

FACTORS INFLUENCING THE CHOICE OF INFANT FEEDING OPTIONS AMONG HIV POSITIVE MOTHERS ATTENDING SELECTED HEALTH FACILITIES IN PORT HARCOURT, RIVERS STATE, NIGERIA

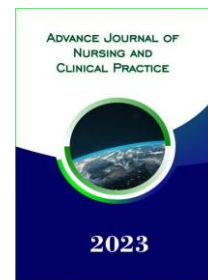
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Keywords: Factors, Infant feeding options, HIV positive mothers, Health facilities

Abstract: Infant feeding is the practice of feeding an infant breast milk or formula or both. This is a descriptive cross-sectional study that determined the factors influencing the choice of infant feeding options among HIV positive mothers attending selected Health facilities in Port Harcourt, Rivers State. Three objectives and research questions were used for the study. Population for the study comprised of 136 HIV positive mothers attending Antenatal clinic at University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt and Rumuigbo Primary Health Center, Port Harcourt, Rivers State. Sample size of 101 mothers drawn from the population through Yaro Yamane formula for sample size calculation. A 22 item self-structured Questionnaire was the instrument used for data collection which was validated by the researchers and tested for internal consistency with reliability index of 0.94. Data for the study were generated through face to face administration of the instrument and data generated were presented in table and analyzed with descriptive statistics. Ethical approval was sought and obtained from University of Port Harcourt Teaching Hospital (UPTH) Human Research and Ethical committee. The study revealed that the factors that influence the choice of infant feeding options among HIV Positive Mothers in selected Health facilities in Port Harcourt, Rivers State are income of family (3.45), risk of Mother-child Transmission of HIV/AIDS (3.33), External pressure (2.91). Fear of stigmatization (2.86), Counseling on infant feeding (2.68), Advice of the health care provider (3.78), Knowledge of spouse on HIV status of partner (3.53), Pressure from various parties such as mother-in-law, husband, family and society in general (3.81), Need to supplement breast milk with complementary feeds for the baby's nourishment (3.48), age of the mother (3.34), advice from neighbors (3.29), and maternal or infant illness (3.18). in conclusion, income of family, risk of Mother-to-Child

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Transmission of HIV/AIDS, External pressure, and of stigmatization were key factors influencing the infant feeding choice option of the mother. I recommended that HIV positive mothers should be sensitized by HIV/PMTCT counselors so that they will be equipped with necessary knowledge to enable them identify proper infant feeding options.

Introduction

Background of the Study

Globally, there is an estimated 37.7 million [30.2–45.1 million] people living with HIV at the end of 2020, over two thirds of whom (25.4 million) are in the WHO African Region (World Health Organization, 2021). So far, HIV have claimed 36.3 million [27.2–47.8 million] lives making this condition a major global public health issue (WHO, 2021). HIV (human immunodeficiency virus) is a virus that attacks the body's immune system. If HIV is not treated, it can lead to AIDS (acquired immunodeficiency syndrome) (Centers for Disease Control and Prevention, 2021). There is no cure for HIV infection. However, with increasing access to effective HIV prevention, diagnosis, treatment and care, including for opportunistic infections, HIV infection has become a manageable chronic health condition, enabling people living with HIV to lead long and healthy lives (WHO, 2021). HIV infection among women of childbearing age and mother-to-child transmission (MTCT) of HIV remain major global health issues affecting millions of persons, half of whom are women of childbearing age (UNAIDS, 2016). It is estimated that 1700 infants become infected with HIV daily, 91% of whom have acquired HIV through MTCT during pregnancy, childbirth, or breastfeeding (Avert, 2020; WHO, 2021). In the absence of interventions, the probability of MTCT of HIV among infants is estimated to be 5%–10% during pregnancy, 10%–15% during

labor, and 15%–20% during prolonged breastfeeding (United Nations Children's Emergency Fund, 2016; WHO, UNICEF, & UNAIDS, 2013). Consequently, breastfeeding may be responsible for one-third to one-half of HIV infections in settings where interventions are not available. Prevention of mother-to-child transmission (PMTCT) services support safe childbirth practices and adequate infant feeding practices. The implementation of PMTCT services prevented around 1.4 million HIV infections among children between 2010 and 2018 (UNAID, 2018).

Purpose of the study

The purpose of this study was to determine the factors influencing the choice of infant feeding options among HIV positive mothers attending selected Health facilities in Port Harcourt, Rivers State.

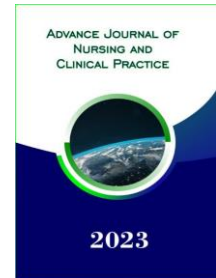
Objectives of the study are to:

1. determine the factors influencing the choice of exclusive breastfeeding among HIV positive mothers.
2. determine the factors influencing the choice of replacement feeding among HIV positive mothers.
3. determine the factors in the influencing the choice of mixed feeding among HIV positive mothers.

Research Questions

1. What are the factors influencing the choice of exclusive breastfeeding among HIV positive mothers?

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2. What are the factors influencing the choice of replacement feeding among HIV positive mothers?
3. What are the factors influencing the choice of mixed feeding among HIV positive mothers?

Scope of Study

This study is delimited to HIV positive mothers within the two health facilities studied, University of Port Harcourt Teaching Hospital, and Rumuigbo Primary Health Center Port Harcourt, Rivers State. It also covers socio-demographic factors, maternal factors, infant factors, and health system factors influencing the choice of infant feeding options among HIV positive mothers attending these selected Health facilities in Port Harcourt, Rivers State.

Literature Review

Concept of HIV and Infant Feeding.

HIV (human immunodeficiency virus) is a virus that attacks the body's immune system. If HIV is not treated, it can lead to AIDS (acquired immunodeficiency syndrome) (Centers for Disease Control and Prevention, 2021). There is no cure for HIV infection. However, with increasing access to effective HIV prevention, diagnosis, treatment and care, including for opportunistic infections, HIV infection has become a manageable chronic health condition, enabling people living with HIV to lead long and healthy lives (WHO, 2021).

HIV infection among women of childbearing age and mother-to-child transmission (MTCT) of HIV remain major global health issues affecting millions of persons, half of whom are women of childbearing age (UNAIDS, 2016). It is estimated that 1700 infants become infected with HIV daily, 91% of whom have acquired HIV through

MTCT during pregnancy, childbirth, or breastfeeding (Avert, 2015; WHO, 2021).

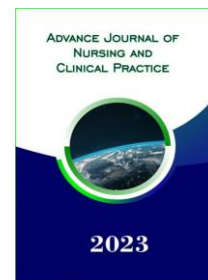
Globally, the incidence of the spread of the HIV pandemic is worrisome; this is because the spread of the virus has taken an alarming dimension in recent times. More worrisome is the rate at which infants are contracting the virus from HIV infected mothers.

Types of Infant feeding

The three types of feeding are: (1) exclusively breastfeeding; (2) replacement feeding receiving no breast milk; or (3) mixed feeding with breast milk and replacement feeding.

Exclusive breastfeeding option for HIV Positive Mothers

Exclusive breastfeeding is defined as receiving only breast milk and no other liquids or solids except drops of syrups consisting of vitamins, minerals, or medicines. Breast milk can include mother's expressed milk or milk from a wet nurse. While HIV can pass from a mother to her child during pregnancy, labour or delivery, and also through breast-milk, the evidence on HIV and infant feeding shows that giving antiretroviral treatment (ART) to mothers living with HIV significantly reduces the risk of transmission through breastfeeding and also improves her health (WHO, 2021). WHO now recommends that all people living with HIV, including pregnant women and lactating mothers living with HIV, take ART for life from when they first learn their infection status (WHO, 2021). Mothers living with HIV are encouraged to breastfeed for at least 12 months and may continue breastfeeding for up to 24 months or longer (similar to the general population) while being fully supported for ART adherence (WHO, 2016).



damages the lining of the baby's stomach and intestines and thus makes it easier for HIV in breast milk to infect the baby (UNAIDS, 2017).

Research Design

A descriptive cross-sectional study design was used to conduct this study. This design was successfully used by Mussa *et al*, (2021) on Factors Associated with Infant Feeding Choices among Women with HIV in Botswana. This method of research design describes events as they occur in their natural setting. It also a plan of study in which a group of people or items are studied by collecting and analyzing data from people and items selected. It is appropriate for this study because it aims are collecting data in a systematic manner and also discusses characteristic features or facts about a given population.

Area of study

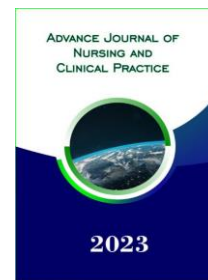
The research was conducted in University of Port Harcourt Teaching Hospital (UPTH), and Rumuigbo Primary Health Center Port Harcourt, Rivers State. Port Harcourt is a commercial and industrial town with fastest growing population in Rivers State. According to the National Population Report in 2020, Port Harcourt has an estimated population of 3 million people made up of mostly business men and women, civil servants, students and youths of different entrepreneurial ability. As a growing city, the town harbours banking institutions, churches, hospitals, schools of different levels and functional industries. as a fast growing city is resident place for workers of different categories including working class women who work in banking institutions, hospitals and other government or private establishments.

Port Harcourt town harbours University of Port Harcourt Teaching Hospital (UPTH), a Federal

Tertiary Health institution. UPTH has Bayelsa, Delta, Abia and Imo States as its catchment areas. It is Baby Friendly hospital that attends to the health needs of clients with diverse challenges including pregnant mothers. Different health specialists and professional including medical consultants, resident doctors, house officers, staff nurses, laboratory scientists and radiographers and others work here with high display of quality care services. The hospital has a well-equipped operating theatre, labour ward, laboratories, physiotherapy department, general outpatient department and medical outpatient department. The hospital is designed to teach students of the health sciences which includes; nursing students, medical students and residents, medical rehabilitation, radiographers, laboratory science students. The hospital is a full scale accredited hospital. Port Harcourt town also harbours Rumuigbo Primary Health Center a government owned clinic located in Mile 5 Ikwerre Road, Port Harcourt, Nigeria. It is also a Baby Friendly clinic that attends to the health needs of clients with diverse challenges including pregnant mothers.

Targeted Population

The target population for this study included all HIV positive mothers who were registered and were accessing Anti Retro-Viral Therapy (ART) or attending support group meetings in the health facilities University of Port Harcourt Teaching Hospital, Port Harcourt and Rumuigbo Primary Health Center) from January - December 2019 - 2021. They were 44 registered HIV positive mothers in University of Port Harcourt Teaching Hospital, Port Harcourt and 92 from Rumuigbo Primary Health Center, making it a total of 136 registered HIV positive mothers. Information of the population of the



study was gotten from Antenatal clinic of each of the Health Facilities.

Instrument of Data Collection

A 22-item self-structured Questionnaire was the instrument used for data collection. The questionnaire was constructed in a way that it will elicit the information needed for the accomplishment of the purpose of the study. All items in the questionnaire was structured in a close ended format. The questionnaire was divided into four sections (A, B, C, and D). Section B, C and D were structured in a 4-point scale. SA means strongly agreed (4 points), A means Agree (3 points), D means Disagree (2 points), and SD means Strongly disagree (1 point). Decision rule for the 4 point scale was based on mean score of 2.5. A mean score below mean score of 2.5 is not accepted and indicates that the factor stated does not influence infant feeding option, while mean score of 2.5 and above is accepted and indicate that the factor stated influence infant feeding option. Section A consists of the socio-demographic data of the individual such as the respondent's age, level of education, occupation, religion, marital status, parity (number of children), and others. Section B was designed based on the first objective which is to determine the factors influencing the choice of breastfeeding among HIV positive mothers. Section C was designed based on the second objective which is to determine the factors influencing the choice of replacement feeding among HIV positive mothers. Section D was designed based on the third objective which is to determine the factors influencing the choice of mixed feeding among HIV positive mothers.

Procedure for Data Collection

The purpose of the study was explained to the Chief Nursing Officer in charge of the Antenatal

clinic in each Health facility and the matron gave her consent for the distribution of the questionnaire. Good interpersonal relationship between the researcher and the respondents was ensured and the purpose and objectives of the study was explained to the respondents before data were collected from them. The data collection was achieved though face-to-face administration of questionnaires. Only HIV Positive mothers who met the requirements of the inclusion criteria were included in the study. Data were collected using a self-structured and self-administered questionnaire specifically designed for this research. The questionnaires was shared and completed within two (2) week and the researcher ensured that information obtained from the respondents was treated with utmost confidentiality by maintaining anonymity in all the Questionnaires. A total of 101 questionnaires were administrated and the same number of questionnaires was returned and analyzed

Results

The data collected were analyzed and tabulated in such a way that it served as a viable tool for effective discussion of result. The analysis was based on research questions formulated. During the course of the study, 100 copies of questionnaires were administered with 100% return rate.

Socio-demographic data of the respondent

Table 4.1: Socio-demographic data of the respondents.

Items	Frequency (n)	Percentage (%)
Age		
15-25 years	6	5.9
26-35 years	72	71.4
36-45years	16	15.8

Advance Journal of Nursing and Clinical Practice

Adv. J. Nur. Pract.

Vol. 6; Issue 01; 2023

January-February 2023

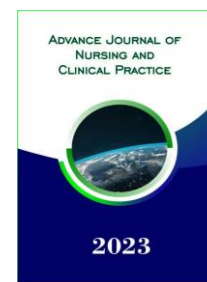
ISSN: 2573 –1134

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Over 45 years	7	6.9	₦41,000-50,000	11	10.9
Highest educational qualification			Over ₦50,000	5	5.0
Primary education	40	39.6	Infant feeding option you practice		
Secondary education	52	51.5	Exclusive breast	33	32.7
Tertiary education	9	8.9	Feeding (EBF)	52	51.5
Marital status			Replacement (formula) feeding (RF)	16	15.8
Single	16	15.8	Mixed feeding (MF)		
Married	75	74.3	<p>The mean age of the mothers was 31 years. Majority 75(74.3%) were married and (80.0%) had babies less than six months of age. Fifty-two mothers (51.5%) completed secondary school education and 99(98%) were christians. The main occupation of the mothers was trading. Fifty-eight (57.4%) of the mothers had monthly income between ₦21000-30000. 33(32.7%) exclusively breastfed their children, 52(51.5%) practiced replacement feeding and 16(15.8%) practiced mixed feeding.</p>		
Divorced	10	9.9			
Widow					
Religion					
Christian	99	98.0			
Muslim					
Traditionalist	2	2.0			
Occupation					
Farmer	6	5.9			
Trader	58	57.4			
Housewife	13	12.9			
Civil/public servant	20	19.8			
Teacher/lecturer	4	4.0			
Monthly income					
₦10,000-20,000	12	11.9			
₦21,000-30,000	58	57.4			
₦31,000-40,000	23	22.8			

n = 101

Item statements	SA	A	D	SD	Mean	Decision
Exclusive breastfeeding reduces the risk of Mother-to-Child Transmission of HIV/AIDS.	54(53.4)	31(30.7)	11(10.9)	5(5.0)	3.33	Accepted
The income of the family contributes to my choice of exclusive breastfeeding.	63(62.4)	28(27.7)	2(2.0)	8(7.9)	3.45	Accepted
Counseling on exclusive breastfeeding benefits during antenatal visits	48(47.5)	31(30.7)	12(11.9)	10(9.9)	2.68	Accepted
Fear of stigmatization.	41(40.6)	20(19.8)	25(24.7)	15(14.9)	2.86	Accepted
External pressure from people around.	39(38.6)	24(23.8)	24(23.8)	18(17.8)	2.91	Accepted
Grand mean					3.05	Accepted

Decision rule: mean score >2.5 = Accepted

< 2.5 = Not accepted

Table 4.2 show that the major factors that influence the choice of exclusive breastfeeding among HIV Positive Mothers are: income of

family, risk of Mother-to-Child Transmission of HIV/AIDS, External pressure, Fear of stigmatization and Counseling on infant feeding

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Advance Journal of Nursing and Clinical Practice

Adv. J. Nur. Pract.

Vol. 6; Issue 01; 2023

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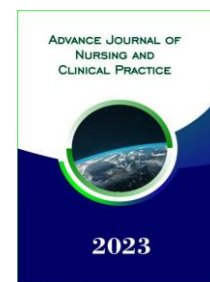
ISSN: 2573 –1134

Impact Factor: 4.57

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with a mean score of 3.45, 3.33, 2.91, 2.86 and 2.68 respectively.

n = 101

Item statements	SA	A	D	SD	Mean	Decision
Lack of time to breast feed baby because of work demand	42(41.6)	19(18.8)	24(23.8)	16(15.8)	2.86	Accepted
Knowledge of spouse on HIV status of partner influences the use of replacement feeding	62(61.4)	28(27.7)	11(10.9)		3.50	Accepted
Replacement feeding helps to reduce the chances of Mother-to-Child Transmission of HIV/AIDS	79(78.2)	22(21.8)			3.78	Accepted
Healthcare provider may encourage the use of replacement feeding method.	54(53.5)	47(46.5)			3.53	Accepted
Health condition of the mother may influence the use of replacement feeding.	51(50.5)	50(49.5)			3.50	Accepted
The baby's health condition which prevents him from sucking.	50(49.5)	28(28.7)	23(22.8)		3.27	Accepted
Grand mean					3.41	Accepted

Decision rule: mean score >2.5 = Accepted

< 2.5 = Not accepted

Table 4.3 show that the major factors that influence the choice of replacement feeding among HIV Positive Mothers are: chances of Mother-to-Child Transmission of HIV/AIDS, Advice of the health care provider to use replacement feeding method, Knowledge of

spouse on HIV status of partner, Health condition of the mother may influence the use of replacement feeding, health condition of the baby and Lack of time to breast feed baby because of work demand with a mean score of 3.78, 3.53, 3.50, 3.50, 3.27 and 2.86 respectively.

n = 101

Item statements	SA	A	D	SD	Mean	Decision
Need to supplement breast milk with complementary feeds for the baby's nourishment	78(77.2)	13(12.9)			3.48	Accepted
Pressure from various parties such mother-in-law, husband, family, and society in general)	66(65.3)	27(26.7)	18(17.8)		3.81	Accepted
Advice from neighbor that mixed feeding will help the baby to be more healthy	53(53.5)	30(29.7)	12(11.9)	6(5.9)	3.29	Accepted
Maternal or infant illness	58(57.4)	23(22.8)	10(9.9)		3.18	Accepted
Young age	50(49.5)	35(34.7)	16(15.8)	0(0)	3.34	Accepted
Grand mean				0(0)	3.42	Accepted

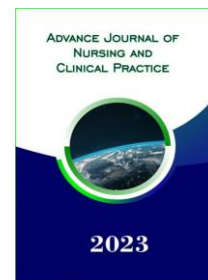
Decision rule: mean score >2.5 = Accepted

< 2.5 = Not accepted

Table 4.4 show that factors that influence the choice of mixed feeding among HIV Positive

Mothers are: Pressure from various parties such mother-in-law, husband, family, and society in

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general), Need to supplement breast milk with complementary feeds for the baby's nourishment, age of the mother, advice from neighbors and maternal or infant illness with a mean score of 3.81, 3.48, 3.34, 3.29, and 3.18 respectively.

Discussion of findings

Factors influencing the choice of exclusive breastfeeding among HIV Positive Mothers.

Results from the study show that the major factors that influence the choice of exclusive breastfeeding among HIV Positive Mothers are: income of family, risk of Mother-to-Child Transmission of HIV/AIDS, External pressure, Fear of stigmatization and Counseling on infant feeding with a mean score of 3.45, 3.33, 2.91, 2.86 and 2.68 respectively.

Findings of this study is consistent with the study of Aishat *et al*, (2015) on Factors Influencing Infant Feeding Choices of HIV Positive Mothers in Southwestern, Nigeria whose results show that predictors of Exclusive breastfeeding were; monthly income, infant feeding counselling, and fear of stigmatization.

Factors influencing the choice of replacement feeding among HIV Positive Mothers.

Results from the study show that the major factors that influence the choice of replacement feeding among HIV Positive Mothers are: chances of Mother-to-Child Transmission of HIV/AIDS, Advice of the health care provider to use replacement feeding method, Knowledge of spouse on HIV status of partner, Health condition of the mother may influence the use of replacement feeding, health condition of the baby and Lack of time to breast feed baby

because of work demand with a mean score of 3.78, 3.53, 3.50, 3.50, 3.27 and 2.86 respectively.

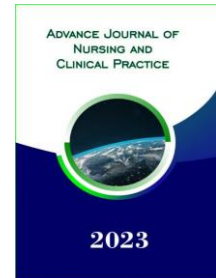
Factors influencing the choice of mixed feeding among HIV Positive Mothers.

Results from the study show that factors that influence the choice of mixed feeding among HIV Positive Mothers are: Pressure from various parties such mother-in-law, husband, family, and society in general), Need to supplement breast milk with complementary feeds for the baby's nourishment, age of the mother, advice from neighbors and maternal or infant illness with a mean score of 3.81, 3.48, 3.34, 3.29, and 3.18 respectively.

Summary of the Study

This is a descriptive cross-sectional study that determined the factors influencing the choice of infant feeding options among HIV positive mothers attending selected Health facilities in Port Harcourt, Rivers State. Three objectives and research questions were used for the study.

Population for the study comprised of 136 HIV positive mothers attending Antenatal clinic in University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt and Rumuigbo Primary Health Center, Rivers State. Sample size of 101 mothers was drawn from the population through Yaro Yamane formula for sample size calculation. A 22-item self-structured Questionnaire was the instrument used for data collection which was validated by the researcher's supervisor and tested for internal consistency with reliability index of 0.94. Data for the study was generated through face to face administration of the instrument and data generated were presented in table and analyzed with descriptive statistics. Ethical approval was sought and obtained from University of Port



Harcourt Teaching Hospital Human Research and Ethical committee.

The study revealed that the major factors that influence the choice of infant feeding options among HIV Positive Mothers in selected Health facilities in Port Harcourt, Rivers State are: income of family (3.45), risk of Mother-to-Child Transmission of HIV/AIDS (3.33), External pressure (2.91), Fear of stigmatization (2.86), and Counseling on infant feeding (2.68), Advice of the health care provider (3.78), Knowledge of spouse on HIV status of partner (3.53), Lack of time to breast feed baby because of work demand, Pressure from various parties such mother-in-law, husband, family, and society in general) (3.81), Need to supplement breast milk with complementary feeds for the baby's nourishment (3.48), age of the mother (3.34), advice from neighbors (3.29), and maternal or infant illness (3.18). Nursing implications for the findings were highlighted.

Conclusion

From the findings of this study, it can be concluded that the major factors that influence the choice of infant feeding options among HIV Positive Mothers in selected Health facilities in Port Harcourt, Rivers State are: income of family, risk of Mother-to-Child Transmission of HIV/AIDS, Fear of stigmatization, Advice of the health care provider, Knowledge of spouse on HIV status of partner, Lack of time to breast feed baby because of work demand, Pressure from various parties such mother-in-law, husband, family, and society in general), Need to supplement breast milk with complementary feeds for the baby's nourishment, age of the mother, advice from neighbors, and maternal or infant illness. There is need for seminars, workshops and outreach programme to be

periodically organized and implemented in order to equip these women towards utilizing their inner potentials and be made to understand that there is more to life even with HIV infection.

Recommendations

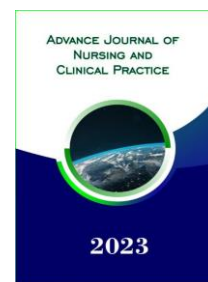
Based on the findings, the discussion and implications drawn from this study, the following recommendations were made:

1. HIV positive mothers should be sensitized by HIV/PMTCT counselors so that they will be equipped with necessary knowledge to enable them identify proper infant feeding options.
2. The federal ministry of health should make available the guidelines for PMTCT with particular reference to infant feeding for Nigerians, as this will help reduce the confusion on what infant feeding options to adopt by HIV positive mothers.
3. NGO's in collaboration with government should organize radio, television, newspaper programme that will educate the populace on PMTCT and infant feeding options.
4. HIV positive mothers should be desensitized from this urge of stigmatization and gratification.
5. There is need for seminars, workshops and outreach programme to be periodically organized and implemented in order to equip these women towards utilizing their inner potentials and be made to understand that there is more to life even with HIV infection.

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Advance Journal of Nursing and Clinical Practice

Adv. J. Nur. Pract.

Vol. 6; Issue 01; 2023

January-February 2023

ISSN: 2573 –1134

Impact Factor: 4.57

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

<https://aspjournals.org/Journals/index.php/ajncp/index>



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