

Comprehensive Assessment of Exclusive Breastfeeding: Insights into Knowledge, Attitude, and Practice among Lactating Mothers at Hoima Regional Referral Hospital, Hoima District: A High-Impact Analysis

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ABSTRACT

This research aimed to rigorously evaluate the knowledge, attitude, and practice concerning exclusive breastfeeding among lactating mothers attending Hoima Regional Referral Hospital (HRRH). Employing a quantitative descriptive research design, the study meticulously selected mothers seeking medical attention for their infants at HRRH, adhering to rigorous selection criteria. A sample size of 208 subjects participated, comprising lactating mothers with infants aged between 0-6 months, utilizing a self-administered structured questionnaire to gather comprehensive data on exclusive breastfeeding behaviors. The data collected underwent meticulous analysis utilizing Statistical Analysis Software (STATA) version 10. Results revealed that a majority of the participants were aged between 25-29 years (30.8%) and had attained secondary education (38.5%), with an employment status predominantly as employed individuals or peasants (38.5%). The study cohort primarily resided in urban areas. Among the 208 lactating mothers, a significant proportion (61.5%) initiated breastfeeding within the first hour after birth, with the mode of delivery significantly influencing this initiation, favoring normal deliveries. However, the practice of exclusive breastfeeding exhibited a decline over subsequent months. Assessment of knowledge demonstrated that over 80% of mothers possessed substantial knowledge regarding exclusive breastfeeding, with a small percentage (5%) exhibiting poor knowledge. In terms of attitude, 74.4% expressed comfort and acknowledged exclusive breastfeeding as superior to artificial feeding, yet 40.9% reported feelings of shyness while breastfeeding. Interestingly, a positive correlation between higher education levels and a favorable attitude toward exclusive breastfeeding was observed. Overall, the study revealed a generally commendable level of knowledge, attitude, and practice concerning exclusive breastfeeding among lactating mothers attending Hoima Regional Referral Hospital. However, a notable finding was the significant decline in exclusive breastfeeding prevalence observed from the first month following initiation.

Keywords: Exclusive breastfeeding, Breast milk, Infants, Lactating mothers.

INTRODUCTION

Exclusive Breastfeeding (EBF) means an infant receives breast milk from his or her mother or expressed breast milk for the first six months of life and no other solids/semisolids are given except vitamins, mineral supplements, or medicine [1, 2]. When infants are exclusively breastfed for the first six months of life, their immune system is stimulated thus protecting them from

diseases like diarrhea and acute respiratory infections, which are considered to be two of the major causes of infant mortality in the developing world [3, 4]. Exclusive breastfeeding offers short-term and long-term health benefits both to the mother and infant for example, the breast milk produced from 37 weeks of gestation to about seven days after delivery is called colostrum which is

yellowish and sticky and is very significant for immune defenses, provides proteins, vitamins and minerals to the baby during the initial days of life [5-7]. Breastfeeding promotes the health of mothers by reducing in risk of postpartum hemorrhage, and ovarian and breast cancers. Close to 20000 breast cancer deaths can be prevented by exclusive breastfeeding [8, 9]. Breastfeeding, therefore, is an important public health strategy for reducing infant and child morbidity and mortality as well as reducing maternal morbidity and mortality [10-12]. Globally, breastfeeding rates have declined over the past four decades. The percentages of infants younger than 6 months old who were exclusively breastfed in 2000-2007 were 38% worldwide, 23% in West/Central Africa, 39% in Eastern/Southern Africa, 44% in South Asia, 26% in Middle East/North Africa, and 43% in East Asia/ in addition's in United State only 79.2% of women initiated breastfeeding, 49.4% were still breastfeeding at six months, and 26.7% continued breastfeeding to twelve months [13]. In East Africa, over the years, the prevalence of exclusive breastfeeding has dramatically increased, a report released on 1st August 2017 indicated Uganda, Kenya, and Burundi with percentages of EBF above 60 percent with Tanzania and Rwanda the only East African countries with percentages of 52 and 56, respectively [14]. The above figures don't however correspond to the expected 90 percent by the World Health Organization. In Uganda, a report released by the Global Breastfeeding Scorecard showed 66 percent of children less than six months were exclusively breastfeeding, 32 percent were mixed feeding, and 2 percent were not breastfed at all [14]. Given these declining trends, new initiatives like the Global Breastfeeding Scorecard,

International Code of Marketing Breast Milk Substitutes, and Baby Friendly Hospital Initiative (BFHI) are put in place globally to encourage exclusive breastfeeding [15].

In Uganda, only six in ten Ugandan children below the age of six months are exclusively breastfed with only half the proportion of the children in South Western district breastfed (34%). It is no wonder then that the under-five and infant mortality rates stand at 128 and 79 per 1,000 live births respectively, which is very high by developing world standards. (Economic Policy Research Center, 2012). The number of stunted children in southwestern Uganda has reached epidemic proportions, according to findings of a health research project, a situation that can be attributed to early infant feeding practices [14]. WHO and UNICEF through the Ministry of Health launched the Baby-Friendly Hospital Initiative (BFHI) in 1991 to encourage breastfeeding in Uganda [15]. To achieve the EBF target of 80% by the year 2015, the government of Uganda further introduced other initiatives and policies like the labor law on maternity leave; mobilization of male partners to support breastfeeding mothers, and at the community level, peer counselors provided support for breastfeeding mothers. Despite these policies and programs, the EBF targets still seem to be far from being achieved especially in rural areas. This study therefore intends to assess knowledge, attitude, and practice of exclusive breastfeeding among lactating mothers attending Hoima Regional Referral Hospital, Hoima District given the low exclusive breastfeeding practice in Western Uganda and the limited empirical data on EBF in Uganda especially in rural areas.

METHODOLOGY

Research Design

A cross-sectional study was used involving quantitative approaches. This design entails that the information or data gathered represents the population and is obtained at only one point in time. The

quantitative methods under this design were employed to collect numerical data

Area of Study

Hoima Regional Referral Hospital (HRRH) is located in Hoima, a city in Hoima District, in the Bunyoro sub-region in the western region of Uganda, It is approximately

200kilometres (124miles) by road from the North West of Kampala, The coordinates of Hoima City are 1025'55.0" N 31021'09.0" E (Latitude: 1.431944; Longitude: 31.352500). It has a population of around 100,099 people (UBOS [16])

Study population

The study population comprised lactating mothers of children aged 0 to 6 months seeking health services from Hoima Regional Referral Hospital, Hoima District

Sample size and sampling technique

The sample size was calculated using the formula Kish Leslie [17] below:

$$n = z^2p(1-p) / e^2$$

Where;

n = Estimated minimum sample size required.

P= Proportion of a characteristic in a sample (84.6%) [18]

Z=1.96 (for 95% Confidence Interval)

e = Margin of error set at 4.9%

$$n = \frac{1.96^2 \times 0.846(1 - 0.846)}{0.049^2}$$

n = 208 mothers

Sampling technique

The Interviewers used Consecutive Sampling in order to sample participants who would pass the selection criteria at Hoima Regional Referral Hospital. All mothers with babies aged from 0 to 6 months and whose mothers consent had equal chances to participate in the study together with their caretakers as respondents/informants.

Quantitative data

Quantitative data was collected using structured interviews. Interviewers read the questions exactly as they appear on the questionnaires for the respondents to answer.

Data collection instruments

Quantitative data collection was conducted using structured questionnaires to obtain all of the required information. These questionnaires had closed-ended questions developed in English.

Data collection procedure

All mothers attending Hoima Regional Referral Hospital during the days of data collection who met the criteria explained the importance of the study and consented were allowed to participate in the study.

Selection criteria of participants

Inclusion criteria

Inclusion criteria include lactating mothers who have given birth, to babies aged 0 - 6 months prior to the study and who have consented.

Exclusion criteria

Exclusion criteria include lactating mothers who did not consent and women nursing children above 6 months of age

Quality control

The data collection team comprised four research assistants who were recommended to be well conversant with the English language and Runyoro due to the area of research being predominantly Runyoro speaking area. The two-day training was conducted by the principal researcher. The quality of data collected was ensured through close supervision of the data collection team daily by the principal researcher.

Quantitative analysis

Data from the survey was statistically analyzed using STATA version 10. Basic descriptive analysis was done using frequency distributions. Measures of central tendency were used to give expected summary statistics of the variables studied. Descriptive statistics was used to describe a distribution of scores. Findings were presented using frequency distribution tables, charts, and graphs.

Inferential statistics and chi-square were performed to compare the effects of different factors on exclusive breastfeeding practice. Since the study is about a relationship (dependency between exclusive breastfeeding practice and other factors), the chi-square statistic (χ^2) was used to establish whether relationships existed among the variables. Statistical significance was assumed for P - values, < or = 0.05. Associations between significant variables in the Chi-square test were further examined using adjusted odds ratios.

Ethical considerations

Permission was sought from the HRRH Ethics Board before undertaking this research. Ethical approval was sought from various sources to ensure that the study adhered to acceptable ethical guidelines.

The researcher explained the purpose of the study to each participant after which informed consent may be obtained from the participants before participating in the

study. In order to ensure confidentiality, data was only handled by selected team members.

RESULTS

Table 1: Demographics of mothers

VARIABLE		FREQUENCY	PERCENTAGE (%)
Age Group	<20 years	41	19.7%
	20-24 years	48	23.1%
	25-29 years	55	26.4%
	30 years and above	64	30.8%
Education level	Illiterate	16	7.7%
	Primary	64	30.7%
	Secondary	80	38.5%
	Tertiary	48	23.1%
Employment status	Peasant	80	38.5%
	Employed	80	38.5%
	Self-employed	48	23.1%
Residence status	Rural	128	61.5%
	Urban	80	38.5%

Mothers social demographics

The study involved 208 lactating mothers attending Hoima Regional Referral Hospital. The majority of mothers were in the age group 25-29 years and above 30 years [55(26.4%) Versus 64(30.8%)] respectively. A few mothers were below 25 years with about 19.7% and 23.1% below 20 years and 20-24 years respectively. Most mothers had studied at least to secondary level of education [38.5% and 23.1%]

respectively for secondary and tertiary level of education. Common employment status among mothers was peasants and employed with over 76%, while over half of mothers (61.5%) were from rural communities [Table 1].

The majority of mothers had delivered from health facilities while less than a quarter had their deliveries either from home or Traditional birth attendants [168 (81%) Vs 40 (19%)] respectively [Figure 1].

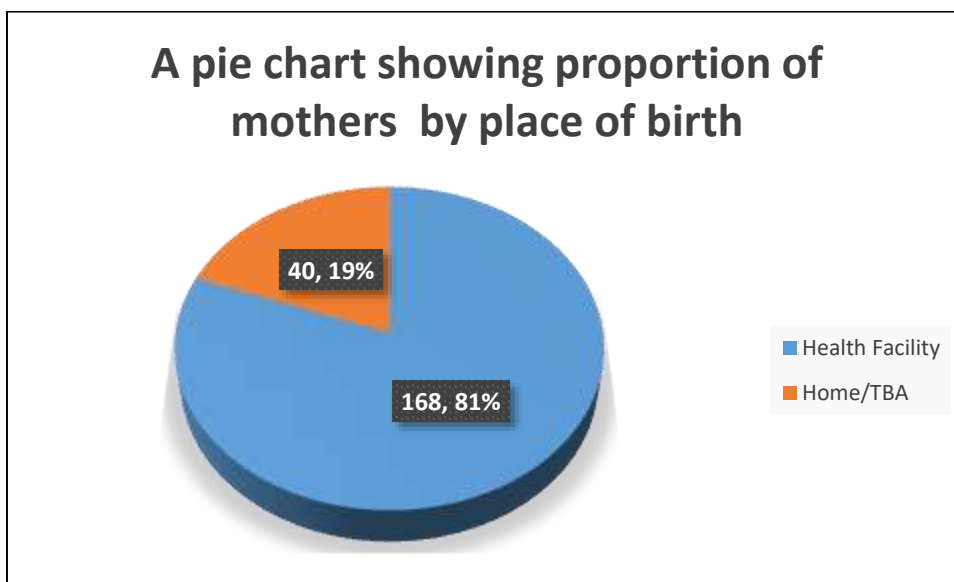


Figure 1: Proportion of mothers by their place of birth

Table 2: Breastfeeding practice

VARIABLE		FREQUENCY	PERCENTAGE (%)
Time baby was breastfed after birth	Less than 1 hour	128	61.5%
	1-3 hours	20	9.6%
	4-6 hours	28	13.5%
	More than 6 hour	32	15.4%
Baby fed before 6 months	Yes	123	59.1%
	No	85	40.8%
What food did the baby feed on?	Cow milk	39	33.3%
	Glucose	33	28.2%
	Porridge	19	16.2%
	Smashed bean/ Irish	26	22.2%

Breastfeeding Practice

The majority of mothers (61.5%) reported having initiated breastfeeding in less than an hour after birth. Other mothers reported breastfeeding in 1-3 hours, 4-6 hours, and above 6 hours with 9.6%, 13.5% and 15.4% respectively. Late initiation of breastfeeding after birth was associated

with cesarean sections and complications related to birth. The prevalence of exclusive breastfeeding was found at 40.8%. Mothers who never breastfed exclusively reported giving cow milk, Glucose, Porridge, and smashed bean or Irish to their babies. [Table 2 & Figure 2].

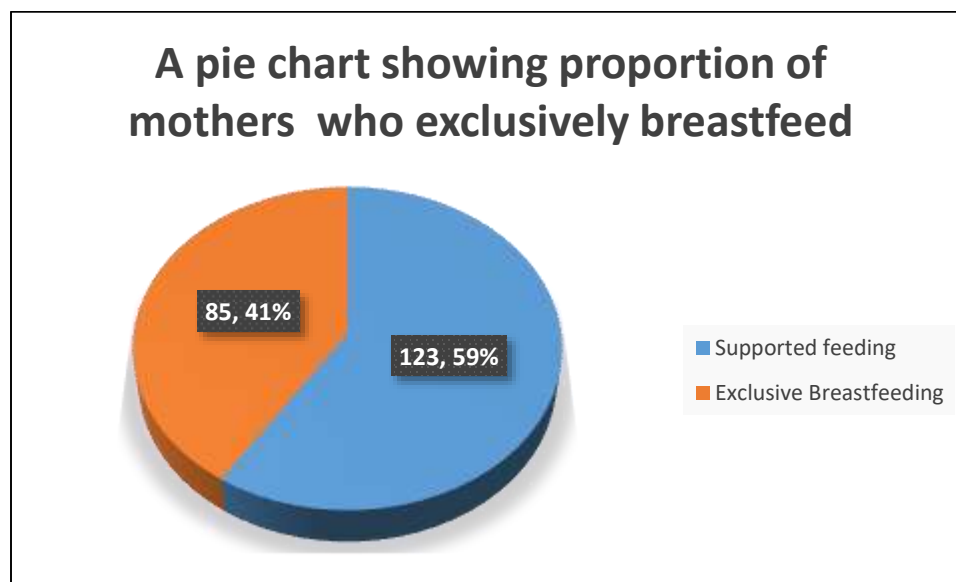
**Figure 2: Prevalence of exclusive breastfeeding**

Table 3: Knowledge on exclusive breastfeeding

VARIABLE		FREQUENCY	PERCENTAGE (%)
Have you ever heard about EBF?	Yes	177	85.1%
	No	31	14.9%
Where did you get information about EBF	Health worker	95	53.7%
	Friend or relative	82	46.3%
Received training on EBF	Yes	100	55.9%
	No	77	44.1%
EBF women are less likely to get pregnant	Yes	140	67.3%
	No	40	19.2%
	Not sure/don't know	28	13.5%
EBF decreases the risks of disease in children	Yes	128	61.5%
	No	68	32.7%
	Not sure/ don't know	12	5.8%
How long should the baby be breastfed exclusively	At least 3 months	48	23.1%
	3-5 months	64	30.8%
	6 months or more	96	46.2%

Knowledge about Exclusive Breastfeeding

Generally, there was good knowledge about exclusive breastfeeding among lactating mothers. Over 80% of the mothers had knowledge about exclusive breastfeeding. Less than 15% had little or no knowledge about Exclusive breastfeeding. Mothers reported receiving knowledge on exclusive breastfeeding from either healthcare providers or from friends and relatives. About 53% got knowledge from health workers and 47% reported getting information from friends or relatives. Additionally, about 66% had ever had training and orientation on

exclusive breastfeeding and about 46.2% agreed that exclusive breastfeeding should last for at least six (6) months from the time of birth.

However, regarding the importance of breastfeeding in disease prevention in children, about 61% agreed that breastfeeding reduces the risks of infection and disease among children. Over a quarter could not agree, were not sure, or did not know the contribution of breastfeeding in disease prevention among children. Similarly, 67% agreed that breastfeeding reduced the chances of pregnancy among mothers as compared to formula feeding.

Table 4: Attitude towards breastfeeding in relation to mother's education level

VARIABLE		Mothers Education level				P-value
		Illiterate	Primary	Secondary	Tertiary	
Comfortable with exclusive breastfeeding	Yes	3(1.9%)	48(30.9%)	64(41.3%)	40(25.8%)	<0.001
	No	13(24.5%)	16(30.2%)	16(30.2%)	8(15.1%)	
Feeling shy in public places	Yes	3(2.4%)	20(16.3%)	60(48.8%)	40(32.5%)	<0.001
	No	13(15.3%)	44(51.8%)	20(23.57%)	8(9.4%)	

Mothers' Attitude Towards Exclusive Breastfeeding

Mothers' attitude towards breastfeeding was measured using their comfortability and confidence in breastfeeding at all-time

regarding place. Seventy-four percent (74.5%) of mothers reported feeling comfortable with exclusive breastfeeding. However, regarding confidence, 40.9%

reported feeling shy while breastfeeding in public places.

From, the binary analysis between mother education and attitude towards exclusive breastfeeding, results show that the education level of mothers was significantly associated with their attitude towards breastfeeding. Compared to the illiterates, educated mothers are more comfortable with exclusive breastfeeding [illiterate; 3(1.9%) Versus Secondary; 64(41.3%) and Tertiary level; 40(25.8%)] at 95 confidence level P-value <0.001. Therefore, comfort in

breastfeeding increases with an increase in the level of education.

On the other hand, educated mothers are more likely to feel shy breastfeeding in public places compared to illiterates [Secondary; 40(32.5%). And Tertiary; 60(48.8%) Versus Illiterates; 3(2.4%)] at 95 confidence level P-value <0.001. Therefore, a feeling of shyness in breastfeeding while in public places increases with an increase in the level of education.

Table 5: Factors associated with exclusive breastfeeding

VARIABLE		Breastfeeding status		P-Value
		Not exclusive breastfeeding	Exclusive breastfeeding	
Delivery mode	Normal Virginal delivery	53(35.8%)	95(64.2%)	0.020
	C-section	32(53.3%)	28(46.7) %	
Heard about EBF	Yes	77(43.5%)	100(56.5%)	0.016
	No	8(25.8%)	23(74.2%)	
Received training on EBF	Yes	49(49.0%)	51(51.0%)	0.002
	No	52(65.8%)	27(34.2%)	
HIV Status of the mother	Positive	9(75.0%)	3(25.0%)	0.257
	Negative	114(58.5%)	81(41.5%)	
Place of delivery	Health facility	67(39.9%)	101(60.1%)	0.554
	Home/TBA	18(45.0%)	22(55.0%)	
Source of information about EBF	Health care provider	35(36.8%)	60(63.2%)	0.054
	Friend/relative	42(51.2%)	40(48.8%)	
Mothers age	<20 years	29(70.7%)	12(29.3%)	0.012
	20-24 years	32(66.7%)	16(33.3%)	
	25-29 years	32(58.2%)	23(41.8%)	
	30 and above years	30(46.9%)	34(53.1%)	

Factors associated with exclusive breastfeeding

Using a binary analysis, mother age, delivery mode, having knowledge and training about exclusive breastfeeding were significantly associated with exclusive breastfeeding with [P-value=0.012, 0.020, 0.016, and 0.002] respectively at 95% confidence level.

Older mothers 30 years and above, mother who has knowledge and training on Exclusive breastfeeding, and mother who deliver through normal virginal are more likely to breastfeed exclusively compared

to their counterparts [95(64.2%), 100(56.5%), 51(51.0% and 34(53.1%)] respectively.

On the other hand, HIV-positive mothers were less likely to exclusively breastfeed 3(25.0%), P-value 0.257. More so mothers who delivered from health facilities 101(60%) and those who received information from health workers 60(63%) were more likely to exclusively breastfeed. However, this was not statistically significant at a 95% confidence level with P-values 0.554, 0.054 respectively [Table 5].

DISCUSSION

According to the World Health Organization (WHO), mothers should initiate breastfeeding immediately after delivery for the baby to get colostrum rich in multiple nutrients. Infants should be breastfed exclusively for up to six months of life, frequently to improve growth, development, and health. Breastfeeding should then continue for up to two years with the introduction of a complementary diet after 6 months [8]. However, worldwide, breastfeeding rates have declined over the past decades. Results from this study present the prevalence of exclusive breastfeeding as 40% which is less than the East African regional rate of 52%. However according to the research by the Uganda Demographic and Health Survey [14], the exclusive breastfeeding rate among children less than 6 months was 66 % with a 4-month mean duration which decreases over time as children grow older. The low rates of exclusive breastfeeding in this study are attributed to low mother training on breastfeeding, Home/traditional birth attendant deliveries, and young-age deliveries including low education levels of mothers. According to the current study, mothers 30 years and above, a mother who has knowledge and training on Exclusive breastfeeding, and mother who deliver through normal vaginal are more likely to breastfeed exclusively compared to their counterparts [95(64.2%), 100(56.5%), 51(51.0% and 34(53.1%)] respectively.

The findings are similar to those in a clinical trial performed in Brazil to assess the knowledge of mothers and fathers about breastfeeding and its relationship to the frequency of exclusive breastfeeding, which found that the mothers with the highest level of knowledge had a 6.5 times higher chance of exclusively breastfeeding to the end of the third months and 1.97 times higher chance of continuing breastfeeding to six months compared to the other mothers [19].

Findings from this present study reveal that over 80% of the mothers had knowledge about exclusive breastfeeding

and these were more likely to breastfeed exclusively. Less than 15% had little or no knowledge about Exclusive breastfeeding. In a similar study conducted by [20] in Ghana, lactating mothers reported that 74 % of mothers who took part in the study had a general knowledge of exclusive breastfeeding. More consistent findings are found in a study conducted in Ghana that mothers aged between 25 years to 49 years were more likely to breastfeed their babies for longer periods than younger mothers [21].

Regarding the knowledge of the importance of breastfeeding in disease prevention in children and lowering the risk of pregnancy, in the present study, about 61% of mothers agreed that breastfeeding reduces the risks of infection and disease among children, while 67% agreed that breastfeeding reduced the chances of pregnancy among mothers and 46.2% agreed that exclusive breastfeeding should occur at least up to 6 months or more. In a different study conducted in Nigeria, 46% of mothers reported that breastfeeding is a contraceptive method, while 76% knew that it promotes the mother and baby bond, and 70% knew that it maintains mothers` weight. In another research study carried out in Uganda, the majority of the respondents answered correctly when asked about the optimal time to start breastfeeding while 48.6% of mothers had the knowledge that exclusive breastfeeding was sufficient for 6 to 9 months after birth [22].

Results from the present study indicate that mothers receive knowledge on exclusive breastfeeding from either healthcare providers or from friends and relatives. About 66% had ever had training and orientation on exclusive breastfeeding. According to the present study, seventy-four percent (74.5%) of mothers reported feeling comfortable with exclusive breastfeeding whereas, 40.9% reported feeling shy while breastfeeding in public places. The feeling and attitude rates were significantly associated with the mother's

levels of education and practices of exclusive breastfeeding. In a related study by Mogre et al. [20], 92.6 % of mothers who participated in the study had a positive attitude towards exclusive breastfeeding. The results are similar to WHO report, that traditions, norms, lifestyles, and shared values such as culture, religion, education, and economics and politics influence influences exclusive breastfeeding [15]. In

The current research provides valuable data that could be used by policymakers, and university health institutions to plan strategies aiming at improving the rates of exclusive breastfeeding. The prevalence of exclusive breastfeeding, mother's knowledge, and attitude in the present sample is lower in comparison to other published studies and therefore should be considered for health promotion and disease prevention among children. Mothers have shown a relatively alarming negative attitude towards exclusive breastfeeding and this should be targeted and modified. This could be achieved through promoting intervention programs that lead to changing the built environment affecting behavioral

CONCLUSION

Agaba this study, HIV-positive mothers were less likely to exclusively breastfeed 3(25.0%), their babies compared to their HIV-negative counterparts. Mother-to-child transmission of HIV is one of the key routes of HIV transmission [23-26]. Thus, exclusively breastfeeding is poorly practiced by HIV-positive mothers as seen in this study.

modification of mothers' lifestyles and increased hospital deliveries.

Recommendations

Health facilities present a great opportunity for focused education programs targeting pregnant and lactating mothers hence should be utilized by healthcare providers in educating mothers. Mothers are thought to be a significant proportion of the persons and thus their habits towards breastfeeding should not be undervalued. Therefore, the mobilization of governmental efforts and drawing the attention of international agencies and local communities is needed to increase the prevalence of exclusive breastfeeding through proper educational practices, and public health campaigns.

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