

Transmission of HIV for children through breastfeeding: case study Mufindi- Tanzania.

Abubakar Khamis Haji^{1*}, ZhanChun Feng¹, Abeid A. Ramadhan³

School of Medicine and Health Management, Tongji Medical College, Huazhong University of Science and Technology, 13 hangkong RD, Wuhan, Hubei Province 430030, China

Abstract: *The aim of this paper is to examine the transmission of HIV through breastfeeding.*

The study was conducted at Lugoda hospital in Iringa region, Two hundred women were selected through structural questionnaires, and data analyses were used to understand the mother to child transmission in Iringa districts. The data were analysis through EPI INFO software. A total of 107 of women had at least one child, 48% of which reported to have breastfed for the duration of between 6 months and 24 months. 86% were aware of MTCT, where transmission through BF. It is recommended that all babies, with rare exceptions, be breastfed and/or receive expressed human milk exclusively for about the first six months of life. BF should continue with the addition of complementary foods throughout the second half of the first year. BF beyond the first year offers considerable benefits to both mother and child; should continue as long as mutually desired.

Keywords: *Breastfeeding; HIV; Mother to Child Transmission.*

I. Introduction

Breastfeeding is defined as feeding of babies and young children with milk from a female breast. Breastfeeding should always start souring the hour after birth and allowed as the baby wishes. During the first few weeks of life babies may nurse eight to twelve times a day. The duration of a feeding is usually ten to fifteen minutes on each breast. The frequency of feeding decreases as the child gets older. Some mothers pump milk so that it can be used later when their child is being cared for by others. Breastfeeding benefits both mother and baby.

Throughout most of history, BF was the norm, with only a small number of infants not breastfed for a variety of reasons, for example if the responsible mother knows about her maternal health status. In the distant past, wealthy women had access to wet nurses, but with the industrial revolution this practice declined as wet nurses found higher-paying jobs. By the late 19th century, infant mortality from unsafe artificial feeding became an acknowledged public health problem. Public health nurses addressed this by promoting BF and home pasteurization of cows' milk. After the turn of the century, commercial formula companies found a market for artificial baby milks as safer alternatives to cows' milk. During this same period, infant feeding recommendations became the purview of the newly organized medical profession. Partially due to the support of physicians and a vision of "scientific" infant care, the widespread use of formula as a breast milk substitute for healthy mothers and babies emerged in the first half of the twenty century.

The promotion of infant formulas has been officially discouraged in Tanzania for a number of years. The Ministry of Health campaigned against the use of bottle feeding for a long time. Moreover, the economic situation of the country has severely restricted the imports of commercial infant foods. No advertisements are heard on the radio or seen in government hospitals, and no free samples are channeled through the government health services. One the other hand, there is high prevalence of HIV/AIDS in SSA and Tanzania in particular; and there is evidence that there is HIV transmission through breast milk, lots of researches have been conducted to confirm these findings.

The fact that artificial feeds have for long been discouraged and BF has been on advocacy, it is likely to affect the program aimed at reduction of MTCT. In Tanzania there is insufficient data that shows the knowledge of mothers and practice on prevention of MTCT through BF at the time being. There is currently missing or poor information available on how village women understanding the transmission of HIV through breastfeeding and how they going to affect their new born babies, without clear understanding of the traditional structure surround the children as well as how problem they will cause to them and to understood by the women themselves progress toward reducing the feeding of their newly born if the responsible mother know exactly about her maternal health. This study will focus on providing understanding the knowledge, attitude and practice about HIV transmission through breastfeeding among pregnant women, families and communities in order to make good condition for the maternal health and good future for their children's in Mufindi districts.

For the developing world industrial revolution hasn't affected much the BF pattern and most women do breastfeed because the majority just stay at home with their babies therefore there is no reason of making them

not to breastfeed; with culture playing a very big role on BF issues therefore it is no wonder that many women do breastfeed. HIV causes AIDS. This virus can be transmitted from man to man through blood transfusion, blood products, sharing sharp edged instruments, body secretions and from mother to child in the uterus, during delivery and during BF.

There is evidence that about 40% of HIV occurs from mother to child in the uterus, during delivery and BF; BF alone poses a risk of 15% out of that. Now there is a need to assess the pregnant women's knowledge on HIV transmission through BF because unless they know that there is this transmission for they can't take the required measures to prevent this. It is the knowledge that MTCT can be prevented that is likely to shape women's care seeking and BF behavior. A pregnant woman who simply knows that HIV can be passed to her child is less likely to seek to know her HIV status than a pregnant woman who knows that MTCT can be avoided. Also, to assess their attitude towards HIV and BF in order again to know where to educate the society on this whole issue if at all we want to PMTCT of HIV/AIDS. There is evidence (from different studies) that there can be MTCT of HIV through BF and a study done recently had shown cumulative risk of HIV transmission with increasing duration of BF.

Coovadia et al (2007), Mother-to-child transmission of HIV-1 infection during exclusive breastfeeding in the first 6 months of life in South Africa, about 1132 of 1372 (83%) infants born to HIV-infected mothers initiated exclusive breastfeeding from birth. Of 1276 infants with complete feeding data, median duration of cumulative exclusive breastfeeding was 159 days (first quartile [Q1] to third quartile [Q3], 122–174 days). 14.1% (95% CI 12.0–16.4) of exclusively breastfed infants were infected with HIV-1 by age 6 weeks and 19.5% (17.0–22.4) by 6 months; risk was significantly associated with maternal CD4-cell counts below 200 cells per μL (adjusted hazard ratio [HR] 3.79; 2.35–6.12) and birth weight less than 2500 g (1.81, 1.07–3.06). Breastfed infants who also received solids were significantly more likely to acquire infection than were exclusively breastfed children (HR 10.87, 1.51–78.00, $p=0.018$), the infants who at 12 weeks received both breast milk and formula milk (1.82, 0.98–3.36, $p=0.057$).

It is generally known that the women in developed countries because of the industrialization issue, they go to work and so they leave their babies at home and have replaced BF with infant formulas; but many of those in developing countries are housewives, spending almost the whole day with their infants and therefore BF them. In short, this development issue has affected BF patterns and hence no wonder that since many women are BF in developing countries, many would also pose the risk of transmitting HIV/AIDS if they are themselves infected in the first place. It is also not an understatement when we say that the MTCT of HIV/AIDS is a third world problem.

II. Literature Review

Patricio et al (2015), Effectiveness of the prevention of mother-to-child HIV transmission in Bahia, In 1996, the Brazilian government began a national pro-gram of free access to antiretroviral therapy (ART) and comprehensive HIV prevention that included mandatory ante-natal HIV testing for pregnant women. Subsequently, in a nationwide multicenter study, Succi showed that MTCT rates were around 7%, ranging from 6% in the South and Central-West to 15% in the Northern Region. These rates could reach as little as 1% if all the Ministry of Health recommendations to avoid vertical transmission of HIV were fully adopted. The Results Of the 622 children who were born to HIV-infected mother sat CEDAP between 2005 and 2008, 172 (28%) did not meet our eligibility criteria because these children were seen one or fewer times in the health service, leaving 450 eligible infants.

Redmond AM, McNamara JF (2015), The road to eliminate mother-to-child HIV transmission. It is encouraging that the number of new HIV infections in children is decreasing in most parts of the world. In 2011, there were approximately 330,000 new childhood infections, and while this is a reduction of 43% since 2003, it remains unacceptably high. Unfortunately, increased childhood infection rates were observed in Angola, Congo, Equatorial Guinea, and Guinea-Bissau. While a small proportion of childhood infections result from blood transfusions, sexual abuse, or unsafe injecting practices, the main cause is mother-to-child transmission which may happen in-utero, peripartum, or through breastfeeding.

Matanda et al (2014) on Breast-, complementary and bottle-feeding practices in Kenya: stagnant trends were experienced from 1998 to 2009. There was a significant decline in early initiation of breastfeeding among children in Central and Western provinces and those residing in urban areas. Trends in exclusive breast feeding showed significant improvement in most socio demographic segments, whereas trends in complementary feeding and breastfeeding remained stable. Bottle-feeding significantly decreased among children aged 12 to 23 months, as well as those living in Coast, Eastern, and Rift Valley provinces. In the multivariate analysis, the province was significantly associated with feeding practices, after controlling for child's size, birth order, and parity. The stagnant (and in some cases worsening) trends in early initiation of breastfeeding and complementary feeding with breastfeeding paint a worrisome picture of breastfeeding practices in Kenya; therefore, efforts to promote the most beneficial feeding practices should be intensified.

Taha et al (2012) on Trends in Birth Weight and Gestational Age for Infants Born to HIV-infected, Antiretroviral Treatment-Naïve Women in Malawi. Showing the Trend data on mean BW and GA among infants of ART-naïve, HIV-infected women could be instrumental in providing baseline estimates when monitoring birth outcomes associated with ART exposure. These data could also assist in establishing local and regional surveillance databases to study the effects of ART on these outcomes and to know the ways how to prevent the future several MTCT observational and interventional studies by using ART, His explained how mother to child Transmission of HIV-infected women and their HIV-exposed children. These studies indicated the use of ART during pregnancy for prevention of MTCT of HIV in Malawi; also assess risk factors associated with these pregnancy outcomes.

Andreas Kuznik et al (2012) on Evaluating the cost-effectiveness of combination antiretroviral therapy for the prevention of mother-to-child transmission of HIV in Uganda, Of the Ugandan women who received any antiretroviral drug for PMTCT in 2009, 58% received single-dose nevirapine, 25% received dual therapy with zidovudine and lamivudine and the remaining 17% received combination antiretroviral therapy (ART).⁴ In the PMTCT guidelines that were published by the World Health Organization (WHO) in 2010, two programmatic options (A and B) are outlined. In Option B, all pregnant women found to have fewer than 350 CD4+ Tlymphocytes per mm³ are offered lifelong ART from 14 week of gestation. For women with higher CD4+ cell counts, it is recommended that ART be discontinued at the end of breastfeeding

Feeding with cow's milk, allergic reactions to complementary foods and infectious illness can all result in intestinal damage, which could also be a risk factor for transmission. It has also been hypothesized that the intestinal permeability of the young infant may be affected by mode of feeding, with infants who receive only breast milk having a less permeable and therefore healthier lining of the gut than those who also receive other foods. However, in the one study carried out to investigate this further, feeding mode was not associated with infant intestinal permeability (measured with lactulose-mannitol ratios, i.e. dual sugars), although infants who had been diagnosed with HIV infection at 14 weeks had higher permeability at six and 14 weeks than did uninfected children (Rollins et al. 2001).

A systematic review of studies done by Dunn et al in (1992) on Risk of HIV-1 Transmission through Breast Feeding, found that the additional risk of transmission through breast milk (over and above the risks of transmission in utero and intrapartum) was 14% when the mother had been infected prenatally and 29% when the mother acquired HIV virus postnatal. BF accounts for 5-15% of infants getting infected after delivery. The risk varies depending on the duration of BF, associated breast abscess, cracks in nipple, mastitis and mixed feeding. High perinatal transmission rate in developing countries is due largely to prolonged BF, practiced more commonly than in industrialized world.

In addition to replacement feeding, possibilities for preventing HIV from being transmitted through breast milk include HAART during breastfeeding (whether or not necessary for the mother's health) and post-exposure prophylaxis to the infant. Antiretroviral regimens were recently designed to provide either maternal treatment, reducing the maternal viral load, or post-exposure prophylaxis to the infant during the period of breastfeeding, thus maximally reducing the risk of MTCT in settings where breastfeeding is common (Gaillard et al. 2004).

Viral levels in the breast milk also is the reason of causing HIV through breastfeeding, Compartmentalization of HIV between breast milk and blood of HIV infected Mothers, viral levels in breast milk were about one log lower than in plasma. However, there were some cases that suggested compartmentalization of virus to breast milk with higher levels in breast milk than plasma. Viral variants in blood and breast milk were found to be distinct, with some major variants in breast milk not detected in blood. This finding would suggest that some virus in breast milk replicates independently, in the mammary compartment. The observation of a compartmentalization of HIV between peripheral blood and breast milk highlights that postnatal transmission of HIV can occur with variants that may not be predicted from the analysis of circulating viral populations (Becquart et al. 2002).

KP Manji, Mehta et al (2009) on Perinatal Outcomes, Including Mother-to-Child Transmission of HIV, and Child Mortality and Their Association with Maternal Vitamin D Status in Tanzania. explain about Vitamin D is a strong immunomodulator and may protect against adverse pregnancy outcomes, mother-to-child transmission (MTCT) of human immunodeficiency virus (HIV), and child mortality, in his work a low maternal they realize that vitamin D level (<32 ng/mL) was associated with a 50% higher risk (95% confidence interval [CI], 2%–120%) of MTCT of HIV at 6 weeks, a 2-fold higher risk of MTCT of HIV through breast-feeding among children who were HIV uninfected at 6 weeks (95% CI, 1.08–3.82), and a 46% higher overall risk of HIV infection (95% CI, 11%–91%). Children born to women with a low vitamin D level had a 61% higher risk of dying during follow-up (95% CI, 25%–107%).

According to KP Manji almost all women knew hazards of artificial feeding, 332 (88.8%) of the women mentioned that artificial feeding had many hazards but could only enumerate in particular malnutrition,

255 (76.8%) and diarrhea 19(5.7%). Some mentioned respiratory illness 16. (4.8% while 42, (12.7%) mentioned more than 2 hazards. 42 women didn't think that artificial feeding had any hazards.

Of the 229 whom had knowledge on MTCT 73, (56%) mentioned that avoiding breast-feeding by HIV positive mothers could prevent MTCT of HIV. However, when asked about practice, if the respondents were HIV positive, 124 (54.1%) accepted to avoid breast feeding as a method of choice while 105 (46%) may not avoid breast feeding. Of the 229 women who had knowledge on MTCT, 140(61%) mentioned that avoiding breast-feeding doesn't indicate that mother is HIV positive. While 89 (39%) think avoiding breast-feeding indicates that one is HIV positive. The study also showed that the knowledge and attitude towards MTCT of HIV, hazards of artificial feeds, and practices were not related to the age or education level of women.

The overall risk of MTCT is increased immediately after HIV is acquired, due to the initially high levels of virus in the mother's body. Therefore, when a woman contracts HIV during pregnancy or the breastfeeding period, the risk of virus transmission is increased. There is some evidence of an increased risk of acquisition of HIV during pregnancy (Gray et al. 2005).

Homsy et al in (2006) on Routine Intrapartum HIV Counseling and Testing for Prevention of Mother-to-Child Transmission of HIV in a Rural Ugandan Hospital, explain the situation testing for prevention of MTCT of HIV in rural Uganda in his study he was explain that, HCT acceptance was 97% (3591/3696) among women and 97% (104/107) among accompanying men in the ANC and 86% (522/605) among women and 98% (176/180) among their male partners in the maternity. Thirty-four women were found to be HIV seropositive through intrapartum testing, representing an 12% (34/278) increase in HIV infection detection, The percentage of women discharged from the maternity ward with documented HIV status increased from 39% (480/1235) to 88% (1395/1594) over the period. Only 2.8% of Undocumented women had their male partners tested in the ANC in contrast to 25% in the maternity ward; finally he concluded that Intrapartum HCT may be an acceptable and feasible way to increase individual and couple participation in PMTCT interventions.

Other literature explain in other side by looking how to prevent that kind of problem, by using ARV explain how mother to child can stop and preventing transmission through breastfeeding, in the previous study Prevention of mother-to-child transmission of HIV/AIDS programs done by Lily Kak, Inam Chitsike, Chewe Luo, Nigel Rollins et al explain how to prevent the MTCT of HIV/AIDS by provision of appropriate antiretroviral (ARV) regimen for mothers and newborns, and support for safer infant feeding options and practices.

The risk of mother-to-child HIV transmission associated with breast-feeding may be especially high if the woman has only recently become infected, according to a prospective cohort study conducted in Zimbabwe.(Guttmacher institute 2011) explain in their previously work about Risk of HIV Transmission from Breast-Feeding Is Elevated if Mother Is Newly Infected ,2011. (www.guttmacher.org)

De Cock et al (2000), Prevention of Mother-to-Child HIV Transmission in Resource-Poor Countries Translating Research into Policy and Practice. Each year, an estimated 590,000 infants acquire human immunodeficiency virus type 1 (HIV) infection from their mothers, mostly in developing countries that are unable to implement interventions now standard in the industrialized world. In resource-poor settings, the HIV pandemic has eroded hard-won gains in infant and child survival. By showing his clinical trial results from international settings suggest that short-course antiretroviral regimens could significantly reduce perinatal HIV transmission worldwide if research findings could be translated into practice. The article also reviews current knowledge of mother-to-child HIV transmission in developing countries, by explaining the key findings from the trials, outlines future research requirements, and describes public health challenges of implementing perinatal HIV prevention interventions in resource-poor settings.

National health services should make special efforts to support primary prevention for HIV seronegative women in the antenatal and breastfeeding periods. In situations where mothers are being screened and identified as HIV-infected, provision will need to be made for their subsequent care and for that of their infected and uninfected children. Counselling on infant feeding for women known to be HIV-infected needs to be appropriate to their situations. Policy-makers should also consider the effect such counselling will have on uninfected women and those of unknown HIV status in the same setting; all these women should continue to be advised and supported to exclusively breastfeed for the first six months (WHO 2001; WHO 2006).

III. Methodology

The study was conducted at Lugoda hospital in Iringa region Tanzania by convenience sampling where by pregnant women who were coming to the antenatal clinic at that hospital were all included in the study until the required sampling size were obtained. A total of 200 pregnant women were selected to take part in that survey.

Secondary data method were used to collection data in this study, According to the references indicators provided by Lugoda hospital, Tanzania Commission for AIDS (TACAIDS) and in cooperate with the technical and Government support, district health services system construction, basic medical management,

Central disease and control, health educational, datasets used in this study are from nationally representative household surveys that collected data on maternal, paternal, and child demography, health status and others. Data analysis were used to understand the MTCT in Iringa districts, The data were analysis through EPI info software one among the statistical method of describe data and was able to analyze data through demographic data of participants in this study. EPI info is public domain statistical software for epidemiology developed by central for disease control and prevention in Atlanta.

IV. Results And Discussion

After conducting my statistical tool from secondary data the following result were obtained, pregnant women at Lugoda Hospital in Mufindi District were reported, and around two hundred women were enrolled aged between 15 and 42 years. The majority of women attended is 15-42 years which is 82% were youngers than others and only 18% were at the age between 30-44 years, among all women which they attend to study few of them were employed and large number of them were reported to be unemployed (40.5%), and in the case of education level some of them are never been at school, incomplete school, but 66.5% are reported to have completely primary school and 19% were reportedly to have completely secondary school, 4.5% were reportedly to reach high level like university and vocational training, at this study population Christians comprised and majority and most of the women were reportedly to be married.(table 1).

Developing areas are most vulnerable to its threat, in African, HIV has been running rampant for quite some time, for many areas more than 20% of pregnant women have been infected already, as we saw in our study population about transmission of HIV, in two hundred mothers were interviewed, 86% were aware of Mother to child transmission where transmission through Breastfeeding was mentioned by 81%. A total of 107 of the interviewed women had at list one child, 48% of which reported to have breastfeed for the duration of between 6 months and 24 months, this kind of result is closely according to the study done by Coovadia et al by reshowing that in his study population 83% infants born have HIV-infected mother initiated exclusive with breast feeding from birth, other similar result showed in study done by Manji in Dar es Salaam, with indicated that 81.7% of the subjected interview respondents mentioned all children born to have HIV pregnant women would be infected compare to 18.3% indicated that not infected. According to these different results it is show clear that there is large percentage of transmission of HIV through breastfeeding.

Overall, 161 women 81%, explain the knowledge about mother to child transmission through breastfeeding, but only few 17% explain that it was less likely for the transmission to occur through breastfeeding, for the case of perception towards mother who does not breastfeeding, majority of them 83% said they would think she is HIV positive or has some others disease and the women who had not tested for HIV only 45 women they disclose the result to allowed report their result to the health state department.(table 2)

In term of level of education to respondents with their knowledge on Mother to child transmission, the majority their frequency of respondent about mother to child transmission is differ through each one of these population, 83% of the study population had primary education and they knew that there can be mother to child transmission, and according to the question they answer about that situation they responded (yes) as they know the situation of MTCT of HIV, the other group, almost all of those with college education level they knew that there can be MTCT of HIV either.

The case of Breastfeeding by HIV infected mothers raises concerns of transmission of HIV to the child, such as the viral load to the mother milk and contribute difficult to the breastfeeding recommendations for HIV-positive mothers, in this study we already saw the large percentage of mother they had HIV-positive and they transfer the disease to their child through breastfeeding, for the case study population about breastfeeding practice, one hundred and three 93% women they did breastfed, out of which 48% breastfed for six to twenty four months and above 50% exclusively BF for the first six months. Eleven out of forty five women would BF if found positive and only 4.5% said there is still wet-nursing in their societies.

The study population included 200 women who were attending antenatal care at Lugoda Hospital. Of the total, 86% knew that there can be MTCT and 58.1% of them said that it was very likely for the transmission to occur; only 4% said there cannot be MTCT. These findings show that majority are aware that there can be MTCT of HIV and this could be explained by the fact that women are given PMTCT education when they attend the antenatal clinics.

Of those who knew that there could be MTCT, 161(80.5%) mentioned breastfeeding as way of transmission and 103(51.5%) mentioned delivery while 35(17.5%) could not mention any. On the contrary, a study by K.P Manji revealed that 11.8% mentioned BF as the only mode, 67.7% mentioned in utero transmission and only 0.8% mentioned all the three modes. Another study by National Bureau of Statistics showed that 69% knew that there can be MTCT by BF. The findings show that majority of women know that breast milk can transmit the virus from mother to the child.

Total of 107 women had at least one child, 96.3% of whom agreed to have breastfed their previous kid and the majority having breastfed for duration of between 6 and 24 months. Of the total who breastfed, above 50% said they used exclusive breastfeeding for the first six months consistent to a study in Maharashtra India which showed majority would do a short breastfeeding (for six months). The findings show that most women breastfeed their newborns but also majority practice exclusive breastfeeding for the first six months which is a good protective gear against MTCT of HIV.

Out of the total, only 9(4.5%) said there is wet nursing in their society; and most women declared that wet nursing is not a good practice at this era of HIV/AIDS giving the reason that the 'nurse' might transmit HIV infection to the baby if she is HIV positive. This shows that the community is aware of the risk of MTCT of HIV through breastfeeding.

A hundred and three women (52%) said if a woman doesn't breastfeed her baby they would think she is HIV positive followed by 30.8% who would think she is diseased. These findings are different from a study done in Dar es Salaam by K P Manji which showed that only 39% said that avoiding BF indicates one is HIV positive. This reflects that more people now are aware that one can prevent MTCT of HIV through BF by avoiding breastfeeding though their perception of those who don't BF as being HIV infected is not necessarily true because there are many other reasons as to why one would decide not to breastfeed her newborn.

More than 70% of women had ever been screened for HIV/AIDS. Out of those who had never been screened for HIV/AIDS, 90.5% said they would disclose the results to their husbands if they were found to be HIV infected. This is consistent to a study conducted in Maharashtra state in India which indicated that majority would inform husband if found HIV positive. This shows that people's attitude towards HIV infection now is much better and that is why they can have that courage to disclose the results and that is exactly what is needed in the fight against MTCT so that the couple after getting the results may decide whether not to conceive again or to take precaution measures to PMTCT.

Furthermore, the findings showed that the majority would not breastfeed if were found HIV+ the reason being they might transmit the infection to their baby these findings being consistent with to study by K.P.Manji done in Dar es Salaam; which is a good attitude and can reduce the risk of MTCT of HIV.

Table 1:
Distribution Of Socio-Demographic Characteristics Of The Study Sample.

VARIABLE	Number(N=200)	Percent
Age		
15 - 19	42	21.0%
20 - 24	75	37.5%
25 - 29	47	23.5%
30 - 34	23	11.5%
35 - 39	11	5.5%
40 - 44	2	1.0%
Occupation		
peasant	23	11.5%
self employed	58	29.0%
civil servant	10	5.0%
private sector	23	11.5%
unemployed	81	40.5%
student	5	2.5%
Education		
never been to school	4	2.0%
incomplete pr/school	8	4.0%
complete pr/school	133	66.5%
incomplete sec school	8	4.0%
complete sec school	38	19.0%
university education	3	1.5%
vocational training	6	3.0%
Religion		
Christian	136	68%
Moslem	60	30%
Pagan	4	2%
Marital status		
Never married	35	17.5%
Married	164	82.0%
Separated	1	0.5%

The majority of women (93.5%) were younger than 35 years, few were employed, majority completed primary school; Christians comprised the majority and most of the study population was married.

Table 2: Knowledge, Attitude And Perception Of Women About Mtct Through Bf.

VARIABLE	FREQUENCY	PERCENT
Knowledge on ways of MTCT		
blood	7	3.52%
In utero	37	18.5%
delivery	103	51.5%
breastfeeding	161	80.5%
Sharp objects	20	10.0%
Likelihood of HIV transmission		
Very likely	100	58.1%
Likely	43	25.0%
Less likely	29	16.9%
Perception towards mother who doesn't BF		
Think she is HIV positive	103	52.0%
Think she is diseased	61	30.8%
It is normal	36	17.2%
Whether would disclose results if HIV +		
Would disclose	41	90.9%
Wouldn't disclose	4	9.1%

Eighty one percent of women mentioned BF as a means of MTCT, but only 17% knew that it was less likely for the transmission to occur through BF; for a mother who doesn't BF, 83% said they would think she is HIV+ or has some other disease and for those who had not tested for HIV most of them agreed to disclose the results.

Table 3: The Level Of Education Of The Respondents With Their Knowledge On Mtct

Level of education	Whether there can be MTCT of HIV			Total
	Yes	No	I don't know	
Never been to school	2(50%)	1(25%)	1(25%)	4(100%)
Primary education	117(83.6%)	6(4.3%)	17 (12.1%)	140(100%)
Secondary education	43(95.6%)	1(2.2%)	1(2.2%)	46(100%)
College education	8(88.9%)	0(0%)	1(11.1%)	9(100%)
TOTAL	171(85.9%)	8(4%)	20(10.1%)	200(100%)

Majority had primary education out of which 83.6% knew that there can be MTCT; almost all of those with college education knew that there can be MTCT of HIV

Table 4: **Breastfeeding Practices.**

VARIABLE	NUMBER (N=103)	PERCENTAGE
Duration		
1- 3 months	5	4.8%
4 - 6 months	17	16.4%
6 - 24 months	49	47.7%
more than 24 months	32	31.1%
Method		
exclusive	57	55.3%
mixed	46	44.7%
Reason why would BF		
Possibility of infection small	3	27.3%
Mother's milk nutritious	8	72.7%
Prevalence of BF		
Did breastfeed	103	96.3%
Didn't breastfeed	4	3.7%
Prevalence of wet-nursing in society		
present	9	4.5%
absent	190	95.5%

A hundred and three women breastfed, out of which 48% breastfed for six to twenty four months and above 50% exclusively BF for the first six months. Eleven out of forty five women would BF if found positive and only 4.5% said there is still wet-nursing in their societies.

V. Conclusion

The mother to child transmission of HIV through breastfeeding can be prevented, adequate measures are taken to prevent this situation, the general knowledge on MTCT was quite good and has been entered into new stage with the efforts of Government and organization NGOs, among all women, majority had gone for HIV/AIDS tests especially when they were pregnant to prevent MTCT; most women perceived those mothers who give birth but don't breastfeed as being HIV positive. It has been found that wet nursing is not common at this era of HIV/AIDS, more knowledge and experience workers are needed to help those women in order to avoid with that kind of situation, a lot of study explain and show their desire on how to avoid and prevent children from HIV transmission through breastfeeding, The government should be enhance more powerfully for women especially in rural areas so that they could afford the infant to prevent them for getting HIV due to the breastfeeding from their mothers, education services also needed for the future generation because it will help to reduce this kind of case in community areas.

The promotion of exclusive breastfeeding should be stressed to HIV positive mothers. The government and the other NGOs to enhance income generating activities for women especially in rural areas so that they could afford the infant formulas if they opt not to BF when found HIV positive. It is recommended that all babies, with rare exceptions, be breastfed and/or receive expressed human milk exclusively for about the first six months of life. BF should continue with the addition of complementary foods throughout the second half of the first year. BF beyond the first year offers considerable benefits to both mother and child; should continue as long as mutually desired

References

- [1]. Hoosen M Coovadia, Nigel C Rollins, Ruth M Bland, Kirsty Little, Anna Coutsoydis, Michael L Bennish, Marie-Louise Newell et al: Mother-to-child transmission of HIV-1 infection during exclusive breastfeeding in the first 6 months of life: an intervention cohort study. *Lancet* 2007; 369: 1107–16.
- [2]. Fátima Rejane Lemos Patricio , George Williams Rutherford, José Henrique Silva Barreto, Cynthia Rodamilans, Roberto Badaró et al: Effectiveness of the prevention of mother-to-child HIV transmission in Bahia, Brazil. *braz j infect dis* .2015;19(5):538–542.
- [3]. Redmond AM, McNamara JF. The road to eliminate mother-to-child HIV transmission. *J Pediatr (Rio J)*.2015; 91:509–11.
- [4]. Dennis J. Matanda, Maurice B. Mittelmark, Dorcus Mbithe D. Kigaru et al: Breast-, complementary and bottle-feeding practices in Kenya: stagnant trends were experienced from 1998 to 2009. *NUTRITION RESEARCH* 3 4 (2 0 1 4) 5 0 7 – 5 1 7.
- [5]. Taha E. Taha, Sufia S. Dadabhai, M. Hafizur Rahman, Jin Sun, Johnstone Kumwenda, and Newton I. Kumwenda et al: Trends in Birth Weight and Gestational Age for Infants Born to HIV-infected, Antiretroviral Treatment-Naïve Women in Malawi. *Pediatr Infect Dis J*. 2012 May; 31(5): 481–486.
- [6]. Andreas Kuznik, Mohammed Lamorde, Sabine Hermans, Barbara Castelnuovo, Brandon Auerbach, Aggrey Semeere, Joseph Sempa, mark sennonno, Fred S sewankambo & Yukari C Mana et al: Evaluating the cost-effectiveness of combination antiretroviral therapy for the prevention of mother-to-child transmission of HIV in Uganda. *Bull World Health Organ* 2012;90:595–603
- [7]. Rollins NC et al. (2001). Feeding mode, intestinal permeability, and neopterin excretion: a longitudinal study in infants of HIV-infected South African women. *Journal of Acquired Immune Deficiency Syndrome*, 28(2):132–139.
- [8]. Dunn D, Newell ML, Ades AE, Perkman C, Risk of HIV-1 Transmission through Breast Feeding. *Lancet* 1992; 340: 585-588

- [9]. Gaillard P et al. (2004). Use of antiretroviral drugs to prevent HIV transmission through breastfeeding: from animal studies to randomized clinical trials. *Journal of Acquired Immune Deficiency Syndrome*, 35(2):178–187.
- [10]. Becquart P et al. (2002). Compartmentalization of HIV between breast milk and blood of HIV infected mothers. *Virology*, 300(1):109–117.
- [11]. Saurabh Mehta, David J. Hunter, Ferdinand M. Mugusi, Donna Spiegelman, Karim P. Manji, Edward L. Giovannucci, Ellen Hertzmark, I Gernard I. Msamanga, and Wafaie W. Fawzi et al: Perinatal Outcomes, Including Mother-to-Child Transmission of HIV, and Child Mortality and Their Association with Maternal Vitamin D Status in Tanzania. *J Infect Dis*. 2009 October 1; 200(7): 1022–1030. Doi: 10.1086/605699.
- [12]. Jaco Homsy, MD, MPH, Julius N. Kalamya, MBChB, MPH,* John Obonyo, MBChB, MPH, Joseph Ojwang, MBChB, Rosette Mugumya, Christine Opio, and Jonathan Mermin et al: Routine Intrapartum HIV Counseling and Testing for Prevention of Mother-to-Child Transmission of HIV in a Rural Ugandan Hospital. (*J Acquir Immune Defic Syndr* 2006; 42:149Y154).
- [13]. Lily Kak, Inam Chitsike, Chewo Luo, Nigel Rollins et al, Prevention of mother-to-child transmission of HIV/AIDS programmes. Opportunity for Africa's new born.
- [14]. <http://www.guttmacher.org/pubs/journals/3704511.html>
- [15]. Kevin M. De Cock, MD; Mary Glenn Fowler, MD, MPH; Eric Mercier, MD, MPH; Isabelle de Vincenzi, MD, PhD; Joseph Saba, MD; Elizabeth Hoff, MSc; David J. Alnwick, MSc; Martha Rogers, MD; Nathan Shaffer, MD: Prevention of Mother-to-Child HIV Transmission in Resource-Poor Countries Translating Research Into Policy and Practice. *JAMA*. 2000; 283(9):1175-1182. doi:10.1001/jama.283.9.1175.
- [16]. WHO (2006). WHO HIV prevention and treatment guidelines. Antiretroviral drugs for treating pregnant women and preventing HIV infection in infants, towards universal access: recommendations for a public health approach. Geneva, World Health Organization.
- [17]. WHO (2001). The optimal duration of exclusive breastfeeding. Report of an expert consultation. Geneva, Switzerland, 28-30 March 2001. Available online at: [http://www.who.int/child-adolescenthealth/ New Publications/NUTRITION/WHO_CAH_01_24.pdf](http://www.who.int/child-adolescenthealth/New_Publications/NUTRITION/WHO_CAH_01_24.pdf). (Accessed 1 September 2007.)
- [18]. http://www.who.int/pmnch/media/publications/aonsectionIII_7.pdf