

**DETERMINANTS OF FEEDING KNOWLEDGE AND PRACTICES AMONG INFANTS
BORN OF HIV POSITIVE FEMALE SEX WORKER MOTHERS SEX WORKER
OUTREACH PROGRAMME CLINIC**

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DECLARATION

This thesis is my original work and has not been presented for a degree or any other award in any other University.

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DEDICATION

I dedicate this research to the almighty God for his guidance and strength, my parents for their financial support and guidance, and my husband Josphat for believing in me and his unconditional support throughout this journey.

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ABSTRACT

Feeding of infants is determined by many things which including the nature of work done by the mother. Sex worker outreach Programme (SWOP) is a clinic that caters for medical needs of the women selling sex in Kenya. The legal standing of sex work in Kenya means that sex workers are often marginalized and unable to make a meaningful income from the same. Consequently, they often have little resources available to them as savings. This means they often engage in sex work when pregnant and have to resume sex work soon after delivery. The urgency to resume income generation means that they are not able to employ exclusive breast feeding to their infants. Because of low income, they are unable to afford refrigeration and thus may have challenges storing expressed breast milk. The purpose of this study, which was done in SWOP clinic, was to understand the feeding knowledge, attitude and practices employed by female sex workers to their infants. The study concentrated on HIV positive female sex workers who face additional challenges in feeding their infants as PMTCT guidelines recommend either exclusive breast feeding or complimentary feeding practices. We have scarce information concerning the dangers that come with early weaning and the use of alternative feeding formula among HIV positive sex worker infants. Thus, this study aimed to understand the knowledge and practices employed by HIV positive FSW in feeding their infants. A good number of the mothers in the study were single and a few marred ones. Slightly more than half of them had primary level education compared to a quarter that had more than secondary education. The working hours were mostly both day and night giving them a very limited time to attend to their infants, a good number had enough/good knowledge on infant feeding as well as positive attitudes towards the same. There was no association between the feeding practices and the recommendation in the national guidelines. It is hoped this study will help the government develop a policy to support HIV positive sex worker mothers by educating them on the importance of EBF to avoid mother to child transmission. Health education needs to be all across the family members, them to give support to these mothers, no importance is there in educating mothers of infants only, we need to establish a movement that helps and educate every single family member and the society at large, for the reason to make breastfeeding a natural to feed a baby again. a baby. A longitudinal study is recommended to be used to conduct the study to track infant and young child feeding practices throughout the period from birth to 24 months of age. This is to effectively link feeding practices and individual growth patterns. Further research should be conducted to establish the association between the nutrition status of mothers living with HIV and the nutrition status of their infants.

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LIST OF ABBREVIATIONS

ANC	Antenatal care
BHIVA	British HIV Association
CHIVA	Children's HIV Association
DBS	Dried Blood Spot
EMTCT	Elimination of Mother to Child transmissions.
FAQ	Frequently Asked Questions
FSW	Female Sex Worker
HIV	Human Immunodeficiency Virus
KAIS	Kenya Aids Indicator Survey
MOSAFC	Modelo de Salud Familiar Comunitario (Model of Family and Community Health.
MTCT	Mother to Child Transmission
PMTCT	Prevention of mother to child transmission
NASCOP	National AIDS & STI Control Programme
SPSS	Statistical Package for the Social Sciences (SPSS)
STI's	Sexually Transmitted Infections
SW	Sex workers
SWOP	Sex Workers Outreach Programme
UNAIDS	United Nations Program on HIV/AIDS
UNFPA	The United Nations population fund
UNICEF	The United Nations Children's Fund
UoN	University of Nairobi

WABA	World Alliance for Breastfeeding Action.
WBTi	The World Breastfeeding Trends Initiative
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background information

The most efficient and the great way of feeding a new born is breastfeeding. Unfortunately, it has also been recognised as a major route that the child or infant get infected with Human Immunodeficiency Virus (HIV) from the its mother (Temmerman, et al, 2005), the date of 30th November in the year 2009, World Health Organization revised the what would best recommended on the feeding of young child in relation with HIV, build on this recent research For the first time, the World Health Organization encourages mothers living with HIV plus their infants to adhere well to their medications within the time breastfeeding is done, which is supposed to be 0 to 12 old, By doing so, young ones tend to benefits from the breast milk which comes with a lower risk of becoming infected. (Milligan, & Overbaugh, 2014).

Mothers and caregivers need to be always advised on other possibilities that can be used to feed an infant in context of HIV, this was stipulated by the national policy. On the normal and well known rule is that a mother needs to be provided with enough information about feeding their infants; but what should be kept in mind is that what the mother opt for should also be respected. In most cases the route that the mother choices to go with are affected by known, health and social attitudes, norms and economic situations around her. At the republic of the act of feeding the infant by breast is a norm and a good number of mothers find it hard to opt for other options of feeding (National AIDS & STI Control Programme [NASCO], 2012; Oguta & Jaswant, 2012). Breast milk substitutes are costly to buy. For example, in Kenya, the monthly cost of formula milk for a baby would be around Ksh.10, 954 monthly about the same as the monthly minimum wage.

In the year 2012, the Kenya AIDS Indicator Survey (KAIS) a governmentally representative population-based survey of adults and minors ages between 15 and 64 and children ages between the ages of 18 months to 14 years. And nearly 14,000 women and men ages 15 to 64 years were covered in this survey. The enlightenment presented in this data sheet is based on the evidence of the adult interviews and of laboratory testing of the biological exhibit. (Kenya AIDS Indicator Survey [KAIS], 2012)

The widespread of HIV is different across the areas, the north Eathern part of the country has the lowest prevalence which is at the percentage of 2.1, and the most regions with great spread are Nyanza area with a percentage of 15.1. In the common public the spread of HIV is at the percentage of 5.6, and with that there is approximately 1.2 million people at the ages of 15 to 64 years of age living with the HIV virus in the year 2012. The evaluation of this estimate were 106,000 had been newly infected at the past years (KAIS, 2012)

Many people in 2014 were living with HIV, approximately 36.9 million (among them being 2.6 million children) – with a world wide spread of HIV of 0.8% (Global Health Policy, 2016). The most and high number inhabit the lowest income generating republics. The approximate of 1.2 million of people lost their lives as a result of AIDS-related conditions, while at the same time we had approximately 2 million people who had been newly infected, and amid 220,000 of them were children. The highest numbers of minors infected reside in the sides of sub-Saharan Africa and HIV was passed to them by their mothers during pregnancy, delivery or breastfeeding (Global Health Policy, 2016).

In the countries with the most resources, comprehensive and accurate HIV screening and counselling, adherence to drugs, and exclusive breastfeeding the first six months have decreased

the risk of spreading HIV from mother to child to below 2% worldwide, (Shapiro et al., 2010). The latest research from Botswana and Kenya have indicated effectiveness of a plan that continues ART during breastfeeding, lessen the risk of transmission to 1.1% and 4.2% at 1 and 6 months, respectively (Greiner, 2008).

The probability contracting HIV has to be balanced with the risk of sickness and death brought by not breastfeeding in the developing world. Normally infants and children who are not nursed have a higher risk of death due to diarrhea or common viral infections that affects the nose, throat and airways than babies who are exclusively breastfed in the first six months of their lives (Heikens, Amadi, Manary, Rollins & Tomkins, 2008).

Confirmation of this is the starting point of the 2010 UN recommendations on combating and prevention of the spread of HIV from mother to child and on infant feeding in the context of HIV. These guidance highlight that in all inclusive overall risk of mother to child transmission of HIV can be brought down to less than 5% in people that nurse their infants (this will be reduced from 35%) and to less than 2% in people that do not breastfeed (from a background risk of around 25%) (WHO 2010, Rapid Advice on Prevention of mother to child transmission (PMTCT) version 2). 2011 regular and organized analyzed reports that the chance of transmission can be decrease to 1-2% when ARVs are provided (World Health Organization [WHO], 2010).

WHO recommends that all mothers, regardless of their HIV status, practice exclusive breastfeeding this means no other liquids or food, are given to the infant in the first six months of life. After six months, the baby should start on weaning, which is complementary foods. Then

continue with complementary feeding and breastfeeding until the infant is two years of age or even older.

Countries where formula milk was given out for free registered high decline of breast milk. In South Africa, they give alternative feeds to avoid mother to child transmission of HIV, an inventiveness that unavoidably hampers breastfeeding. An outcome of this practice that was not foreseen was that all mothers including non-HIV positive opted for the alternative feed. (WHO, 2010).

WHO's pledge in assisting countries to the PMTCT international agreed goals, this is according with the strategic vision 2010-2015, to make the avenue to quality curbing of mother to child transmission and accommodate to the service including great mother, infants, and children's health. The strategic vision shows WHO's continuous commitment to the PMTCT goals to (UNGASS) and to help build up leverage for PMTCT within the areas of millennium Development goals, (United Nations Program on HIV/AIDS [UNAIDS], 2009).

In Kenya 2013, 199,100 individuals are living with HIV in Nairobi; this is as per the Kenya Aids indicator survey (KAIS), with a prevalence rate of 8.6 percent per population. On the report by Commission for Revenue Allocations (CRA), which their main mission is looking for the counties that are mostly affected by HIV, Homabay and Kisumu follow Nairobi on the list with former having 150,000 individual living with HIV and the latter 113,000, with a prevalence rate of 27.1 and 18.7 respectively (Commission for Revenue Allocations [CRA], 2011).

Mother-to-child transmission is the spread of HIV from mother to child; this mostly happens at childbirth, when expectant or when the baby is nursing or breast feeding. Expectant mothers are to receive antiretroviral medicine to help the spread of HIV from mother to child. In other

situation cesarean delivery is schedule to prevent the spread. Babies born of HIV positive mothers get HIV drugs immediately when born to prevent mother to child transmission. (Global Health Policy, 2016).

Antiretroviral drugs given to HIV positive people work through stopping HIV virus from increasing in the human body, by taking the medication the viral load reduces in the body. When the viral load goes down, the health of an individual in this case improves, and it reduces the risk of passing HIV to the infant or unborn child and also during breastfeeding.

Treatment of HIV is recommended to all infected individuals, the World Health Organization (WHO) also states clearly that after taking drugs one has to being disciplined in taking the antiretroviral medicines for the drugs to work. If one maintains proper discipline the viral load get suppressed to very low levels, immense slowing further transmission to the baby. But at some point most women and mothers tend to stop taking the medications, or take the drugs when they feel like. They do this gradually increasing the risk of transmitting HIV to their infant through breastfeeding and risky their own lives too. (Mtetwa, Busza, Chidiya, Mungofa & Cowan, 2013).

Treatment and diagnosis of HIV in children have greatly improved in Kenya, and still has a long way to go. The priority countries on the 21 Global plans, half of the infants exposed receive the testing of presents of viral nucleic acid in their bodies in a period of two months after being born as recommended by WHO. Death of infants who are not treated is very rampant and high within three months from birth, early treatment and linkages are important. Half the children under the age of 15 living with HIV in those countries were able to get drugs in comparison to 80% of

expectant HIV positive mothers. According to information it shows that there is service delivery failure for infants and children.

Other ways for more successful regimens to curb the spread of HIV from mother to her child during the postnatal window has been promoted, and a number of intercessions are being established to warrant a significant access to earlier treatment. Nonetheless, the use of ART formulations for preventing and treating of HIV infections among newborns and young infants remains a challenge among many countries. In short supply of appropriate formulations and administration of adequate dosing plan that account for prematurity and low birth weight has continue to result in unpreventable complexity with which the health care providers struggle with.

Further, huge effort and innovative strategies are needed to improve the retention of HIV exposed infant and their mothers during the postnatal period this is from delivery to the first test and from a negative first infant test to end of breastfeeding. HIV infected babies can also be identified skillfully in other settings, such as hospital children's wards, nutrition clinics and in the community. However, the lack of consistent offering of HIV counseling and testing in specific settings continues to result in missed opportunities for HIV diagnosis, with relevant impact on infant mortality (Bryce, Daelmans, Dwivedi, Fauveau & Wardlaw, 2008).

Majengo slums is specifically selected for this study because it is ranked top in sex work (Maurine Murenga and Faife, 2014) and one of our study site (Sex Workers Outreach Programme (SWOP) Majengo) is located here. The main issues leading to the rapid spread of HIV in Majengo slums and other SWOP clinic areas are sex work, poverty, negative cultural beliefs, pre-marital sex and night out of youths taking alcohol.

Breast milk has immunoglobulin and growth catalyst which promotes the growth of the infant's gut. In a recent survey done in Kenya, exclusive breastfeeding is practiced for only few months of life as only 29% (WHO, 2010) of children less than two months and 9% of those below four months of age are exclusively breastfeed. By age 4-5 months, two thirds of children are given complementary foods (WHO, 2010).

The most natural way of feeding an infant is through breastfeeding, but it is not easy to execute it. Problems begin few days after delivery and breastfeeding. A mother needs clear guidance on how to breastfeed, time and placement of the breast when the baby is feeding, Some health-care providers lack new skills to guide and support mothers, since they lack new and improved knowledge and some might be overwhelmed with the number of mothers they are attending to. Without the best advice some problems will arise, mothers will experience cracked nipples which make is painful and babies will not be able to breastfeed. At this point the baby is not satisfied and they get many bad advices allover, and they are forced to start alternative feeding which makes them to be discouraged. New research has come up concerning breastfeeding in the context of HIV, and if this mother is HIV positive, the advice given had to be thought through very well, counselors are not sure of what is the correct practice regarding HIV and feeding practices, health care provides need to be trained on new policy more often.

The National AIDS Council (2010) released revised clinical guidelines for the curbing of mother-to-child transmission of HIV (PMTCT), adopting the new WHO recommendations. This message has evolved, both nationally in South Africa, and internationally, from previous recommendations where replacement feeding or non-breast milk based diet, was prioritized in as far as HIV is concerned. Thus, the guidance mothers have received from the medical community

has continued to change, further obscuring the message. Historically, EBF in South Africa has been extremely low, and continues to lag behind other developing nations in the region (Doherty, Sanders, Goga & Jackson, 2011).

In the year 2003, an organization that deals with survey in the republic of south Africa, discovered that less than 12% of new-borns were purely breastfed within the 90 days of life after birth, while after some time this goes down to 1.5% in the infants who are aged between three and six months old. Tyllskar et al. (2011) found that the rate that exclusive breastfeeding is done in South Africa is 8% and the promotion group done by them to improve breastfeeding verses 4% in the control group, compared to 77% versus 23% in the nation of Burkina Faso and 77% versus 34% in the republic of Uganda, respectively. The main reason for this low rates of breastfeeding are very complicated and complex. The bad standards of antenatal breastfeeding counselling for HIV positive mothers living in South Africa have been well documented in South Africa (Langa, 2010; Matji et al., 2008).

With its population of 32 million, unlike other countries Saudi Arabia has a male: female distribution of 57:42% respectively. With this population, it's found out that 24.8% of the population is less than 15 years old while the other part of the population that ranges between 15 and 64 years old are at 72%, and only 3.2% are older than 65 years. About one quarter (24.8%) of the population live in Riyadh, the West of the country has a population of 24%; the East by 13.3% and the rest on the other parts of the country (Alzaheb, 2017).

In Saudi breastfeeding has been a culture that has been practiced from long time ago, and now it was being affected by the increase of oil money in the 1970's and 1980's. This is what has mostly on a large percentage lead to the country witnessing great improvements in economic

status and becoming a target for breast milk substitutes producers. This main issue coupled with other social and economic factors has led to a shift in the old way of giving milk in recent past in the country.

Globally giving milk for the first six month of life is recognised to be very important and is an important health concern. It came out clearly that the best breastfeeding practices in Saudi Arabia is anchored first on the Holy Quran, and then it is followed by the aims of the global strategy for the Infant and Young Child Feeding (IYCF) and what the WHO and The United Nations Children's Fund (UNICEF) needs and recommends its best. But according to the current research done show that lack of adherence to the best breastfeeding practices (e.g. late initiation of breastfeeding) are still prevalent in Saudi (WHO, 2016).

The commencement of breastfeeding one hour after birth is very important to the infant, with the broad researches done, among them breastfeeding and young child, the importance of initiation within one hour of life has been discovered and emphasized to be very important.

If a mother delays lactating a new born after giving life, the result can be a serious risk to his life, and as time goes and an infant is not feed and is left wanting to feed, the life threatening risk becomes even higher. The breastfeeding of an infant at an early stage or immediately after being born is a clear indication by the WHO as the small section of infants born in the last 2 years who were able to be lactated with the first one hour of life. To be able to feed a new born by breastfeeding them within the first hour of life, a mother needs so much support, guidance and inspiration on positioning of breast while feeding, and here is when the health care providers and counsellors come in. Also it is shown that once the decision to lactate is concluded, different social and behavioural factors affect the time taken to for breastfeeding with an impact of

whether it will be done exclusively or not. In some of the cultures practiced by some communities, in some countries there are some beliefs and ethnical habits that entails giving new-borns herbs, other foods apart from breast milk, or having a specific person who is known to the family and community as his/her work of giving an infant alternative foods but not breast milk also some would opt for a nurse or any other healthcare worker give the infant a particular liquid, water that as added sugar or infant formula.

A lot of things bring about the reasons why new-borns are not breastfeed on the first hour of life or at birth this reasons include outdate cultures like mother and child being put apart after birth. There is lack and missing enough information exclusive breastfeeding after a mother has undergone C-section delivery which reduce the chance of mother and infant to experience the skin-to-skin contact which at the end tends to reduce fast and untimely introduction of breastfeeding.

As we were discussing about the republic of Saudi Arabia, a program from the national infant and young child feeding criterion was formally inherited and it has been passed by the republic and it is already adopted. But even though all is said and done there is still a lost intense and thorough observation system that gives and combines data globally, what was also available is the community-based support centres that is very well to mothers and absence of strategic plans for national implementation of IYCF. Moreover, the national Saudi Code of Marketing of Breast Milk Substitutes needs updating and revision (Alzaheb, 2017).

According to the world breastfeeding trend on the matters of extensiveness of the premature introduction of breast milk, the correct and formal number that was given out by a programme that deals with the trend of introduction of breastfeeding to an infant The World Breastfeeding

Trends Initiative (WBTi) which came to 11.7%. And in the same matter, another recent research that was done at the holy city of Mecca, which is located in the Saudi Arabia reported that early introduction of breast milk less than one after birth was observed in less than half the population of the women who gave birth and it showed that a percentage of 42.7 of them were late in commencing breastfeeding for in less than one hour after birth (The World Breastfeeding Trends Initiative [WBTi], 2016).

Previous researches that have been done in relation to such topics have found out that potential breakdown of lay counsellors at the moment contextualizing and applying WHO's AFASS criteria (WHO, 2010), as it applies to individual mothers in South Africa (Matji et al., 2008). Additional information , Mixed Feeding is a long-standing cultural that has always been practiced in South Africa, the main problem is that infant formula is provided free of charge as part of PMTCT programs, these commercial infant formula is highly supported and provided by an a programme of the government called protein-energy malnutrition scheme, the Code Marketing of Breast milk Substitutes (WHO, 2008) has not yet been implemented in South Africa (Tylleskar et al., 2011), and until recently, there has been a lack of breastfeeding promotion in the lay and medical communities due to the high HIV prevalence (Doherty et al., 2012).

Before the new study and information, the world health organization were advising mothers living with HIV on other ways of feeding their infants apart from breastfeeding them purely using breast milk until when they turn six months of age, which also would opt not to completely breastfeed only if they can be able financially to get formula milk and be able to safely keep the alternative milk. But since the study did come up, initially from the republic of South Africa, it

gives clear information that a good adherence of drugs and breastfeeding well exclusively for six months will definitely bring down the risk of mother transferring the virus to the unborn child through breast milk. (WHO, 2010).

Many researches has been done, and ways of avoid an infant from contracting HIV from the mother solutions are being researched on, recent advice on young child feeding in regards to HIV which was released by WHO, on the 30 November 2009, states that all women with infants and living with HIV are to be on ART during all the period of breastfeeding the infant upro when the infant turns one year old. With this information, it came out clearly that a child will get all the nutrients from the mother's milk with very low risk of getting infected or contracting HIV.

The infection of child with HIV by the mother is known as Mother-to-child transmission, this can happen in different situation, it can happen the mother is expecting, when giving birth or delivery, or when a mother is lactating or feeding the infant milk through breastfeeding. Women who are expecting and known HIV positive get antiretroviral medication during the pregnancy period and when giving life or childbirth so that to prevent the transfer of HIV to the infants. Other mothers living with HIV with the help of their doctors opt to go for a caesarian section, so as to stop the spread of HIV to the infant through the mother during birth. All infant born of a mother with HIV are given antiretroviral drugs immediately after birth this will help to prevent the spread of HIV from mother to the child. (Global Health Policy, 2016). Antiretroviral drugs in its ways blocks HIV virus from increasing in the body and it helps to bring down the viral load that is present in the body. By having a little count of viral load in the body, it means that the woman's body is being protected and it reduces her risk of spreading the virus to her unborn child and while breastfeeding.

The WHO recommends that every single person living with HIV should be attended to and on be drugs, but it clearly states that one needs to maintain great drugs adherence this is to ensure that drugs work well in the body. Great adherence to drugs brings down the HIV viral load to a point it is not detected when screened, with this results it reduces the transmission to the infant while bringing back the mothers immune system for better health. But at some cases some women stop taking the antiretroviral drugs after giving birth, by doing so it actually increases the risk of transferring the virus to their children and also putting their lives at risk.

Many countries located at Africa have female sex workers, in West Africa women selling sex have remained to be the highest group involved in HIV transmission. There are also a number of heterosexual men in West Africa and more of 75% infections acquired by this group of men are ascribe to sexual intercourse with the Female Sex Worker (FSW). Most of these female sex workers are reporting unprotected sexual intercourse with people from the populations like stable partners. HIV infections in Burkina Faso were higher in the female sex workers population. On the other general population the HIV prevalence was 1.2% in 2010, and FSW was rank high (16%). Apart from HIV infections, female sex workers face a lot of challenges, stigmatization due to social discrimination, and crimes of prostitution with police restraining. At some point in Ouagadougou the year of 2009, a greater number above the percentage of 65 of ways to avoid HIV were stopped at a pint when support come to an end (Berthe et al., 2009). With all this situations, the funding being ceased, poverty in the society made the FSW have weak power on negotiating condom use with their clients, no or low access to sexual and Reproductive Health Services (SRH). (Mtetwa et al., 2013).

Stopping of HIV with health care services is very important, execution of interventions making the number of FSW who access these services to go high is crucial. Many challenges to get to this female sex workers is a concern, the main reason is because other sex workers are in this work part-time. Others normally do don't agree on the work they are doing of being women selling sex and they actually are the ones that are increase role in commercial sex, with the great extend as women who accept that they sell sex as a livelihood.

Trying to intervene and hopefully put HIV and its infection to an end through treatment has become critical to impact the transmission dynamics of HIV, access to care needs to be easy for all infected individuals, what is needed for this to push through is dedicated services with tailored support for AntiRetroviral Therapy (ART) (Mtetwa et al., 2013).

Pediatric AIDS has been a big problem throughout the developing countries, in order to finish and combat it medical practitioners and MoH have tried to come up with ways to reduce it. UNAIDS with the help of the United States launched a follow up initiative to reach a free pediatric free nation. The framework that was introduces states well that child should born and protected from HIV and remain HIV free. The follow up initiative know as start free, live free and AIDS free is also very keen to ensure that teenager and girls must have the capability of protecting themselves from HIV and all infants and adolescent living with HIV must also be able to have access to treatment and care (UNAIDS, 2015).

The framework has a couple of targets that were to be reached, the targets was signed on in 2016 was to combat and reduce acquired immunodeficiency syndrome of 95% of expectant mothers and breastfeeding women accessing ART medication, the aim of this included bringing down

new HIV infections among children and adolescents to below 100000 by 2018 and 1.5 of them to be on treatment by 2020, this extended to the number of children living with HIV should be able to access treatment by 2018.

The action is made to shut the left out HIV prevention and treatment breach among women, expecting mothers, teenagers and children. Its triumph will be based on the adoption of the execution strategy to answer to the regional context, which is made on prosperous game plan to strengthen the structures where need be and pinpointing necessary chance and action to be able to increase getting survival treatment and services to prevent HIV. To help this performance, the framework reached out to industry, non-governmental and international partners to anchor on putting their funds in well organized and reproductive solutions that increase Programme end results (UNAIDS, 2015).

The highest way of transmission of HIV from mother to her child is through breastfeeding, In the United Kingdom and other countries where protective alternatives are available; it is advised that HIV-positive women do not nurse their infants. But in a situation where a mother decides to nurse, it is then safer to nurse their babies with mother's milk or breast milk only for their first six months of the infant's life. Risk of spreading HIV is reduced if she and the child are on ART treatment. In the some settings where there is limited resource, not being able to get clean water to be used for food preparation and cleaning of utensils for an infant gives a clear indication that means the spread of HIV through breast milk must be carefully weighed against the risks of infant malnutrition, diseases and death posed by other feeds other than exclusively breastfeeding. WHO recommends that a mother can either chose to breastfeed an infant or opt to formula

feeding if they don't pose a risk of infections and they can sustain the choice they make (Lehman & Farquhar, 2007).

Kenya has adopted WHO recommendation that every single mother who is living with HIV virus needs nurse their young ones within the first six months of life while bringing up other dietary recommended meals with on-going breastfeeding programme until the young ones turns 2 years of age. (WHO, 2010).

1.2 Statement of the problem.

The legal standing of sex work in Kenya means that sex workers are often marginalized and unable to make a meaningful income from the same. Consequently, they often have little resources available to them as savings. This means that often they often engage in sex work when pregnant and have to resume sex work soon after delivery. The urgency to resume income generation means that often they are not able to employ exclusive breast feeding to their infants. Because of low income, they are unable to afford refrigeration and thus may have challenges storing expressed breast milk.

This study therefore desires to understand the feeding knowledge, attitude and practices employed by female sex workers to their infants. The study concentrated on HIV positive female sex workers who face additional challenges in feeding their infants as a way of avoiding the ones contracting HIV, guidelines recommend either exclusive breast feeding or complimentary feeding practices. Scarce information is there regarding the risk nutritionally with the association with early weaning and introduction of alternative feeding among HIV people positive sex worker infants. Thus, this study aimed to understand the knowledge and practices employed by HIV positive FSW in feeding their infants.

1.3 Objectives

1. To determine the social/demographic characteristics of HIV positive sex worker mothers.
2. To determine the difference in the feeding practices of infants of HIV positive sex worker mothers verses the recommendation in the Kenya national guidelines.
3. To determine the association between sex work and infant feeding practices.
4. To determine the feeding options that the HIV positive sex worker mothers have to feed their infants.

1.4 Research Questions

1. What are the social demographic characteristics of HIV positive sex worker mothers of infants?
2. What are the differences between the feeding practices of infants born of HIV positive sex worker mothers verses the recommendation in the Kenya national guidelines?
3. What is the association between sex worker and infants feeding practices exist?
4. What are the feeding options for infants born of HIV positive sex worker mothers?

1.5 Justification of the study

The study generated information on the infant feeding practices of HIV positive sex workers mothers at SWOP clinic. This information is useful for planning of intercession focused on improving the well-being of children born of sex workers. Additionally, the study contributes valuable information to the on-going research on feeding of a young one in relationship with HIV.

The study was done to sex workers and feeding habits they adopt for their infants, since such information was currently missing. Additionally, sex workers tend to work odd hours raising

concerns on how and when their infants feed. SWOP Majengo, Thika road and SWOP city are perfect study area because they are well known clinics for sex workers. These clinics are in Kamukunji, Starehe and Kasarani sub-county respectively. Nairobi county has the largest share of sex workers at 20 per cent of the total number second one being the region of the great Rift Valley at a percentage of 17, on the coastal area it came third with a percentage of 14, on the great region of Nyanza at 14 %, while the area of Eastern 12 percent , Western 12 percent, Central 10 percent and North Eastern being the least at the percentage of (KAIS, 2012), Nairobi having a total of 27,620 sex workers by 2011.

1.6 Hypothesis

H₁ Alternative

There is an association between the feeding habits of HIV positive sex workers and their feeding options.

There is an association between the feeding practices of infants born of HIV positive sex worker mother verses the recommendation in the national guidelines.

There is an association between sex workers and infant feeding practices.

There is an association between feeding options of infants and HIV positive sex worker mother.

1.7 Significance and anticipated outputs

The information may be useful in guiding people living with HIV especially sex workers women with infants on the role young child diet and PMCTC. This study may be useful to the MOH in the implementation of further guideline and policy on feeding the young ones in the large context of. This research formed a basis for extended investigation on the interventions on young child feeding practices and also help nutritionists and food scientists in formulating appropriate coping

strategies to improve nutritional and health status of infants born of HIV positive sex workers mothers.

1.8 Scope of the study

The study was limited to SWOP clinics, Majengo, Thika road and SWOP city. The population was HIV positive female sex workers who have infants.

1.8.1 Limitations of the study

Prevailing social norms and possible stigmatization influenced how free these mothers were to answer questions about the study. The study was limited to three SWOP clinics thus generalization of findings to other settings was done with caution. Time was also a major limitation.

1.8.2 Assumptions of the study

The study assumption states that, HIV positive sex worker mothers opt for a variety of feeding

OPERATIONAL DEFINATION OF TERMS

Alternative feeding:	This is feeding an infant with another diet that is not breast milk, but it ideally provides all the nutrients the baby needs.
Antiretroviral (ARV) drug:	Medicine used to manage Human Immunodeficiency Virus.
Antiretroviral therapy (ART):	Using of antiretroviral medications to manage and medicate HIV.
Commercial infant formula:	A type of highly nutritious milk made processed specifically for infants and are provided the government or NGO's
Complementary feeding:	The step of giving an infant new food apart from breast milk this when the milk no longer enough to them.
Exclusive breast feeding:	This means a child only receives milk from the mother alone without any other foods or drinks except mediations and vaccines only up to six months of age
Exclusive breastfeeding:	Giving a child no other feed including water and juice, apart from breast milk.
Exclusive replacement feeding-	A method of giving a child who is not getting milk from the mother an alternative feeds which meets nutritional value that the infants has to get first new months of life
HIV-exposed infant or child:	this is a child or a young one born from a HIV parent, until when he/she is 2 years of age to excluded from being exposed.

Homemade animal milk:	This is milk from an animal that is made more nutritious by adding water and sugar and great nutrition supplements.
Infant:	A child who is below 12 months old.
Mixed breast feeding -	This is when a mother breastfeeds an infant and at the same time feeds the them with other foods and drinks in his/her first six months of life.
Mixed feeding:	Feeding the child on breast milk and giving bottle feeding or commercial infant formula.
Not recommended feeding practice:	Practices of feeding that is not allowed or which not acceptable by the WHO and the ministry of health.
Predominant feeding:	Feeding patterns which require that the baby receives breast milk (including milk from mother's breast or from wet nurse) as the main source of nourishment.
Proposed infant feeding practice:	Practices of feeding infants that is recommended by the ministry of health
Treating breast milk:	This is expressing milk from breast and then heating it to kill the HIV virus,
Wet nursing:	This s form of feeding an infant, where another woman is not the biological mother to the infant is breastfeeding the child. The woman has to be HIV negative.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The literature is reviewed under the following main sub - themes: assessment and factors influencing the options of giving food to an infant, of infants and to determine any significance difference between nutritional status of infants and their different feeding practice. It also looks at the social demographic characteristics of the HIV sex worker mothers, feeding practices that the mothers chose compared to that of the Kenya national guidelines.

2.2 The Social demographic characteristics of HIV positive sex workers who are mothers to infants.

In sub-Saharan Africa, sex work is seen to highly contribute to the transmission of HIV. Regardless of this information, sex work is still practiced and most of the women practicing it find ways to justify it socially and behaviourally. This limits the initiatives on the impact of preventing HIV. According to a study by (Scorgie, et al, 2012) on socio-demographics of women who practice sex work in Africa, an inextricable link was found between their work and vulnerability to HIV. This is characterized by their highly mobile nature, poverty, alcohol abuse, criminal nature and continuous violence. The named factors can therefore be used to predict other behaviours such as engaging in anal sex, lack of or low use of condom and co-infection of STI's. In Africa, it is not easy to view sex work and isolate it from HIV risky behaviours. This is because behaviours such as having multiple sex partners tend to overlap between sexual networks. According to Chersich,et al. (2014), there is need to address the burden of HIV which is disproportionate carried by female sex workers in Africa. This can be achieved by taking into

account the social and behavioural vulnerabilities discussed in this study and sufficiently targeting service coverage.

Many health problems related to infants need to be keenly looked at so as to get better solutions and prevent infants falling ill; HIV is still a crucial wellbeing problem worldwide. The transfer of HIV from an HIV positive woman to her child at a period where she is expecting and lactating is called Mother to child transmission; for some years now HIV has come down to 26% by the year 2009 and further reduced to 16% in 2013 and even went further reduced to 10% in 2015. The transmission depends on many elements, a mother in a critical HIV condition, high HIV level during pregnancy, low CD4-cell count, virginal delivery, poor adherence of treatment and if the infected mother is not on treatment. Great interventions on the risk of transferring HIV to a child can be that it can be reduced to less than 5% from 35% with breastfeeding mothers with good adherence and even go further down to 2% from 25% in non-breastfeeding mothers (National AIDS Program, 2015).

In countries like India, sex work is practiced highly in some states. The widespread of HIV is still roughly calculated to be less (<1% in adults), this is according to (WHO, 2012). Higher HIV prevalence is reported in six states including Andhra Pradesh, major route of infections in these areas is sexually, and it's mostly linked to sex work (WHO, 2012). Research done by the National AIDS Control Organization (2005) states that women that engage in sex work have higher chance of HIV infections is much higher than the pregnant women. The spread of HIV in women that sell sex work in an area called Andhra Pradesh was approximately 16%, ranging from 8–41% in 2014 (National AIDS Control Organization (200)5. While in most countries sex work might go on openly, in India it is somewhat done in secret due to the legal ramifications. The women who sell sex are also given tag names and called immoral in the Indian community

and are being subjected to great biasness like in other societies. It is difficult to determine the number, but estimation shows that 1% of adult women in India are sex workers (Montaner, et al 2013). Most in this estimation do not engage in sex work in brothels.

There exists a general assumption that women who engage in sex work are young and therefore fend for their families. This has not been supported by available data on their demographic since sex work is a clandestine affair. The demographics of women who engage in sex work is important in the HIV prevention programmes as it helps in identification of women who are most like to be working as sex workers (Dandona *et al.*, 2006).

(Pogetto, et al, 2012), conducted a study at Brazil. The study sought to evaluate women perception as it concerns their vulnerability to acquire STI's and HIV. The study concluded that women were aware that other women were vulnerable and were at risk of contracting sexual transmitted diseases and HIV but not them. They did not perceive themselves as vulnerable and at risk of contracting HIV and STD's.

Having information and a good attitude towards sexual transmitted infections is very important to every single individual. Despite the information given, women selling sex came up as they have sex at a very higher number of times per day, with a higher number which was discovered as using chemical substances and potential vaginal micro trauma and disturbances of the vaginal ecosystem. Montaner et al. (2013) therefore argues that the sex workers were highly vulnerable compared to other populations in contracting STD's due to engaging intense sexual practices but also due to adoption of risky behaviour owing to social problems and health issues.

In many countries Sex work is illegal; in a country like Egypt sex work is a crime. This situation makes it very hard for researchers to get information and correct statistics on sex workers. These

sex workers are not able to get medications for HIV and being registered to programmes that support sex workers; this means they do not get a chance for good health care services. (Dandona et al., 2005).

Sex workers go through many challenges, apart from sex work being illegal in some countries; they face challenges like stigmatized in communities and religions. Long time ago, the catholic pope advocated that sex workers need to be examined regularly for evidence of sexually transmitted diseases. General public opinions on sex workers of being immoral women, makes it harder for them including sex work being illegal. Sex workers get rewards for their work in so many ways; the commonly used ways is financial compensation. There is other compensation like materials, (jewels, beautiful clothes, cars, houses, or just a good life). Others get paid with drugs to satisfy drug addictions and even betting (UN Programme on HIV/AIDS -AIDS epidemic update, 2006).

In the year 1988 Nepal reported its first HIV case. By the time it was 2009, the total numbers of people who we infected were 14787 and only 13005 of them were receiving HIV care? (Sathian, 2011). The research done indicated that among the population infected there were estimated to be 4773 who were males, while 2163 were females with all totaling to of 6936 estimate gave an information that prevalence or number of HIV humans in the area of Nepal by the year 2015. Then the research was done people infected were stigmatized, this making it hard to know their actual state. On these early days of HIV, many gaps and challenges were to be addressed so that HIV and AIDS can reduce and to be able to get the right situation of those who are infected while at it is able to know the knowledge of the entire population on these issues. To be able to ensure that HIV does not spread much in Nepal adequate treatment and holding interventional programmes will help control the epidemic in this place.

Nepal is among a few countries where Sex work is not illegal; this makes the women and men selling sex with their clients able to execute triumphant HIV intervention agenda. People who sell sex are amongst the highest group of getting HIV infections, and their clients pose a risk of passing it over to the general population. A major cause of HIV and AIDS transmission is unprotected sex; there is an estimate of 500-1000 women selling sex in Pokhara valley in Nepal. The Numbers of clients buying sex increase this is because the market for sex has come up and the number of female sex workers has also increased. The female sex workers have different knowledge and behaviors with awareness towards similar sexual problems they face and on how to be safe from sexual transmitted and HIV (Sathian, 2011).

Countries like Egypt HIV infections have extended to less than 0.1% and this has made the authorities and the government not to make tackling HIV a priority and Egyptians are hardly informed that HIV/AIDS is present in their society; the IRIN news reported on the same. The country reported a highest hepatitis C prevalence in the year 2005, and reported an estimate of 13,000 individuals were HIV positive in Egypt. The number of new infections indicated an increase; this was according to UNAIDS country officer, (U N Programme on HIV/AIDS -AIDS epidemic update, 2006). Amongst the infections, it was discovered that nearly 70% of the HIV infections were sexually transmitted, with little information about HIV/AIDS figure among the endangered groups including injection drug users, men and women who sell sex and men who are homosexuals.

Many women who actually sell sex for money do want to honestly say that they engage in the business of selling sex. There is a perception that women engaging in sex work are young and most of the times are expected to contribute to family earnings, (Department of Women and Child Development, [DWD], 2005). Selling of sex in Egypt is done secretly due to religious and

its illegal factors in the surrounding environment. For the sexually transmitted infection, especially HIV, it is of much importance to put a program to able to help the high risk groups "sex workers". It is important to know statistically who is most likely to be involved in selling sex and when they get involved with it (DWD, 2005)

Results of a qualitative study conducted in Brazil according to Kana, Doctor, Peleteiro, Lunet, Barros (2015), indicate that sex workers suffer the undergo the indicated choices in their line of work: discrimination, mental pressure that comes about with the need of wanting to hide the practice of selling sex work, and also they get violated by both their clients and police officers. There exists a strong relation between nutrition and HIV. Rapid regression is therefore the manifestation of an immune impairment which worsens the effect of HIV. Ivers, Louise, Kimberly and Kenneth (2009) posit that inadequate food intake by a woman before and when pregnant increases the risk during labour, delivery and more so leads to low weight in new born.

An HIV infected mother has a higher risk to experience HIV progression when expecting and childbirth. This is because childbirth and pregnancy comes with a new health demand for HIV infected mothers. An HIV infected mother may become sickly, resulting in the child getting less care and being at greater risk of malnutrition. HIV related complications exposes HIV infected women to an increased risk of nutritional impairment which may affect their appetite, cause trial-absorption of nutrients and increase in the basal metabolic rate (Kimanga et al, 2014). Also, micro and macro deficiency results in an increased number of pre-term and low birth weight (WHO, 2013).

Studies show that if a household experiences illness and death, the results might be a reduction of food rations due to depleted finances, low work capacity, or lack of being in a position to

prepare a meal. Emotional stress sets in and hinders eating (Glassman & Temin, 2016). The nutritional status of the child is therefore affected by the risk of increased illness due to lack of being breastfed or if extra care is needed due to HIV infection (UNICEF & WHO, 2013). Additionally, the mother's health including infectious diseases can interfere with lactation. Anything that interferes with the mothers' confidence can lead to interference with breastfeeding. Increased expenditure for caring for the sick combined with reduction in income results in less purchasing power for the HIV/AIDS affected households and less market accessibility to food.

Financial constraints especially on sex workers mothers from low employment or increased health expenditure limit the family resources while mental pressure of the HIV infection limit that the care provider ensure that there is different types of nutritious meals for the infants (UNAIDS, 2010). In women that are malnourished, the volume of milk produced is less than it should be, lack of some nutrients such as vitamin A which is common among HIV positive mothers, can also lower breast milk. With this gap, the study opted to access the feeding options of infants born to HIV positive sex workers mothers.

Parents who have opted for optional feeding of their infants, especially the ones that will go with an option of not breastfeeding their infant exclusively for the first six months of life resulted in 1.4 million mortality and up to 10% disease burden in children that are below the age of 5 years. In the entire world, it's been recorded that only 34.8% of children below 12 months are breastfeed exclusively without any food or drink from outside for the first 6months of life, a higher number of them received food and fluid in the early months. On the other hand, the information that was gotten from the Ethiopian demographic and health survey (2016) said that least time for exclusive breastfeeding in Tigray region was gotten to be 3.8 months that is actually very short than what is recommended time by the health sector. It is noted in this study that the

research that was done in Ethiopia was to determine the strength of exclusive breastfeeding practice and associated factors among HIV positive mothers in public hospitals of Tigray region, Northern Ethiopia.

The process of giving an infant breast milk alone without any other foods or drinks in exception of prescribed medication or some nutritional supplements is known as Exclusive breastfeeding (EBF). This process of feeding the infants only breast milk for the first six months of life helps to improve the infant's immunity and helps to protect from common illness like passing loose stool causing dehydration and some common flues infections that is the most dangerous and is for front in causing infant death.

Internationally, there were 36.9 million of humans living with HIV- human immunodeficiency virus in the year 2017, while 1.8 come as a results of new infections in the same year 2017 and for the mortality, 1.3 million people living with HIV, lost their lives from acquired immunodeficiency syndrome (AIDS) related illnesses in 2017.

There is great challenge that people living with HIV face, is the risk of HIV transfer by the process of feeding a young with breast milk when the mother is feeding her infant and the preserving its life saving benefit which is brought up by the great benefits of breast milk, these are the challenges also faced by a good number of investigators, action providers and mostly women living with HIV virus especially the ones from developing world.

The research done all over the world, breastfeeding of an infant in context of HIV has shown 300,000 new recent spread of annually and in the same context the programme of the United Nations Children's Emergency Fund (UNICEF) has judge the value that feeding an infant with

breast milk is not the reason of the mortality for 1.5 million children in a span of one year. The research shows that the bigger problem of the spread of HIV and mortality occur in the areas of the sub-Saharan Africa. Investigations on this matter has shown that feeding an infant with breast milk alone after birth for six months brings down the chance of postpartum transfer of HIV from an infected mother to her baby.

In the side of sub Saharan Africa (SSA) it shows that the comprehensive prevalence of exclusive breastfeeding was less that came to 36%, the spread of infections turned out to be high in Rwanda compared to the republic of Gabon which low, in spite the fact that SSA part is known to be the of home for higher rates of transmission of HIV from mother to her unborn or breastfeed infant, malnutrition, infant and child death rates.

According to the programme in Ethiopian that deals with health survey of its inhabitant (EDHS) in 2016 records, a percentage of 58 children that are a lower age than 6 months are feed with breast milk alone, and the percentage of feeding the infant with breast milk alone reduces as age increases from a percentage of 74 in 0–1 months to a lower one that is 36 in 4–5 months. Other than, 2016 results showed that median time for breastfeeding exclusively in the region of Tigray region was 3.8 months.

A number of researches were done on infant the Ethiopian people regarding the nutrition practices they do. Even after the study was done, there is missing information on assessment of mothers living with HIV concerning their application towards exclusive breastfeeding and associated factors. There is a lot to be done and more research and investigation to improve the feeding practices of this infants. And good evidence need to be provided based on the knowledge gotten from the research.

2.3 The difference between Feeding practices of HIV positive mothers verses the recommendation in the Kenya national guidelines.

The World Health Organization (WHO) is still fighting the spread of HIV from mother to child. According to organization infant born of women living with HIV or exposed young child feeding should be a single infant feeding as the standard of care to prevent spread of HIV from mother to child, and all other important information about practices is made clear and available to mothers. The feeding of infant with breast milk alone is being done regularly in Kenya; this is the process of giving infant breast milk alone, without water or any other solids food, with the exception of medications recommended by a physician for the beginning of six months of life. (WHO, UNICEF, UNAIDS, UNFPA, 2010).

Any woman who has children and is living with HIV has to be protected and provided with antiretroviral drugs, this will help bring down the spread of the virus to a new born or breast feed infant. All the healthcare facilities need to come up with one decision that they will guide HIV positive mothers to either breastfeed and be on the ARV drugs with great adherence or opt for no breast-feeding at all from day one.

A mother should only stop lactating when the child has reached recommended age and when they are in a position to provide a good and health diet to the child without breastfeeding. Replacement feeding can also be done, in some situations where a mother is not able to nurse her infant. Replacement exclusive feeding is the process of giving an infant an alternative of breast milk in a form of commercial formula; this alternative formula should be acceptable, feasible, affordable, sustainable and safe.

In Kenya infants of 0-5 months of age are exclusively breastfed, this is a positive indication since it has elevated from 35 % in year 2010 to the current 61 % (WHO, 2010). The rate of exclusive breastfeeding among HIV exposed infant has not been researched much, especially in sex worker mothers. Evidence shows that young child and infant feeding ways among HIV exposed infants bring about slower rate of gaining weight than expected per age of an infant or young child. A child's growth failure is considered as an advance indication of HIV infection. When a mother takes an option of exclusively breastfeeding her child, they bring down the chance of spreading the virus from the mother to the infant and other infections. HIV infected and exposed children that reside in low income places with limited resources show an early occurrence of under nutrition before 3 months of age, with a high mortality rates (NASCOP& K a I S, 2012. 2014).

It is estimated that the yearly number of women expecting in India is 29 million. More than half of these women get tested for the HIV virus which is a great concern. The problems or HIV pandemic in women who are pregnant is calculated to be 38,000 cases annually. The general screening therefore aims at improving the means of better and quality HIV services with hopes of decreasing the spread of HIV from mother to child to less than 5%. This can be achieved through untimely spotting expectant women that are infected and initiating timely maternal ARV prophylaxis to significantly help bring down the danger of spreading the virus to an infant. Ultimately, the Indian government anticipates that providing universal screening for all pregnant mothers is a step in the right direction to eliminate the current problem of children being infected by the year 2017 (Okunuga, 2015).

The insults of nutrition and development have public health ramifications that are intense in the early years of life. These include considerable added suckling, infant and early childhood

sickness and deaths, alongside a long-term effect of perception or knowledge development, education achievement, and being productive at any work given (Bentley et al, 2014).

A recent updated guideline was released by the WHO programme and UNICEF on infant feeding in context to HIV. The first guidelines that came six years ago recommended that ART treatment is the best way to prevent postnatal transmission when lactating. All government authorities were directed in 2010 by the guidelines, to support one way of feeding infants that are born of mothers that are living with HIV in health facilities (WHO, 2016).

Exclusive breastfeeding is recommended for all women known HIV positive, this women with infants need to feed their infants breast milk alone for their first six months of life then start complementary feeding while still lactating for at the coming one year, but can also go on with breastfeeding up to 24 months. While doing so, ART with good adherence plus when a mother opts to breastfeed it comes with very natural benefits which includes the best foundation of child health, growth and survival, especially where diarrhea, and respiratory disease and under nutrition became the common causes of mortality among children younger than five years. (WHO, 2010).

In developing countries especially in Africa, children's death are among the highest in the world. The most leading cause of it is HIV infections. Increased morbidity and deaths are associated with mixed feeding, this where a mother feeds an infant with breast milk and the same time with complementary feeds. The use of commercial milk is very common. The importance of breastfeeding is child healthy development and prevention of non-communicable diseases.

ARV drug interventions is the best way to prevent transmission of HIV after the child has been born through the process breastfeeding, this for the first time in 2010 advised by WHO. In the

same year, WHO revised its recommendation towards ways of feeding infants in to context and they advised the public on a health public health ways which told the policy makers to encourage one feeding option to all mothers living with HIV with added advantage of accessing health care service from public facilities. From that day countries have done so and followed the advice plus implementing the advice in the 2010 WHO recommendation on HIV and infant feeding (Fawzi, Gaillard,, Haverkamp, Wiktor, 2004) The use of antiretroviral drugs is being consolidated by WHO, this is for nursing and preventing the spread of HIV virus was improved in 2013 and again in 2016. World Health Organization advises the lifelong use of the drugs for everyone from the time when are adult this also includes women that are expecting and lactating ones or child is first diagnosed with HIV infection (Fawzi et al., 2004).

According to WHO, breastfeeding should not be restricted whatsoever if a medical worker can encourage a long use of drugs, good adherence counseling, promoting and encourage feeding infants with breast milk to those women who are living with HIV. Women with infants and who is HIV positive should breastfeed their children exclusively for six months. After which they are allowed to introduce appropriate complementary feeds while they and continue breastfeeding. After follow this process very well, a mother can be able to put an end to breastfeeding when a well-balanced and nutritionally adequate diet can be provided.

Feeding of infant in relation to HIV should be well planned; any feeding practices that is advised to mothers with known HIV status should be able to support healthy survival for their children and to consider not make the mother suffer. To be able to get this right, putting first the protection and prevention of spread of the disease should balance or go hand in hand with meeting the nutritional needs of the young ones and protecting them from non-HIV infections and disease plus death (WHO, 2010).

A lifelong ART regime is recommended for every individual with known HIV positive status, guidelines were revised by WHO in 2013 and in 2016. More research was done on HIV/AIDS for more clarity on more specific problems; this was the reason for the revision. The guidelines states that known HIV positive mother needs to breastfeed the child for one year of age and can be allowed to go on for two extra years. It recommends that the government dealing with health at both the local and national level should take the active role of coordinating and service implementation in hospital facilities and workplace activities, in homes and communities for purposes of protecting, encouraging and supporting HIV breastfeeding mothers.

It is important therefore for the group of people to identify women living with HIV and their young ones needs and priorities and their babies. Legislators, regional heads and everyone that supports these women should be involved; men and other leaders who come up with decisions concerning them should also be looked at. They help support mothers to safely feed their babies. The close support provided by community health persons to mothers, right next to their homes, has proven to be a success breastfeeding strategy and effective intervention in a gender-sensitive, community development in South Africa (UNICEF, 2011).

The use of antiretroviral drugs with good adherence plus feeding the infant with only breast milk for the first 180 days of his life, brings down the spread of the virus at very high but, infant feeding by their mothers remains controversial. There is a lot that has been taken into consideration like Weighing risks against benefits of breastfeeding which has cause a heated discussion among the people making decisions, the heads of programmes, and the individuals who provide services to this people in the sub Saharan part of Africa, keeping in mind that we have big causes of young child mortality that comes about because of poor nutrition and also

some respiratory infections, that can be avoided if the women with infants can breastfeed their children. On the other hand giving breast milk comes a lot of risk of spreading the disease to an infant, avoiding it also endangers the ones life at the same time.

Great extent of research has been done and milk from a mother is the best option for feeding an infant. Breast milk come with great benefits including high nutritional value which are very important and paramount in the growth and development, this is the best beginning of that cements a healthy life for an infant. The immune response mechanism which is present in the human milk is moved from mother to child, and it acts like a defense force to protect the infant from illness and common infections. Process of the antibodies that the baby gets from the mother is known as unreactive immunization. A mother also get breastfeeding benefits when it's done alone without any meal or drinks is included for the child, its known to be a simple a natural way of planning your family or reducing the chance of getting pregnant again quickly. The method of preventing pregnancy breastfeeding exclusively is called locational amenorrhea method, and is a known form of female that is being accepted and used by many mothers in the sub Saharan African. The most high and common and notorious pediatric HIV spread is the one from mother to infant. Women living with HIV have a possibility of also transferring the HIV virus to their unborn child during pregnancy, and in labor or child birth, giving birth and lactating. There is still a great challenge and problems concerning pediatric HIV, even though we have an improvement in putting away MTCT which has really gone down. But it is still at 5% in some key countries, the feeding and transmission of HIV through it is still a great struggle in countries where the provision of ART medication among expectant mothers is at low rate.

There is a lot of dilemma concerning ways of feeding a young in context with HIV; the feeding by these women with young ones has come across as disputed concern which has become a community at large problem. The mothers became confused for a reason that we have the choices presented to them, a mother gets confused if they should breastfeed or not, and with both options that involve the putting the child at danger and it brings about a great concern with their health and survival. Balancing between the risk and the benefits of breastfeeding has brought about very heated debate among the decision makers, program managers and those providing health care service in sub-Saharan Africa. The reason for all this is because the major infant death is considered to be lack of enough nutrient and contagious infections and that it might be stopped if a mother can be able to feed an infant with breast milk alone. Also in the other hand feeding babies natural by breast comes with less risk of getting the HIV virus, but when you opt not to breastfeed comes with a risk of an infant death.

Guidance of feeding infants with breast milk in context with HIV has changed over a period of time. Initially, it was advised mothers who are HIV positive had to apply the method of feeding an infant with breast milk alone for the first 180 days of their lives and also they could opt for using homemade milk as replacement feed apart from breast milk with an option of infant formula or modified homemade animal milk. A lot has changed and most of those recommendations were replaced by WHO 2010, and later on also changed in the year 2016 guidelines for young child young child feeding HIV that advised all women who are known to be infected to breastfeed their infants without adding anything else or exactly six months and after which they can start weaning as they continue breastfeeding till the infant turns 2 years of age with good ART adherence. Which are now what the health care policy makers wants and advises all women with infants and are HIV positive to follow, also they advised old habits of feeding

infants in sub-Saharan Africa. The following recommendation helps in protecting mothers from stigma and suspicion that comes about with behaviours that is not common in relation with infants feeding ways. Even though the option of breastfeeding an infant is made by the mother alone, at the end she is the ones who comes up with the ultimate decision with what she wants to do, whether to breastfeed or opt not to and to go on with follow the option and what she decides are determined by how she understands the importance. (WHO, 2010).

In developed countries like the United Kingdom, there exist alternatives for safe infant feeding. In such countries, regardless of viral load, maternal therapy or disease status, mothers living with HIV are advised strongly against breastfeeding their babies. British HIV Association (BHIVA) and Children's HIV Association (CHIVA) in a bid to enable low income earners access formula milk and appropriate equipment have recommended financial and practical measures to support women to formula feed. This includes specific measures for women subject to immigration control. In the past, the decision by an HIV positive mother was considered an issue of child protection. BHIVA and CHIVA have not recommended breastfeeding by HIV positive mother. (British HIV Association [BHIVA] and Children's HIV Association [CHIVA], 2010).

2.4 The association between sex work and infant feeding practices.

In the life of a sex worker especially mothers, a lot of dangers for diseases and deaths is experienced, mostly they are deaths related to HIV infections and difficulties and deaths from unsafe terminations of pregnancies. Despite all this, scarce information is known concerning the worlds feeding practices of these infants in relations to HIV and the impact of health problems aggravated by pregnancy and death on the sex workers. Deaths and illness aggravated by pregnancy is most likely to be high in female sex workers in Africa, reason being the high rates of HIV, unplanned pregnancies and termination of pregnancies, besides the regions high death of

pregnant women. Women selling sex in other areas are likely to have an increased children infections and deaths more than women without HIV, resulting in large health inconsistency. (Baral et al., 2012).

Kuhn et al. (2009) argue that within a given culture the practice of breastfeeding shows the ways which a lot of women reach an agreement and include beliefs, values, and morals that are common by the majority of people and a bodies support the known cultures norms with the truth of most women personal life challenges personal circumstance and social support system.

Guidance in methods of giving food to a child in relations and context of HIV is very crucial and important detail, as days goes by, counseling on human immunodeficiency virus and giving food to children are being updated based on latest evidence regarding infant feeding. This is to make sure that there is prevention of HIV spread from mother to her child. The new guidelines do not only focus on feeding, they have incorporated the provision antiretroviral treatment, and not only to the mother but to the child too, this helps in reduction of postnatal transmission of HIV through breast milk. The world health organization now advices many regions fighting HIV to choose one practice to feed their infants, this method they choose is established on local state, this helps in a situation where one cannot depend on a single health provider to advice women to choose PMTCT way they like better. In specific, the guidelines has advice the government to either give breast milk and be on HIV drugs or to totally not give breast milk as the way that most possible will give a child a chance of not contracting HIV (de Vincenzi,2011).

The new improved guidelines motivate country level decision makers to carefully balance between meeting an infant full nutritional needs with of other causes of child mortality and prevention of HIV transmission from mother to child. A lot of things need to be thought through

before deciding which strategy is best. Social economic and cultural ways of individuals being served are amongst what to consider. Attainable good and quality health services, a branch of medical services dealing with the control of disease, principal source of mother and children lack of important nutrients and infant and child death.

When the environment and social area of an infant or child leaves is not safe and fully supportive, feeding an infant exclusively is recommended. With all this conditions feeding an infant with breast milk and locally available foods or feeding them with alternative formula milk is not recommended. Optimal breastfeeding ways for all population is very important, and the new guidelines encourage the support of it but not sabotaging it. A few exercises done shows that formula milk is 2 to six times more expensive than normal way of giving mother's milk and providing ART drugs with great adherence.

HIV exposed infant, even without the use of antiretroviral treatment and are on replacement feeding, will result to high overall child death than when breastfeeding alone. Malnutrition, passing of loose stool and pneumonia in other places are the highest cause of children death, breastfeeding with a combination of antiretroviral treatment will bring about many children being alive by 18 months of age without HIV. Many studies say that, when one is not on HIV treatment, using other feeds apart from breast milk to children who are exposed to HIV will bring about higher death rates than when a child is only exclusively breastfeed, mostly in places where the rates of death are brought by diarrhea and malnutrition. This why in most developing countries, they have a high chance to advance giving infant breast milk without anything else even water and ART treatment being the main way of helping the reduction of HIV transmission to exposed infants. (Webb-Girard, 2010)

The available social and cultural norm dictates how practices of feeding infants occur in a particular society. In sex work, infant feeding practice particularly breastfeeding has bad impact on business because it reduces the number of clients (Majid et al., 2010). In a study done on sex workers in Malaysia, it was found that breastfeeding slows them down and hence reduce the number of clients. Being a problem to them many opt not to breastfeeding at all. In a normal Malaysian culture breastfeeding practice has rich symbolic content and is shaped by local understanding of breastfeeding (Majid et al., 2010).

Studies have shown that breastfeeding is seen by mothers worldwide as the best means for their infants. However in sex work it is not the best option, most sex worker mothers will not be around most of the time and it is not a good for their sex work business. We have some situations that may cause a mother not to be able to breastfeed their young ones. Most of these include economic status, belief, illness related sickness from HIV and advice from fellow professionals. Hence making weaning more entertained than breastfeeding. This may include modified formula feeds and other manufactured foods. Most of the time the options of feeding the child does not get to be decided by a mother alone but also by more family members and community on the create a great decision. At this point sex work can impact on the choices. At this point sex work has a greater influence on which feeding practice to be done (Homsy et al., 2010)

The choice of feeding an infant depends on many things, lifestyle, family tradition, and the availability of food products. In the South American countries many women do not follow guidelines due to many reasons including employment while pregnant and family ways of living and structures. Inside the Nicaraguan department of Health in the Latin America, they have a wellbeing schedule that helps Model of Family and Community Health at large, or MOSAFC, this is a health facility which is directed to urban and rural communities in Nicaragua. Among

other duties for this MOSAFC schedule includes educating the community on child nutrition. The local health care providers like nurse, children doctors teach and train local mothers about important topics on infant health that help in development of a child. Nevertheless other family members always have strong impact on infant weaning decisions and attitudes that are highly go hand in hand with breastfeeding and too early introduction to complementary feeds and bottle feeding before 6 months of age. (Arikpo , Edet , Chibuzor , Odey , Caldwell , 2015)

In the Latin American countries, the rate of young infant breastfeeding is high, but a few of this infant are only given breast milk only for the first 180 days of their lives. According to the research by Arikpo et al., (2015) infants are breastfeed for the first 3weeks of their lives exclusively, in a span of less than one month 58% of the infants are bottle feed, which breast milk is not added to this bottle. With approximately 86% of these infants before the age of six months solid foods have been introduced. Too much feeding of infants in central and Latin America is highly encouraged by mothers who introduce solid food or start weaning of infants at the age of four months (Arikpo et al., 2015).

Sex worker do not make the same decisions and most of the time what they decide between infant feeding decisions decided with social cultural context of what they live in (Kimanga et al, 2014). The use of breast milk in most societies is considered to be serious and crucial to the well-being of the infant. In the case of sex work information about importance of breastfeeding is know very well but the importance of getting back to work is paramount, and this agrees on how breast milk vary in different cultures.

The assessment of feeding practices of infants is very important, and studies and research has shown and given results that infants that are exclusively breastfeed and follow the guidance of

breastfeeding get less dangers in developing child malnutrition like being overweight in future compared to the ones feed with formula feeds. It is important to get advice on what one decides to go on the path of breastfeeding their infants, bottle feeding, or starting to introduce other foods when breast milk alone is not enough. Other great method is providing a chance that will come up with interventions that will included before birth and also after birth. Before a mother starts the process of weaning, she needs to clearly understand the short and long term health development effect of doing it. (Arikpo et al., 2015).

The thing that was mostly common is belief about the first mother's milk called colostrum. Organizations like WHO (2013), believes that colostrum is very important because comes with components that has properties of protecting and healing the body.

In the entire world, a good number of women selling sex are mothers, who are bringing up millions of children and at the same time working. A high number of the babies born of these mothers pose dangers of being infected with HIV, malnutrition, physical disability, that comes about wit congenital syphilis, diseases that is brought about by the use of alcohol, being sexual and also at some point physically abused and tuberculosis. Nevertheless there is little research done concerning young ones of women who sell sex and none include information about their feeding practices.

Women that sell sex for survival also report fetal death and very critical conditions among their young ones, this included under nutrition, death of a baby before 24 weeks, low birth weight, early birth, neonatal abstinence syndrome, conduct and mental problems and being judge and sidelined in school. In addition to all these problems, young daughters of the female ex workers are being used by traffickers and their young siblings are kidnapped and sold.

In Indonesia Infants born of sex workers do not get enough breast milk or are never given breast milk for the first 180 days of their lives as advised till the right period, other infant lose their lives suddenly, malnutrition, HIV and other HIV related illness. Failure to target the wellbeing of pregnant women selling sex and their young ones brings about infections that could have been avoided plus death. This also brings down the Sustainable Development Goals and the efforts from all over the world, which is getting read of HIV among the young child and under nutrition (Majid et al., 2010).

There is a need to recognize a very concerning area between women selling sex and the problems that come with food and is related to their nature of work, in terms working hours, the changing of climate in the world, living below minimum and other problems. Other women that sell sex have children and they tend to use protection less than other female sex workers. The reason being they need more money urgently to take care of their young ones and this gives them a reason to be involve with clients without using protection. In circumstances like this, to be able to prevent more spread of HIV infections food insecurity among women selling sex needs to be addressed more than providing condoms. (Chersich et al., 2014).

To be able to address these issues there is a need to partner with women selling sex and sex worker organizations on pregnant women health and children wellbeing, movements to support specifically pregnant women who still sell sex and their children needs to be implemented, local, regional and global funds research on maternal health needs to be improved. We are asking for a action to be considered concerning women who sell sex and the health for their young ones and for those who have been using their children for trafficking. This mothers have a right for good quality antenatal care and a safe delivery and guidance to feed their infants is paramount. Their

children have the right to health, shelter, schools, and protection from prejudice and stigma (Deering & Amin, 2014).

2.5 Feeding options of HIV positive sex worker mother to their infant.

When it comes to protecting a child from getting infection through the mother or PMTCT, women living with HIV are presented with two options concerning feeding their infants: exclusive breastfeeding or not breastfeed at all and replacement feeding, institutions that are health care providers need to give this mothers counselling, directions, and help in making sure they informed choice.

Even though we are discuss about women living with HIV, the World health organization recommends that every woman with an infant needs to breastfeed their infant for the first 180 days of their lives without giving any extra food or drinks, this is regardless if they are HIV positive or not. When the child turns six months, weaning can commence. As the mother who is HIV negative breastfeeds up to when the infant is 2 years of age, while the mother living with HIV gets proper guidelines from the healthcare providers. (UNAIDS, 2015).

On recent research and evidence says that giving antiretroviral treatment to an infected mother while pregnant and after birth and also giving ART to an infant who is exposed can remarkably bring down the risk of spreading HIV to an infant through breast milk. (UNICEF. 2016).

In a study done in Durban University of technology, in the department of nursing its states that a high low rate of breastfeeding of young infants is happening in areas or countries where milk that replaces breast milk has been introduced and given out without charges. Being the main example of this, South Africa has been practicing it. To avoid and stop the spread of HIV from the mother to child, the national and local authorities plus non-governmental organisation distributed infant

formula for free, an initiative which inevitably brought down breastfeeding. And the unpredictable consequence of the free formula campaign came about when those mothers who did not need the formula milk and are not HIV positive stopped breastfeeding and turned to formula milk.

In a research done by a breastfeeding expert in Cape town, concludes that when a mother resumes work is when a lot of concerns and excuses to stop giving an infant breast milk arises. Investigations have shown that even women who do not have to go to work or struggle with employment, tend to go for the direction of formula milk and this is a very great temptation since it is an easy way of life and is mostly convenient for them. But with all these observations done, there is a gap and lop hole that needs to be filled, mothers need to be given information on the importance of still breastfeeding while working by expressing so that the young one will still receive enough nutrients for the young ones (UNAID, 2015).

Giving breast milk is the best way of feeding a young one. There are many ways a mother can transmit HIV to an infant and giving breast milk can be one of them. A women can also transmit the when expecting and delivery. Nonetheless, one need to know that breastfeeding is the most valuable thing to infants, especially exclusive breastfeeding and it's the best way of improving child's optimal survival and reducing child's mortality rate.

According to UNICEF (2016), poor growth, increases cases of diseases and death are mostly experienced more in infants and young ones born from women who are living with HIV. The children that have HIV further exhibit growth abnormalities and are at a greater chance of malnutrition. HIV/ AIDS and other chronic diseases may cause poor growth and appetite reduction, low intake of food and diminished absorption of nutrients needed by the body to fight

infections. This greatly weakens an already weak immune system that can barely fight viruses like tuberculosis (Doherty et al., 2011).

Despite the benefits of breastfeeding to the infant, studies show that some infants will not enjoy these benefits. Such are children born to mothers who died and to women that are living with HIV are not breastfeeding. WHO (2013) has advocated to come up with guideline for cases such as these where children between 6 – 24 month of age can be fed. This will assist in providing for the nutritional needs of these children.

Breastfeeding of children brings down the possibilities of illness and death due to regular infections diarrhoea and pneumonia. In places where there is scarcity of needs and exposed to disease, bad sanitation with polluted water, the risk of infection from HIV is greatly outweighed by the benefits of breastfeeding. Breast milk contains a distinctive blend of antibodies and nutrients which protects the baby from illness and mortality. This makes it the food for babies. A good combination of giving breast milk and ARVs reduces the chance and dangers of spread of (WHO, 2012).

Young ones below one year and young children derive health benefits from breastfeeding. This makes it an intervention which is essential for the child to survive. UNICEF (2016) argue that in the absence of this intervention babies are at a risk of being contracting infection directly from the mothers who are living with HIV when expecting, giving birth and postnatal lactation. This they estimate happens to about 35% of pregnant women who are HIV positive. In the absence of proper preventive interventions, mothers living with this are likely to infect about 10-20 per cent of infants with the virus through breastfeeding within two years.

The risk of mother to child transmission of HIV is affected by several factors. These include the amount or number virus in the body; this is when it's high when AIDS increase in the body. Compared to a healthy mother a HIV positive one possess a high chance of spreading the virus to the infant, when the period is longer an infected mother breastfeeds an infant's increases the chance of HIV transmission. How healthy or condition of the breast, that is if it is okay also contributes to it. The ways one choses to feed infant will be related with transmission. Compared to mix feeding, breastfeeding with breast milk alone is connected with less chance of getting infected. A research done gave results that a percentage of 4 young ones who were feed exclusively became infected at a duration of 6 weeks and to six months, this is including those who never used antiretroviral drugs at all (Waruru et al., 2016). The risks of transmission to an infant in the first 6 months are never too far if mixed fed. This is because the delicate and permeable gut wall of an infant can easily be damaged by the other liquids and mixed food and can therefore easily allow transmission of the virus. There is also the risk of contamination and diarrhoea which can be caused by mixed feeding an infant thereby diminishing an infant's chances of survival (Waruru et al., 2016).

In the 2006, according to schedules, notable investigation and experience, evidence that concerns the way children are being feed in context with HIV, a lot have come up since the complaint and research about it came up in and revised in revised in 2006. There is result of significant reduction of spread and dangers of HIV after birth through giving breast milk if intervention measures are taken such as ARV's on either HIV positive mother or an infant exposed to HIV. ARV's has therefore made breastfeeding significantly safer for HIV positive mother and their infants. The guidelines have also considered protecting the mother's health which is beneficial to HIV-infected women. It is upon this evidence that such players like mothers, health officials,

international organizations, health providers and community workers base their decision on the best method to feed an infant (World Alliance for Breastfeeding Action [WABA], 2015).

Developing countries like Kenya, all mothers who are living with HIV and those who are not need to be counselled and guided on the importance of using breast milk alone without any added drink or food until the infant reaches six months of age. And after that, when weaning begin, they need clear guidance on complementary diet as they continue with breastfeeding; this is encouraged by health policy makers. On the same point, a woman with a young one and she is known HIV positive is given extra guidance on more available options on infant and young child feeding in the context of HIV using new available and researched evidence. This in in order to help them make knowledgeable choices on the option they will chose to take. Those that will choose breastfeeding, need to know that they will only use breast milk to feed their infant for the first 180 days of the infant's life, without introducing anything else. Except prescribed medication alone, and this will go on till when the baby is one year of age with appropriate complementary feeds. Infants of women living with HIV are given nevirapine prophylaxis for up to 1 week after complete cessation of breastfeeding. (Ministry of Health [MoH], 2013).

A mother has a choice to use any feeding ways they like, but advice needs to be given to them. If they chose breastfeeding, a nurse or pediatrician needs to guide and counsel the mother on exclusive breastfeeding six months and thereafter introducing complimentary food. All infants of this mothers needs to be given nevirapine prophylaxis for the first six weeks regardless of the choice of feeding the mother chose. If there is a special situation like parents death, a mother has breast condition like mastitis a doctor recommends a mother not to breastfeed and use alternative feeding. Feeding with breast milk up to 12 months of age and the antiretroviral given to an infant should be stopped. (MoH, 2013).

In other circumstance women with infants might chose replacement feeding, this a way of process of giving an infant other feeds other than breast milk and the diet given provides all the nutrient an infant needs until when the child can be given normal family meal. This diet given to an infant has to be acceptable, feasible, affordable, sustainable, and safe (AFASS), (WABA, 2015)

At any circumstance or situation, complementary feeding should start at 6 months. After six months of age other foods other than breast milk can be introduced, but breastfeeding or replacement feeding that was practiced should not be stopped this is until the replacement meals given to an infant can nutritionally provide good diet to the infant without breast milk. The infant needs to continue with the ART treatment given and the diet should be prepared natural and locally available foods.

2.6 Summary

In Kenya an estimated 13,000 new infant are annually infected by HIV (Sirengo et al., 2014) and of those dying from AIDS is a cause for concern. Their lives have become a big challenge to the scientists, health professionals and policy makers alike. A lot of interventions have been put in place to try and prevent infections with HIV and PMTCT is one of these interventions. The children are innocent and yet they fall victims of circumstances. The mothers are forced to make difficult decisions in order to select ways of giving their child food which are good for the children. We have little research concerning which is documented on dangers on artificial feeding in African setting because breastfeeding is nearly universal, making balancing of risks challenging, especially the sex workers women lack sufficient information, others lack supplies and support when it comes to options for infant feeding (NAS COP, 2011). There are issues that remain unclear limiting the capacity to adequately guide the women who are sex workers on

ways of feeding their children. It's evident that there is paucity of literature regarding the habits used by women who sell sex and are living with HIV to feed their young ones. It is therefore the purpose of this study to determine the feeding practices of infants born of HIV positive sex worker mothers in Nairobi, SWOP clinic clients.

2.7 Conceptual framework

This framework attempts to explain factors that determine the feeding practices of infants born to HIV positive sex worker mothers. It includes the infant feeding practices and factors that influence the choice of feed following nutrition counselling's on feeding options recommended by World Health Organization.

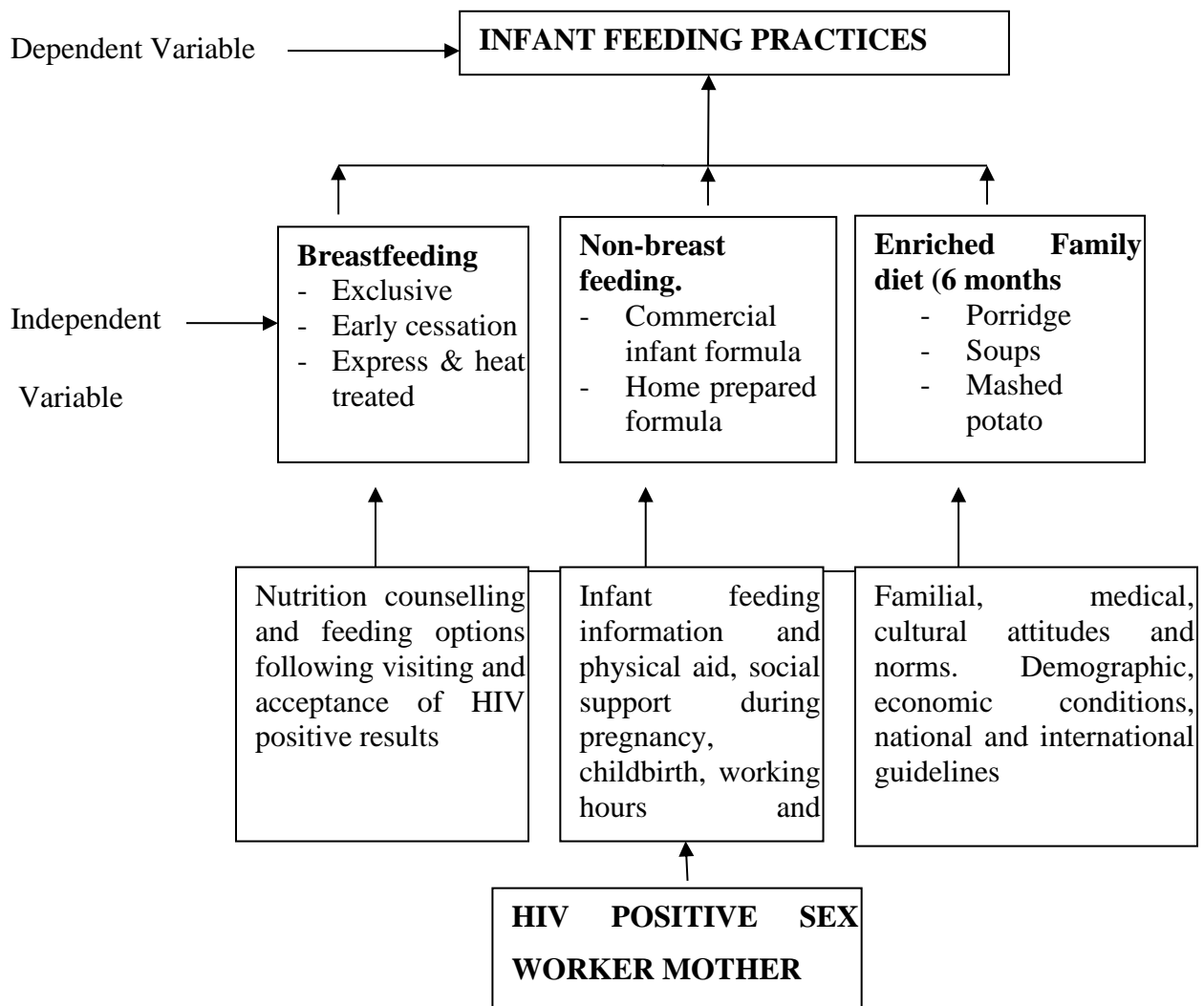


Figure 1. 1– Determinants of feeding practices of infants born of HIV/AIDS sex worker mothers

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focus on research design, research variables, and area of study, target population, data collection instruments, and data collection procedures and data analysis.

3.2 Research design

The study design was a descriptive cross sectional study; Descriptive Cross-Sectional Study is where a type of diseases or infection is studied or measured in a particular area at a known period and time on a specific group of people. This figure can always be used to through a condition or infection in a population; it was used to collect quantitative data. This method was appropriate because it allows for extensive data collection and in-depth investigation within a short time frame (Mugenda & Mugenda, 1999).

3.3.1 Independent variables

A type of variable that cannot be changed by anything one is trying to research, these are variables that have already happened and the researcher has no control over them. The variables include socio-demographic information, infant feeding options, breastfeeding rate, bottle-feeding rate, complementary feeding and morbidity status.

Infant feeding options: Exclusive breastfeeding, early cessation, wet nurse, home prepared formula, commercial infant formula.

Breastfeeding rate: percentage of infants less than 12 months breast fed within 1 hour of birth or never breastfed over total number infants

Bottle-feeding rate; total number of infants bottle-fed over total number of infants

Complementary feeding: percentage of infants fed on manufactured or locally prepared food together with breast milk or infants formula over total number of infants.

Social Demographic information: Mothers' age, marital status, parity, type of family, income level and source, and education,

Morbidity status: Illness experienced 2 weeks prior to the study and immunization status.

Infant feeding practices; this is an outcome, or a function of the independent variable. There is adverse opinion on how mothers feed their infants. WHO recommends exclusive breast-feeding for infant below six months and thereafter wean the infant with continuation of breastfeeding for 24 months. Feeding practices include; giving milk alone, missing milk and other foods, alternative feeding, complementary feeding and wet nursing.

3.4 Area of study

Three SWOP clinics were the study areas i.e. SWOP Majengo, SWOP City and SWOP Thika Road Located in Nairobi. SWOP Majengo which is the oldest clinic is between Gikomba markets. Eastleigh, and flanked by Shauri Moyo, Majengo is one of the oldest slums in Nairobi, which is in Nairobi County, Kamukunji sub-county with a population of 261,855. SWOP started

as a research clinic for sexual transmitted infections and HIV by the University of Nairobi and University of Manitoba.

Clients that enrolled at SWOP had to have ID/Passport, above 18 yrs and screening was done by staff. SWOP Majengo has expanded services to other six sites including SWOP City and SWOP Thika road. SWOP City is located at the central business district, many of its clientele work in clubs and brothels in the city. SWOP Thika road is located at Kasarani sub county and most of the clientele are from Mathare slums, Githurai 44, Githurai 45 and its environs. SWOP clinic offer different services including the provision of antiretroviral drugs, condoms, HIV testing and counseling, Health Education, nutritional counseling, cervical cancer screening and treatment of sexual transmitted infections.

3.5 Sample size and sampling procedure

The type of sampling procedure used was purposive sampling, this was used to select a study sample. A comprehensive sample of all HIV positive sex workers mothers who attended follow up clinic was enlisted into the study upon their consent. Selection was purposive whereby the research assistant with the help of a nurse got all eligible HIV positive sex worker mothers who know their HIV status before giving a go ahead to be in the study. The HIV positive sex worker mother only enlisted in the study if she qualifies to be in the study. According to the 2016 SWOP clinic records, There were 112 mothers in majengo with infants, 184 in SWOP Thika Road and 216 in SWOP city from the month of July 2016, leading to the population of 512

Yamane Sampling method.

n = sample size

N = population size

e = the acceptable sample error

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

$$n = \frac{512}{1 + 512 (0.05)^2}$$

$$n = \frac{512}{1 + 1.28}$$

$$n = 512 / 2.28$$

$$= 224.56$$

$$\text{Total} = 225$$

Distribution of the three study site,

SWOP Majengo: 22.22% of respondents (n=50)

SWOP Thika Road: 32% of respondents (n=72)

SWOP City: 45.78% of the respondent (n=103)

3.6 Inclusion criteria

Study had known HIV positive sex workers mothers who are clients at SWOP clinic and are at reproductive age; have infants who are 0-12 months old and have consent to participate in the study.

3.7 Exclusion criteria

This included those who are HIV positive sex worker mothers who had declined the consent of the research, and those who are too sick to participate in the research.

3.8 Data collection instruments

Questionnaire: It is an instrument mostly used when doing a study or research, it has questions that needs one to answer so that you will be able to get information about them. It is also of importance that they are able to be read and understood by a respondent.

Interview with the mothers was set up so that data would be collected. A set of questions both closed and open ended was used to collect data from each respondent. The interviews provided social demographic information such as maternal age, parity, marital status, education, infant sex, and source of income especially to know if they are practice sex work.

3.9 Data collection procedures

This is official way of getting or collecting data. The respondents (female sex workers) were accessed from SWOP Clinic as they come for follow up services like screening for sexual transmitted diseases treatment, back for previous treatment results and collection of their antiretroviral drugs. When all is agreed on the interview prepared was then carried on using the local language (Swahili) using a pretested questionnaire.

3.10 Training of research assistants

To ensure quality assurance of data collected, research assistants were trained for two days prior to data collection. The training consisted practicing on interpersonal skills on how to approach the mothers, knowledge of the questionnaire content and quality assurance. This research followed the order of activities. Practical training sessions was held on data collection techniques and research ethics.

3.11 Pre-test

A situation where the questions that are available in the questionnaire are being tested, a small group of respondents are taken and used for this exercise. The reason of doing this is to make sure that there is no mistake in the questions and if there is it will be corrected. It's important to test your survey questionnaire before using it to collect data (Dave, 2015). Pretesting and piloting can help you identify questions that don't make sense to participants, or problems with the questionnaire that might lead to biased answers. Also used identify to an initial measurement (such as brand or advertising awareness) before an experimental treatment is administered and subsequent measurements are taken.

To enhance data integrity, the tool was pretested in a group of female sex workers from an adjacent informal settlement but were not included in the ultimate respondents that participated in the final survey. Efforts were made to ensure that these respondents were demographically similar to those included in the final survey. Changes were affected where required, to the wording or skip patterns of questions in the tool.

To ascertain the its validity, the interview schedule was given to three experts in the field of infant feeding research to examine individually and provide feedback. The instrument was then revised and adjusted based on responses obtained.

3. 12 Data analysis

Data analysis is the way of checking, removing, changing into a better one, and guiding information with a mission of getting important information that will tell you the conclusion that you will be able to make. Process of inspecting, Data analysis has multiple facets and approaches

encompassing diverse techniques under a variety of names, in different business and social science domain.

In this particular study, when all information is gotten, the results were edited, coded and entered into a computer spread sheet in a standard format to allow for analysis of both descriptive and inferential statistics. The Statistical Package for the Social Sciences (SPSS) Chi- square test is used to control statistical significance of feeding practices of infants born of HIV positive sex worker mothers. The statistical differences were measured as 0.05 level of significance.

3.13 Ethical consideration

Ethical consideration is the standard way of doing that will help you differentiate between what you think is not right and what is right. This prevent against the fabrication or falsifying of data and there after promote the pursuit of knowledge and truth, which actually the primary role of research.

The study proposal was submitted to KEMUSERC for approval prior to it beginning. Approval was also sought from the clinical director Swop clinics Nairobi. The respondents, on understanding that their identity was anonymous and information received was confidential. Participant's names did not appear on the questionnaires, they were given study numbers to identify themselves with, also the filled questionnaires were kept under locked cabinets and typed documentation was accessed only with a password on the computer by authorised personnel.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

In this section we will get the presentation and interpretation of the study findings. Reasons of doing the study was to assess the feeding practices of infants born of HIV positive sex workers mothers at SWOP clinic. The data was thereafter analysed per what the objective study and the findings were presented as per the different classes underlined below. The study selected a sample of 225 HIV positive sex worker mothers who knew their HIV status, each sex worker mother was given a questionnaire to fill, from the sample selected 213 respondents managed to fill. The chapter delves into discussion of the findings.

4.2 Socio Demographic Information of the Respondents

Table 4.1: Socio Demographic Information of the Respondents

Characteristic	Indicator	Frequency (n=213)	Percent
Age	Between 22-26 years	39	18.3
	Between 27-31 years	62	29.1
	Between 32-37years	71	33.3
	Between 38-43 years	41	19.2
Marital status	Married	60	28.2
	Single	104	48.8
	Divorced	26	12.2
Level of Education	No formal education	17	8.0

	Primary	118	55.4
	Secondary	59	27.7
	Tertiary	19	8.9
Religion	Muslim	58	27.2
	Christian	151	70.9
	Other denomination	3	1.4
Working hours	Day	36	16.9
	Night	71	33.3
	Both	102	47.9
Household income Per day	Between 20- 200	22	10.3
	Between 250 -500	94	44.1
	More than 500	95	44.6

The Table 4.1 presents the Socio Demographic Information of the Respondents. From the responses, 52.6% were more than 32 years compared to 47.4% who were less than 31 years. Further, many of the mothers who participated in the study were single [48.8%] while quarters were married [28.2%]. Assessing their level of education, it was established that slightly more than half of them had primary level education 55.4%] compared to 27.7% who had more than secondary education. It was established that most were Christians [70.9%] compared to 1.4% who cited other denomination.

The study determined that most of the respondents worked both day and night [102, 47.9%] compared to those who worked only during night time [71, 33.3%] and day times [36, 16.9%]. On the respondents daily income, it was established that 44.6% earned more than 500 compared to 44.1% who indicated that they earned between 250 -500.

4.3 Delivery Responses

Table 4.2: Delivery Responses

Characteristic	Indicator	Frequency (n=213)	Percent	T test	P value
Place of delivery	Government hospital	141	66.2	14.560	.000
	Private clinic	62	29.1		
	Home midwives	10	4.7		
Mode of delivery	SVD	157	73.7	25.826	.000
	C/S	42	19.7		
	No response	14	6.6		
First ANC clinic	First trimesters	121	58.5	10.301	.000
	Second trimester	72	34.8		
	Third trimester	14	6.8		
	Never attended	2	1.0		

The Table 4.2 assessed the respondent's delivery mode and place of delivery. It was established majority delivered at public hospitals [141, 66.2%] compared to a third who delivered at private clinics [62, 29.1%] and this results were significant [p value <0.05]. Majority of the respondents

had delivered naturally i.e. SVD [157, 73.7%] compared those who underwent CS [42, 19.7%] [p value <0.05]. It was established that most of the respondents had started their ANC clinic during their first trimesters [121, 58.5%] compared to those started at their second trimester [72, 34.8%] [p value <0.05].

4.4 Feeding Practices

Table 4.3: Feeding practices

Characteristic	Indicator	Frequency (n=213)	Percent	T test	P value.
Type of feeding practices	Exclusive breastfeeding	84	41.6	2.671	.008
	Alternative feeding	73	36.1		
	Mixed feeding	45	22.3		
Frequency of infant feeding	Once	16	9.1	11.443	.000
	Twice	48	27.3		
	Thrice	73	41.5		
	More than four times	39	23.2		
	No response	37	17.4		

This research needed to know the method of feeding and practices used by HIV positive sex workers. Majority (84, 41.6%) said they use EBF, 36.1% of the respondents indicated alternative

feeding and 22.3% indicated mixed feeding. The result implied that most (58.4%) of the HIV positive sex worker mothers use alternative feeding and mixed feeding practises.

4.5 Knowledge on Infant Feeding and HIV Status

Table 4.4: Knowledge on Infant Feeding and HIV Status

Characteristic	Indicator	Frequency (n=213)	Percent	Chi-Square	P value
Disclosure of HIV status	No	116	54.5	68.949	.000
	Yes	96	45.1		
	Don't know	1	0.5		
Best description of PMTCT knowledge	No idea at all	42	19.7	3.796	.150
	Refused to answer	77	36.2		
	Enough information	94	44.1		
Attitude towards infant feeding	Positive	95	44.6	1.510	.470
	Negative	64	30.0		
	Not sure	54	25.4		
Infant feeding awareness	Has knowledge	137	64.3	49.143	.000
	No knowledge	19	8.9		
	Not sure	57	26.8		
Time taken to breastfeed the infant after delivery	Immediately	86	44.1	111.630	.000
	After 30 minute	18	9.2		
	After an hour	53	27.2		
	After few days	37	19.0		
	Never	1	.5		
	No response/DNK	20	9.4		
Advantages of colostrum	Good	83	40.1	28.730	.000
	Not good	14	6.8		
	expose infant	37	17.9		

	don't know	73	35.3		
Have ever expressed breast milk	Yes	43	20.2	63.585	.000
	No	129	60.6		
	Sometimes	41	19.2		
still breastfeeding	No	74	34.7	23.680	.000
	Yes	139	65.3		
Reasons for stopping breastfeeding	Milk reduction	37	31.6	29.973	.001
	Breast infections or problems	47	40.2		
	Had to go back to work	24	20.5		
	Infant refusing to breastfeed	9	7.7		
	No response	96	45.1		

The Table 4.4 presents the respondents HIV disclosure and their knowledge on infant feeding. The discovery was that 45.1% of the respondents had disclosed their HIV statuses compared to 54.5% who had not while 0.5% had not known their HIV status [p value<0.05]. Assessing the respondents best description of PMTCT knowledge, 44.1% indicated they had enough information compared to 55.9% who had no information and refused to answer and thus they had no information on PMTCT. On their attitudes towards infant feeding, 44.6% had positive attitude compared to 30% with negative attitude on infant feeding.

Further, the study noted that more than half [137, 64.3%] had information on infant feeding compared to 8.9% have no apprehension on infant feeding. The study also assessed the time taken to breastfeed the infant after delivery and from the responses, 44.1% indicated immediately compared to 36.3% who did so within less than one hour. Assessing their knowledge on the

advantages of colostrum, the study affirmed that 40.1% said it was good compare to mere 6.8% who said it wasn't.

A good number of the mothers were still breastfeeding [103, 65.3%] for the ones who were not breastfeeding 40.2% said it was due to breast infections or problems, 31.6% cited lack of milk while 20.5% said they had to go back to work.

4.6 Association between variables

The association between the feeding habits of HIV positive sex workers and their practices.

Table 4.5: association between the feeding habits and their practices.

		Disclosure of HIV status			Pearson Chi-Square	Asymptotic Significance (2-sided)
		No	Yes	Total		
Type of feeding practices	Exclusive breastfeeding	42	42	84	13.259 ^a	.053
	Alternative feeding	45	27	72		
	Mixed feeding	25	19	44		
	Wet nursing	1	0	1		
Total		113	88	213		

There was no association between the respondents HIV status and their practices as the Chi Square value of 13.23, $p > 0.05$ was obtained and further it was established that most of the respondents had enough/good knowledge on infant feeding as well as positive attitudes towards the same.

Table 4.6: association between the feeding practices and the recommendation in the national guidelines

		Best description of PMTCT knowledge			Chi-Square	Asymptotic Significance
		No idea at all	Refused to answer	Enough information		
Type of feeding practices	Exclusive breastfeeding	18	28	38	8.418 ^a	.209
	Alternative feeding	13	35	25		
	Mixed feeding	10	14	20		

	Wet nursing	1	0	0	1
Total		42	77	83	213

From Table 4.6, it is clear that there was no association between the feeding practices and the recommendation in the national guidelines as the p value obtained was >0.05 and thus the respondents may not have good knowledge on PMTCT verses the recommendation in the national guidelines.

Table 4.7: Association between the feeding practices and Infant feeding awareness

		Infant feeding awareness			Chi-Square	Asymptotic Significance	
		Has knowledge	No knowledge	Not sure			
Type of feeding practices	Exclusive breastfeeding	51	15	18	84	15.745 ^a	0.05
	Alternative feeding	46	3	24	73		
	Mixed feeding	29	1	14	44		
	Wet nursing	0	0	1	1		
Total		126	19	57	213		

As presented, there was a significant association between the feeding practices and Infant feeding awareness [Chi Square 15.74, p value 0.015]. The Table 4.7 presents the association between the bio data characteristics of the respondents and the feeding practices to show which variable explain the type of the feeding practice adopted.

Table 4.8: Feeding Practices and Socio demographic characteristics

		Type of feeding practices				Chi-Square Value	Asymptotic Significance	
		EBF	Alternative feeding	Mixed feeding	Wet nursing			
Marital status	Married	38	11	4	0	53	58.705 ^a	.000
	Single	18	52	30	0	100		
	Divorced	15	3	7	1	26		
	Widowed	13	7	3	0	23		
Total		84	73	44	1	213		
Age	Between 22-26 years	10	19	10	0	39	11.318 ^a	.255
	Between 27-31 years	31	16	15	0	62		
	Between 32-37years	27	26	10	1	64		
	Between 38-43 years	16	12	9	0	37		
Total		84	73	44	1	213		
Level of Education	No formal education	7	7	2	1	17	44.767 ^a	0.05
	Primary	60	29	22	0	111		
	Secondary	13	22	20	0	55		
	Tertiary	4	15	0	0	19		
Total		84	73	44	1	213		
Religion	Muslim	25	20	13	0	58	5.805	.445
	Christian	59	50	30	1	140		
	Other	0	3	0	0	3		
Total		84	73	43	1	213		

As presented, only two variables that were significant i.e. they determined or explained the feeding practices the respondents adopted and these were marital status [$\chi^2=58.705$, p value <0.05] and the level of education [$\chi^2=44.76$, p value <0.05]

4.7 Discussion of the findings

Paramount reason of the research was to determine the social/demographic characteristics of HIV positive sex worker mothers, determine the difference in the ways of feeding infants of HIV positive sex worker mothers verse the recommendation in the Kenya national guidelines, determine the association between sex work and infant feeding practices and to determine the feeding options for infants born of HIV positive sex worker mothers.

A good number of the mothers in the study were single while quarters were married; making it known that a good number of FSW according to the study are single. Slightly more than half of them had primary level education compared to a quarter that had more than secondary education. This female sex workers are learned and actually have knowledge that if a solution to help comes up, it will make intervention approachable and easy to execute. It was established that most were Christians. The study determined that most of the respondents worked both day and night compared to those who worked only during night time and day times. On the respondent's daily income, it was established that majority earned more compared to the remaining percentage who indicated that they earned less.

Majority delivered at public hospitals compared to a third who delivered at private clinics and this results were significant [p value <0.05]. For the delivery percentage being more than half, it a good encouragement meaning more mothers have information on antenatal care. Majority of

the respondents had delivered naturally i.e. SVD compared those who underwent CS [p value <0.05].

Most of the respondents had started their ANC clinic during their first trimesters compared to those started at their second trimester [p value <0.05]. Majority used EBF, while quite a good number of the respondents indicated alternative feeding and least of the respondent indicated mixed feeding. The result implied that most of the HIV positive sex worker mothers use alternative feeding and mixed feeding practises.

Nearly half of the respondents had disclosed their HIV statuses compared to more than half of them who had not while a lesser percentage of them had not known their HIV status [p value <0.05]. Assessing the respondents best description of PMTCT knowledge, nearly half indicated they had enough information compared to slightly more than half who had no information and refused to answer and thus they had no information on PMTCT. On their attitudes towards infant feeding, nearly half had positive attitude compared to a quarter with negative attitude on infant feeding.

Further, the study noted that more than half had information on infant feeding compared to a lesser percentage with no knowledge on infant feeding. The study also assessed the time taken to breastfeed the infant after delivery and from the responses, nearly half of the respondents breastfeed their infants immediately compared to nearly a quarter who did so within less than one hour. Assessing their knowledge on the advantages of colostrum, the study affirmed that nearly half said it was good compare to mere a quarter who said it wasn't.

There was no association between the respondents HIV status and the nutritional status of their infants as the Chi Square value of 13.23, $p > 0.05$ was obtained and further it was established that

most of the respondents had enough/good knowledge on infant feeding as well as positive attitudes towards the same. There was no association between the feeding practices and the recommendation in the national guidelines as the p value obtained was >0.05 and thus the respondents may not have good knowledge on PMTCT verses the recommendation in the national guidelines. According to UNICEF and WHO (2013) stated that anything that interferes with the mothers' confidence can lead to interference with breastfeeding. This study established that there is an association between the feeding habits of HIV positive sex workers and the nutritional status of their infant. The study further establishes that there exist an association between sex workers and infant feeding practices this concurs with (Majid et al., 2010) that in sex work, infant feeding practice particularly breastfeeding.

There was no association between the feeding practices and the recommendation in the national guidelines as the p value obtained was >0.05 and thus the respondents may not have good knowledge on PMTCT verses the recommendation in the national guidelines

This finding was in line with (Chersich et al., 2014) who noticed those under age women selling sex have responsibility to provide for their family income. The study further revealed that most HIV positive sex worker mothers are not highly educated as by nearly all of the respondents having attained only secondary education. This finding concurs with (Chersich et al., 2014) who established that Female sex workers commonly have low education.

Most of HIV positive sex workers have their delivery in government hospital and they mostly use alternative feeding and mixed feeding practises. This finding was in line with Ivers et al., (2009) who stated that mothers who no enough food before and during pregnancy is at increased risk during labour and delivery and have a higher chance of having a baby with who is underweight. The study also established that on average most HIV positive sex worker mothers

feed their infants after every 3 hours. From the responses, the study noted that majority of HIV positive sex worker mothers were aware of Prevention of Mother to Children transmissions (PMTCT) and they have a good attitude towards the giving food to a child. Most sex workers have knowledge on infant feeding awareness and most sex worker mother's breastfeed their infants within the first 30 minutes after delivery. The study also revealed that most sex worker mother's stop breastfeed their infants due to the following reasons; most sex workers go back to work, Milk reduction, Breast infections or problems and some Infant refuses to breastfeed.

The study further discovered that we have a significant positive association between the feeding practices of infants born of HIV positive sex worker mother verses the recommendation in the national guidelines. Further the study revealed a strong positive significant association between feeding options of infants and HIV positive sex worker mother. This finding concurs to that of (Doherty et al., 2011) that breastfeeding brings down the possibility of an infant getting sick or dying from common illness.

CHAPTER FIVE

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

5.1 Introduction

This is the last part of the study that tells us the summary of the assessment of infants born of HIV positive sex workers mothers at SWOP clinic, conclusions and recommendations are drawn there to.

5.2 Conclusion

Most of the respondents worked both day and night compared to those who worked only during night time and day times alone. On the respondents daily income, it was established that nearly half earned more than 500 compared to slightly less than half who indicated that they earned between 250 -500.

Majority delivered at public hospitals compared to a third who delivered at private clinics. Majority of the respondents had delivered naturally i.e. SVD compared those who underwent CS. Most of the respondents had started their ANC clinic during their first trimesters compared to those started at their second trimester

More than a third of the respondents had disclosed their HIV statuses compared to a third who had not while a quarter had not known their HIV status. Assessing the respondents' Best description of PMTCT knowledge, less than half indicated they had enough information compared to more than half who had no information and refused to answer and they had no information on PMTCT. On their attitudes towards infant feeding, majority had positive attitude compared to with few of them with negative attitude on infant feeding.

More than half had information on infant feeding, compared to less than a quarter who had no knowledge on infant feeding. The study also assessed the time taken to breastfeed the infant after delivery and from the responses, slightly less than half indicated immediate breastfeeding after birth compared to a third who did so within less than one hour. Assessing their knowledge on the advantages of colostrum, the study affirmed that more than a quarter said it was good compare to a smaller percentage who said it wasn't.

5.3 Recommendations

- To cater for HIV positive sex worker mother who may not be able to exclusively breastfeed and cannot afford exclusive replacement feeding, the MoH should develop a policy to support them and educate them on the importance of EBF.
- Health education has a gap that needs to explain to HIV positive sex worker mother the importance of giving infants breast milk alone to avoid the spread of HIV. This should be done in clinics and all government hospital and be reinforced by MoH before and after baby is born .Mothers need counselling if they doubt their milk is inadequate or if going back to work.
- Health workers need to also ensure that Infant feeding messages should be repeatedly emphasized during Immunizations, mothers' visit to family planning clinic at six weeks, and every other SWOP clinics.
- When opting to breastfeed, a mother needs to know that good adherence to treatment gives an exposed infant the best chance to survive, and grow well and in a healthy environment free from HIV. Where also clean safe water and sanitation is not expected and the infant mortality due to malnutrition, pneumonia and diarrhoea are mostly common. A good

adherence to drugs is very important and helps in stopping the spread of HIV from a mother to an infant. Adherence is also best for the mother's health.

- Enough and huge help and support from families, communities, health care practitioners and the whole fraternity is critical to make breastfeeding work for all mothers; and those living with HIV need even more support. Introduction of Breastfeeding counselling that will be provided within health clinics and at the community level can help mothers with HIV breastfeed safely. When helping or supporting mothers to breastfeed, the support should be concerned of not bringing an option of breast milk substitute.
- The law makers, especially in matters concerning health needs to emphasis on the positive social attitudes towards repeated testing and counselling especially for the expectant and nursing women (including those who have previously tested negative for HIV); and for the prevention of HIV infection during breastfeeding.
- The MoH, should organize refresher courses in line with the current guidelines that talks about feeding of children born from HIV positive. The health authorities should ensure that the first visit should be used for testing and introduction of infant feeding options. A longitudinal study should be conducted to track infant and young child feeding practices throughout the period from birth to 24 months of age. This is to effectively link feeding practices and individual growth patterns. Further research should be conducted to establish the association between the nutrition status of mothers living with HIV and the nutrition status of their infants.

- The information that is being used by the health care practitioners of maternal and child health, HIV, and nutrition to advocate the same integrated advocacy agenda around breastfeeding and HIV.

5.4 Suggestion for Further Research

A longitudinal study should be conducted to track infant and young child feeding practices throughout the period from birth until the time the child turns two years of age. A similar study may be done in a SWOP clinics and cultural setting incorporating factors like poverty and culture that were not captured in this research.

Further research should be conducted to establish the association between the nutrition status of sex worker mothers living with HIV and the nutrition status of their infants. Their living conditions and safety of sex workers children at large should also be studied. Rape cases, abduction, and children selling sex at an early age should also be researched on.

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APPENDICES

APPENDIX I - INFORMED CONSENT

I am Carolyne Chemeli, a Masters of public health student at Kenya Methodist University. I am carrying out a study on the nutritional status and feeding practices of infant born of HIV positive sex worker mothers in Swop clinics Nairobi. I am going to give you information and invite you to be part of this research. You do not have to decide today whether or not you will participate in the research.

Numerous studies have documented the health problems of sex workers; however, there has been limited research documenting the well-being of infants of sex workers. Threats to the health and welfare of these children span their lives. The research will involve you filling in a questionnaire and help will administered if need be.

Please feel free to ask questions as we go through the information and I will take time to explain. If you have questions later, you can ask them of me.

Your participation in this research is entirely voluntary; there will be no monetary reimbursement for participation. It is your choice whether to participate or not. Whether you choose to participate or not, all the services you receive at this clinic will continue and nothing will change. (You may change your mind later and stop participating even if you agreed earlier.)

If you wish to ask questions later, you may contact any of the following: [name, address/telephone number/e-mail]

1. Carolyne Chemeli Tanui (0729 281 728) tanuicarolyne@rocketmail.com (Researcher)
2. Dr Joyce Meme ,(0722 754659) jbkmeme@yahoo.com (1st supervisor)
3. Dr Makobu Kimani, 0722258102/ makobukimani@hotmail.com (2nd supervisor)

This proposal has been reviewed and approved by the KEMU ethics board, which is a committee whose task it is to make sure that research participants are protected from harm. The knowledge that we get from doing this research will be shared with you. Confidential information will not be shared anywhere. Your participation in this research is highly valued and appreciated.

Part 2: Certificate of Consent

I have read the foregoing information and I consent voluntarily to be a participant in this study.

Print Name of Participant _____

Signature of Participant _____

Date _____

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands about the study and what is required of them.

Print Name of Participant _____

Signature of Participant _____

Date _____

APPENDIX II – QUESTIONNAIRE

(Nutritional status and feeding practices of infants born of HIV positive sex worker mothers in Kenya)

- | | | |
|-----------------------------|------------------------|----------------------|
| 1. Age (years) | | <input type="text"/> |
| 2. Marital status | | <input type="text"/> |
| | i) Married | <input type="text"/> |
| | ii) Single | <input type="text"/> |
| | iii) Divorced | <input type="text"/> |
| | iv) Widowed | <input type="text"/> |
| 3. Level of Education | i) No formal education | |
| | i) Primary | <input type="text"/> |
| | ii) Secondary | <input type="text"/> |
| | iii) Tertiary | <input type="text"/> |
| 4. Religion | | |
| | i) Hindu | <input type="text"/> |
| | ii) Muslim | <input type="text"/> |
| | iii) Christian | <input type="text"/> |
| | iv) Others | <input type="text"/> |
| 5. Working hours | Day | <input type="text"/> |
| | Night | <input type="text"/> |
| | Both | <input type="text"/> |
| 6. Household income Per day | i) 20/= - 200/= | <input type="text"/> |
| | ii) 250/= - 500/= | <input type="text"/> |
| | iii) 500/= and above | <input type="text"/> |

Residence

7. How many children do you have?
8. How old is the last born?
9. Place of delivery
- i) Government hospital
 - ii) Private clinic
 - iii) Home midwives
10. Mode of delivery
- i) SVD
 - ii) C/S
11. First ANC clinic
- i) First trimesters
 - ii) Second trimester
 - iii) Third trimester
 - iv) Never attended
12. Type of feeding practices
- i) Exclusive breastfeeding
 - ii) Alternative feeding
 - iii) Mixed feeding
 - iv) Wet nursing
13. How often do you feed our infant?(specify time hourly)
14. Disclosure of HIV status
- i) No
 - ii) Yes
15. which one of this best describes your knowledge on PMTCT
- i) I have no idea at all
 - ii) Refused to answer
 - iii) I have enough information

16. Attitude towards infant feeding
- i) Positive
 - ii) Negative
 - iii) Not sure

17. Infant feeding awareness

- i) Has knowledge
- ii) No knowledge
- iii) Not sure

18. How long did it take to breastfeed your infant after delivery?

- i) Immediately
- ii) After 30 minute
- iii) After an hour
- iv) After few days.

19. Do you know advantage of colostrum?

- i) Good
- ii) Not good
- iii) May expose infant
- iv) I don't know

20. Have ever expressed breast milk?

- i) Yes
- ii) No

21. Do you still breastfeed?

- i) Yes
- ii) No

22. If no (to answer 22) why did you stop

- i) Milk reduction?
- ii) Breast infections or problems?
- iii) Had to go back to work?
- iv) Infant refusing to breastfeed?
- v) Others (specify).....

APPENDIX III – QUESTIONNAIRE

(Nutritional status and feeding practices of infants born of HIV positive sex worker mothers in Kenya)

Umri (Miaka)

23. Hali ya ndoa

i) Ndoa

ii) Ndoa pekee

iii) Talaka

iv) Mjane

24. Kiwango cha elimu? i) Sijasoma

i) Shule ya msingi

ii) Stashahada

iii) chuo kikuu

25. Je, wewe ni wa dini gani?

i) dini za kijadi

ii) Muislamu

iii) mkristo

iv) sina dini

26. Masaa ya kazi

i) Mchana

ii) usiku

iii) Mchana na Usiku

27. mapato yako kwa siku

i) 20/= - 200/=

ii) 250/= - 500/=

iii) 500/= na zaidi

Makao

28. Je, una watoto wangapi?
29. Je, Ulijifungua wapi? i) Hospitali ya serikali
ii) Hospitali ya kibinafsi
iii) Mkunga wa kinyumbani
30. Jinsi ya kujifungua? i) Kujifungua kwa njia ya uzazi
ii) Upasuaji
31. Je, ulitembela kliniki lini? i) miezi mitatu ya kwanza
ii) miezi mitau ya pili
iii) Miezi mitatu ya tatu
iv) sikutembelea kliniki
32. Aina ya lishe kwa mtoto i) maziwa ya mama pekee
ii) Aina ya maziwa ya duka
iii) Mchanganyiko wa lishe
iv) Mvua Uguzi
33. Je, wamlisha mtoto mchanga mara ngapi?
(Taja kwa masaa)
34. Umetambulisha hali yako ya HIV i) Hapana
ii) Ndiyo
35. Ipi kati ya haya yaonyesha ujuzi wako wa kulinda mtoto mchanga kuambukizwa?
i) Sina ujuzi
ii) Hakujiibu
iii) Nina ujuzi kamili

36. Mtazamo wako wa lishe kwa mtoto mchanaga

i) Chanya

ii) Hasi

iii) Sina uakika

37. Ufahamu wa lishe kwa mtoto mchanga

i) Nina Maarifa

ii) Sina maarifa

iii) Sina uhakika

38. Uliweza kumnyonyesha mtoto wako baada ya kujifungua baada ya mda gani?

v) Mara moja

vi) Baada ya dakika 30

vii) Baada ya saa moja

viii) Baada ya siku chache

39. Je, wajua umuhimu wa maziwa ya kwanza ya mama?

i) Najua vizuri

ii) Sijui vizuri

iii) Yaweza hatarisha mama

iv) sijui

40. Je, Ushawai kamua maziwa ya mama?

iii) Ndiyo

iv) Hapana

41. Je, bado wamnyonyesha mtoto wako?

iii) Ndiyo

iv) Hapana

42. Kama jibu lako la(No.22) Mbona uliacha?

vi) Maziwa yalipungua?

vii) magonjwa kwa titi?

viii) Nilirudi kazini?

ix) Mtoto alikataa kunyonya?

Appendix IV: Consent Letter



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349,3310571,2219420
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/17/47846/15988**

Date: **4th April, 2017**

Carolyne Chemeli Tanui
Kenya Methodist University
P.O. Box 267- 60200
MERU.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Nutritional status and feeding practices of infants born of HIV positive sex worker mothers in Kenya,*" I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **4th April, 2018.**

You are advised to report to **the County Commissioner, the County Director of Education and the County Director of Health Services, Nairobi County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.

National Commission for Science, Technology and Innovation is ISO9001:2008 Certified

Appendix V: Ethical Clearance



KENYA METHODIST UNIVERSITY

P. O. BOX 267 MERU - 60200, KENYA
TEL: 254-064-30301/31229/30367/31171

FAX: 254-64-30162
EMAIL: INFO@KEMU.AC.KE

20TH FEBRUARY, 2017

Carolyne Chemeli Tanui
PHT-3-2059-1/2014

Dear Carolyne,

SUBJECT: ETHICAL CLEARANCE OF A MASTERS' RESEARCH THESIS

Your request for ethical clearance for your Masters' Research Thesis titled "Nutritional Status and Feeding Practices of Infants Born of HIV Positive Sex Worker Mothers in Kenya: A Case Study of SWOP Clinics" has been provisionally granted to you in accordance with the content of your project proposal subject to tabling it in the full Board of Scientific and Ethics Review Committee (SERC) for ratification.

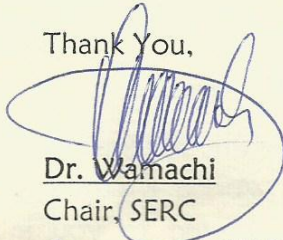
As Principal Investigator, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the project.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the SERC for re-review and approval prior to the activation of the changes. The Proposal number assigned to the project should be cited in any correspondence.
3. Adverse events should be reported to the SERC. New information that becomes available which could change the risk: benefit ratio must be submitted promptly for SERC review. The SERC and outside agencies must review the information to determine if the protocol should be modified, discontinued, or continued as originally approved.
4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by subjects and/or witnesses should be retained on file. The SERC may conduct audits of all study records, and consent documentation may be part of such audits.

5. SERC regulations require review of an approved study not less than once per 12-month period. Therefore, a continuing review application must be submitted to the SERC in order to continue the study beyond the approved period. Failure to submit a continuing review application in a timely fashion will result in termination of the study, at which point new participants may not be enrolled and currently enrolled participants must be taken off the study.

Please note that any substantial changes on the scope of your research will require an approval.

Thank You,



Dr. Wamachi

Chair, SERC

Cc: Dean, RD&PGS

