present situation of shortages of CHN in health facilities means that they may not be able to provide much needed support of hands-on skills to solve IYCF problems. Indeed, mothers cited this challenge as a source of non-compliance with IYCF recommendations.

The child's father was identified as key in provision of IYCF support by offering praise to the mother on IYCF efforts. However, fathers may not be competent to provide skilful support on IYCF practices when faced with difficult problems such as insufficient breast-milk. This situation might be frustrating for both parents hence resort to non-compliance with the IYCF recommendations.

The persons stated to be key in providing physical support for IYCF was own mother and neighbours. It was also revealed that about some of the mothers received no physical support on IYCF. This might be attributed to social networks in the urban set-up that are the closely knit. Such network of relatives is often worn out due to economic demands common in urban set-ups. The demands from urban livelihoods could deter the provision of IYCF support of visiting the mothers at home. This view was attested to in the study where some of the mothers reported that no one had visited them.

Exposure of teenagers to popular culture of breastfeeding tended to inspire them, once they became mothers, to breast feed. Therefore, such exposure served to instil in the mothers that breast-feeding was right and acceptable. This might explain the universal practice of breast-feeding which was common among the mothers. However, the finding was not sufficient prove of complete compliance with all of the IYCF recommendations. Indeed, most of the mothers believed that the popular and culturally accepted time to introduce complementary food was before the child was six months old. This suggested that a mother might have a false sense of accomplishment of being a good mother if they managed to breast feed for 3 months. This culturally accepted duration fell far below the recommended complementary food commencement period of from six months. The Kenya government strategy of provision of health at level one through the Community Health Extension Workers (CHEW) could ensure IYCF information is accorded at the community level.

The frequent exposure of a teenager to a mother who was a role model in IYCF practices was also shows to yield positive outcomes in the teenager's future IYCF practices. The past teenage witnessing of a mother frequently breast-feeding was associated with positive mothers' IYCF practices. Mothers who had witnessed a mother breastfeed frequently had positive breast-feeding durations. This study's findings were similar with those of Hoddinott *et al*. (2010) and Giles, Connor, McClenahan and Mallet (2010).

5. CONCLUSION AND RECOMMENDATIONS

Mothers' prior plan of IYCF, exposure to breastfeeding during teenage, and support by community health nurse and child's father for IYCF have an association with positive IYCF practices. Moreover, popular breast feeding culture and sources of IYCF information have no association with IYCF practices. Based on the findings and conclusions of the study, it is recommended that dissemination of information by the implementers' of the IYCF recommendations in the health system such as the newly established cadre community health extension workers (CHEWs), community health workers (CHW), CHN and other health workers (HW) should emphasize on IYCF aspect of complementary feeding and continued breastfeeding up to two years and beyond when giving IYCF information to mothers. Moreover, policy makers should come up with strategies of building capacity to increase the community health nurse efforts of supporting IYCF.

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