

**Knowledge towards elimination of mother-to-child transmission of HIV among breastfeeding mothers attending ART services at Kira Health Centre IV, Wakiso district.
A cross-sectional study.**

Frank Kakembo, Alexander Ssekibaamu, George Masete
Kampala Institute of Health Professionals*

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ABSTRACT

Background:

The percentage of reproductive-age women's knowledge of MTCT revealed that the lowest and the highest Knowledge of MTCT was observed in Equatorial Guinea and Zimbabwe, 27.10% and 68.02%, respectively. The study aims to assess the knowledge on the elimination of mother-to-child transmission of HIV among breastfeeding mothers attending ART services at Kira Health Centre IV, Wakiso district.

Methods:

A descriptive cross-sectional study design with quantitative approaches was used together with simple random sampling to obtain the sample for the study in Kira Health Centre IV in the ART department. Data were collected daily for 30 days from mothers who were willing to participate in the study and had consented by completing a questionnaire.

Results:

Majority 41(68.3%) of the respondents were aged 20-30 years, 10(16.7%) were aged 30-40 years and lastly 09(15%) respondents who were <20 years of age. 48(80%) were aware of the EMTCT program. 46(76.7%) knew the modes through which HIV can be transmitted from mother to child. 57(95%) were aware that HIV can be transmitted from mother to child during breastfeeding. 38(63.3%) of the respondents knew that ART reduces the risk of mother-to-child transmission of HIV. The majority, 45(75%), thought that HIV positive breastfeeding mothers can breastfeed. 32(53.3%), 20(33.3%), 6(10%), thought that mother's adherence to ART, exclusive breastfeeding, mixed feeding, respectively, could reduce the risk of HIV transmission from mother to child.

Conclusions:

Regarding the knowledge on Elimination of Mother to Child transmission of HIV among breastfeeding mothers attending ART services at Kira Health Centre IV, Wakiso District, the study established that breastfeeding mothers had a fairly good level of knowledge on EMTCT of HIV.

Recommendations:

The health workers should continuously educate mothers about the importance of EMTCT of HIV.

Keywords: Knowledge, Elimination of Mother-to-Child transmission, HIV among breastfeeding mothers.

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Corresponding author: Frank Kakembo
Kampala Institute of Health Professionals

Background

In Sub-Saharan Africa, more than 1,000 newborns are infected with HIV every day despite available medical interventions. Mother-to-child transmission (MTCT) through breastfeeding remains one of the primary sources of HIV infection in children, and without interventions, 40% of babies born to HIV-positive mothers would be infected with the virus. It is estimated that 300,000 children become infected with HIV worldwide, whilst 1.5 million children die when their mothers opt for other choices instead of breastfeeding (Shikukumwa *et al* 2021).

In Taungoo Township, Myanmar, the study revealed that more than half (56.6%) of the participants demonstrated

good awareness of EMTCT services. They were knowledgeable about the program and understood that HIV can be prevented when the mother is HIV positive (Han *et al.*, 2022). In Northern Ethiopia, pregnant women had comprehensive knowledge of the prevention of mother-to-child transmission of HIV. A higher proportion of younger women aged 16 to 24 years had comprehensive knowledge on the prevention of mother-to-child transmission of HIV compared to other age groups. The majority of women (85%), who perceived themselves at risk of acquiring HIV infection, had comprehensive knowledge on prevention of mother-to-child transmission of HIV (Alemu, Y. M, *et al* 2022).

In sub-Saharan Africa, 350,888 participants, 100% of the participants, heard about HIV/AIDS. About 81.56%, 86.82%, 89.66%, and 78.52% of participants know that HIV can be transmitted during pregnancy, delivery, breastfeeding, and know that there are certain medications to prevent MTCT of HIV/AIDS, respectively. However, 56.21% of respondents had correct knowledge about MTCT of HIV/AIDS with great variation between countries, ranging from 13.56% in Comoros to 76.02% in Zambia (Teshale, A. B, *et al* 2021)

A study by Eshetu, H. B, *et al* (2023) about Knowledge of prevention of mother-to-child transmission of HIV among reproductive age women in high HIV/AIDS prevalent countries in Equatorial Guinea and Zimbabwe, the percentage of reproductive-age women's knowledge on MTCT revealed that the lowest and the highest Knowledge of MTCT was observed in Equatorial Guinea and Zimbabwe 27.10% and 68.02%, respectively. Furthermore, the majority (96.07%) of the respondents were aware of HIV/AIDS. In this study, 74.55% of the women were aware that HIV may be transmitted during pregnancy, and 77.2% assumed and were not sure that HIV can be transmitted during birth. Again, 79.27% of the women in the sample were aware that HIV might be transmitted during breastfeeding, and 76.77% believed that medications could be taken to prevent HIV transmission to the baby during pregnancy. A cross-sectional study done on Knowledge about mother-to-child transmission of HIV, its elimination, and associated factors

Among Ethiopian breastfeeding mothers living with HIV, the overall correct knowledge of Ethiopian breastfeeding mothers about EMTCT was very low (34.9%). The multivariable analysis, residing in an urban area, having higher education, belonging to a higher wealth household, or currently in union, occupation, and being exposed to mass media were strongly associated with women's correct knowledge of MTCT and EMTCT (Luba *et al* 2017). The study aims to assess the knowledge on the elimination of Mother to Child transmission of HIV among breastfeeding mothers attending ART services at Kira Health Centre IV, Wakiso District.

Methodology

Study design

This was a descriptive cross-sectional study with quantitative approaches of data collection among breastfeeding mothers living with HIV attending the ART clinic at Kira Health Centre IV, Wakiso district.

Study area

The study was conducted at Kira Health Centre IV. The health centre is located in Kira Parish, Kira Sub-County, Kira Municipality, Wakiso District, central Uganda. It is bordered by Gayaza to the north, Mukono to the east, Lake Victoria to the south, Kampala to the west, and Kasangati to

the north west. The coordination of Kira Health Centre IV is (Latitude: 0.398822. The health centre is 10 km from Kampala.

Study population

The study population was HIV positive breastfeeding mothers who attended ART services during the period of the study at Kira Health Centre IV, Wakiso district.

Sample size determination

According to Burton's method of sample size determination, Sample size = $Q R / O$, where Q = Total number of days that were spent on data collection (15 days). R = Maximum number of respondents that were interviewed per day (5 respondents).

O = Maximum time that was spent on each respondent (1 hour).

Sample size = QR / O

Sample size = $15 \times 5 / 1$

Sample size = 60

Therefore, the sample size was 60 HIV positive breastfeeding mothers.

Sampling technique

The study used a simple random sampling method. This method gave an equal chance to each individual of being selected, hence eliminating bias and improving the validity of the data to be obtained. The method will also help save time.

Sampling procedure

A random sampling method was used to obtain 60 respondents at the ART clinic at Kira health centre IV, Wakiso district, where a researcher used papers of similar characteristics, including size, shape, and texture, weight, and folding style. The folded papers were put in six boxes, each of which was labelled with a particular letter. Altogether, those who picked papers with numbers 1 to 10 were selected for the interview, and those who picked papers with numbers beyond 10 were eliminated from the study. This method helped me to avoid biases in choosing principal respondents.

Data collection method

Data was collected using a questionnaire; the questionnaire consisted of structured closed questions of dichotomous choice (yes or no) and multiple choice questions.

Data collection tools

Questionnaire.

This was a data collection tool that consisted of a set of questions or other types of prompts that aimed to collect information from a respondent. It was flexible to use.

Data collection procedure

A letter of introduction was obtained from the Research committee of Kampala Institute of Health Professionals, then it was taken to the health centre in charge, and then to the ART clinic in charge for approval.

A research assistant was trained, and consent was obtained from study participants who reached the inclusion criteria. Then, questionnaires were given out, and an explanation on how to fill them out was provided

For the respondent who consents, a consent form was given to her to be filled out and signed. In case the respondent could not read or write, the study guided her to understand the consent letter.

The study made sure that all questions were answered clearly and correctly. The interview schedule form was always properly filled. After the activity, the study thanked the respondent for her cooperation.

The above procedure was repeated on each respondent until the end of the data collection process, and feedback was communicated to the respondents through the person in charge of the health Centre.

Study Variables

Dependent variable

The Elimination of Mother-to-Child transmission of HIV in HIV positive breastfeeding mothers

Independent variables

Knowledge towards Elimination of Mother-to-Child transmission of HIV in HIV positive breastfeeding

Quality control

Pretesting data collection tools

Data collection tools were pre-tested by selecting 10 respondents randomly from Bweyogerere health centre III,

Wakiso district, central Uganda, and the interview schedules were administered. The findings were then scrutinised to check the validity of the tools to be used and whether they provided relevant information as regards the topic, especially the specific objectives. In case of irrelevance, adjustments were done on the tools to suit the study objectives accordingly.

Data analysis and presentation.

The data obtained was tallied manually using pens, paper, and tally sheets, and then the information obtained after tallying was analysed and presented in the form of tables, bar graphs, and pie charts. The data was also tallied using statistical packages, e.g., SPSS.

Ethical consideration.

All research-related ethical standards were observed throughout the course of the study. Data collection followed presentation of an introductory letter from the school administration through the research committee, which was presented to the health Centre in charge, who then introduced me to the in-charge ART clinic.

Participation was voluntary, and informed consent was obtained from each participant before administering the questionnaire; all data collected was treated confidentially, and no identifying details were collected.

RESULTS

The study sampled 60 respondents. A total of 60 valid copies of the questionnaire were received and finally analysed.

Socio-demographic data of respondents.

Variable	Category	Frequency	Percentage %
Age	<20 years	09	15
	20-30 years	41	68.3
	30-40 years	10	16.7
Tribe	Baganda	32	53.3
	Basoga	18	30
	Others	10	16.7
Level of education	Formal education	39	65
	No formal education	21	35
Marital status	Married	35	58.3
	Single	25	41.7
Religion	Christian	38	63.3
	Muslim	18	30
	Others	4	6.7
Occupation	Employed	42	70
	Unemployed	18	30

Table 1: A Frequency table showing findings on Socio- demographic data.

The majority, 41(68.3%) of the respondents were aged 20-30 years, followed by 10(16.7%) respondents who were aged 30-40 years, and lastly 09(15%) respondents who were <20 years of age. Most of the respondents 32(53.3%) were Baganda, 18(30%) were Basoga and 10(16.7%) were respondents from other tribes.

married and 25(41.7%) were not married. The majority, 38(63.3%) of the respondents were Christians, 18(30%) were Muslims, and lastly, 4(6.7%) of the respondents were from other religions. The majority, 42(70%) of the respondents were employed, and 18(30%) of the respondents were unemployed.

Page | 4 Most of the respondents, 39(65%), had no formal education, and 21(35%) of them had formal education. 35(58.3%) were

Knowledge on EMTCT of HIV among breastfeeding mothers
A frequency table showing respondents' knowledge of EMTCT of HIV.

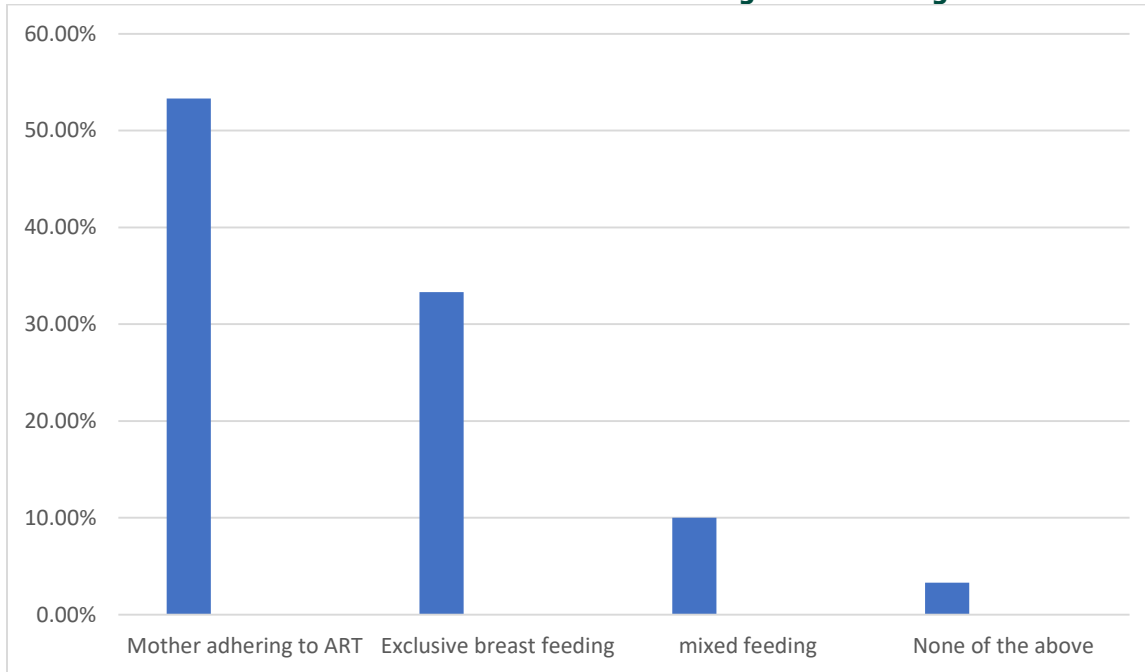
Variable	Frequency	Percentage (%)
Do you know about EMTCT of HIV?		
Yes	48	80
No	12	20
Can HIV be transmitted from mother to child during breastfeeding		
Yes	57	95
No	3	5
Do you know the modes through which HIV can be spread from the mother to the child?		
Yes	46	76.7
No	14	23.3
Does ART reduce the risk of mother-to-child transmission of HIV during breastfeeding?		
Yes	38	63.3
No	15	25
I don't know	07	11.7
Should HIV positive breastfeeding mothers avoid breastfeeding completely?		
Yes	9	15
No	45	75
I don't know	6	10

Table 2: A frequency table showing knowledge on EMTCT of HIV among Breastfeeding mothers

A majority of 48(80%) of the respondents were aware of the EMTCT program, and 12(20%) of the respondents were not aware of the program. 46(76.7%) of the respondents had knowledge of the modes through which HIV can be transmitted from mother to child, and 14(23.3%) of them did not know anything about the modes. 57(95%) were aware that HIV can be transmitted from mother to child during breastfeeding, and 3(5%) of the respondents were not aware. 38(63.3%) of the respondents knew that ART reduces the

risk of mother-to-child transmission of HIV, 15(25%) did not know that ART reduces the risk of mother-to-child transmission, and 7(11.7%) did not know whether yes or no. The majority, 45(75%) of the respondents thought that HIV positive breastfeeding mothers can breastfeed, 9(15%) of the respondents thought that HIV positive breastfeeding mothers can not completely breastfeed their children, and 6(10%) did not know anything concerning this act.

Figure 1: showing respondents' knowledge of the methods or interventions that reduce the risk of HIV transmission from a mother to a child during breastfeeding.



Out of the 60 respondents, 32(53.3%), 20(33.3%), and 6(10%) thought that mothers' adherence to ART, exclusive breastfeeding, and mixed feeding, respectively, could reduce the risk of HIV transmission from mother to child, and 2(3.3%) did not know anything about any method or interventions.

Discussion.

Out of the 60 respondents who were interviewed, the majority (80%) were aware of the EMTCT of HIV program. These findings indicate that being aware of the EMTCT of HIV program increases knowledge of HIV-positive breastfeeding mothers towards the program. This is probably due to the information about EMTCT of HIV provided by the health workers to the mothers. The findings agree with the study conducted by Han *et al* (2022), where it was found that breastfeeding women had good awareness (56.6%) of EMTCT services. 78.3% were aware of the EMTCT project and knew that a baby can be prevented from HIV transmission by an HIV positive breastfeeding mother. The study, it revealed that the majority (76.7%) of the respondents were aware of the modes through which HIV can be spread from mother to child, and a minority (23.3%) were not aware. These findings indicate that being aware of the modes through which HIV can be spread from mother to child increases the knowledge of HIV positive breastfeeding mothers towards EMTCT of HIV. This is probably because mothers can act against the ways through which HIV can be

transmitted. These findings agree with the study findings of (Teshale, A. B, *et al* 2021), which found that 81.56%, 86.82%, and 89.66% of participants know that HIV can be transmitted during pregnancy, delivery, and breastfeeding.

In the same study, it was found that (90%) of the respondents said yes when asked about whether ART can reduce the risk of HIV transmission from mother to child, and (10%) said no. These findings indicate that adhering to ART shows a high level of knowledge on EMTCT. This is probably because mothers want to suppress the virus in the blood to levels that cannot be transmitted to the child. These findings agree with the study findings obtained by Eshetu, H. B, *et al.* (2023), where it was found that 76.77% believed that medications could be taken to prevent HIV transmission to the infant during pregnancy and breastfeeding.

Conclusions.

Regarding the knowledge on Elimination of Mother to Child transmission of HIV among breastfeeding mothers attending ART services at Kira Health Centre IV, Wakiso District, the study established that breastfeeding mothers had a fairly good level of knowledge on EMTCT of HIV.

Recommendations.

The health workers should continuously educate mothers about the importance of EMTCT of HIV.

The government should ensure that the EMTCT of HIV services are readily available and accessible to mothers.

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Abbreviations

AIDS	:	Acquired Immunodeficiency Syndrome
ART	:	Anti-retroviral Treatment
EMTCT	:	Elimination of mother-to-child transmission.
HIV AIDS	:	Human Immunodeficiency Virus
MTCT	:	Mother-to-child transmission

Source of funding

The study was not funded.

Conflict of interest

The author did not declare any conflict of interest.

Data availability

Data is available upon request.

Author contribution

Frank Kakembo collected data and drafted the manuscript of the study.

Alexander Ssekibaamu supervised the study.

Author biography

Frank Kakembo is a student of a diploma in Clinical Medicine and Community Health at the Kampala Institute of Health Professionals.

Alexander Ssekibaamu is a tutor at Kampala Institute of Health Professionals.

George Masete is a tutor at Kampala Institute of Health Professionals.

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