

Knowledge and Practice of Infant Feeding Among HIV Positive Mothers in Selected Hospitals in Abeokuta, Ogun State, Nigeria

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Abstract

Infant feeding in the context of HIV is complex because of the major influence that feeding practices exert on child survival. The HIV epidemic has significantly altered the context within which women make decisions about how they will feed their infants. The aim of the study is to assess the knowledge and practice of infant feeding among HIV-positive mothers in selected Hospitals in Abeokuta South Local Government, Abeokuta. A cross sectional descriptive design was adopted and a purposive sampling technique was employed to select the study participants from all the three facilities involves in PMTCT in the local government. Records of mothers with infants who were attending PMTCT service was obtained from registration books of each health facility. Proportionate allocation was carried out to distribute the total sample size ($n = 212$) to all the three institutions providing PMTCT service. A self-Structured questionnaire with a cronbach alpa reliability index 0.80, 0.82, 0.79 were used as instrument for data collection data were done using descriptive statistics and hypotheses were tested using Pearson Chi-square test at < 0.05 level of significance all analysis were done using statistical package for social sciences. Findings from the study showed that 53.3% had adequate knowledge and 46.7% had inadequate knowledge of recommended feeding practices by WHO. A majority of the HIV positive mothers (68.9%) have poor feeding practices and 31.1% have good feeding practices. 86.8% of the HIV positive mothers' practices exclusive breast feeding. There was significant relationship between mothers' level of knowledge and mothers' feeding practices, as ($\chi^2=0.807$, $df=1$, $p\text{-value}=0.000$). Also, relationship between mother's level of education and feeding practices was statistically significant ($\chi^2=2.99$, $df=3$, $p\text{-value}=0.03$). The respondents had adequate knowledge of recommended infant feeding and had poor practices. Therefore, education regarding infant feeding should be included into the health teaching during mothers' visit to clinic.

keywords: Infant, Feeding, HIV-Positive, Mother, HIV

1. Introduction

Chronic immune activation is a hallmark of HIV infection and is essential to the development of the disease as well as the reduction of CD4+ T cells. An enhanced release of pro-inflammatory cytokines and a heightened state of

immune cells are characteristics of this ongoing activation. The underlying causes are numerous, including factors like as microbial translocation, co-infections, and the ongoing presence of reproducing virus. The way that infants are fed has a significant impact on their nutritional condition, which in

turn influences their morbidity and mortality. Breastfeeding is particularly significant among feeding techniques since it is essential to an infant's growth, development, health, and survival. Because breast milk includes all the nutrients a child needs for healthy growth, scientists and medical professionals have deemed breastfeeding to be the finest natural nourishment for babies. Breastfeeding has many advantages, including giving the baby antibodies, reducing the risk of disease, and meeting all of their nutritional demands [1,2].

The habits of HIV-positive pregnant women regarding infant feeding are a contentious topic. Mothers face difficulties due to the possibility of HIV transmission through breast milk or other feeding methods. HIV-positive mothers may argue over the advantages and disadvantages of breastfeeding. HIV-positive mothers are required to breastfeed their infant exclusively for the first six months of life, which is deemed safe for the infant when mothers strictly follow antiretroviral therapy, due to the impact of malnutrition on children between the ages of 0 and 2 years in resource-constrained countries and cultural customs. Infants benefit most from breastfeeding, which also effectively lowers the risk of common childhood morbidities, especially respiratory and gastrointestinal diseases, and improves maternal health and child survival through child spacing (WHO 2009, WHO, UNAIDS & UNICEF, 2012). Breastfeeding can spread the HIV virus from an infected mother to her kid, despite the fact that it has many health benefits for babies and young children. According to WHO, UNAIDS, and UNICEF (2012), breastfeeding may be the cause of between one-third and one-half of child HIV infections in African countries. Reduced breastfeeding duration, exclusive breastfeeding during the first few months of life, prevention of breast issues, prevention of HIV infection during breastfeeding, and early treatment of oral sores or thrush can all lower the risk of HIV infection in nursing infants (UNICEF, 2012). Infant feeding techniques that are advised for moms who are known to have HIV should not negatively impact the mothers' health but rather increase the chances that their infants would survive without HIV (UNICEF, 2012).

The WHO's recommendation to prevent HIV transmission from mother to child, and specifically to avoid postnatal transmission through nursing, considered the experiences of nations in putting the present guidelines on HIV and infant feeding into practice. In order to prevent HIV transmission through breastfeeding, mothers who are known to be HIV-positive should receive lifelong antiretroviral therapy (ART) or antiretroviral prophylaxis (ARP) interventions. Mothers should exclusively breastfeed their infants for the first six months of their lives, introducing suitable complementary foods after that, and continuing to do so for the first twelve months of their lives. Infants should be given safe and sufficient replacement meals to support normal growth and development in the event their mothers opt to discontinue nursing at any point [3].

HIV in children has spread throughout the world, causing millions of fatalities. Through various intervention strategies,

including campaigns, the distribution of free anti-retroviral medications, and teaching women about preventive measures, individuals, governments, and non-governmental organizations have been fighting to control, reduce, and eradicate it. Numerous studies have shown that HIV can spread from infected moms to their offspring through the mother's chosen newborn feeding practices. This route of transmission has drawn attention worldwide and raised the risk of infection in babies [3].

According to the Nigerian Federal Ministry of Health (FMOH) standard, Adejuyigbe, Orji, Onayade. suggested that instead of advising HIV-positive mothers on infant feeding options, health professionals should inform them of all the options available and let them make their own decisions based on their unique situation. Health professionals can offer advice on safe feeding for the baby if an HIV-positive mother chooses not to breastfeed, or they can direct her to resources for such assistance. The mother's decision on breastfeeding and supplemental feeding might be influenced by a number of variables. Therefore, the purpose of this study was to evaluate HIV-positive mothers' knowledge and practices regarding infant feeding. Infant HIV infection has been on the rise, and it is one of the leading causes of pediatric mortality. The feeding practices used by moms with HIV exacerbates this condition. Therefore, one of the most important ways that HIV can spread from moms to their babies is through feeding. The researcher has noticed in clinical practice that HIV-positive moms appear to have misconceptions about newborn feeding alternatives, despite WHO-recommended feeding practices for mothers with HIV. Although it is true that HIV is passed from the mother to the child throughout pregnancy, childbirth, and breastfeeding, more people are becoming aware of the options accessible to moms with HIV when it comes to baby feeding. It is unclear whether a variety of factors could affect HIV-positive moms' decisions on newborn feeding practices. This led to the researcher's desire to investigate newborn feeding patterns among moms living with HIV in a few Abeokuta hospitals [4].

2. Materials and Methods

2.1. Research Design and Study Area

A cross-sectional study was conducted to evaluate HIV-positive mothers' habits and knowledge regarding newborn feeding at a few hospitals in Abeokuta South Local Government, Abeokuta, Ogun State. The investigation was carried out in Abeokuta, Ogun State, Nigeria, at the Federal Medical Center, Idi-Aba, State Hospital, Ijaiye, and Sacred Heart Hospital, Lantoro. Antiretroviral treatment for HIV/AIDS patients is offered by Federal Medical Centre Abeokuta, a tertiary healthcare facility. Regular and urgent diagnostic and therapeutic clinical services in a variety of specialties, such as pediatrics, obstetrics and gynecology, palliative medicine, community medicine and primary care, family medicine, pathology, and other medical services, are among its offerings. A comprehensive variety of diagnostic, therapeutic, rehabilitative, palliative, and social services are provided to patients with HIV/AIDS in a multidisciplinary environment in collaboration with the Institute of Human Virology (IHVN) Abuja. Under a Federal Government

program for community-based maternal care services, the FMC Abeokuta acts as a hub for roughly sixteen primary health care facilities in Ogun State. Federal Civil Servants can receive outpatient medical treatments at the hospital's annex, which is situated in the Federal Secretariat Complex in Abeokuta. The state government owns State Hospital Ijaiye in Abeokuta. It is located in Ijaiye, Abeokuta South Local Government, at 88/89 Shokenu Road. This state teaching hospital and secondary healthcare facility provides a range of services to its clients, including HIV prevention and treatment, as well as reproductive health issues. The Roman Catholic Church's Society of African Missions (SMA) founded the Sacred Heart Hospital (SHH) in 1895. The Sacred Heart Hospital (SHH), located in Lantoro Abeokuta, is prepared to offer a range of high-quality medical services that uphold human dignity. SHH is situated in the center of the South-West Nigerian city of Abeokuta, which is the capital of Ogun State and home to the Abeokuta South Local Government Area. Since its founding, it has benefited from the backing and patronage of individuals from a wide range of backgrounds, including politicians, royalty, the general public, and the elite, for whom it was founded. It provides reproductive health services, such as preventing HIV transmission from mother to child.

2.2. Study Population

The target population consisted of 380 mothers with HIV who were enrolled in PMTCT clinics at each of the three hospitals that were chosen.

2.3. Sample Size

The sample size was determined using Taro Yamane formula as calculated below

The sample size was determined using Taro Yamane formula as calculated below

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

Where

n = Sample Size; N = Population under study

e = margin of error (MOE); n = ?

N=NT=target population

NT= 380

e = 0.05

$$n = \frac{380}{1+380 \times (0.05)^2}$$

n = 195

Therefore n = 195

An attrition rate of about 10% is expected because of some questionnaires that may not be valid

= $195 \times 10 = 1950/100 = 19.5$

100

= 19.5

= $19.5 + 195$

= 214.5

It is approximately 215

Therefore, 215 questionnaires were administered.

2.4. Sampling Technique

In order to determine the average number of mothers with infants between 6 and 24 weeks per month, a sampling frame of mothers with infants who attended HIV clinics monthly and for six months was first taken from each health facility's registration books. This resulted in the following numbers: 150 from Federal Medical Center, 160 from State Hospital, Ijaiye, and 70 from Sacred Heart Hospital Lantoro, Abeokuta. By calculating the proportion of respondents used in each facility, proportion-to-size allocation was used to divide the entire sample size across the three organizations offering PMTCT services. First, the average number of HIV-positive mothers in each health facility was substituted into the target population to determine the percentages used in each facility. Based on sample size, the number of copies of the questionnaire distributed in each health care clinic was then determined.

NS= average number of HIV positive mothers in Sacred Heart Hospital

NI= average number of HIV positive mothers in State Hospital, Ijaiye

NF= average number of HIV positive mothers in Federal Medical Centre

NS/NT X 100 = $70/380 \times 100 = 18.42\%$

NF/NT X 100 = $150/380 \times 100 = 39.47\%$

NI/NT X 100 = $160/380 \times 100 = 42.12\%$

Then each percentage was used to calculate the number of copies of questionnaire administered in each clinic based on sample size

Sacred heart $18.42/100 \times 215 = 39.6$

FMC $39.47/100 \times 215 = 84.86$

Ijaiye $42.12/100 \times 215 = 90$

Therefore 40 clients were recruited in sacred heart, 85 in FMC and 90 in Ijaiye.

2.5. Inclusion Criteria

The study included all HIV-positive mothers visiting antiretroviral therapy clinics at Federal Medical Center, State Hospital, and Sacred Heart Hospital Lantoro, Abeokuta, who were nursing infants between the ages of six weeks and two years. Mothers living with HIV who consented to data collection.

Mothers with HIV who do not have a mental illness.

2.6. Exclusion Criteria

Additionally, HIV-positive mothers who were unwilling to participate in the trial as well as those who had recently given birth and were not receiving antiretroviral medication were not included in the study.

2.7. Data Collection Instrument

A designed questionnaire titled "Knowledge and Practice of Infant Feeding Among HIV Positive Mothers" served as the data collection tool. Based on the goals of the study, the researcher created the questionnaire by reviewing the literature. There are four sections to the instrument.

Twelve items in Section A ask about the respondents' sociodemographic information; ten items in Section B ask about their knowledge of WHO guidelines regarding infant feeding; eight items in Section C show how infants are fed; and fifteen items in Section D ask about factors influencing infant feeding options for mothers with HIV. Respondents can select strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD).

2.8. Validity of Instrument

The face and content validity techniques were used to guarantee the instrument's validity. The supervisor received the proposal, books, articles, journals, and questionnaire for revision. Additionally, it was delivered to a subject-matter expert who analyzed the study questions in accordance with the stated goals. A suggestion and modification were made. Prior to the questionnaire being administered, this was closely followed. The validity was quantified.

2.9. Reliability of Instrument

Twenty questionnaires were distributed in order to pretest the survey. In order to assess the internal consistency of the instrument, about 10% of all questionnaires were given to 20 HIV-positive mothers at Oba Ademola Maternity Hospital in Ijemo, Abeokuta. Using the Cronbach's Alpha method, coefficients of 0.80, 0.82, and 0.79 were obtained, indicating the instrument's reliability.

2.10. Ethical Consideration

With protocol numbers of FMCA/47/HREC/1/2020/04 at Federal Medical Center, Abeokuta, and SHA/RES/VOL.4/160 and SHH/EC/EA/01/01/20 as reference numbers from State Hospital Ijaiye and Sacred Heart Hospital Lantoro, Abeokuta, respectively, ethical approval was requested and acquired from the Ethics and Research Committee of each of the three centers utilized in Abeokuta. Before the questionnaire was sent, each participant's informed consent was acquired, and permission was also requested from the heads of the units. It was voluntary to participate. Every piece of information gathered was handled with the highest discretion.

2.11. Method of Data Collection

A systematic questionnaire that was given to research participants was used to gather data in the hospitals. Four research assistants received a one-day orientation and training from the primary investigator. Each university was

given two research assistants. Each institution's management received an introduction letter from the researcher's school. The management of each institution was consulted for permission to conduct research, and before the researcher administered the questionnaire, respondents completed a written informed consent form. Then, with the help of study assistants at each of the three healthcare facilities, data was gathered every clinic day for a month.

2.12. Method of Data Analysis

The research analyst double-entered the data after identifying the surveys by their serial numbers. Mean and standard deviation for continuous variables, and frequency/percentages for categorical variables. Additionally, the Pearson Chi-square test was used to assess the hypotheses at the < 0.05 level of significance. The Statistical Package for Social Sciences (SPSS) was used to conduct the analyses, and frequency and percentages were displayed in tables.

3. Results

Table 1 and 2 shows the demographic characteristics of HIV positive mothers who participated in this study were summarized in Table 4.1. Respondents were sampled from three hospitals, Ijaiye (42.45%), F.M.C (40.1%) and Sacred Heart (17.45%). Two hundred and twelve (212) HIV positive mothers participated in the study with mean age of 33.79±5.14 and baby's age ranges from 6 weeks old to 2 years. Twelve (5.7%) of the respondents were between 16 to 25years of age, 117 (55.2%) were within 26-35 years and 82 (38.6%) were within 36-45years of age and just a mother was above 45years. One hundred and fifty-nine (75%) of the respondents were Yoruba, thirty (14.2%) were Igbo, four (1.9%) were Hausa and nineteen (9.0%) were from other tribes. The occupation of study participants predominantly was trading eighty six (40.6%), civil servant; 59(27.8%), artisan 27 (12.7%); professional 23(10.85), housewife; 6(2.8%), farming; 4((1.85%) and unemployed; 7(3.3%). one hundred and seven three (81.6%) participants had at least secondary education while one hundred and sixty seven (78.8%) were Christians. Educational qualification of respondents showed that half of the respondents had tertiary education and 31.1% had secondary education while 14.6 had primary education. Majority of the respondents (95.3%) are married and more than half of the respondent's earned income between 21,000-50,000 while 12.7% earned between 51,000-100,000.

Variables	Frequency (N=212)	Percentages
Hospital of Origin		
Ijaiye	90	42.45
FMC	85	40.10
Sacred Heart	37	17.45
Age at Last Birthday		
16-25 years	12	5.7
26-35 years	117	55.2
36-45 years	82	38.6
Above 45 years	1	0.5

Mean age of 33.79±5.14		
Baby's Age		
6 weeks	27	27
7 weeks to 6 months	69	69
6 to 12 months	21	21
1 to 2 years	95	95
Respondent's Tribe		
Yoruba	159	75.0
Igbo	30	14.1
Hausa	4	1.9
Others	19	9.0
Highest level of education		
Didn't go to school	8	3.8
Primary	31	14.6
Secondary	66	31.1
Tertiary	107	50.5
Religion		
Christianity	167	78.8
Islam	45	21.2
Field survey, 2020		

Table 1: Socio Demographics Characteristics of Respondents

Variables	Frequency	Percentage
Marital status		
Married	202	95.3
Separated	10	4.7
Respondents' occupation		
Unemployed	7	3.3
Artisan	27	12.7
Trader	86	40.6
Civil servant	59	27.8
Professional	23	10.85
Housewife (not working)	6	2.8
Farming	4	1.85
Respondents' income		
Less than 20,000	75	35.4
21,000-50,000	110	51.9
51,000-100,000	27	12.9
Number of children		
One	39	18.4
Two	55	25.9
Three	75	35.4
Above three	43	20.3
Date of awareness of HIV		
Below 2010	32	15.1
2011 to 2015	95	44.8
2016-2020	85	40.1
Starting date of ART		

Less than 1 year	29	14
2 to 4 years	75	35
5 to 8 years	58	27
Above 8 years	50	24
Field survey, 2020		

Table 2: Continuation of Socio-Demographic Characteristics

3.1 Knowledge of Respondents on Infant Feeding

Table 3 shows the knowledge of respondents on recommended feeding practice by WHO findings revealed that only a few respondents (14.6%) are aware of WHO recommended feeding method and a majority got their knowledge from the hospital. 62.3% of the respondents said there is one feeding method while 31.6% said there are two feeding methods. Majority of the respondents (83.5%) also agreed that exclusive breastfeeding is recommended by WHO and 94.8% defined exclusive breastfeeding as “breastfeeding with breast milk only for 6 months”. Less than half of the

respondents (43.9%) defined ERF as “only formula without breastfeeding” and 78.3% agreed that other food should be introduced to the baby at six months. A majority of the respondents agreed that there are dangers with formula feeding like diarrhea, its expensive and need there is need for other equipment.

Table 4 showed that 53.3% of respondents have adequate knowledge and 46.7% have inadequate knowledge of recommended feeding practices by WHO.

Variables	Frequency	Percentage (%)
Do you have the understanding of WHO recommended infant feeding methods for HIV positive mothers?		
Yes	207	97.6
No	5	2.4
Where did you acquire the knowledge?		
Home	5	2.4
Hospital	207	97.6
How many infant feeding options are available to all HIV positive mothers?		
One	132	62.3
Two	67	31.6
Not sure	13	6.1
What feeding methods are recommended by WHO?		
1. Exclusive replacement feeding	4	1.9
2. Exclusive breastfeeding	177	83.5
1 and 2 Above	31	14.6
What do you understand by exclusive breastfeeding?		
Breastfeeding with breast only for 6 months	201	94.8
Incorrect answer	2	0.9
I don't know	9	4.3
What is exclusive replacement feeding?		
Only formula without breastfeeding	93	43.9
Breastfeeding with formula	58	27.4
I don't know	61	28.7
At what age is it acceptable to introduce other types of feed and stop exclusively formula or exclusively breastfeeding?		
Six month	166	78.3
Any other answer	46	21.7
Are there any dangers or problems with formula feeding?		
Yes	128	60.4
No	53	25.0
I don't know	31	14.6

If Yes, what type of problems are there with formula (N=128)?		
Expensive	9	7.0
Need for other equipment	4	3.0
Diarrhea	102	80.0
All	13	10.0
Is mixed feeding a safe feeding method?		
Yes	22	10.4
No	101	47.6
Unsure	89	42.0
Field Survey, 2020		

Table 3: Knowledge of Respondents on Infant Feeding

Knowledge	Frequency	Percentages
Inadequate knowledge	99	46.7
Adequate knowledge	113	53.3
Total	212	100

Table 4: Level of Knowledge of HIV Positive Mothers

3.2 Practice of Infant Feeding

Table 5 shows that 184(86.8%) of mothers practiced exclusive breastfeeding, 22(10.4%) practiced exclusive replacement feeding while 6(2.8%) practiced mixed feeding. Also, 86.8% feed their babies using exclusive breastfeeding and 10.4% used exclusive replacement feeding. 44.3% of the respondents started breastfeeding within an hour of birth and 9.4% started within 2-8 hours while 33% started

breastfeeding after 8 hours. Of those using replacement feeding, 82.1% used infant formula. A majority of the respondents (51.4%) feed their babies 4-7 times daily and 52.4% initiated family foods after six months and 36.3% when the baby was still breastfeeding and less than 6 months. A majority of the HIV positive mothers (68.9%) have poor feeding practices and 31.1% have good feeding practices.

Variables	Frequency	Percentage (%)
What feeding method are you using or did you use for your baby?		
Exclusive breastfeeding	184	86.8
Exclusive replacement feeding	22	10.4
Mixed feeding	6	2.8
What feeding method are you using or did you use for your baby?		
Exclusive Breastfeeding.	184	86.8
Exclusive Replacement Feeding	22	10.4
Mixed Feeding	6	2.8
Time of initiation of breastfeeding		
Within an hour of birth	94	44.3
2-8hours	20	9.4
After 8hours	70	33.1
Replacement feeding	28	13.2
What type of replacement feeding (N=28)?		
Infant Formula	23	82.1
Cow milk	1	3.6
1 and 2	1	3.6
Pap	3	10.7
What type of utensil do you use for feeding your infant?		
Bottle	5	2.4
Cup and spoon	123	58.0
Baby feed directly from breast	84	39.6

What is the frequency of feeding your infant with formula or breast milk per day?		
3times	16	7.6
4-7times	109	51.4
More than 7times	18	8.5
On demand	69	32.5
When did you initiate family food?		
Six months	111	52.4
Before six months	24	11.3
Baby is less than 6 month and still on breastmilk	77	36.3
Do you use boiled water to sterilise baby utensils		
Yes	51	24.1
No	80	37.7
Baby fed directly from breast milk	81	38.2
When did you wean baby off completely from breast milk?		
Not breastfed	22	10.0
Baby is on mixed feeding	6	3.0
Baby less than 6 months and still on breast milk	80	38.0
After 6 months	87	41.0
One to two year	17	8.0
Field survey, 2020		

Table 5: Infant Feeding Options Practices by HIV Positive Mothers

Practice	Frequency	Percentages
Poor Feeding Practice	146	68.9
Good Feeding Practice	66	31.1
Total	212	100.0

Table 6: Level of Infants' Feeding Practices

3.3 Factors Affecting Infant Feeding Options

Table 7 shows factors affecting infants feeding practices among HIV positive mothers. From the above table, study revealed that socioeconomic is not a factor that can affect the choice of infants feeding option as the means average (SD) is 1.936 ± 0.414 . On sociocultural factor, the Mean average (SD) is 3.885 ± 1.190 which shows that it is a factor affecting the feeding options of HIV positive mothers. Then on maternal factors, study revealed that it can affect the choice of infants feeding option as the mean average (SD) is 2.539 ± 0.511 .

Health care factor is also a strong determinant on the choice of infants feeding option as the mean average is 3.425 ± 0.450 which shows that health care system where the HIV positive mothers received their treatment is a significant factor that affect the feeding options of baby of HIV positive mothers. Disclosure to husband is also a factor affecting the feeding options of infants of HIV positive mothers. Generally, all the factors can affect the feeding option of infants of HIV positive mothers as the grand average mean is 2.932 ± 0.713 .

S/N	ITEMS	SA =4	A =3	D =2	SD= 1	X	SD	RMK
Socioeconomic factors								
1	I don't have access to safe drinking water for my infant.	10 (4.7)	6 (2.8)	94 (44.3)	100 (47.2)	1.632	0.574	NF
2	I do not have money for storage facilities like fridge	70 (33.0)	4 (1.8)	38 (17.9)	100 (47.2)	2.207	0.534	NF
3	Buying baby formula is expensive for me.	32 (15.1)	30 (14.1)	50 (23.6)	100 (47.2)	1.971	0.134	NF
Mean average (SD) = 1.936 ±0.414								
Socio-cultural factors								
4	I don't have support whenever I am breast feeding my baby.	4 (1.8)	20 (9.4)	88 (41.5)	100 (47.2)	1.660	0.572	NF
5	I breast feed my baby out of fear of stigmatization	100 (47.2)	90 (42.4)	11 (5.2)	11 (5.2)	3.316	0.458	F

6.	I breast feed my baby because I don't want people to know my HIV status	100 (47.2)	85 (40.1)	7 (3.3)	20 (9.4)	3.250	0.462	F
7	My culture does not allow any other milk for baby apart from breast milk	100 (47.2)	90 (42.4)	11 (5.2)	11 (5.2)	3.316	0.458	F
Mean average (SD) = 3.885 ±1.190								
Health care system factors: In the health facility where I take my ARVs								
12	My not enrolling in PMTCT class before delivery of my baby affect my choice of baby feeding method	100 (47.2)	79 (37.2)	20 (9.4)	13 (6.1)	3.524	0.443	F
13	I did not received basic education on various infant feeding options in pregnancy and delivery	100 (47.2)	110 (51.9)	0 (0.0)	2 (0.9)	3.452	0.449	F
Mean average (SD) = 3.425 ±0.450								
DISCLOSURE								
15	My husband knows about my status	100 (47.2)	29 (13.6)	40 (18.9)	43 (20.3)	2.877	0.488	F
GRAND AVEAGRE MEAN(SD) =2.932±0.713								
NB: An item with Average mean of less than 2.5 is considered not a factor while average mean of 2.5 and above is considered a factor. NF (not a factor) F (factor)								
Field survey, 2020								

Table 7: Factors Affecting Infant Feeding Options (N=212)

Variables	Choice of infant feeding				
	EBF(N=184)	EBF(N=184)	EBF(N=184)	χ^2	p-value
Age					
16-25	9(4.89)	2(9.1)	1(16.7)		
26-35	103(55.9)	9(40.9)	5(83.3)	3.830	0.193
36-45	71(38.6)	11(50)	0(0.0)		
Above 45	1(0.54)	0(0)	0(0.0)		
Tribe					
Yoruba	139(75.5)	17(77.3)	3(50.0)		
Igbo	27(14.7)	3(13.6)	0(0.0)	4.251	0.87
Hausa	4(2.2)	0(0)	0(0.0)		
Others	14(7.1)	2(9.1)	3(50.0)		
Level of Education					
No formal education	8(4.34)	0(0.0)	0(0.0)	0.853	0.007
Primary	30(16.3)	0(0.0)	1(16.6)		
Secondary	63(34.2)	2(9.1)	1(16.6)		
Tertiary	83(45.1)	20(90.9)	4(66.6)		
Marital status					
Married	178(96.7)	19(86.4)	5(83.3)	0.650	0.036
Separated	6(3.3)	3(13.6)	1(17.7)		
Income					
Less than 20000	24(13.04)	2(9.1)	1(16.6)	3.323	0.444
21,000-50.000	64(34.8)	7(31.8)	4(55.6)		
50,000-100,000	96(52.2)	13(59.1)	1(16.6)		
Number of children					
One	24(13.04)	12(54.4)	3(50.0)	0.750	0.000
Two	51(27.7)	3(13.6)	1(16.6)		
Three	67(36.4)	7(31.8)	1(16.6)		
Above three	42(22.8)	0(0.0)	1(16.5)		

Table 8: Association Between Socio-Demographic of HIV Positive Mothers and Infant Feeding Options

Table 9 shows that there is significant relationship between mothers' level of knowledge and mothers' feeding practices, as ($\chi^2=0.807$, $df=1$; $p\text{-value}=0.000$). Since P-value (0.000) is less than α value =.05, then we reject the null hypothesis that

there is no significant relationship between mothers' level of knowledge and mothers' feeding options and accept the alternative hypothesis, that is, there is significant relationship between mothers' knowledge and feeding practice.

		PRACTICE				p-value
		Poor	Good	Total	χ^2	
	Poor Knowledge	69	30	99		0.000
	Good Knowledge	77	36	113	0.807	
Total	146	66	212	Total	146	
Degree of freedom= 1						

Table 9: Association Between Mothers' Knowledge and Infant's Feeding Practices

Table 10 shows significant relationship between mothers' level of education and mothers' feeding practices, as ($\chi^2=2.99$, $df=3$, $p\text{-value}=0.03$). Since P-value (0.03) is less than α value =0.05, then we reject the null hypothesis which stated that there is no significant relationship between

mothers' level of education and infant feeding practices. We accept the alternate hypothesis that there is significant relationship between mothers' level of education and infant feeding practices.

		PRACTICE		Total	χ^2	p-value
		Poor Practice	Good Practice			
Level of Education	No formal education	7	1	8	2.99	0.03
	Primary	22	9	31		
	Secondary	41	25	66		
	Tertiary	76	31	107		
Total		146	66	212		
Degree of freedom=3						

Table 10: Association Between Educational Status of Mothers and Infant Feeding Practices

Table 11 shows no significant relationship between mothers age and infant feeding practices, as ($\chi^2=3.794$, $df=3$, $p\text{-value}=0.285$). Since P-value (0.285) is greater than α value =.05,

then we accept the null hypothesis that there is no significant relationship between mothers' age and infant feeding practices.

		PRACTICE		Total	χ^2	p-value
		Poor Practice	Good Practice			
AGE	16-25 years	10	2	12	3.794	0.285
	26-35 years	84	33	117		
	36-45 years	51	31	82		
	Above 45 years	1	0	1		
Total		146	66	212		
Degree of freedom=3						

Table 11: Association Between Age of the Mothers and Infant Feeding Practice

Table 12 shows no significant relationship between mothers' parity and infant feeding practices, as ($\chi^2=4.848$, $df=3$, $p\text{-value}=0.183$). Since P-value (0.183) is greater than α value =.05,

then we accept the null hypothesis that there is no significant relationship between parity and mothers' feeding practices.

		PRACTICE		Total	χ^2	p-value
		Poor Practice	Good Practice			
Number of Children	One	30	9	39	4.848	0.183
	Two	32	23	55		
	Three	55	20	75		

	Above three	29	14	43		
Total		146	66	212		
Degree of freedom=3						

Table 12: Association Between the Parity of Women and Infant Feeding Practice

4. Discussion

The WHO recommends newborn feeding practices to lower the rate of infant death and morbidity. The study participants' demographic characteristics showed that the mothers' ages ranged from 16 to 46, with a mean age of 33.79 ± 5.14 , while the babies' ages ranged from 6 weeks to 2 years. Married people made up the bulk of responders (95.3%). According to a study by on the feeding habits of 200 HIV-positive mothers attending a teaching hospital in Lagos during the first six months of their children's lives, the respondents' ages were nearly identical. They ranged in age from 20 to 42, and 95.5% of them were married. In terms of religion, Christians made up a bigger percentage (167, or 78.8%). This is consistent with studies on infant feeding and related factors among HIV-positive women attending ART clinics in Ethiopia by Sendo and Sepsibie (2017), which found that 97% of respondents were Christians.

According to the mothers' responses, 13 (14.6%) were aware of the two feeding options that the WHO recommends: exclusive breastfeeding and exclusive replacement feeding. In contrast, 177 (83.5%) and 4 (1.9%) of the mothers selected exclusive breastfeeding and exclusive replacement feeding, respectively. This study contradicts the findings of a 2015 study by Dudley and Olorunfemi on the knowledge, attitudes, and practices of infant feeding in the first six months among 191 HIV-positive mothers at the Queen Mamohato Memorial hospital clinics in Maseru, Lesotho. The study found that only 39 mothers (20%) were aware of other feeding options, while the majority of mothers (152, 80%) were aware of the two main infant feeding options (IFOs)—breastfeeding and infant formula. In line with a 2017 study by Ekubagewargies et al in Ethiopia, 53.3% of respondents in this study have strong understanding of the WHO's recommended feeding guidelines for newborns of HIV-positive mothers, whereas 46.7% have inadequate knowledge. In line with a 2017 study by Sendo and Sepsibie on Infant Feeding Practice and Associated Factors among HIV Positive Mothers Attending ART Clinic in Ethiopia, which found that the majority, 173 (75.2%), practiced exclusive breastfeeding up to six months of age, 86.8% of mothers with HIV feed their infants exclusively, while 10.4% use exclusive replacement feeding. Additionally, the results contradict the 2017 study by Mengistu and Kedir in the same Ethiopia and the 2015 study by Ikeako et al. on infant feeding practices among 73 HIV-positive women in Enugu, Nigeria, which found that 14.8% of them exclusively breastfed. A greater percentage of mothers in this study adopted exclusive breastfeeding, which may be because it is culturally acceptable for Yoruba women to breastfeed their children and because breast milk is readily available and, when used sparingly, can shield the child from HIV. Compared to a 2019 study conducted in Kenya by Lang'at, Ogada, and Steenbeek in Bomet County, which found that

95.3% of mothers/caregivers who breastfed their infants met the WHO recommendation of starting breastfeeding within the first hour of birth, the study found that 44.3% of mothers who breastfeed their infants met the WHO guideline of starting breastfeeding within an hour of birth. Regarding the introduction of supplemental feed, the majority of mothers—111 (52.5%) who exclusively breastfed—started introducing family foods after six months, while 77 (36.3%) did so while the baby was still breastfeeding and under six months. This is consistent with the findings of a 2016 study conducted by Wakwoya et al. at Debre Markos Referral Hospital East Gojam Zone in Ethiopia on infant feeding practices and associated factors among HIV-positive mothers, which included 260 respondents. The findings showed that the majority of respondents—127 (84.67%)—started supplemental food at six months. The study's findings showed that sociocultural factors influence the choice of newborn feeding option since a higher percentage of respondents—100, or 47.2%, strongly agreed, and 90, or 42.4%—agreed that their culture only permits breast milk for babies. This is consistent with a study conducted in 2013 by Marembo, Zvinavashe, Rudo, and Shaibu among 80 HIV-positive women on the factors that influenced mothers' decisions when selecting an infant-feeding method. The study found that 47 (58.8%) mothers took sociocultural acceptability into consideration. Regarding the health care component, 84 people (39.5%) agreed and 100 people (47.2%) strongly agreed that they did not exclusively breastfeed their child because medical professionals did not place a greater emphasis on nursing. According to research conducted in the Queen Mamohato Memorial Hospital Clinic in Maseru by Dudley and Olorunfemi (2015), 93% of people who chose replacement feeding did so out of concern that HIV could be spread through breastfeeding [5].

Using multivariate analysis, the relationship between HIV-positive mothers' choices for infant feeding and sociodemographic factors revealed that parity, marital status, and educational attainment were all significantly correlated with infant feeding choices ($p=0.000$, $p=0.007$, $p=0.036$, and $p=0.000$, respectively). Respondents' wealth, age, and tribe are not important factors. This suggests that choosing the appropriate eating selections is positively impacted by that degree of education. Additionally, it demonstrates that a married person would have a spouse's support while selecting the best eating alternative. Regarding the feeding option, the educational status of HIV-positive moms showed that 22 (70.9%) of those who attended elementary school and 7 (87.5%) of those who did not had poor feeding habits. Additionally, 71% of moms with tertiary degree had poor feeding habits, and 41 (62.1%) of those with high school education did as well [6].

This study evaluates HIV-positive mothers' newborn feeding behaviors and knowledge at a few hospitals in Abeokuta South Local Government, Abeokuta, Ogun State. Assessing HIV-positive mothers' familiarity with the WHO's recommendations for newborn feeding in the context of HIV/AIDS was one of the goals. To determine the different baby feeding strategies used by women living with HIV, Evaluate the infant feeding options (IFOs) practices of women living with HIV and determine the factors that influence these practices. The goals of this study were covered via a survey of pertinent literature. The study has a descriptive design. For the study, a purposeful sampling strategy was employed. The study included a structured administered questionnaire with a total sample size of 212. The results showed that there is still room for improvement in HIV-positive moms' breastfeeding practices and awareness[7-11].

5. Conclusion

According to a study on HIV-positive mothers who attend mother-to-child clinics for prevention in the chosen hospitals in Abeokuta South Local Government, the participants are well-versed in WHO infant feeding standards and have a favorable attitude toward EBF for their babies. However, infant feeding is not a good practice. When compared to the WHO norm, the frequency of feedings is inadequate. At every hospital visit, women should receive information and guidance about safe infant feeding practices and postnatal HIV transmission. In order for pregnant women with HIV to participate in a mother-to-child transmission intervention program, it is advised that all healthcare facilities providing prenatal care services offer voluntary counseling and testing services. Infant-feeding counseling should be provided to all moms, and exclusive breastfeeding is advised for women whose HIV status is unknown. As part of infant-feeding counseling, it is essential to thoroughly assess HIV-positive mothers' capacity to provide replacement feeding in terms of its acceptability, feasibility, affordability, sustainability, and safety in accordance with WHO guidelines. newborn feeding counseling services should prioritize education and guidance on mother-to-child transmission prevention programs to help HIV-positive women make suitable and well-informed decisions about newborn feeding choices.

Conflict of Interest

The authors declare no conflicts of interest. The authors alone are responsible for the content and the writing of the paper.

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