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# Psychotherapy Impact of Infant Breastfeeding Practice Pattern Among HIV Positive Nursing Mothers in Zing Local Government Area, Taraba State, Nigeria: A Systematic Review

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## ABSTRACT

Breastfeeding, also known as nursing, is the process of feeding an infant directly from the breast or by expressing milk from the breast and delivering it to the infant via a bottle. Based on the results of a sentinel survey, Taraba State has one of the highest HIV/AIDS prevalence rates in North Eastern Nigeria, with 5,500 infected nursing mothers on ART. The goal of this study is to look at Infant Breastfeeding Practice Patterns among HIV Positive Nursing Mothers in Taraba State Zing Local Government Area, Nigeria. The information gathered through a standardized questionnaire was evaluated. To answer the study questions, descriptive statistics methods were used. The disparity in HIV nursing mothers' knowledge and practice of exclusive breastfeeding could be due to the content taught at ANC in different health facilities. 200 HIV nursing mothers reported being influenced on infant feeding option by: ANC staff 60(30%), husband 69(34.5%), Counselor 22(11%), neighbor 19(9.5%), relative 14(7%), and self-decision 16(8%). HIV nursing mothers were asked if Exclusive Breastfeeding has longer term health benefits for the mother and child. A total of 143(71.5%) strongly agreed, 38(19%) agreed, 15(7.5%) disagreed and 4(2%) strongly disagreed. The researchers discovered that HIV-positive nursing mothers in Taraba State Zing Local Government Area practice exclusive breastfeeding because they think it protects their children from common illnesses like diarrhea and pneumonia and is beneficial to both the mother and the child's health. As a result, the researchers recommended that: a well-trained health care professional might encourage HIV nursing moms to breastfeed exclusively. Stakeholders in the health sector should reinforce health facilities and communities through community strategies to increase exclusive breastfeeding practice patterns among HIV positive nursing mothers during ANC and PNC, according to the study. Mothers should also be taught how to extract breast milk and use heat-treated or infant formula or wet breastfeeding to feed their babies.

## Keywords:

Breastfeeding, HIV/AIDS, Nursing Mothers, ANC, Postnatal Care (PNC)

## 1. Introduction

Due to the obvious significant difficulty surrounding baby feeding practice, HIV-infected mothers have had a terrible time in the previous 20 years or more. Mothers faced the risk of infecting their kid if they nursed. This anxiety prompted several nations and international bodies to advocate infant feeding practices, which may or may not lead to many HIV-positive mothers choosing for formula feeding. Breastfeeding is an efficient strategy to reduce childhood morbidity and death, according to the World Health Organization (WHO 2010). While some moms are aware of the necessity of nursing, others are unaware of the advantages of breastfeeding as well as the mechanism of HIV transmission during breastfeeding. Breastfeeding by HIV-positive mothers is a primary mode of HIV transmission and poses a considerable health risk to infants and young children; nonetheless, it is critical to children's health since it reduces the effect of many infectious illnesses and prevents the onset of several chronic disorders (Ademiji, 2003). Breastfeeding and breast milk give important calories and nutrients to a child (WHO, 2009).

The Human Immunodeficiency Virus (HIV) is a virus that is passed on from mother to child and has the power to target or destroy the immune system, rendering the sufferer vulnerable to sickness. According to Giles, Mijch, Garland, Grover, & Hellard, (2004), HIV infection causes an illness with non-specific symptoms such as persistent fatigue, night sweats, weight loss, diarrhea, skin lesions, and hair coloration. According to the World Health Organization (WHO) (2009), HIV is transmitted in four ways: unprotected sex, which includes vaginal, oral, and anal sex; mother-to-child transmission (MTCT), which includes labor, delivery, and breastfeeding; and fluid transmission, which includes semen, blood, and vaginal fluid, as well as contaminated sharp object use of syringes and needles, cuts, and barbers. According to Adefuye, Abiona, Balugun, and Dukubo-Durrell (2009), the HIV pandemic is still on the rise, with

young people at higher risk of infection. It has to be seen if the risks of HIV infection from not breastfeeding exceed the risks of not nursing. Nursing by HIV-positive women has largely halted in industrialized nations, and many thousands of sera positive women and women who suspect they may be HIV-positive are likely to forgo breastfeeding in developing countries. Macdonagh, Gibb, and Tookey (1979). Breastfeeding is one of the most important accomplishments in modern maternal and child health, according to child care advocates, and it was restored thanks to long-running initiatives to safeguard mothers and newborns' well-being (Laurence, 1994). There are several sorts of breastfeeding habits, according to Dunn, Newell, Ades, and Peckham (2009). There have been two attempts to look at the impact of varied nursing habits on mother-to-child transmission, both of which have flaws. The most generally cited meta-analysis on the risks of mother-to-child transmission through breastfeeding, according to Dunn *et al.*, (2009), relied on studies with small sample sizes, short breastfeeding periods, and studies that did not discriminate between exclusive and mixed nursing.

Through a program with the objective of eliminating new pediatric HIV infections by 2015 and improving maternal, newborn, and child survival and health, the global community has pledged to accelerate progress in the Prevention of Mother-to-Child HIV Transmission (PMTCT). WHO collaborates with partners to establish evidence-based policies, define global objectives, baselines, and indicators, promote PMTCT integration into maternal-newborn-child health services, and build health systems. Breastfeeding infected nursing mothers have a 15 percent chance of passing the HIV virus to their infants through breast milk (National Agency for Control of AIDS NACA, 2010). This means that one in every seven HIV-positive women might transmit the infection on to her kid through breast milk. Understanding the complete concept of exclusive Breastfeeding (BF), replacement feeding like commercial infant formula feedings

if they are Acceptable, Feasible, Affordable, Sustainable, and Safe, and infant feeding pattern among HIV infected nursing mothers is to explore effective breastfeeding pattern and to provide value of breastfeeding, understanding the complete concept of exclusive Breastfeeding (BF), replacement feeding like commercial infant formula feedings if they are Acceptable, Feasible, Affordable, Sustainable, and Safe (AFASS). This comprises express and heat-treated breast milk, wet nursing, a breast milk bank, and exclusive feeding habits, among other things (Abiona, Onayade, Ijadunola, Obiajunwa, Anita & Thairu, 2006).

Approximately 1,000 infants in the globe are newly infected with HIV as a result of breastfeeding (WHO, 2010). The majority of these youngsters live in Sub-Saharan Africa (WHO, 2009), with 1000 new infections occurring every day. The most common way for children to get HIV is through mother-to-child transmission across the world (MTCT). Before the introduction of effective interventions to minimize HIV infection MTCT, the estimated transmission rate was 15-25 percent among non-nursing people in North America and Europe, and 25-40 percent among breastfeeding people in resource-constrained countries like Nigeria (De Cock, Fowler, Mercier, de Vincenzil, Saba & Hoff, 2000). In Sub-Saharan Africa, Iloff, Piwoz, Tavengwa, Zungawa, Marinda, and Nathoo (2005) found no evidence that pregnancy is linked to an increased risk of HIV infection.

Nigeria has Africa's second highest HIV load and the largest population of HIV-positive people (NACA, 2010). HIV sero-prevalence figures reveal a 4.6 percent prevalence in 2008 and 4.1 percent prevalence in 2010, indicating a widespread reversal of the pandemic (UNAID 2010). Despite hurdles in expanding access, institutional improvements, and political commitment to combating illnesses, the country has experienced an increase in the number of people using life-saving medication. Taraba State, according to Fidelis (2007), has one of the

highest HIV/AIDS prevalence rates in the country. The infection appears to have ravaged society to the point that practically everyone has an HIV-positive family member, coworker, or acquaintance, according to the State Agency for the Control of AIDS (SACA) (2010). There are 52 health facilities in Zing Local Government, including 9 Health Clinics and Maternities offering antenatal/ PMTCT services (SACA, 2010). As a result of the high rate of HIV/AIDS transmission from mother to child in the state, this research was conducted to help reduce the threat of HIV/AIDS transmission in Zing, Taraba state.

## 2. Statement of the Problem

The finding that HIV may be transferred through breast milk has created a public health challenge, especially in nations where HIV affects a large percentage of the population and nursing is the norm (De Cock *et al.*, 2000). However, the discovery that exclusive breast feeding may be as effective as replacement feeding in reducing disease MTCT (Coutsoudis, Pillay, Spooner, Kuhn, & Coovadia, 1999) raises new hopes for reducing MTCT in situations where safe and nutritionally adequate replacement feeding is difficult to achieve. With the advancement of medical breakthroughs and health education, it is anticipated that women who breastfeed should be educated about this part of breastfeeding practice pattern in order to assist reduce the prevalence of HIV transmission from mother to child. Despite these advancements, it is observed that in most rural regions, some women adopt just one kind of breastfeeding. Because of the rural nature of their surroundings, they tend to breastfeed, and if they are unaware of other breastfeeding options, they will use exclusive breastfeeding. Some women may over-breastfeed for more than 6 to 24 months, and the child will suffer as a result of sore breasts, cracked nipples, thrush, tongue-tie, blocked ducts, and mastitis. As a result, the purpose of this study is to look at the infant feeding practices of HIV positive nursing moms in the Zing local government area. It may assist

clients in deciding on an optional nursing style while also providing them with HIV/AIDS counseling concepts.

### 3. Research Questions

Answers will be given to the following research question:

- i. What is the level of exclusive baby feeding by HIV-positive nursing mothers in Taraba State's Zing Local Government?
- ii. In the Zing Local Government of Taraba State, what are the alternate baby feeding techniques for other HIV-positive nursing mothers who do not breastfeed their infants?
- iii. What role does education have in HIV infant nursing mothers' infant feeding decisions?

### 4. Aim and Objectives of the Study

The aim of this study is to evaluate psychotherapy impact of infant breast feeding practices among HIV positive nursing mothers in Taraba State Zing Local Government Area, Nigeria. Thus, the goals are:

- i. To determine the extent to which HIV-positive nursing mothers in Zing Local Government of Taraba State practice exclusive breastfeeding?
- ii. To analyze alternate infant feeding practices among HIV-positive nursing mothers who do not breastfeed their infants in Taraba State's Zing Local Government?
- iii. To determine the impact of educational level on HIV-positive nursing mothers' child feeding practices in the Zing Local Government of Taraba State?

#### 5.1 Conceptual Framework

##### 5.1.1 Concept of Exclusive Breast Feeding Patterns Among HIV Infected Nursing Mothers.

According to UNAID (2005), half of all HIV-positive persons are under the age of 25 and reside in less developed countries, and women of childbearing age may or may not be aware that HIV can be transmitted from mother to child during pregnancy, delivery, and breast milk feeding. Breastfeeding is the standard against which all other feeding techniques must be

judged in terms of growth, health, development, and all other short and long-term results. In addition, as compared to formula-fed newborns, human milk-fed infants had considerable advantages in terms of host protection and enhanced developmental outcomes (Schanler 2001). Breast-feeding is the cornerstone of infant survival in underdeveloped nations, yet it also causes one-third of all pediatric HIV infections. Over the last 15 years, policy governing the feeding of children born to HIV-positive mothers has evolved as new evidence assessing these competing hazards has become available (Coutsoudis, 2005). Despite the fact that prolonged breastfeeding after 6 months may give the best chance of infection-free survival for the majority of babies in resource-constrained settings, this strategy has proven difficult to execute. However, because nursing might transmit HIV, some health professionals believe that weaning early may be beneficial (UNAID, 2005).

In November 2009, the World Health Organization (WHO) issued "Rapid Advice," recommending that HIV-exposed infants in developing countries be breast-fed exclusively for the first six months, then supplemented with complementary foods for the next twelve months, while also receiving triple antiretroviral drug therapy for the mother or Zidovudine for the infant. Prophylaxis for HIV infected breastfeeding mothers who exclusively breastfeed (hereafter referred to as ARV). In addition, these guidelines listed expressing and heat-treating (EHT) breast milk as a possible interim strategy in four situations: for low-birth weight or sick infants who are unable to suckle; for mothers temporarily unable to breast-feed due to illness or mastitis; to help mothers stop breast-feeding; and in situations where ARV are temporarily unavailable. Giving HIV-positive women a mix of antiretrovirals during pregnancy, birth, and lactation lowered the risk of HIV transmission to newborns by 42%, according to a WHO research from 2005. In Malawi, newborns given the antiviral medication

Navirapine daily while nursing for 6 months had a risk of HIV transmission decreased to only 1.8 percent. The country's high HIV incidence has altered existing attitudes; according to figures from the Joint United Nations Programs on HIV/AIDS, 18% of the adult population is HIV positive 2008. According to the Demographic Health Survey, only around 12% of newborns are solely breastfed during their first three months, and just about 1% of infants aged three to six months are exclusively breastfed.

Although breastfeeding is ideal for newborns, there are a few circumstances in which it may not be in the infant's best interests. Breastfeeding is not recommended for infants with classic *galactosemia* (Chen, 2000), mothers with active untreated tuberculosis disease, mothers who are receiving diagnostic or therapeutic radioactive isotopes or have had exposure to radioactive materials (for as long as radioactivity is present in the milk and are breastfeeding mothers who are using drugs of abuse "street drugs"; and mothers who have herpes simplex lesions on a breast (infant may feed from other breast if clear of lesions). Mothers with infectious disorders should be given accurate information regarding infection-control measures (Pickering 2003). Despite their success with EBF during the first few months, these mothers experienced issues in terms of their knowledge of and ability to express breast milk if they needed to be away from their children for an extended amount of time. Between the ages of 4 and 6, parents should be aware of how to wean their infants off breast milk suddenly. According to many women, the PMTCT program poses a problem (Bland, Little, Coovadia, Coutsoadis, Rollins & Newell, 2008).

### **5.1.2 Concept of Infant Feeding Pattern Among HIV Infected Nursing Mothers.**

Breastfeeding is a natural process that begins when the infant suckles the breast nipples; however, it also necessitates the mother's participation in terms of sitting posture, baby's mouth position to the breast nipple, and areola placement (Ojo and Opeyemi,

2012). The necessity of breastfeeding must be understood before it can be practiced. Knowing how important breastfeeding is enhances women's motivation and desire to breastfeed. Despite the fact that most women were aware of it, few of them practiced it or just waited to be instructed by others, such as their in-laws, according to a research. Breastfeeding can be used to lull the baby to sleep and prevent them from waking up. Breast-feeding by exclusive replacement feeding is the current focus of interest, yet little is known about how to do this. When replacement feeding is acceptable, possible, economical, sustainable, and safe for their circumstances, UNICEF/WHO recommends that HIV-positive mothers forego all breastfeeding. Exclusive breast-feeding (EBF) is suggested during the first months of life if the available replacement feeding options do not match these requirements (Nduati *et al.*, 2000). Breastfeeding's advantages have been well-documented (Kramer, 2001). These advantages, which include better nutrition, prevention of common infant diseases, and improved child spacing, are especially important in resource-poor nations like Sub-Saharan Africa. As a result, the likelihood of HIV transmission through breast milk is a problem, especially in areas where nursing is a major cultural norm and high numbers of mothers are HIV-positive. The duration of breastfeeding; maternal characteristics such as younger maternal age and higher parity; low CD4+ count; high peripheral blood and maternal milk viral load; mastitis and breast abscess; infant characteristics such as oral candidacies; and possibly the pattern and duration of breastfeeding are all risk factors for Mother-to-Child Transmission of HIV (MTCT) through breastfeeding (Ekpini, Wiktor, Satten, Adjorlolo, Sibailly and Ou, 1997; Semba, Kunwenda, Hoover, Taha, Quinn and Mtimavalye, 1999; Coutsoadis *et al.*, 1999).

Research has revealed some indication of the danger of HIV transmission based on breastfeeding habits, providing more motivation for consistent and stringent definitions of

newborn feeding behaviors (Greiner 2002). A prospective research done in South Africa looked into the probable link between newborn feeding practices and the incidence of MTCT in infants nursed by infected moms (Coutsoudis *et al.*, 2001). The researchers discovered that at 15 months of age, babies who were exclusively breastfed had a decreased cumulative risk of HIV infection than those who were mixed fed (i.e. those who received other foods and liquids in addition to breast milk). In Zimbabwe, same conclusions were later validated (Iliff *et al.*, 2005). The World Health Organization recommends using a uniform definitional schema in breastfeeding research, teaching, and training. Given the danger of HIV transmission associated with breastfeeding, the easiest and most basic method to protection appears to be to avoid nursing when mothers are infected.

### **5.1.3 Concept of Replacement Feeding Pattern among HIV Infected Nursing Mothers.**

In the absence of care, between 15 and 30% of HIV-positive mothers' babies get infected before or during delivery. If all HIV-positive moms breastfeed, 10-20% of their newborns may become infected; this indicates that around two-thirds of HIV-positive women's children will not become infected. Infant mortality is above 100 fatalities per thousand live births in the poorest 50 developing nations. Artificial feeding increases the chance of newborn mortality by three times (De Cook *et al.*, 2000). How can an HIV-positive woman lessen the risk of transmitting the virus to her child if she breastfeeds? Breastfeeding exclusively during the first six months may help HIV-positive mothers lower their risk of transmission. Many experts feel that breastfeeding solely during the first six months, without adding any other meals or fluids to the infant's diet, is the safest method to do so (Kuhn, 1997). Artificial meals combined with breast milk have been linked to intestinal inflammation, which raises the risk of HIV infection in babies. HIV-positive women in South Africa who reported exclusively nursing for at least three months had a lower risk of

transmitting the virus to their infants than moms who introduced other meals or fluids before three months (Coutsoudis *et al.*, 2001). Furthermore, their risk of passing the virus to their children was no higher than that of moms who never nursed. Evidence suggests that the danger of transmission persists as long as the baby is breastfed. Replacement feeding (feeding an infant who is not receiving breast milk or a nutritionally appropriate diet) increases the risk of mortality in the first few months and decreases over time. A nursing woman should review her status and the risks connected with other feeding methods as her child grows older. She should convert to replacement feeding if it becomes acceptable, practicable, inexpensive, sustainable, and safe (Federal Ministry of Health, 2005). The best time and technique for introducing replacements, on the other hand, are unknown and depend on the context. Many experts advocate switching from exclusive nursing to supplement feeding at around 6 months of age in resource-constrained situations. The risk of transmission is increased if a newborn has oral lesions or if the mother has breast issues such as cracked nipples or mastitis. Most notably, the WHO (2010) guidelines' revisions in infant feeding recommendations, which promote exclusive breastfeeding for six months as the technique of choice and supplemental feeding beyond six months, are more in line with public health recommendations to the broader population. They're also more in keeping with Sub-Saharan Africa's traditional newborn feeding habits. The shift away from replacement feeding as the primary method of feeding a newborn restores breastfeeding as the primary method of feeding an infant, implying a significant improvement in public health. Furthermore, the novel formulation is likely to safeguard HIV-positive mothers from suspicion and stigma associated with non-normative baby feeding habits. The most significant long-term outcome will be to safeguard the general public from spillover effects from the replacement feeding promotion

that has occurred indirectly through PMTCT baby feeding counseling.

#### **5.1.4 Concept of Express Heat Treated Breast Milk**

Manually expressed, heat-treated breast milk is recommended by WHO, UNICEF, and UNAIDS (2010) as an alternative to breastfeeding for HIV-positive women in underdeveloped countries. Heat therapy procedures that have been recommended by the World Health Organization (WHO, 2010) include:

1. Commercial pasteurization of human milk is commonly accomplished by heating it to 62.50°C for 30 minutes, a procedure called as Holder pasteurization, which preserves the majority of breast milk's protective components. Although it has not been evaluated in undiluted whole human milk, this approach, which is routinely used in human milk banking, has been reported to inactivate both cell-free and cell-associated HIV. Milk is a complex media that has been found to provide thermal protection, altering organisms' heat inactivation.

2. According to WHO training documents, boiling milk in a pan with no water (for an undefined amount of time) is advised. This strategy is most likely to produce serious nutritional harm. Knowledge, on the other hand, has never been properly scientifically examined. Pretoria pasteurization is a new process that includes boiling a pan of water, immediately removing it from the heat source, and submerging a covered glass peanut butter-type jar with breast milk in the water for 20 minutes. Many health care professionals may be hesitant to promote the WHO recommendations as a viable option to mothers who are in need of realistic alternatives to modified cow's milk due to a lack of data verifying the nutrient content of boiled breast milk and the impractical protocol for implementing Holder Pasteurization, as well as skepticism surrounding acceptability of manually expressing and heating breast milk.

The Baby-Friendly Hospital Initiative in Nigeria promotes expressing breast milk as a

technique of sustaining breastfeeding throughout times of separation for all mother-infant pairings. The national Prevention of Mother to Child Transmission of HIV (PMTCT) program promotes express heat treatment as a way to prevent postnatal transmission for HIV-positive women and their newborns, and preliminary data suggests it might be an acceptable PMTCT approach (NACA, 2010). Early Infant Diagnosis (EID) is also being rolled out as part of the PMTCT initiative. Furthermore, district-wide programs were held in rural regions to support EBF for all infants from birth to six months, regardless of maternal HIV status. In these efforts, Express Heat Treated (EHT) is marketed as a solution for both HIV-positive and HIV-negative women to continue breastfeeding their children when they must be away from them for several hours. In this context, the goal of this study is to see if resource-strapped, HIV-positive rural mothers can: start EHT, perform it consistently and correctly to ensure milk safety, and express, heat-treat, and feed sufficient volumes of EHT milk and replacement feeding to provide a nutritionally adequate diet that supports normal infant growth. It focused on HIV-positive moms who had gotten PCR-negative test results for their babies at 5–6 months of age through EID using EHT after 6 months of EBF. Qualitative methodologies were used to uncover characteristics that aided or hindered women's adoption of EHT, including maternal and newborn health, socioeconomic, cultural, psychological, and health-care system aspects.

Babatunde, Oladokun, Brown and Osinusi (2011) found that breastfeeding with ARV prophylaxis (zidovudine) was associated with a lower infant mortality rate at seven months, even though breastfeeding with ARV prophylaxis (zidovudine) was not as effective as formula feeding in preventing postnatal HIV transmission. These findings were backed up by a major intervention cohort research undertaken by the Centers for Disease Control and Prevention (CDC) in Nigeria, which found that exclusively breastfed infants had a better HIV-

free survival rate than replacement-fed infants. The study discovered that babies who were exclusively breastfed had no higher postnatal risk of HIV transmission than those who were formula fed, and that mortality at three months was nearly twice in the formula fed group compared to the exclusively breastfed group.

### **5.1.5 Concept of Wet Nursing Pattern among HIV Infected Nursing Mothers.**

Breastfeeding is by far the most effective method of nourishing a baby. Most women are aware of this, but many find it impossible to do so without assistance and finding the correct assistance can be challenging. When a mother is unable or unwilling to feed her kid herself, wet nurses are used. Wet-nursed children are sometimes referred to as "milk-siblings," and in some cultures, milk kinship binds families together. Cross-nursing, also known as co-nursing, is a reciprocal act in which mothers breastfeed one other's newborns. When a baby's natural mother is unable or unwilling to feed the newborn, a wet nurse can assist. When a woman was unable to breastfeed her infant before the introduction of baby formulae in the twentieth century, the baby's life was jeopardized if a wet nurse was not available. According to Howie, Ogston, and Florey (2010), there are a variety of reasons why a woman is unable to lactate or make adequate breast milk. These include the mother's significant or chronic sickness, as well as her medication, which causes temporary difficulties feeding. Additionally, if a mother is taking drugs (prescription or recreational), a wet nurse may be required if the substance alters the composition of the mother's milk in any manner. For societal reasons, some women opt not to breastfeed. Wet nurses have also been utilized when a woman is unable to produce enough breast milk, i.e., the mother believes she is unable to sufficiently feed her kid, particularly after numerous deliveries. Wet nurses are more prevalent in areas with high maternal death rates.

Wet-nurses in Sub-Saharan Africa were mostly unmarried women who had previously

given birth to an illegitimate child and were eager for work in a field that praised lone mothers. Wet-nurses were more likely to abandon their own children, there was increased mortality for children under the charge of a wet-nurse, and an increased physical and moral risk to a nursed child replaced by maternal breastfeeding and bottle-feeding in South-east Nigeria. Wet nursing has been used to help elderly or ailing patients who are unable to consume other forms of nourishment. Wet nursing declined following the extensive marketing and availability of artificial baby milk, or newborn formula, and fell out of favour in the affluent. Wet-nursing is a topic that is becoming more widely discussed. Many impoverished nations continue use wet nurses, despite the fact that the practice increases the risk of illnesses like HIV. According to Krantz and Kupper (2011), a wet-nurse may be used in addition to a nanny as a sign of nobility, money, and high status in China, Indonesia, and the Philippines. According to a review of the literature, current opinions about wet nursing/cross nursing range from complete acceptability to shock that someone would ever consider such a practice. Cross nursing is "a logical and practical extension of the resurgence of breastfeeding, in that the mother would not be as 'tied down' and thus more willing to try it (breastfeeding), especially in the case of employed mothers," according to the article. reported later encountering other examples of cross nursing in other parts of the United States and thus felt that cross nursing could be "a common, if unreported, practice."

### **6. Theoretical Framework**

The study is based on Hoch Baum and Rosenstock Health Belief Model (HMB) (1950). The HBM model is a psychological model that attempts to explain and predict behavior by concentrating on individual attitudes and beliefs. Hoch Baum and Rosenstock social psychologists working in the United States Public Health Service, established the HBM in the 1950s (Hoch Baum 1958 and Rosenstock, 1966, 1974, 1988 ). In reaction to the failure of a free tuberculosis



(TB) health screening program, the concept was created. Since then, the health belief model has been used to investigate a wide range of long and short-term behaviors, including sexual risk behaviors and HIV/AIDS transmission. The approach was eventually expanded to people's responses to symptoms and their behavior responses to confirmed sickness, notably compliance with medical regimens, in an effort to identify illnesses. A value expectancy theory is the HBM. When the notion of value expectation is gradually expressed in the context of health-related behavior, the following is the translation: the conviction that a certain health intervention accessible to a person will prevent (or alleviate) sickness; and the desire to avoid illness and become well (value) (expectation). Individual estimates of personal vulnerability and severity of sickness, as well as the possibility of reducing that danger via personal action, were used to define the expectation. The Health Belief Model (HBM) has been used to study a wide variety of health behaviors and demographics. Conner and Norman (1996) highlighted three main areas:

- 1) Health-promoting and health-risk activities, as well as immunization and contraception practices, are all examples of preventive health behaviors.
- 2) Sick role behaviors, which relate to following prescribed medical regimens after a professional diagnosis of disease.
- 3) Clinic appointments, which include testing and counseling by a physician.

## 7.0 Methodology

### 7.1 Design of the Study

A descriptive survey was used as the study's design. A descriptive survey research, according to Ali (2006), is one in which a group of people or objects is investigated by collecting and evaluating data from a small number of individuals or items that are deemed typical of the entire group. Because the study incorporates data collecting in a natural context, this approach is seen to be acceptable.

### 7.2 Population for the Study

The population for the study consists of HIV infected nursing mothers attending Antenatal and Post-natal clinic/ART clinics at General Hospital Zing, Bitako Maternity, Yakoko Maternity, Monkin Maternity and Selected Maternities staff identified in the Hospital, clinics and maternities in Zing Local Government of Taraba State.

### 7.3 Sample and Sampling Techniques

From the target demographic, 200 HIV-positive nursing mothers and facility workers were selected. This is consistent with Krejcie and Morgan's (1970) process for estimating sample size in a given population. Akuezuilo and Agu (2002) proportional sample techniques was used in the distribution of questionnaire to 200 HIV-infected nursing mothers and facility workers. Four (4) of the ten (10) health care institutions in Zing LGA were chosen for this study. The breakdown of sampling size is as follows: forty (40) questionnaires for each of these three facilities (Yakoko, Bitako and Monkin) while Eighty (80) questionnaires were issued in General Hospital Zing. Sample of convenience according to Njodi and Bwala (2010) is used to select respondents that happened to be available at the time of data collection. Since the data collection will be on the different clinic days, there is a possibility that not all clients may turn out as such; those that happen to be around were served the questionnaire.

### 7.4 Instrument for Data Collection

The researcher designed an instrument for the purpose of data collection, to be completed by HIV-infected nursing mothers and facilities staff title "Infant Breast Feeding Practice Pattern among HIV positive Nursing Mothers in Zing Local Government Area of Taraba State Questionnaire" (IBFPPHNMQ)." The (IBFPPHNMQ) has 29 questions. The questionnaire is divided into three sections A, B and C. Section A contained the demographic characteristic of the respondents; section B contained RQ1- RQ4. Section C is on assessing

the relationship between practice of infant feeding and the kind of education.

### 7.5 Method of Data Analysis

The data required for this research was collected with the aid of a structured

questionnaire. The questionnaire was analyzed using descriptive (percentages/frequencies) statistics to answer the research questions

## 8.0 Result Discussion and Analysis

### 8.0.1 Demographic characteristics of Respondents

Information in Table 8.1 below was sorted on marital status, the summary of the respondents marital status shown the distribution of married 121(60.5%), separated 36(18%) while single parenting 43(21.5%).

**Table 8.1: Marital Statuses of Respondents**

Marital Status	Frequency	Percentage
Married	121	60.5
Separated	36	18
Single Parent	43	21.5
<b>Total</b>	<b>200</b>	<b>100</b>

#### Source: Field survey 2021

Information in Table 8.2 below is on age demographics, the age in years of the respondents was as follows; 8% were between 12 – 20 years, 51.5% were between 21 - 30 years, 38.5% were between 31 – 40years and 2% were 41 – 50years in age.

**Table 8.2: Age of Respondents**

Age	Frequency	Percentage
12 – 20	16	08
21 – 30	103	51.5
31 – 40	77	38.5
40 – 50	04	02
<b>Total</b>	<b>200</b>	<b>100</b>

#### Source: Field survey 2021

Information in Table 8.3 below is on qualification of respondents, most of the respondents had attained primary education with 66(33%), 53(26.5%) had no formal education, 38(19%) had secondary education while those with tertiary education were 43(21.5%).

**Table 8.3: Qualification of Respondents**

Qualification	Frequency	Percentage
No Formal Education	53	26.5

Primary Education	66	33
Secondary Education	38	19
Tertiary Education	43	21.5
<b>Total</b>	<b>200</b>	<b>100</b>

**Source: Field survey 2021**

Information in Table 8.4 below is on structure of marriage, Majority of the respondents are polygamous with 86(43%), 61(30.5) respondents are monogamy while only 53(26.5%) of the respondents reported to be single parenting.

**Table 8.4: Structure of Marriage of Respondents**

Structure of Marriage	Frequency	Percentage
Monogamy	61	30.5
Polygamy	86	43
Single parenting	53	26.5
<b>Total</b>	<b>200</b>	<b>100</b>

**Source: Field survey 2021**

Information in Table 8.5 below is on spouse occupation, respondents reported that 83(42%) are farmers, 62(31%) are civil servants while 36(18%) are businessman/woman. Only 18(9%) of the respondents interviewed reported to have neither.

**Table 8.5: Spouse Occupation of Respondents**

S/N	Spouse Occupation	Frequency	Percentage
	Farmer	84	42
	Civil Servant	62	31
	Businessman/woman	36	18
	Other	18	9
	<b>Total</b>	<b>200</b>	<b>100</b>

**Source: Field survey 2021****8.1 Research Questions**

This section contained Research Questions 1- 4 presented as:

**8.1.1 Knowledge and Practice of Exclusive Breastfeeding****Table 8.6: Reason for choosing Exclusive Breastfeeding**

Statements	Response			
	SA	A	D	SD
Exclusive Breastfeeding protect against diarrhea	115(57.5%)	52(26%)	21(10.5%)	12(6%)
Exclusive Breastfeeding prevent common childhood illnesses such as pneumonia	121(60.5%)	49(24.5%)	23(11.5%)	7(3.5%)
Exclusive Breastfeeding has longer term health benefits for the mother and child	143(71.5%)	38(19%)	15(7.5%)	4(2%)
Exclusive Breastfeeding means that the infant receives only breast milk	56(28%)	72(36%)	47(23.5%)	25(12.5%)

**Source: Field Survey 2021**

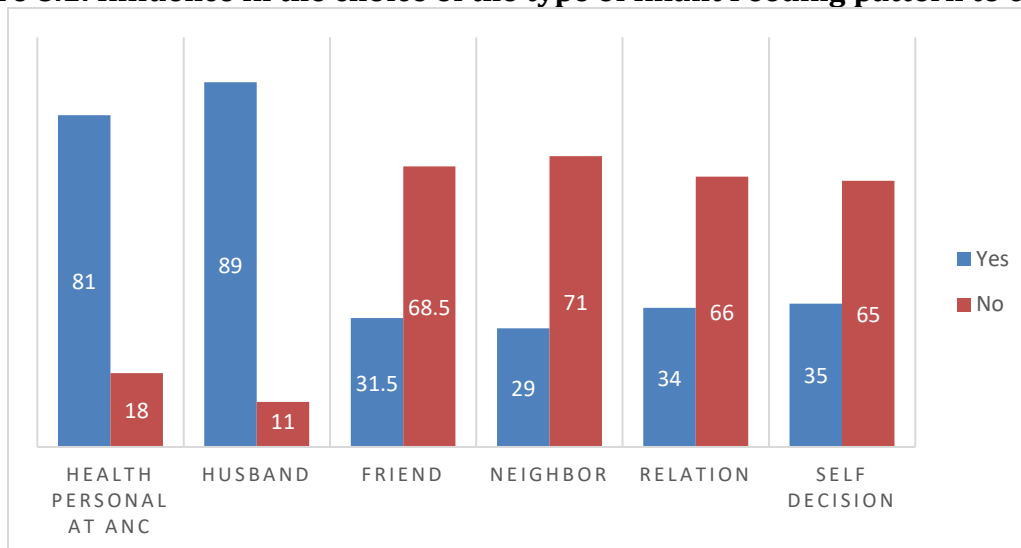
HIV nursing mothers' knowledge and Practice of Exclusive Breastfeeding was asked; this was to ascertain their reasons for choosing exclusive breastfeeding. A total of 115(57.5%) strongly agreed that Exclusive Breastfeeding protect against diarrhea, 52(26%) agreed, 21(10.5%) disagreed and 12(6%) strongly disagreed. They were also asked if Exclusive Breastfeeding prevent common childhood illnesses such as pneumonia. A total of 121(60.5%) strongly agreed, 49(24.5%) agreed, 23(11.5%) disagreed and 7(3.5%) strongly disagreed. HIV nursing mothers were further asked if Exclusive Breastfeeding has longer term health benefits for the mother and child. A total of 143(71.5%) strongly agreed, 38(19%) agreed, 15(7.5%) disagreed and 4(2%) strongly disagreed. Finally, they were asked if Exclusive Breastfeeding means that the infant receives only breast milk. A total of 56(28%) strongly agreed, 72(36%) agreed, 47(23.5%) disagreed and 25(12.5%) strongly disagreed. This is illustrated in Table 8.6. The difference observed on the level of knowledge and practice of exclusive breastfeeding by HIV nursing mothers could be due to the content taught at ANC in the different health facility, this suggest that there is emphasis on exclusive breastfeeding for HIV

nursing mothers during health education within their facility. This could be explained by the knowledge acquired by mothers during ANC and PNC health education sessions. According to a study in South Africa, HIV-positive mothers undertake safer infant feeding practices, possibly due to counselling provided through the routine PMTCT programme (Goga *et al.*, 2012).

**8.1.2 Assessing the Relationship between Practice of Infant Feeding and Education**

200 HIV nursing mothers reported to have been influenced on infant feeding option by somebody; health personnel at ANC (81%), husband (89%), Friend (31.5%), Neighbor (29%), relative (34%) and Self Decision (35%) as shown in Figure 8.1 blow. According to Bland *et al.*, (2008); Chopra, Doherty, Jackson & Ashworth, (2005), it is important for health personals to give counseling to HIV nursing mothers since they influence infant feeding practices the most. Studies have shown that mothers adhered to Exclusive Breastfeeding when well counseled by health personnel, therefore they must be well trained in ANC/PMTCT guidelines and the facility adequately staffed for quality service delivery to HIV nursing mothers.

**Figure 8.1: Influence in the choice of the type of Infant Feeding pattern to choose**



**Table 8.7: Level of Knowledge on Breastfeeding Practice in HIV Nursing Mothers as Taught in ANC**

Statements	Response			
	SA	A	D	SD
HIV is a virus that attacks the body immune system	103(51.5%)	74(37%)	16(8%)	7(3.5%)
HIV is commonly spread through certain body fluids including breast milk	149(74.5%)	48(24%)	2(1%)	1(0.5%)
HIV has been isolated in breast milk	42(21%)	83(41.5%)	37(18.5%)	38(19%)
Mother-To-Child transmission can also occur during breastfeeding	32(16%)	56(28%)	65(32.5%)	47(23.5%)
Exclusive breastfeeding has long term health benefits for the mother and child	139(69.5%)	46(23%)	11(5.5%)	4(2%)
Heat treated is easy and does not require expertise	49(24.5%)	78(39%)	39(19.5%)	34(17%)
Exclusive breastfeeding means that the infant receives only breast milk	28(14%)	47(23.5%)	81(40.5%)	44(22%)

**Source: Field Survey 2021**

HIV nursing mothers were asked if HIV is a virus that attacks the body immune system. A total of 103(51.5%) strongly agreed with that assertion, 74(37%) agreed that HIV is a virus that attacks the body immune system, 16(8%) disagreed that HIV is a virus that attacks the body immune system and 7(3.5%) strongly disagreed that HIV is a virus that attacks the body immune system during breast feeding.

They were asked if HIV is commonly spread through certain body fluids including breast milk. 149(74.5%) of the respondents strongly agreed, 48(24%) agreed, 2(1%) disagreed and 1(0.5%) strongly disagreed that HIV is commonly spread through certain body fluids including breast milk.

HIV nursing mothers were asked if HIV has been isolated in breast milk. 42(21%) of the

respondents strongly agreed, 83(41.5%) agreed that HIV is isolated in breast milk, 37(18.5%) disagreed that HIV is isolated in breast milk and 38(19%) strongly disagreed that HIV has been isolated in breast milk.

They were asked if Mother-To-Child transmission can also occur during breastfeeding. 32(16%) of the respondents strongly agreed, 56(28%) agreed, 65(32.5%) disagreed and 47(23.5%) strongly disagreed that Mother-To-Child transmission can also occur during breastfeeding.

HIV nursing mothers were asked if Exclusive breastfeeding has long term health benefits for the mother and child. A total of 139(69.5%) strongly agreed, 46(23%) agreed that Exclusive breastfeeding has long term health benefits for the mother and child, 11(5.5%) disagreed that Exclusive breastfeeding has long term health benefits for the mother and child and 4(2%) strongly disagreed Exclusive breastfeeding has long term health benefits for the mother and child.

HIV nursing mothers were asked if Heat treated is easy and does not require expertise. A total of 49(24.5%) strongly agreed, 78(39%) agreed that Heat treated is easy and does not require expertise, 39(19.5%) disagreed that Heat treated is easy and does not require expertise, 34(17%) strongly disagreed Heat treated is easy and does not require expertise.

HIV nursing mothers were asked if Exclusive breastfeeding means that the infant receives only breast milk. 28(14%) strongly agreed, 47(23.5%) agreed that Exclusive breastfeeding means that the infant receives only breast milk, 81(40.5%) disagreed that Exclusive breastfeeding means that the infant receives only breast milk, 44(22%) strongly disagreed Exclusive breastfeeding means that the infant receives only breast milk. This is illustrated in table 8.7 above.

## 9.0 Conclusion

The findings of this study revealed that exclusive breast feeding by HIV positive nursing

mothers as part of attempts to prevent HIV transmission from mother to child remains a difficulty in rural clusters of Taraba State's Zing Local Government Area. According to the findings of this study, 149 (or 74.5%) of HIV positive mothers believe that HIV is communicated through specific bodily fluids, including breast milk. A number of variables have been linked to non-adherence to exclusive breast feeding among HIV positive moms (Fear of infecting the nursing child). Spouse occupation, marriage structure, and qualification were among the demographic and socioeconomic characteristics that affected exclusive breastfeeding. The study came to the following conclusions in relation to the stated objectives based on the analysis of the results:

- i. The researchers discovered that HIV-positive nursing mothers in Zing Local Government of Taraba State practice exclusive breastfeeding because they believe it protects their children from common illnesses such as diarrhea and pneumonia, and it is beneficial to both the mother and the child's health.
- ii. Infant formula, wet nursing, and heat treatment are among the alternate infant feeding practices used by HIV positive nursing mothers in Zing Local Government of Taraba State who do not breastfeed their infants. Fear of infecting their breastfeeding infant with HIV was one of the motivations for such actions.
- iii. The findings of this study demonstrated that there are obstacles related with the expression of breast milk, including inadequate cleanliness and water shortages in slums.

## 10.0 Recommendations

The following recommendations were made in response to the research questions and findings from this study:

- i. Health-care stakeholders should work together to enhance health-care institutions and communities by

implementing a community plan to improve exclusive breastfeeding practices among HIV-positive nursing mothers during ANC and PNC.

- ii. Mothers should be taught how to extract breast milk and use heat-treated or infant formula or wet breastfeeding to feed their babies.

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