# KNOWLEDGE AND PERCEPTION ON INFANT FEEDING OPTIONS AMONG PMTCT PROGRAM NURSES COUNSELORS IN DAR ES SALAAM, TANZANIA

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# KNOWLEDGE AND PERCEPTION ON INFANT FEEDING OPTIONS AMONG PMTCT PROGRAM NURSES COUNSELORS IN DAR ES SALAAM, TANZANIA

**By**

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**A Dissertation Submitted in Partial Fulfillment if the Requirements for the Degree of Master of Public Health of the Muhimbili University of Health and Allied Sciences**

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## Certification

The undersigned certifies that has read and hereby recommends for acceptance by Muhimbili University of Health and Allied Sciences as dissertation titled: **Knowledge and Perception on Infant Feeding Options among PMTCT Program Nurse Counselors in Dar es salaam, Tanzania** in partial fulfillment of the requirement for the degree of Master of Public Health.

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**Mr. Cypirian Makwaya**

**(Supervisor)**

Date_____

## Declaration and Copyright

**I, Elimina Christopher Swai**, declare that this dissertation is my original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

**Signature** _____ **Date** _____

## Dedication

This work is dedicated to my late Parents Mr. and Mrs. Swai and my lovely family.

**Acknowledgement**

Many people have been instrumental to make this research a reality. As is not easy to mention all who enabled me to reach this point, please accept my sincere apologies and I thank you all.

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question. “Mum when are you finishing your studies, Duh! I am missing you badly” Thank you for your encouragement, prayers and support during this hard work. Finally to all Nurse Counselors who willingly consented to participate in this study, they were the center of this study.

## Abstract

**Background:** Counseling is a professional guidance in solving personal conflicts and emotional problems, also counseling is an act of exchanging opinions and ideas. Quality counseling is the central to successful infant feeding practices, the HIV infant feeding guidelines emphasize that the counseling should be based on the principle of informed choice. HIV-positive women should be given the best available information on the risk and benefits of each infant feeding method with the specific guidance in selecting the option most likely to be suitable for women's situation. Nurse counselors being the major group counseling women at the PMTCT programs in Tanzania carry the heavy burden of informing women about HIV status and about the precaution on the prevention of HIV transmission**.**

**Objectives:** The main objective was to assess the knowledge and perception on recommended infant feeding options among nurse counselors working in PMTCT program in Dar es salaam, Tanzania.

**Methods** Descriptive, cross-sectional study using both quantitative and qualitative method was used in assessing knowledge and perception of Nurses counselors in PMTCT program in Dar es Salaam on recommended infant feeding options. Self-administered, structured questionnaires and Focused Group Discussion were used. Study sample consisted of eighty five Nurse Counselors working from public and private PMTCT clinics in Dar es salaam City.

**Results:** Study findings showed that there are few nurse counselors are trained in Infant feeding options for HIV-positive women; meanwhile up-to-date counseling training for that purpose is non-existing. Nurse counselors have limited knowledge on infant feeding options hence insufficient information is shared to HIV positive women on how best way to feed infants. Despite that, nurse counselors rated themselves as competent in Infant feeding options with low perception in their competence and performance as PMTCT counselors. Employers do not provide enough support in job aids to enable counselors perform their job well. Consequently, the quality of infant feeding counseling to HIV positive women is jeopardized. Furthermore, nurse counselors have negative perception on suitability for some of WHO

recommended infant feeding methods for infants born with HIV positive women in particular Wet nursing and Heat treated expressed Breast milk.

**Conclusion:** This study clearly shows that, few nurse counselors are trained in Infant feeding Options for HIV positive women. Also the health care system does not provide the guideline on up to date training on such counseling services. Ministry of health should collaborate with PMTCT partners to develop the on job training on infant feeding counseling and distribute job aid in order to improve the quality services to HIV positive mothers as par WHO recommended infant feeding options.

**Recommendations.**

1. Dar es salaam based health care facilities owners should train nurse counselors regularly on infant feeding options in order to improve the quality of service delivery on PMTC related services.

2. Employers should provide nurse counselors with enough job Aids and other form of support needed as well as learning and teaching materials that will enable them to stay abreast with up-to-date knowledge on HIV and AIDS

3. Workloads due to chronic shortage of human resources for health services provision is a serious problem resulting in poor quality of health services. Increase in human resources for health services provision (both number and skill) is an urgent priority for improved quality and scale up of health services (including PMTCT program) in Dar es salaam.

4. Information and education on recommended infant feeding option as well as ways of alleviating stigma related to some of those options must be given priority in PMTCT programs to address issues of negative perception of nurse counselors on WHO recommended infant feeding options.

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## Operational Definitions of Terms

1. **Infant feeding option:** Is the act of supplying food and nourishment to under one year baby.
2. **Exclusive breast feeding:** Feeding only breast milk and prescribed medicine but not water, other liquids or foods to the infants for the first six months
3. **Exclusive commercial infant feeding:** feeding only formulated powdered milk made specifically for infant food.
4. **Exclusive home modified animal milk**: feeding only fresh or processed animal milk that is modified by adding water, sugar and micronutrients.
5 **Wet nursing by an HIV negative woman:** Having another woman breast fee the baby (the woman should be a HIV negative throughout the period of breast feeding.
6. **Expressing and Heat -Treating breast milk:** removing the milk from the breasts manually or with a pump, then heating it to kill HIV virus
7. **Mixed feeding:** Is the introduction of solid foods for a baby in combination with milk.
8. **Predominant feeding**: Feeding introduced to a baby from birth to six month of life.
9. **Replacement feeding:** Is replacement of breast feeding by any other marketed or other type of infant foods used as a partial or total replacement of breast feeding.

## List of Abbreviations

| | |
|---|---|
| ARVs | Ant Retroviral Drugs |
| AIDS | Acquired Immunodeficiency Syndrome |
| FGD | Focused Group Discussion |
| HIV | Human Immunodeficiency Virus |
| IDC | Infectious Disease Centre |
| PMTCT | Prevention of Mother Transmission of HIV |
| PI | Principal Investigator |
| RCH | Reproductive and Child Health |
| RA | Research Assistant |
| UNFPA | United Nations Fund for Population Activities |
| USAID | Joint United Nations Programme on HIV/AIDS |
| VCT | Voluntary Counseling and Testing |
| WHO | World Health Organization |
| MPH | Master of Public Health |
| MUHAS | Muhimbili University of Health AND allied Sciences |
| CTC | Care and Treatment Centre |

# CHAPTER ONE:

Introduction

## *1.1* An overview of HIV/AIDS epidemic

For more than two decades now, the acquired immune deficiency syndrome and its etiological agent HIV has been a growing challenge that affects all segments of global population. To date WHO estimates that by the end of 2011 about 34 (31.4-35.9) million people globally were living with HIV. An estimated 1.7 million (1.5-1.9) lost their lives to AIDS. The sub Saharan Africa region has particularly continued to bear the overwhelming burden of the epidemic (WHO.2011).

Tanzania one of the sub-Saharan African countries, have been severely affected by HIV and AIDS since the first three cases of AIDS were diagnosed in 1983.Between January and 31st December, 1999, a total of 8,850 AIDS cases were reported to the NACP from the 20 regions of mainland Tanzania bringing the number of AIDS cases from 1983 to 118,713. Simulation model estimates that only 1 out of 5 AIDS cases are reported. NACP, therefore, estimates that 44,250 cases occurred in 1999 and 600,000 cumulative AIDS cases have occurred from 1983 to 1999 (www.ppu.go.tz).

However, there has been a diverse effort to mitigate the increasing and devastating impact of HIV and AIDS in Tanzania. Initially, efforts were directed to HIV prevention as well as reducing the personal and social impact of the epidemic (WHO, 1988). This was based on Information Education and Communication (IEC) that were regarded vital to in improving peoples knowledge, attitudes and practices on HIV prevention. Several campaigns were therefore initiated to promote change of risky sexual behaviors mainly through sex abstinence, reduction of number of sexual partners and use of condoms (Tatamtola and Mann, 1994). Ministry of Health and Social Welfare (MOHSW) introduced clinical measures to prevent

HIV transmission. The clinical strategies included were ensuring the availability of sterile equipment, testing of blood and blood product before transfusion,

Prevention of mother to child transmission (PMTCT) TB control, laboratory analysis and treatment of sexually transmitted diseases (STDs). More ever, voluntary HIV counseling and testing (VCT) was introduced as a strategy for prevention of HIV and for providing care among people living with HIV/AIDS (United Republic of Tanzania, 2001). Earlier qualitative studies from Tanzania and Ethiopia conducted among HIV positive mothers who were breast feeding their infants have described the pain and fear associated with breast feeding. Furthermore, Leshabari and colleagues (2007) highlighted the tension between the messages presented during the counseling sessions and mothers desire to practice breast feeding. Moland and Blystad (2007) also demonstrated that knowledge about infant feeding and HIV was very confusing among both HIV positive mothers and their counselors.

Furthermore, the study done in Tanzania by Marina de Paoli and colleague (2007) demonstrated that the problem of trust was also viewed in the light of the knowledge on which PMTCT rests. In the case of infant feeding counseling in PMTCT programs, knowledge of how to reduce HIV transmission through breastfeeding is vested in the counselors. A major counseling dilemma as documented in this study is that most counselors believed that formula feeding was the 'right way' for the HIV-positive woman to feed her infant. The implications of this perception may however be fatal to the lives of babies in a context where most HIV-positive women are too poor to practice safe replacement feeding. This finding is contrary to the previous findings of a study conducted in the same area by de Paoli and colleagues, which documented that the counselors distrusted replacement feeding and were inclined to advise HIV-positive women to breastfeed. This difference might be explained by the increased public attention given to PMTCT and HIV transmission through breastfeeding during recent years.

As a drive of this study on knowledge and perception of infant feeding among PMTCT nurse counselors, the following is the description of infant feeding counseling which is a response to HIV/AIDS epidemic.

## 1.2 Infant feeding counseling as response to HIV/AIDS prevention

Infant feeding counselling based on international guidelines is considered as a cornerstone in the prevention of mother-to-child transmission of HIV. Whereas perinatal anti-retroviral prophylaxis currently administered through standard PMTCT programmes in sub-Saharan Africa greatly reduces the transmission of HIV to the baby during labour and delivery. However, the later methods do not reduce transmission during breastfeeding. (WHO 2010) guidelines.

Despite routine counselling on infant feeding, HIV-positive women enrolled in PMTCT programmes are commonly left desperately uncertain about how best to feed their infants. Mothers are left exposed to pressures from family, friends and community members on feeding options. Many end up feeding their infants in ways that may increase the risk of HIV transmission. In this context, the quality of the infant feeding counselling and the knowledge and practices of nurses providing the services have been called into question. An increasing body of research documents the shortcomings of infant feeding counselling particularly in terms of counsellors' knowledge about PMTCT and counselling skills. However, the experiences of counsellors have not been the focus of previous enquiry, and little is known about how the counsellors themselves perceive and experience their work in PMTCT programmes. With the aim of increasing our knowledge of the problems associated with the provision of infant feeding counselling, this study sets out to explore the knowledge and perception of infant feeding options of nurses working as infant feeding counsellors to HIV-positive mothers enrolled in PMTCT programmes in the Dar es Salaam region, eastern Tanzania.( Africa HIV/AIDS, Plus news,2011)

## 1.3 Statement of the problem

Counselors are advised to customize the infant feeding counseling, describe the risks and advantages/or benefits of each feeding option and also encourage the mother to choose the infant feeding option that is appropriate for the baby as well, considering her particular situation and location. However, despite of PMTCT trainings and workshops on infant feeding options to HIV infected women, still the quality of the infant feeding counseling for HIV

positive women is poor and that counseling messages are in consistent. Based in this fact and other findings from previous researches it has been vital to find out the knowledge and perception of infant feeding options among PMTCT nurse counselor.

### 1.4 Aim of the Study

The general objective of this study was to investigate knowledge and perception of infant feeding option among PMTCT nurse counselors in Dar es Salaam.

Specific objectives of the study were to:

1. Describe the type of job aids/ support provided by employers in relation to infant feeding options counseling to the PMTCT nurse counselors
2. Determine the level of knowledge on infant feeding options among PMTCT nurse counselors
3. Assess the perception on recommended infant feeding option among PMTCT nurse counselors.

### 1.5 Rationale of the study

This study was based on the fact that PMTCT project involves Voluntary Counseling and Testing of pregnant women attending Reproductive and Child Health. Those HIV positive women may therefore face infant feeding dilemmas and they are consequently counseled on only two infant feeding methods that considered safe in terms of HIV transmission that are breast feeding and replacement feeding. Lack of research on the nurse counselors is another issue that hinders competent counseling to them. The findings from this study will be relevant in increasing board of knowledge in infant feeding counseling hence quality PMTCT interventions. Furthermore these findings will inform health policy planning and designing of PMTCT counseling Manual in the community as well as improving the framing of preventing Parent to child transmission of HIV.

# CHAPTER TWO

## 2.0 Literature Review

Counseling is a professional guidance in solving personal conflicts and emotional problems; also counseling is the act of exchanging depends on her individual opinions and ideas and quality counseling is the central to successful infant feeding practices.( Leshabari S et al, 2007).The HIV infant feeding guidelines emphasize that counseling should be based on the principle of informed choice and HIV-positive women should be given the best available information on the risk and benefits of each feeding method with the specific guidance in selecting the option most likely to be suitable for women's situation (WHO, 2003). Nurse counselors being the major group counseling women at the PMTCT programs in Tanzania carry the heavy burden of informing women about HIV status and about the precaution on the prevention of HIV transmission.

## 2.1. WHO recommendations of HIV and Infant feeding Options

### 2.1.1 Exclusive Breast Feeding

The most appropriate infant feeding option on HIV infected mothers depends on her individual circumstances ,including her health status and the local situation, but should take in to consideration of the health services available and the counseling and support she is likely to receive. Exclusive breast feeding is recommended for HIV infected mothers for the first six months of life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe for mothers and their infants before that time. If replacement feeding is still not acceptable, feasible, affordable sustainable and safe, continuation of breast feeding with additional complementary foods is recommended, while the mother and baby continue to be regularly assessed. All breast feeding should stop once a nutritionally adequate and safe diet without breast milk can be provided. (WHO recommendation on HIV and Infant 2006)

### 2.1.2. Commercial infant formula

Mothers known to be HIV infected should only give commercial infant formula milk as a replacement feeding to their HIV uninfected infants or infants who are of unknown HIV status when specific conditions are met; a) safe water and sanitation are assured at the household level and in the community ; and b) the mother or other care giver can readily provide sufficient infant formula to support normal growth and development of the infant; and c) the mother or care give can prepare it cleanly and frequently enough so that it is safe and carries a low risk of diarrhea and malnutrition; and) the mother or care giver in the six first months exclusively give infant formula milk; and e) the family is supportive of this practice; and f) the mother or care giver can access health care that offers comprehensive child health services.

### 2.1.3. Heat treated expressed milk

According to WHO guideline (2009),mothers known to be HIV infected may consider expressing and heat treating breast milk as an interim feeding. In special circumstances such as when the infant is born with low birth weight or is otherwise ill in the neonatal period and unable to breast feed; or the mother is unwell and temporarily unable to breast feed or has a temporary breast health problem such as mastitis; or to assist mothers to stop breast feeding; or if Ante Retro Viral drugs are temporarily not available.

### 2.2. Nurse counselor knowledge

A study in South Africa which observed and interviewed counselors about how they informed mothers about infant feeding found that the HIV-negative women had been informed about the advantages of exclusive breastfeeding, but only a minority of the HIV+ve positive women had been told about the risk of breast milk transmission when complementary food was added. None of the mothers had been properly informed about the advantages and disadvantages of replacement feeding. In a study of the differences between the international recommendations on breastfeeding and counseling messages of health workers in Malawi, Piwoz and colleagues

found that misconceptions were common and that counselors were strongly influenced by cultural beliefs about infant feeding .

The guidelines further explain that HIV-positive mothers who choose not to breastfeed should receive education and support on how to prepare and give their infant the replacement food. Mixed and partial breastfeeding is strongly discouraged. It is emphasized that the mother herself should make the final choice of feeding method and that whatever her choice, a counselor should provide support to ensure optimal nutrition of mother and child. It is also clearly stated that the counselors' in PMTCT programs should be nurses/midwives who have undergone at least six weeks' training in counseling including VCT (WHO guideline, 2009). In spite of policy guidelines at the international and national level, infant feeding counseling remains a major challenge and a controversial issue in PMTCT in Tanzania.

A qualitative study in Moshi, Kilimanjaro region in 2000, investigating counselors' infant feeding advice to HIV positive women, concluded that infant feeding options were not accurately explained and that informed choice of infant feeding method, as recommended in the guidelines, was seriously compromised by inadequate information, directive counseling, lack of time, and lack of follow-up support in the perspective of the infant feeding, the dilemmas facing nurse-counselors in their everyday work; and their job satisfaction as counselors in the PMTCT programme.(Leshabari et al,2007).

However, several studies have documented the shortcomings of infant feeding counseling particularly in terms of counselors knowledge about PMTCT and counseling skills (Bland 2007)Inaccurate and inconsistent information and lack of adequate support from PMTCT counselors has also documented as a major obstacle to HIV and infant feeding, but little attention has been paid to the nurse counselors work situation and structures barriers including emotion strains the experience of counselors in infant feeding counseling and their perception of the infant feeding recommendation have not been sufficiently explored.(De Paoli et al,2007)

### 2.3. Perception on infant feeding options among nurse counselors

In investigating the nurse counselors own perspectives linked to the quality of the services they provided and the obstacles they experienced in their everyday work situation. A study done in KCMC Hospital, Moshi revealed that; nurses experience that their roles as educated individuals with particular trusted skills and knowledge have become threatened by their newly gained roles as counsellors operating within an atmosphere of patient self-determination and health-related decisions resting with the patient. According to the nurses in the study, on their part the PMTCT clients do not feel comfortable with the newly gained roles of the nurses either.

Patients expect to be told what is right and wrong and what they should do to prevent illness or to heal disease, and they feel betrayed by nurses who appear to lack the necessary authoritative knowledge that can help them.

Both nurses and clients feel that the counselling role leaves nurses with a diffuse guiding role, a role that is vague to the extent that it generates a substantial problem of trust. Indeed, in the case of PMTCT, the challenge of trust is perceived as threatening the very confidence and faith that clients or patients have customarily had in nurses (S Leshabari et al 2003).

### 2.4. Nurses counselors perception in recommended infant feeding options

The findings in some of literature revealed a high level of stress and frustrations among nurse counsellor.Leshabari et al(2006). They found themselves unable to give qualified and relevant advice to HIV positive women on how best to advice HIV Positive women they can feed their infants. They were confused regarding the appropriateness of the feeding option they were expected to advice HIV positive women to employ, and perceived both exclusive breast feeding and exclusive replacement feeding **as** culturally and socially unsuitable.

However, most counsellors believed that formula feeding was the right way for an HIV infected woman to feed her infant. They expressed lack of confidence in their own knowledge of HIV and infant feeding, as well as in their own skills in assessing woman's possibility of adhering to a particular method of feeding. Moreover, the nurses were generally not

comfortable in their newly gained role as counsellors and felt that it undermined the authority and trust traditionally vested in nursing as the knowledgeable and caring profession.

In 2006 WHO recommended that HIV infected women exclusively breastfeed their infants for six months and then rapidly wean. After weaning, mothers were advised to begin giving replacement feeding such as biscuits, soft foods and milk but an emphasis was placed on the dangers of mixed feeding. Mixed feeding, or complementary feeding, is defined as breastfeeding and replacement feeding at the same time and was believed to increase HIV transmission. It was also advised that replacement feeding could take place where it was "acceptable, feasible, affordable, sustainable and safe", although it was not clear what this meant in practice.

This 2006 advice was replaced in 2010 to reflect the fact that HIV positive women were confused about feeding methods and mixed feeding continued to be widespread in South Africa, a study found that only 25 percent of mothers exclusively breastfed whereas 75 percent of women used formula or undertook mixed feeding during the first 6 months. As extended breastfeeding and mixed feeding is only safe when antiretroviral drugs are taken, there is now an emphasis on using antiretroviral drugs to prevent the baby becoming infected as well as an emphasis on breastfeeding.

Breastfeeding, which is essential for child survival has posed an enormous dilemma for mothers living with HIV. Now, WHO says mothers may safely breastfeed provided that they or their infants receive ARV drugs during the breastfeeding period. This has been shown to give infants the best chance to be protected from HIV transmission in settings where breastfeeding is the best option (*WHO 2010)* When ARVs are not immediately available, the recommendations included in the 2006 HIV and Infant Feeding Update still provide useful guidance for mothers and health workers (*World Health Organization,2006*).

Many HIV positive women will not be able to obtain an extended course of ARV drugs that includes both the period when they are pregnant and the breastfeeding period. In 2009 HIV positive pregnant women received ARVs to prevent mother-to-child transmission, but nearly

60 percent of these women only received single dose Nevirapine or an intermittent regime (Kilewo 2008).

So many women will still face a dilemma about whether, and in exactly what circumstances, they should breastfeed. If HIV positive mother is breastfeeding, she will be advised to exclusively breastfeed for 6 months that is to feed only breast milk and nothing else. Breast milk provides all of the fluids and nutrients that a young baby requires, so exclusive breastfeeding means that even water can and should be avoided and studies have shown this to be successful (WHO 2009).

Unfortunately, encouraging mothers to practice exclusive breastfeeding is far from easy. In many societies, especially in Sub-Saharan Africa, it is normal to give water to a baby, teas, porridge or other foods as well as breast milk, even during the first few weeks of life. In addition, many women are concerned that their breast milk is not sufficient for their infant, because they are malnourished (Almedon 1990).

A mother may decide to breastfeed exclusively, but may start giving her infant additional fluids because she does not believe she has enough breast milk. There can also be issues of stigma and pressure from family. The longer an HIV positive mother breastfeeds, the more likely she is to infect her baby but this risk has to be weighed against the benefits of breastfeeding.

Before interventions were introduced it was necessary to rapidly wean so that the baby was not exposed to mixed-feeding for too long.

Due to the high risk of diarrhea among infants and the benefit of ARVs, women are advised under the WHO 2010 recommendations to gradually wean to reduce stress to infants and avoid mortality. Rapid weaning can also cause an increase in HIV transmission. By controlling the duration of weaning and allowing ARVs to continue 1 week after breastfeeding has finished, transmission and infant mortality and morbidity are reduced (Chasela 2010). All children born to HIV positive mothers should be tested for HIV to determine their status. If an infant is discovered to be HIV positive, mothers are encouraged to exclusively breastfeed for the first 6

months and continue breastfeeding with mixed feeding for up to 2 years "If infants and young children are known to be HIV-infected, mothers are strongly encouraged to exclusively breastfeed for the first 6 months of life and continue breastfeeding as per the recommendations for the general population that is up to 2 years or beyond (WHO 2010).

# CHAPTER THREE

## 3.0 Methodology

### 3.1 Study Area

The study was done at health care facility level in Dar es Salaam region in Tanzania where PMTCT interventions are widely implemented .In particular; the studies covered those health facilities conducting PMTCT as well as those with RCH. Dar es Salaam is located in Eastern part of the Indian Ocean. This is the commercial and most popular city with most of the most government ministries situated here and slam areas as well. The Dar es Salaam city is comprised of three districts of Ilala, Kinondoni and Temeke. Dar es salaam City has the total population of about 3.1milion habitants (Brink Hoff, 2010) and also it includes both urban and rural settings typical of many districts in Tanzania.

### 3.2 Study type

This was a descriptive cross-sectional study; accordingly, that used both quantitative and qualitative approaches. Qualitative and quantitative approach were used to assess the knowledge of infant feeding options, job aids given by the employer and perception of nurse counselors on recommended infant feeding options among PMTC Nurse Counselors working at selected health care facilities..

### 3.3. Study population

Study population studied were Nurse Counselors working with PMTCT program in RCH and CTC clinics in both public and private owned health care facilities from Dar es salaam.

### 3.4. Sampling procedures

#### 3.4.1. Sample size

Qualitative sampling strategy was purposeful. Such sampling focuses on the selection of particular people from the target group of study. In this qualitative component were no strict criteria for determining the sample size in advance (Patton, 1990) rather the sample size was obtained through process of saturation. This mean that data were collected until were rich and thick until it stats to replicate (Morse & Richards, 2002).

For quantitative study, the sample size was calculated using this formula; Significance level was taken as 5%and 5%was taken as those participants with no knowledge on infant feeding options and calculated sample size was 100. Whereby:

$n=z2p\ (100-p)/d2$

Where;

d=margin of error on p (10%).

Z=standard normal deviate value corresponding to some level of significance with estimate at 95% confidence level, $z \approx 2$).

With this specifications; n= 100.

n=Minimum required sample size

p=Estimated proportion of PMTCT nurse counselors with knowledge in infant feeding counseling. (set at 50 %.

### 3.4.2. Sampling

Quantitative sampling was random. The sampling unit was the health care facility. Study participants were recruited from health facilities in Dar es Salaam, from private and publically owned health care facilities selected randomly. Therefore, as described elsewhere, consent form was filled in and signed by each participant. Secondly, all of consenting nurse counselors were invited to fill in an interview based on that questionnaire that included social demographic characteristics as well as questions around the theme of infant feeding. There after questionnaire were collected for data cleaning.

### 3.5. Interview

Qualitative interviews were used as the primary strategy for data collection, or in conjunction with other methods such as document analysis, questionnaire and other techniques (Bogdan and Biklen, 1982). Specifically, the structured interview was that the interview remains focused due to the use of interview guide. As (Hoepfl, 1997) argues, the guide is prepared to insure that the same information is obtained from each person. However, there are no predetermined responses. Furthermore, the interview guide ensures good use of limited an interview time. They make interviewing multiple subjects more systematic and comprehensive and they help to keep interactions focused.

### 3.6. Questionnaire

Self-administered structured questionnaire with open and closed ended questions were used to seek the information on demographic variables, perception on their competence and job aid given by their employers. The questionnaires written in English were later translated in to

Kiswahili which is the most popular or widely spoken language and the national language of Tanzania. Translation from English to Kiswahili also increased validity of responses since most of nurse counselors were likely to express themselves in Kiswahili than in English.

### 3.7. Focused Group Discussion

Focused group discussion was conducted by the Principal investigator assisted by recorder to assess the knowledge of nurse counselors on recommended infant feeding options. Participants for FGDs were selected randomly from the selected sites. All consented participants were collected in various groups for discussion sessions. An interview guide was used to carry out discussion and the theme was used to explore knowledge and perception of nurse counselors on various infant feeding options in the era of HIV infection. Each focused group discussion consists of ten (10) participants. For the sake of getting rich information, FGDs were conducted in the venue outside the facility. Unit In charges were excluded from discussion before nurses counselors start Focused Group Discussion and the following things were recorded in a separate sheet of paper; Social demographic data of respondent, date of meeting, and each participant's designation, age, sex, level of education, religion, marital status, name of health facility,years of experience as PMTCT counselors, training in HIV and infant feeding options.

Group discussion conducted at all selected sites. Each group discussion was sorted from each health care facility. The topic and objective for discussion was introduced by a moderator who was using discussion guide (as seen in annexes) the discussion was characterized by lively, free and engaged expression on knowledge and perception on recommended infant feeding options. The discussion was recorded in the paper by recorder for transcribed by a researcher.

### 3.8 Pretest of tools

This was done in order to test the clarity of questions and study logistics and this done prior the actual study. Pretest helped research assistants to exercise flexibility in the wording of

questions and probing. This exercise was carried out at IDC CTC. This was an area not selected for the study and it involved five nurse counselors. Adjustment was made according to the results of the pre-test. Prior the actual fieldwork research assistant trained and the training contents were comprises briefing of the study, Familiarization of research tools and how to administer tool. Research assistants also were introduced on research ethics and administrative issues such as work schedule and other logistics.

### 3.9. Data processing and analysis

#### 3.9.1. Data were analyzed by both qualitative and quantitative

For qualitative data; the transcript read several times and any ambiguous or unclear sections of the translation was checked against the original data of FGDs (according to the qualitative analytical framework) written in Kiswahili. Data analysis involved organizing data, breaking it in to manageable units, synthesizing it, searching for patterns. discovering what is important and what was to be learned (Bogdan and Biklen,1982). Then the originals of all interview and discussion notes, including the fieldwork record, were locked safely for reference so that could be reviewed again whenever the need will arise .Then results were reported narratively .For quantitative data ;Analysis done by using SSPS VESION 13, and results reported in frequency tables.

### 3..10 Ethical considerations

Research ethics usually covers a number of concerns including ensuring the welfare of those who participated in this research, maintain honesty in conducting research and treat information given by participants with utmost anonymity and confidentiality. In adhering with the ethical issues, ethical clearance for this research was sorted and received from Muhimbili University ofHealth and Allied Sciences (MUHAS) Research and Publication Committee prior to the study.

Research permit obtained from Dar es salaam City administrative secretary, and at the

Dar es salaam City Medical Doctor and later on from DMOs finally to the Doctor In charges of Respective Health facilities. Furthermore, informed consent form sorted and obtained from research participants before they participated in the study and all study participants informed about the objectives of the study and that their participation was voluntary. Furthermore, participants were free to participate or to withdraw from the study at any time in the course of the study without ant repercussion. It was clearly clarified that the information obtained from them whether orally or in writing were for research purposes only and were therefore be strictly anonymous and dealt with confidentiality.

### 3.11. Study Limitations

Delays in getting ethical clearance and introduction letter to the relevant authorities at the City and districts Head of Hospitals made collection of data done very late and in hurry. This might affect the validity of findings of this study.

## CHAPTER FOUR

### 4.0. Results

This chapter reports the results of data collected from a sample of Nurse Counselors providing PMTCT counseling services in health facilities in Dar es Salaam city. The information was collected using self-administered structured questionnaire. Also, data for this study was obtained using FGDs in selected PMTCT sites in Dar es salaam City. Results of the study are reported according to objectives and was take in to account the demographic characteristics, education level ,sex, perception of recommended infant feeding options and Knowledge of the respondents on infant feeding options.4.1. Characteristics of the study population Socio-demographic characteristics

**Table 1. Descriptive of Study Sample**

| Social and Demographic characteristics | | N | Percentage |
|---|---|---|---|
| Age: | | | |
| | Below 36yrs | 49 | 40 |
| | Above 36yrs | 51 | 60 |
| Sex: | Male | 0 | 0 |
| | Female | 85 | 100 |
| Level of Education: | | | |
| | Lower than Diploma | 40 | 47.1 |
| | Diploma or Higher | 45 | 52.9 |
| Religion: | | | |
| | Christian | 53 | 62.3 |
| | Moslem | 32 | 37.6 |
| | Atheist | 1 | 0.1 |
| Facility ownership: | | | |
| | Government | 7 | 70 |
| | Non-government | 3 | 30 |

A total of 85 respondents were recruited to fill questionnaires and they were from 10 selected health facilities from Dar es Salaam City, at governmental and nongovernmental organizations. All participants in this study 85 (100%) were females. About 51(60%) of participants had an age above 36 years and 45 (52.9%) had education at diploma or above diploma. Among selected Health care facilities, 7 (70%) facilities were owned by the government while 3(30%) facilities were owned by the Non-governmental Organizations. Among all participants 53(62.3%) were Christians and the rest were Moslem and the Atheist.

**Table 2; Nurse Counselor Self-rating on competence**

| Rated as competent | Number (n) | Percent (%) |
|---|---|---|
| Yes | 61 | 71.8 |
| No | 24 | 28.2 |
| Total | 85 | 100 |

The nurse counselors were highly perceived themselves as competent as 61(71.8) rated themselves as competent. The nurse counselors who rated themselves as not competent were 24(28%).

**Table 3. Nurse Counselors with knowledge on infant feeding options**

| Counselors response on good knowledge: | Number(n) | Percentage (%) |
|---|---|---|
| Yes | 83 | 98.8 |
| No | 1 | 0.6 |
| No response | 1 | 0.6 |
| Managed to list at least 3/5 of recommended infant feeding options: | | |
| Yes | 30 | 35.3 |
| No | 55 | 64.7 |
| Managed to remind their clients on advantages and disadvantages of each | | |

| | | |
|---|---|---|
| infant feeding option: | | |
| Yes | 46 | 54.1 |
| No | 39 | 30.9 |

Majority of the nurse counselors responded to have knowledge about infant feeding options as 83 (97.6%) reported to have good knowledge about infant feeding options. Among all respondents, only 30 (35%) were managed to list at least 3/5 of recommended infant feeding options. Also, 46 (54.1%) managed to remind their clients on advantages and disadvantages of each recommended infant feeding option. In comparing table 2 and Table 3 results, counselors perceived themselves highly competent but their rate of competence according to the scale was questionable as those who managed to list at least 3/5 of infant feeding option were30 (35.5%).

**Table 4. Reported use of counseling tools, supervised, frequency of supportive supervision and having and having review meeting with their supervisor**

| Job Aids and support | Category | Number (n) | Percentage (%) |
|---|---|---|---|
| Using counseling tools: | | | |
| | Guideline | 20 | 23.5 |
| | Checklist | 7 | 8.2 |
| | Teaching material | 3 | 3.5 |
| | None | 55 | 50.6 |
| Supervision: Done or not. | | | |

| | | | |
|---|---|---|---|
| | Yes | 43 | 50.6 |
| | No | 40 | 47.0 |
| Frequency of Supervision: | | | |
| | Monthly | 28 | 32.9 |
| | After six months | 13 | 15.3 |
| | Once a year | 3 | 3.5 |
| | Every 2 yrs. | 6 | 7.1 |
| | No supervision | 43 | 40.2 |
| Having Review Meeting with supervisor: | Yes | 19 | 22 |
| | No | 65 | 76.5 |
| | No response | 1 | 1.5 |

Few counselors 20 (23.5%) of participants were using Infant feeding Guidelines during counseling. Supervision was not significantly done as 40 (47.0%) reported to have not been supervised at all .Also counseling review meeting with employee was poor as majority,65 (76.5%) participants reported to have no meeting at all with their employer .Lack of adequate job aid and support by employer was demonstrated by participants. Significant number, 55 (50.6%) of participants reported to counsel their clients without using any counseling tools.

### 4.2.0 Qualitative

#### 4.2.1. Characteristics of study participants

In this study 5 groups with 10 participants in each group was conducted to assess knowledge and perception on recommended infant feeding options among PMTCT nurse counselors. All participants selected were workers working at RCH ,antenatal and postnatal units of selected health facilities 'Before staring the group discussion each participant's designation, age sex, level of education, religion ,marital status, name of her health facility, years of experience as a

PMTCT counselor, training in HIV and infant feeding and breast feeding. Social demographic characteristic were recorded. Majority of participants had the age below36years old and few of them above 36 years.

### 4.2.2. Knowledge of nurse counselors on recommended infant feeding options

In order to facilitate correct information to counselee, counselor must have enough knowledge in the subject matter**.** This study revealed that not all nurse counselors had knowledge /trained in Infant feeding counseling. This statement was confirmed by a respondent who said that; **"I used to advice my clients to breastfeeding their infants exclusively for the first six months "** when asked about recommended infant feeding option she knows .(Participant no.10 in FDG group one with an experience of more than six years in Infant feeding option in PMTCT program).Furthermore, this study shows that PMTCT Counselors were not considering clients knowledge on HIV/AIDS during their counseling sessions ,they were ending up with counseling their clients on one method only, that is exclusive breast feeding regardless of their HIV status, knowledge and financial status . Furthermore, they expressed that they were overwhelmed by constant increase of workload which pressured them to give shallow information. This was shared widely by many respondents.) This is supported by respondent who said that:

> We have no enough time to assess their knowledge on ways of HIV transmission, disclosure or financial status of those women as you can see, we have many clients to attend. In short, we normally end up on telling them that no other feeding option is good (it is safe, ready, less expensive and has all required nutrients for infant) and culturally accepted as those other means will disclose their HIV status (Participant no 6 from FGD 10),when she was asked: Do you consider the clients knowledge on HIV/AIDS during counseling. Not only that more participants responded in this question. They shows that they (PMTCT nurse counselors) were not conversant with other infant feeding options they had

negative attitudes towards those other infant feeding methods as they add on saying that;

> "Do you think that you can tell a mother to give her baby cow's milk while she has enough breast milk? Once she give her newborn baby substitute people will know that she is HIV Positive, that is why we strictly advise them to give their babies exclusive breast feeding." (Number 2 counselor from FGD 9).

Furthermore the study shows that some of Nurse counselors knows other recommended infant feeding options,but due to stigma related to this practice they don't dare even to mention them to counselee in particular Heat treated expressed breast milk. This statement is cemented by respondent who said ;

> "Actually there are other infant feeding methods like boiling Expressed breast milk and giving commercial formulas but how can you dare to tell them to give Heat Treated Expressed breast Milk."(Participant 1 from FGD 2).

On top of that,onother participants shared their ideas as another respondent cemented the statement by saying;

> "Apart from all those my colleague have said, I wonder how we can dare to teach our clients some methods like wet nursing and Boiling of HIV Positive mother's milk, "it is something that is not acceptable in our society and people may think that the mother is bewitching her milk. (Participant no 3 from FGD 8)

In examine the nurse counselor's knowledge on recommended infant feeding options, findings shows that, some of nurse counselors were unable to give qualified and relevant advice on HIV infected women on the best way they can feed their infants. Some international recommended infant feeding options in particular wet nursing and heat treated expressed Breast milk were found to be not only unknown but also not culturally normative, knowledge on when and why to use this option was so limited to most of counselors. Counselors expressed the difficulties in promoting them

### 4.2.2 Perception of nurses' counselors on recommended infant feeding options

#### 4.2.2.1 Exclusive Breast Feeding

WHO recommend that exclusive breast feeding is the best infant feeding option as this can reduce infant morbidity and mortality rate and all breast feeding should stop once a nutritionally adequate and safe diet without breast milk can be provided (WHO, 2009). Majority of nurses counselors in this study believed that exclusive breast feeding is still a good and accepted method. This statement was cemented by the responses from FGD participants as one participant said;

> "Yes exclusive breast feeding for first six months is the best method especially for those who have no stigma related to this practice, alighted and those who have disclosed their HIV status to their partners and family members where needed "

When asked ; "Do you think there is one best infant feeding method for HIV infected women?" .About 23 counselors out of 30 responded **"yes".** Only 4 nurse counselors replied replacement feeding and only 3 responded that no single best method there are other best methods recommended by WHO and this depends much on individual clients income, health status of an infant and mother also acceptability of particular method by family members and community as well .Almost all counselors stated that from their point of view that exclusive breast feeding was the preferred infant feeding method for HIV infected women. Only five nurse counselors who were not trained in infant feeding options had a doubt on safety of breast milk of HIV positive women who responded that they are not doing a good thing, when they were asked "What are your opinions about HIV infected women who breast feed?

#### 4.2.2.2. Replacement feeding

When responded to Replacement milk, they said that this may cause more harm than benefit to babies. This was supported by respondent who said;

> "The quality of purchased fresh cows' milk or any other animal milk may compromise the safety of this feeding method as fresh cow's milk is generally

> questionable unless the family owns a cow because most animal milk sellers are not trustworthy any longer, they add some water before selling the milk and once a woman go at home she then add water to make it suitable to her infant assuming that the milk is not diluted something which is double dilution hence under nutrition to an infant.(counselor no1from FGD 2)

When asked ;What is your opinion to those HIV positive women feeding their infants replacement feeding.

Another respondent supported this , she said:

> ”Look here madam, now days cows are given many drugs including antibiotics like human beings which may affect infants as well so advising mother to feed her baby with cow’s milk may course more problem to them than advantages”.(Nurse counselor no 4 from FGD 1)

4.2.2.3 Heat Treated Expressed Breast Milk

When it comes to expression and the heat treatment of breast milk the majority of nurse counselors doubted that the women would be able to express sufficient amounts of milk. More important, they have concern that this method would not be acceptable in the community it is considered abnormal for a woman with a healthy baby to express her breast milk. This statement was evidenced by respondent no3 from FGD3 (with 6 years’ experience in PMTCT counseling) said that;

> "I find it difficult to talk about wet-nursing or expression and heat treatment of breast milk. With the rapid spread of HIV knowledge in the community, nowadays it will automatically disclose a woman's HIV.

Again, this was supported by another respondent who said:

> " A mother who does not breast feed her baby is regarded as having dirty milk(milk that is infected by HIV virus), with knowledge of HIV transmission and PMTCT interventions among women of reproductive age it will be difficult to promote Heat treated Milk as good method among HIV positive woman." (Participant 10 counselor from FGD 5).

#### 4.2.2.4. Wet-nursing

Almost all counselors were reluctant to promote wet-nursing, One participant gave a scenario of one family member who died and left behind a baby of seven days, a family meeting was conducted whereby they selected a sister of diseased who was a pastor to nurse a baby, after 3 years a pastor was diagnosed to suffer AIDS and baby of diseased. Nobody knows who was the first one to contract HIV .There was no an evidence on if a pastor was negative before the incidence or not. It brought some confusion to the family. (Respondent number 4 from FGD 4) .This was shared by many other respondents. This statement was bolded by a nurse counselor who also asked that;

> "How sure are you if this mother will remain HIV negative throughout lactation period even though she was HIV negative before" (Nurse counselor number 10 from FGD 2).

The questions that had no answer yet as anybody can seroconvert if she/he is not careful. Wet-nursing and Heat treated Breast Milk were therefore considered very risky in terms of HIV transmission by nurse counselors. This also was reinforced by respondent who amazingly asked**;**

> "After all what is wet nursing" I had never heard about this method. (Nurse counselor 8 in FGD 5).

This statement is therefore implies that some of counselors do not know some of WHO recommended infant feeding options.

Besides being considered unacceptable and unsafe respectively, both expressed, heat treated breast milk and wet-nursing raised serious concerns among the counselors about the risk of

disclosure of the mother's HIV status. This was echoed by another participant from FGD, and has had this to say;

> "It is difficult to talk about wet-nursing or expressed and heat treated breast milk. With the rapid spread of HIV knowledge in the community nowadays it will automatically disclose a woman's HIV status" (Nurse counselor 8 from FGD 5 .with experience of 4 years in PMTCT program).

# CHAPTER FIVE

## 5.0 Discussion;

### 5.1 Introduction

The objective of this study was to investigate knowledge and perception of infant feeding option among PMTCT nurse counselors. Therefore this discussion part of the study was focusing on the following specific objectives, that are; the type of job aids/ support provided by employers in relation to infant feeding options, level of knowledge on infant feeding option and perception on recommended infant feeding options. The study findings suggests that; Dar es salaam based health care facilities owners should train nurse counselors regularly on infant feeding options in order to improve the quality of service delivery on PMTCT related services. Employers should provide nurse counselors with enough job Aids and other form of support needed. Employers to provide nurses counselors with learning and teaching materials that will enable them to stay abreast with up-to-date knowledge on HIV and AIDS and more health care providers are needed especially to provide infant feeding option to HIV positive mothers among other things within PMTCT packages.

### 5.2 Type of job aids/ support provided by employers in relation to infant feeding options counseling

In this study lack of adequate job aid and support by employer was demonstrated by study participants as demonstrated that few counselors 20 (23.5%) were using Infant feeding

Guidelines during counseling. Supervision was not significantly done as 40 (47.0%) reported to have not been supervised at all .Also counseling review meeting with employee was poor as majority 65 (76.5%) participants reported to have no meeting at all with their employer and 55 (50.6%) of participants reported to counsel their clients without using any counseling tools. This findings is similar to the study conducted in KCMC Moshi previously on the same topic (De Paoli et al 2007),which shows that nurse counselors had no enough working facilities including up to date training and Materials .For the PMTCT program to be successful is recommended that employers should provide their employees with enough job aids and other form of support.

### 5.3 The level of knowledge on infant feeding options among PMTCT nurse counselors

More findings in this study revealed that, majority of the nurse counselors reported to have knowledge about infant feeding options as 83 (97.6%) reported to have good knowledge about infant feeding options. But few respondents 30 (35%) were managed to list at least 3/5 of recommended infant feeding options. More findings revealed that 46 (54.1%) managed to remind their clients on advantages and disadvantages of each recommended infant feeding option .In this regard, these findings shows that their knowledge was questionable. they had no enough knowledge on infant feeding counseling. Similar findings have been described in a qualitative study from Ethiopia where counselors had poor knowledge on recommended infant feeding option where their clients ended up with confusion on how best they can feed their infants. (Almedon et al,1990,Rollins et al, 2007 ).

### 5.4 The perception on recommended infant feeding option among PMTCT nurse counselors

This study shows that apart from nurse counselor’s knowledge on recommended infant feeding

Options, they demonstrated negative perception on some of WHO recommended infant feeding options. Furthermore, the study revealed that the majority of nurse counselors doubted that if the women would be able to express sufficient amounts of milk. More important, they have concern that this method would not be acceptable in the community as it is considered abnormal for a woman with a healthy baby to express her breast milk. Also the study revealed that ,nurse counselors were against some of WHO recommended infant feeding options especially replacement feeding where they stated that; The quality of purchased fresh cows' milk or any other animal milk may compromise the safety of this feeding method as fresh cow's milk is generally questionable unless the family owns a cow because most animal milk sellers are not trustworthy any longer, they add some water before selling the milk and once a woman go at home she then add water to make it suitable to her infant assuming that the milk is not diluted something which is double dilution hence under nutrition to an infant. They recommend that breast feeding was important as was customary accepted. This study had similar findings with Qualitative study done at KCMC Moshi previously where described PMTCT nurse counselors to have negative perception in some of WHO recommended Infant feeding options and failed to promote them in particular Heat treated expressed breast milk and wet nursing.(Leshabari et al,2007).

# CHAPTER SIX

## 6.0 Conclusions and Recommendations

### 6.1 Conclusion

Findings from focused group discussion show that, few nurse counselors are trained in Infant feeding options and unavailability of up to date training on counseling. Nurse counselors have no enough knowledge on infant feeding options hence insufficient information on how best HIV positive women they can feed their infants.

Nurse counselors rated themselves as competent in Infant feeding options with low perception in their competence in their performance as PMTCT counselors.

Employers have no enough support in job aids that will enable counselors to perform their job well hence poor quality and unsatisfactory infant feeding counseling to HIV positive women.

Nurse counselors do have negative perception on WHO recommended infant feeding method as suitable for infants' in particular Wet nursing and Heat treated expressed Breast milk.

Nurse counselors were not able to advertise some of infant feeding options in particular wet nursing and heat treated Expressed Breast Milk due to stigma which is associated with practice and Community awareness on PMTCT interventions should be addressed to alleviate stigma associate with infant feeding.

## 6.2 Recommendations

1. Dar es salaam based health care facilities owners should train nurse counselors regularly on infant feeding options in order to improve the quality of service delivery on PMTCT related services.

2. Employers should provide nurse counselors with enough job Aids and other form of support needed as well as learning and teaching materials that will enable them to stay abreast with up-to-date knowledge on HIV and AIDS

3. Workloads due to chronic shortage of human resources for health services provision is a serious problem resulting in poor quality of health services. Increase in human resources for health services provision (both number and skills) is an urgent priority for improved quality and scale up of health services (including PMTCT program ) in Dar es salaam.

4. Information and education on recommended infant feeding option as well as ways of alleviating stigma related to some of those options must be given priority in PMTCT programs to address issues of negative perception of nurse counselors on WHO recommended infant feeding options.

5. Although results do not suggest anything wrong with breast feeding, further study is needed to study and understand barriers and motivators for Exclusive Breast feeding among HIV positive women and the findings of the study should be considered as the basis for future interventions to improve PMTCT interventions in Tanzania.

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# APPENDICES

## Appendix 1: Consent Form-English Version

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS, MUHAS

No …… Date ……..……

Introduction

Greetings! My name is Elimina Swai a student of Masters of Public Health at Muhimbili University. I am conducting a research on knowledge and perception on Infant feeding options among PMTCT program nurse counselor in Dares salaam.

Purpose of the Study

The aim of this is to describe knowledge and perception on infant feeding options among nurse counselors in PMTCT Programs in Dar es Salaam.

You have been selected among many other PMTCT counselors in Dar es Salaam, to share with us your experience and insight concerning the above mentioned issue.

What Participation Involve

If you agree to join this study, you will be required to sign this consent form and return a dully filled questionnaire to the interviewer

Benefits

If you agree to participate in this study, the information you provide will put us in a better position to design and implement the unmet needs and concerns of health care providers regarding the counseling in recommended Infant feeding options by Nurse Counselors in PMTCT program.

I wish to assure you that, this information will be treated in confidentiality between you and the researcher. All the information collected in the questionnaire forms, and FGD will be entered in the computer with only the study identification number.

Risk

We do not expect any harm will happen to you because of participating in this study.

Right to withdraw

Taking part in this study is totally voluntary, that is, you can decide to participate or not. You can stop participating in this study at any time, even if you have already given your consent.

Refusal to participate or withdrawal from the study will not involve penalty or loss of any benefits to which you are otherwise entitled.

Who to contact

If you have any question about this study, you can contact the researcher, Elimina Swai of Muhimbili University of Health and Allied Sciences, P. O. Box 65001, Dar es Salaam, or the supervisor Mr. Makwaya C. If you ever have questions about your rights as a participant, you may call Dr.Joyce Masalu The Chairperson of the Senate Research and Publications Committee, P. O. 65001 Dar es Salaam, Telephone 2150302-6, Dar es Salaam.

Signature …….

Do you agree? Yes…….. No……

Participant agrees ……..... Participants does not Agree. ……..…

I, …… Have read the contents of this consent form and my questions have been adequately answered. I therefore agree to participate in this study.

Signature of the participant ……. Date ……

Signature of the interviewer …… Date ……

**Appendix 2: Consent Form---Kiswahili Version**

KIBALI CHA KUHOJIWA

CHUO CHA SAYANSI YA TIBA MUHIMBILI

IDARA YA UTAFITI NA UCHAPISHAJI

NAMBA YA DODOSO……TAREHE……..……

UTAMBULISHO

Habari! Naitwa Elimina Swai,ni mwanafuzi wa chuo kikuu cha sayansiyaafya Muhimbili nasoma shahada ya uzamili ya afya ya jamii. Ninafanya utafiti kuhusu mitazamo na uelewa wa wanasihi wanaofanyakazi katika mradi wa kuzuia maambukizi ya VVU kutokakwa mama kwenda kwa mtoto kuhusu njia elekezi za unyonyeshaji wa watoto wachanga waliozaliwa na akina mama wanaoishi na VVU hapa Dar es salaam.

**Madhumuni ya utafiti;**

Madhumuni ya utafiti huu ni kuweka bayana uelewa na mitazamo ya wanasihi wanaofanyakazi kwenye mradi wa kuzuia maambukizi ya VVU kutokakwa mama kwenda kwa mtoto kuhusu njia elekezi za ulishaji wa watoto wachanga waliozaliwa na mama wanaoishi na VVU hapa Dar es salaam.

Umebahatika miongoni mwa wanasihi wanaofanyakazi kwenye mradi wa kuzuia maambukizi ya VVU kutokakwa mama kwenda kwa mtoto hapa Dar es salaam kushiriki nasi kwenye utafiti huu natungependa kujua uzoefu wako na maoni yako kuhusu madatari wa hapo juu.

**Ushiriki wako katika utafiti huu;**

Kama utakubali kushiriki katika utafiti huu utahitajika kusaini hati ya makubaliano na kumkabidhi mtafiti.

**Faida za ushiriki;**

Endapo utakubali kushiriki katika utafiti huu, habari zote utakazotoa zitatunzwa kwa usiri mkubwa na mtafiti kwenye Kompyuta na namba itatumika badala ya jina lako. Na pia utasaidia sana kuboresha mikakati ya wizara ya afya katika mpango mzima wa uzuiaji wa maambukizi ya VVU kutoka kwa mama kwenda kwa mtoto na ulishaji wa watoto walizaliwa na mama wenye maambukizi ya VVU.

**Madhara;**

Ushiriki wako kwenye utafiti huu hautasababisha madhara yoyote kwako.

**Haki ya kujiondoa kwenye ushiriki;**

Ushiriki wako katika utafiti huu ni wa hiari kabisa na waweza kuamua kujiondoa kwenye utafiti huu hata kama utakuwa umesaini ukubali bila matatizo yoyote. Kutoshiriki au kujiondoa kwako kwenye ushiriki hakutakuathiri kwa namna yoyote ile.

**Mawasiliano;**

Kama una swali lolote kuhusu utafiti huu usisite kuuliza kwa Elimina Swai wa chuo kikuu cha sayansi ya afya Muhimbili S. L. P. 65001, Dar es salaam au kwa msimamizi wa mtafiti Bw. Makwaya Cypirian na kwa Dr Joyce Masalu mwenyekiti wa kamati ya utafiti na uchapishaji S.L.P 65001 Dar es salaam, simu namba 2152489 Dar es Salaam.

Sahihi…….

Je, umekubali? Ndiyonimekubali……..…… Hapana sijakubali ……

Mimi……..…… Nimesoma na kuelewa vizuri kuhusu utafiti huu na maswali yangu yote yamejibiwa kwa ufasaha. Nimekubali kwa ridhaa yangu kushiriki katika utafiti huu.

Sahihi ya mshiriki……. tarehe……

Sahihiyamtafiti ……..tarehe……

**Appendix 3: Self-Administered Structured Questionnaire – English Version**

PERCEPTION AND KNOWLEDGE ON RECOMMENDED INFANT FEEDING OPTIONS AMONG PMTCT PROGRAM NURSE COUNSELORS

INTRODUCTION;

I am Elimina Swai a student from Muhimbili University of Health and Allied Sciences and I am currently conducting field work in connection with my Masters in Public Health Study on knowledge and perception on recommended infant feeding option among PMTCT program Nurse Counselors. The purpose of the study is to describe knowledge and perception on recommended infant feeding options among PMTCT nurse counselors which will be utilized to improve existing PMTCT counseling in Tanzania.

Thank you for agreeing to participate in this study I would like to emphasize that your participation in this study is completely voluntary and that you can agree or disagree to participate at any time during the interview without consequences for you whatsoever. Any information you give will be confidential and you will remain anonymous through the study.

QUESTIONNAIRE

**Section. A. Social demographic data**

Questionnaire #.....Name of your facility……..

1. What is your age a) 20 -25yrs ☐

b) 26-30yrs ☐

c ) 31-35yrs ☐

d ) above 36yrs ☐

2. What is your marital status?

a) Married/cohabiting ☐

b)Single ☐

c)Widow/widower ☐

d) Divorced /separated ☐

3. What is your Religion? a) Christian ☐

b) Moslem ☐

c) Atheist ☐ Mention it…….

4 .What is your education level.

a) Certificate ☐

b )Diploma ☐

c) Diploma and above ☐

5What is the level of your health facility.

a) Dispensary ☐

b) Health Centre ☐

c) Hospital ☐

**Section B. Please put tick in appropriate box /boxes**

**(I)Knowledge of Nurses counselors on infant feeding counseling**

6 Have you ever been trained in HIV and Infant feeding counseling ?

(a)Yes ☐

(b)No ☐

7. If yes to question 6, when was the last training conducted (if no to question 8 skip this question)

a. <6months ☐

b. 6 months-1 year ☐

c. 1year but <3yrs ☐

d .Above 3 yrs. ☐

8. Again, if yes to question 7, for how long did the training last ?

a) <6 Weeks ☐

b) 6 weeks ☐

c)>6 weeks but <1year ☐

d. >I year ☐

9.How do you perceive the recommended infant feeding options you are teaching your clients.

a)All are suitable for their infants ☐

b)All are not suitable for their infants ☐

c)All are suitable for their infants except Wet nursing and Heat

treated EBM as it is not culturally accepted ☐

d) All are suitable but depends much on the income and knowledge on HIV and AIDS

of particular person ☐

10. How do you perceive your competence as nurse counselor?

a) 20% competent ☐

b) 50%compitent ☐

c) 75% competent ☐

d) 100%competent ☐

11. If you rate yourself as competent as 50% or below, can you tell us the reason behind that.

a) I have no enough supervision ☐

b) I have no working tools ☐

C) I need more training ☐

d) No reason behind. ☐

**ii) Employers support for nurse counselors**

12For how long have you been a PMTCT counselor?

a) <6months ☐

b >6months but <1year ☐

c) 1 year but <2yrs ☐

d )>2yrs ☐

12b) During counseling, which tools are you using?

a)Infant feeding guideline ☐

b)Counseling checklist ☐

c)Tray with teaching tools ☐

d)None of the above ☐

e)All of the above ☐

13. Is there any person/leader that has come for supervision?

a) Yes ☐

b) No ☐

14. If you respond yes to above question, when did she/he come? (If you responded no to above question skip this question).

a) Monthly ☐

b) Every after 6months ☐

c) Once a year ☐

d) Every 2 years ☐

15. Have you ever having counseling review meeting with your supervisor?

a) Yes ☐

b )No ☐

**iii) Knowledge of Nurse Counselors on infant feeding option**

16. Have you ever head of infant feeding options?

a) Yes ☐

b )No ☐

17. If yes to above question no 16, what are those feeding options ?

1. Exclusive breast feeding only ☐

2. Exclusive commercial milk (Exclusive formulated infant milk only) ☐

3. Wet nursing by HIV negative mother only ☐

4 .Modified animal milk only ☐

5. Expressed and heat treated breast milk only ☐

6. All of the above ☐

7. None of the above ☐

18. During counseling, have you ever told your clients advantages and disadvantages of each infant feeding option?

a) Yes ☐

b) No ☐

**Appendix 4: A Self-Administered Structured Questionnaire – Swahili Version**

A. Demographia:

NAMBA YA DODOSO.....Jina la kituo chako cha kazi ni……..

1.Una umri gani? a)miaka 20 -25 ☐

b)miaka 26-30 ☐

c )miaka 31-35y ☐

d )Miaka 36 nazaidi ☐

2. Ni ipi hali yako ya ndoa kati ya zifuatazo?

a)Nimeolewa/ninaishi kinyumba ☐

b)Sijaolewa ☐

c)Mjane ☐

d) Nimeachika/Tumetengana ☐

3. Je wewe ni muumini wa dini ipi.

a) Mkristo ☐

b) Mwislamu ☐

c Nyingineyo (Itaje)……..

4. Taja kiwango chako cha elimu kitaaluma.Ni kiwango cha;

a) Cheti ☐

b )Stashahada

c) Stashahadayajuu

d) Shahada .

5.Taja kiwango cha kituo chako cha kazi a)Zahanati

b) Kituo cha afya

**c)** Hospitali

**A Jinsi wanasihi wanavyothamini kazi yao**

Kipengele B. Tafadhali weka alama ya vema mbeley ajibu sahihi.

6. Je ulishawahi kupata mafunzo kuhusu namna ya kutoa unasihiwa Jinsi ya ulishaji watoto wachangana UKIMWI?

(a)Ndiyo

(b)Hapana

7. Kama umejibundiyo kwa swali hilo hapo juu, je mafunzo hayo uliyapata lini?

(kamaumesemahapanakwaswalihilhapojuu,tafadhaliusijibuswalihili)

a.Chiniyamiezi 6 iliyopita

c) Katiyamwakammojahadi 3 iliyopita ?

d)Ni zaidiyamiaka 3iliyopita .

8.Na tena kama ulijibu ndiyo kwa swali hilo(7),je mafunzo yalikuwa ya muda gani ?

a. chiniyawiki sita

b .Wiki sita kamili ☐

c .Zaidiya wiki sita lakinichiniyamwakammoja. ☐

d. Zaidiyamwakammoja ☐

10 Je ,unathaminishaje taaluma yako ya unasihi?

a) Ninaiweza kwa asilimia 25 ☐

b) Naiweza kwa asilimia 50 ☐

c) Naiwezakwaasilimia 75 ☐

d) Naiwezakwaasilimia 100 . ☐

11 Kama umethaminisha chini ya asilimia 50 eleza ni kwa nini.

a)Sijapata usimamizi wa kutosha ☐

b)Sina vitendea kazi ☐

C)Nahitaji mafunzo zaidi ☐

d) Sina sababu maalumu. ☐

ii)Kuhusu mwajiri kumwezesha mnasihi kufanya kazi yake vizuri.

12.Umefanya unasihi kwenye mradi wa kuzuia maambukizi ya VVU kutoka kwa mama kwenda kwa mtoto kwa muda gani.

a) Chiniyamiezi 6 ☐

b)miezi 6 hadimwakammoja ☐

c)Kati yamwakakmojanamiakamiwili. ☐

d )Zaidiyamiakamiwili. ☐

13.Je,alishakuja mtu yeyote toka manispaa/wizara ya afya kuelekeza jinsi ya kutoa unasihi?

b )Ndiyo ☐

b )Hapana ☐

14.Kama umejibu ndiyo kwa swali hilo hapo juu ,je,alikuja lini( kama ulijibuhapanausijibuswalihili).

a) Hujakilamwezi ☐

bHujakilabaadayamiezi sita ☐

c) Huja mara moja kwa mwaka ☐

d) Hujakilabaadayamiaka 2 .☐

15.Je,ulishawahi kufanya mkutano wa tathmini ya kazi na mwajiri wako?

a)Ndiyo ☐

b)Hapana ☐

**iii)Uelewa wa wanasihi kuhushusu ulishajiwa watoto wachanga;**

16.Je,ulishasikia kuhusu njia mbalimbali za ulishaji watoto wachanga,waliozaliwa na mama wanaoishaina VVU.?

a) Ndiyo ☐

b )Hapana ☐

17.Kama umejibu ndiyo kwa swali hilo hapo juu,je,hizo njia za ulishaji watoto wachanga ni zipi?

a). Unyonyeshaji maziwa ya mama tu bila kumpa mtoto kitu kingine. ☐

b) Kumpa mtoto maziwa yakopo tu. ☐

3. Mama mwenyemtotomchangakumnyonyeshamtotowa mama mwingine ,lakini asiyenamaambukiziya VVU .☐

4.Kumnyonyesha mtoto maziwa ya wanyama kama ya ng'ombe,mbuzi nk. ☐

5 Kumnyonyesha mototo maziwa ya mama y aliyochemshwa ☐

6.Njia zote hapo juu ☐

7 .Hakuna njia yoyote hapo juu ☐

18. Wakati wa unasihi, je ulishawaambia wateja zako faida na hasara za kila njia?

a) Ndiyo ☐

b) Hapana ☐

c) Ndiyo, lakini nawambia wachache ☐

d)Ndiyo,ila nawaambia baadhi ya njia na sio njia zote. ☐

**Appendix 5: Focus Group Discussion Topic Guide – English Version**

**Knowledge of nurse counselors in PMTCT programs in the recommended infant feeding options.**

Social Demographic data were registered on a separate sheet of paper as the participant comes in, The group discussion includes; focus group Discussion no ,date of meeting ,and on each participant's designation, age sex,level of education, religion ,marital status, name of her health facility, years of experience as a PMTCT counselor, training in HIV and infant feedingt feeding.

INTRODUCTION;

Good morning/afternoon/evening. My name is Elmina Swai, a student at Muhimbili University and I am currently doing fieldwork in connection with my MPH course The area of research is to describe knowledge and perception of PMTCT Program nurse counselors on recommended infant feeding option .And this is my colleague named…….. Thank you for agreeing to participate in this study, I would like to emphasize that your participation in this study is completely voluntary and you can agree or disagree to participate at any time during discussion without any consequences for you whatsoever. Any information you give will be confidential, and you will remain anonymous throughout the study. Let us all relax as FGD is a relaxed discussion

**Interview questions**:

1. What are the common feeding practices in this community, (probe to know their knowledge in those recommended infant feeding options?)……

2What is your opinion about HIV positive women who breast feed? (Probe –what do you think, is right or wrong decision?

3. What are the recommended infant feeding options your clients may use to feed their infants (probe to know how they perceive those infant feeding options?)

4. Do you think that there is one best method of infant feeding method for HIV positive women? Probe—what is it and why do you think so.

**Appendix 6: Focus Group Discussion Topic Guide –Kiswahilii Version**

**Muongozo wa mahojiano ya vikundi**

Uelewa na mitazamo ya wanasihi wanaotoa unasihi katika mpango wa kuzuia maambukizi ya UKIMWI na VVU kutoka kwa mama kwenda kwa mtoto

MDAHALO KATIKA VIKUNDI (FGD)

Uelewa na mtazamo wa wanasihi wafanyao unasihi kwenye mpango wakuzuia maambukizi yaVVU kutoka kwa mama kwenda kwa mtoto.

Mambo yafuatayo yataandikwa kwenye karatasi ya peke yake kwa kila mnasihi kabla ya mahojiano. Wanasihi wote watapewa namba watakazotumia wakati wa majadiliano badala ya majina yao mambo hayo ni haya yafuatayo;

Namba ya mnasihi na namba ya kundi,tarehe,cheo cha mnasihi kazini, Umri wake, kiwangochake cha elimu,hali yake ya ndoa jina la kituo chake cha kazi,muda aliofanya kaziya unasihi wa mpango wakuzuia maambukizi ya VVU toka kwa mama kwenda kwa mtoto.

Utangulizi

Habari za asubuhi/mchana/jioni.Naitwa Elmina Swai,nimwanafunzi wa chuo kikuu cha sayansi ya afya na kwa sasa nafanya utafiti kuhusu unyonyeshaji wa watoto wachanga na maambukiziya VVU. Ahsante sana kwa kukubali kushiriki katika utafiti huu. Napenda kusisitiza kwamba ushiriki wako kwenye utafiti huuni wa hiari kabisa na waweza kukubali au kukataa kujiunga na mdahalo huu na hakutakupa madhara yoyote. Habari yoyote utakayoitoa katika mdahalo huu itatunzwa kwa usiri mkubwa.Kwa hiyo tutulie tuendelee na mdahalo kwani mdaha lo unahitaji utulivu.

**MASWALI;**

1. Katika jamii hii ,huwa watoto wachanga wanalishwaje.?…(dodosa kuangalia kama wanajua njia elekezi za unyonyeshaji watoto wachanga) ……

2. Je, una maoni gani kuhusu mama wenye VVU wanaonyonyesha watoto wao.(unafikiri ni maamuzi mabaya au mazuri? Dodosa kuona kama wanajua faida na hasara zake)

3. Je? ni njia gani elekezi ambazo akinamama wenye VVU wanapaswa kuzitumia wanapowalisha watoto wao wachanga.?zitaje.(Dodosa kuangalia mtazamo wao kuhusu hizo njia elekezi za akina mama hao kulisha watoto wachanga ).

4. Una maoni gani kuhusu mamawanaoishi na VVU kutonyonyesha watotowao,(je haya nimaamuzi mazuri au mabaya.)

5. Je unadhani kuwa kuna njia moja tu mzuri zaidi ya kulisha watoto wachanga wa mama wenye maambukizi ya VVU? (Dodosa zaidi kujua ni njia ipi hiyo na ni kwanini unadhani hivyo).