

THE UNIVERSITY OF NAIROBI.

THE COLLEGE OF HEALTH SCIENCES.

THE SCHOOL OF NURSING SCIENCES.

RESEARCH PROPOSAL.

**RESEARCH TOPIC: MALNUTRITION PREVALENCE IN HIV POSITIVE
MOTHERS' INFANTS DUE TO EARLY WEANING FROM
BREAST FEEDING ATTENDING CHILD WELFARE
CLINICS WITHIN KIBERA SLUMS IN NAIROBI,
KENYA.**

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DATE : SEPTEMBER, 2008 .

DECLARATION


I declare that this research proposal is my original work and has not been presented for the award of a degree in any other university or institution of higher learning.

WAWIRE JENIFFER N.....SIGNATURE.....*Jhe*.....DATE.....*03/09/08*.....

CERTIFICATE OF APPROVAL

This research proposal has been submitted with my approval as a University Supervisor.

Dr. Blasio Osogo Omuga

Signature..........Date. 3/9/08.....

DEDICATION

This research proposal is dedicated to my parents, brothers, sisters and friends for their enduring support and tolerance when I was developing the proposal.

ACKNOWLEDGEMENT

I would like to acknowledge the valuable guidance from my supervisor Dr. Blasio Osogo Omuga while developing this proposal.

I would also like to appreciate NASCOP for availing to me relevant literature material for my reference.

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ABBREVIATIONS

1. AIDS.....Acquired Immunodeficiency Syndrome.
2. ARV.....Anti Retroviral.
3. BSCN.....Bachelor of Science in Nursing.
4. HIV.....Human Immunodeficiency Virus.
5. IBFANA.....International Baby Food Network, Africa..
6. KNH-ER.....Kenyatta National Hospital Ethical Research.
7. KSHS.....Kenya Shillings.
8. MCH/FP.....Maternal Child Health / Family Planning.
9. MLWA.....Mothers living With HIV/AIDS.
10. MTCT.....Mother To Child Transmission.
11. NASCOP.....National Aids and Sexually Transmitted diseases Control and Prevention.
12. UN.....United Nations.
13. UNAIDS.....United Nations Programme on HIV/AIDS.
14. UNICEF.....United Nations International Children’s Education Fund.
15. USAID.....United States Agency for International Development.
16. VCT.....Voluntary Counseling and Testing (for HIV/AIDS).
17. WHO.....World Health Organization.

OPERATIONAL DEFINITIONS

1. **Anaemia** – A reduction below normal in the concentration of erythrocytes or haemoglobin in the blood, measured per mm³ or by volume of packed red cells per 100ml of blood; it occurs when the equilibrium is disturbed between blood loss (through bleeding or destruction) and blood production.
2. **Babinski** – Dorsiflexion of the big toe on stimulation of sole of the foot, normal in infants but in others a sign of a lesion in the central nervous system, particularly in the pyramidal tract.
3. **Demography** – Is a statistical study of a population including characteristics such as geographical distribution, physical environment, disease, sex, age, birth rate and death rate.
4. **Diet** – Customary allowance of food and drink taken by any person from day to day, particularly one especially planned to meet specific requirements of the individual and including or excluding certain items of food.
5. **Early weaning from breast milk** – This is when an infant is started on liquids and other food stuffs after termination from breast feeding before three months.
6. **Economy** – The management of domestic affairs.
7. **Exclusive breastfeeding** – Breastfeeding in which infant feeds only on breast milk without other liquids or food. This is practiced for the first three months of life in HIV situation.
8. **Exclusive replacement** – Feeding of the infant with other milk formulas and family food stuffs after terminating breast feeding.
9. **HIV Positive mothers** – Mothers with HIV / AIDS practicing early weaning in their children.

10. **Infant** – Children upto one year of age.

11. **Kwashiorkor** – form of protein deficiency; caloric intake may be adequate but it is usually also deficient.

It is characterized by retarded growth, changes in skin and hair pigment, edema, enlarged abdomen, immunodeficiency and pathologic changes in the liver including fatty infiltration, necrosis and fibrosis, mental apathy, atrophy of the pancreas, gastrointestinal disorders, anemia, low serum albumin and dermatoses. The skin of the limbs and back may have dark thickened patches which may desquamate, leaving pink, almost raw surfaces.

12. **Malnutrition** – Any disorder of nutrition; it may be due to unbalanced or insufficient diet or to defective assimilation or utilization of foods.

13. **Marasmus** – A form of protein – energy malnutrition primarily due to prolonged severe caloric deficit, usually during the first year of life, with growth retardation and progressive wasting of subcutaneous fat and muscle but usually with retention of the appetite and mental alertness.

14. **Maternal** – Pertaining to the mother.

15. **Nutrition** – The taking in and metabolism of nutrients (food and other nourishing material) by an organism so that life is maintained and growth can take place.

16. **Reflex** – A reflected action or movement; the sum total of any particular involuntary activity.

17. **Social** – The way society integrates the individual.

18. **Syndrome** – A set of symptoms that occur together; the sum of signs of any morbid state; a symptom complex.

19. **Transition** – This is the time when the infant is introduced to new feeding patterns.
20. **Women living with HIV / AIDS** – women infected with Human Immunodeficiency Virus who are still alive.

ABSTRACT

This is a cross sectional descriptive study, aimed at determining the malnutrition prevalence among infants of mothers living with HIV / AIDS. Early weaning from breast milk is important in preventing mother to child HIV transmission. Therefore participants in this study will be mothers living with HIV / AIDS practicing early weaning from breast milk. Mothers with infants of 3 months to one year old who were subjected to this condition will be included in the study.

The aim is to establish the effectiveness of early weaning from breast milk practice among infants of mothers living with HIV / AIDS.

The study will bring out the relationship between early weaning, HIV / AIDS transmission and malnutrition.

A closed ended questionnaire will be pretested in MCH / FP Clinics in the neighbouring Dagoretti Corner division. Data will be collected using the questionnaire administered through an interviewer from the MCH / FP Clinics in the division.

Trained research assistants under the supervision of the principal investigator will obtain information from respondents who will have consented to take part in the study.

Data will be cleaned and analyzed using SPSS Package and presented using descriptive statistical methods. The results and findings will be used to make recommendations for improvement and areas of further research identified. The study is expected to last for 16 weeks.

A total of Kshs 121, 341.00 will be used.

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND INFORMATION

Since mid – 1980s, when HIV was first detected in breast milk and cases of HIV transmission to infants during breastfeeding documented, policy makers and program managers in Africa have struggled to develop appropriate guidelines on infant feeding for mothers who are infected with the virus (Latham and Preble 2000).

Of the 500000 children who died from acquired immunodeficiency syndrome (AIDS) in 1999, most were infected with human immunodeficiency virus (HIV) by their mothers during pregnancy, delivery or breastfeeding (UNAIDS, 2000).

In industrialized countries, HIV positive women are advised not to breastfeed as a means of preventing postnatal transmission of HIV. In Africa, however, alternatives to breastfeeding are frequently unavailable, unaffordable or culturally unacceptable (WHO collaborative Study Team, 2000).

In sub – Saharan Africa, including Kibera Slum, only 50 percent of the population have access to safe water. Only 45 percent have adequate sanitation (UNICEF, 2000). Most of the population is reliant on breast milk to nourish young children into their second year of life and beyond since hygienic replacement feeding is difficult under such circumstances (Humphrey and Iliff 2001). If conditions are appropriate for offering HIV – positive women practice on early weaning from breast milk after three months exclusive breast feeding, then health care providers have responsibility in ensuring that implementation of the practice is safe for both mother and infant (WHO. 1998b)

1.2 PROBLEM STATEMENT

HIV prevalence has been suspected to be high in Kibera slums due to low level of education, insecurity and idleness. The majority of the population has not yet been screened. However level of HIV positive infants is unknown since not all the mothers attend MCHIFP Clinics. VCT centres are situated far from the slums (WHO, 1998a).

Quality of exclusive breastfeeding and the extent of it's practice is unknown. Nutrition statistics showed that malnourished infants are few at Kibera "D.O Health Centre" during the month of March 2008, infants on exclusive breastfeeding and early weaning upto one year of age were 345 including only 4 under-including only 16 underweight. HIV positive mothers are suspected to be practicing mix – feeding and not early weaning because of the living conditions they are in (Latham and Preble, 2000).

1.3 MAJOR ISSUES FROM PROBLEM STATEMENT

1. HIV / AIDS is assumed to be high although most of the people have not been screened.
2. Levels of HIV positive infants are not yet known. The majority don't attend MCH / FP Clinics.
3. Quality of exclusive breastfeeding and the extent of it's practice has not yet been evaluated. Mothers most likely practice mix feeding for their infants.

1.4 RESEARCH QUESTIONS

1. Are HIV positive mothers in Kibera Slum able to afford other types of infant feeding?

2. What percentage of HIV positive mothers practices exclusive breastfeeding and why?
3. How many HIV positive mothers seek health training in early weaning after exclusive breastfeeding?
4. What is the level of malnutrition among infants of HIV positive mothers practicing early weaning after exclusive breastfeeding?

1.5 MAIN OBJECTIVES

1. To determine malnutrition prevalence among infants of mothers living with HIV / AIDS opting for early weaning.

1.6 SPECIFIC OBJECTIVES

1. To determine whether HIV positive mothers are able to afford other types of infant feeding.
2. To determine the prevalence of HIV positive mothers who practice exclusive breastfeeding.
3. To establish the percentage of HIV positive mothers who seek health training on early weaning after exclusive breastfeeding.
4. To find out the level of malnutrition among infants of HIV positive mothers practicing early weaning after exclusive breastfeeding.

1.7 HYPOTHESIS

Early weaning from breastfeeding has no effect on nutrition status of the infant.

1.8. KEY VARIABLES

Independent variables

1. Demography
2. Economic status
3. Social status
4. Maternal HIV status
5. Breastfeeding
6. Replacement feeding

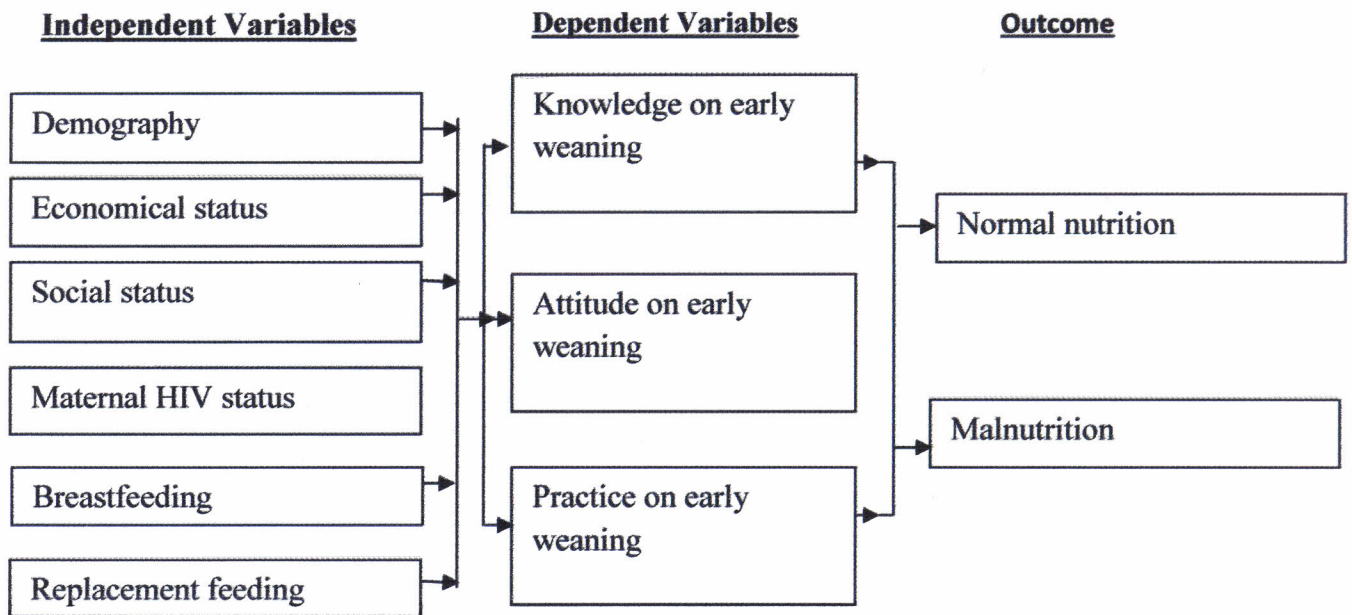
Dependent Variables

1. Knowledge on early weaning.
2. Attitude on early weaning.
3. Practice on early weaning.

Outcome

1. Normal nutrition
2. Malnutrition

CONCEPTUAL FRAMEWORK



1.9 JUSTIFICATION

Success of early weaning after exclusive breast feeding among HIV positive mothers depends on the effectiveness of the programme implementation.

HIV positive mothers need to be educated on its usefulness. Combining breastfeeding with artificial feeding is the worst of all alternatives in infant feeding as it exposes the infant to higher levels of infection risks. This may cause malnutrition and other complications (Latham and Preble, 2000).

There is need for more surveys on determinants and causes of malnutrition among infants of HIV positive mothers practicing early weaning after exclusive breastfeeding. This is even more so in Kibera slums where cost of alternative feeding is not affordable.

1.10 PURPOSE OF STUDY

The results of this study will help in planning and implementing nutrition programme for HIV / AIDS positive mothers in the care of their infants. It will also be used to evaluate the problem encountered by these mothers towards the care of their newborns.

1.11 EXPECTED BENEFITS

Based on the results of this malnutrition prevalence survey, appropriate recommendations aiming at increasing the capability of early weaning from breast milk practice among HIV positive mothers in Kibera slums can be provided.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

Studies have been done about early weaning from breast milk of infants born to mothers living with HIV by different people in different places.

Breast feeding offers the greatest protection against malnutrition and premature death among infants living in resource – poor settings. Early mothers living with HIV who lack access to safe replacement feeding methods create very serious health crisis (WHO Collaborative Study Team, 2000).

Studies have shown that the non – breast fed infants were more likely (5 percent) than the breast fed infants (0.8 percent) to die in the first 6 months (Mbori – Ngacha et al, 2000).

The focus of this research proposal therefore, is to find out the nutrition status of infants born to mothers living with HIV / AIDS during the early weaning from breast milk period.

2.2 DIFFERENT METHODS OF FEEDING INFANTS OF MOTHERS LIVING WITH HIV.

Replacement feeding options include the use of commercial infant formula, home – prepared infant formula from cow or goat milk, modified full cream powdered milk formula and modified breast feeding practices.

The later include feeding an infant on expressed and heat – treated breast milk on early cessation of breast feeding (UNICEF et al, 1998a; 1998b).

Mothers who choose not to breast feed or to wean early are advised to cup feed with diluted cow milk with additional sugar. Babies six months and over feed with enriched maize porridge prepared with milk.

Specific recommendations for other foods and snacks and hygiene related practices are also developed based on locally – available resources.

Infant feeding counseling and other support must be available continuously because feeding decisions, individual issues and house hold circumstances change over time (Piwoz E.G Chintu M Ntombela N et al, 1999).

2.3 EXCLUSIVE BREAST FEEDING WITH EARLY WEANING PROGRAM FOR INFANTS OF HIV POSITIVE MOTHERS

This has a three stage approach. It is a modified breast feeding for HIV positive women and includes;

- a. **Exclusive breast feeding.** This is the duration when infant breast feeds without other liquids or food for three months or until the decisions are made to stop breast feeding if that occurs before three months of age.
- b. A transition period of time when the infant is accustomed to new feeding patterns.
- c. Exclusive replacement feeding with breast milk substitutes and family foods (i.e. no breast milk) (WHO, 1998a)

If conditions are appropriate for offering HIV positive women the option of modified breast feeding then health workers must be fully involved (Humphrey and Iliff, 2001)

2.4 WEANING PRACTICES IN AFRICAN AND DEVELOPING COUNTRIES FOR BREASTFED INFANTS.

Exclusive breast feeding is seldom practiced in Africa. Mothers offer plain water or sugar water even to newborn.

In many countries women supplement breast milk with thin porridge beginning at two months of age or earlier (Haggerty and Rutstein, 1999).

Although cup feeding is more common than bottle feeding through Africa, few mothers regularly express milk to feed to their infants.

Infants are commonly breastfed into the second year of life. The switch from exclusive to no breastfeeding is likely to cause intense discomfort for both mothers and infants. The likely result is that mothers will abandon the whole exercise in the absence of adequate preparation and support.

This preparation and support has its own pre requisites, including the availability of Voluntary Counseling and Testing (VCT) and the capacity to establish and maintain exclusive breast feeding within the general population.

Modified breast feeding practice applies only to mothers whose infants might benefit from these recommendations.

Baby friendly maternity care for all women and continued support within the community is thus essential (WHO, 1998a).

2.5 BENEFITS OF EARLY WEANING FROM BREAST MILK FOR INFANTS OF HIV POSITIVE MOTHERS

It helps in prevention of about half of all post natal HIV transmission which occurs after six months of life (de cock et al, 2000, Piwoz, 2002a).

Several studies have used mathematical models to examine benefits of breast feeding duration (e.g Ross and Labbok, 2001, Krasorec, 2002, Kuhn and Stein, 1997, Nagelkerke et al, 1995). For example, a study conducted in Durban, South Africa found out that exclusive breast feeding reduced infants risk of post natal HIV infection. Infants exclusively breast fed for at least three months had no excess risk of infection at six months of age compared to infants who were not breast fed.

The hypothesized explanation for the reduction in HIV transmission risk was that exclusive breastfed infants are exposed to fewer bacterial contaminants and food antigens, which can damage the gut lining and cause inflammation. Other liquids and food may compromise intestinal Integrity, resulting in small lesions in the immature gut through which HIV can pass to infect the infant. Mothers that breast feed exclusively may also follow practices that minimize breast inflammation, mastitis, cracked and bleeding nipples, known risk factors for breast feeding – related HIV transmission (Piwoz, 2000b).

2.6 DISADVANTAGES OF EARLY WEANING FROM BREAST MILK FOR INFANTS OF HIV POSITIVE MOTHERS

The nutritional quality of home – prepared weaning foods is generally poor, with deficits in Energy, Vitamin A, Iron, Calcium, Zinc and other essential nutrients (WHO, 1998b).

The disadvantages of early weaning thus include;

- a. Risk and fear of mortality and morbidity due to lack of immunity and nutrients from breast milk (Latham and Preble, 2000).
- b. Lack of breast milk as a source of food since most of the African population relies on breast milk to nourish young children into their second year of life and beyond (Humphrey and Iliff, 2001).
- c. The decision not to breast feed coming with its own social risks, including the stigma or suspicion of being infected with HIV – a risk that sometimes carries grave social, emotional and physical consequences.
- d. HIV infected mother combining breast feeding with artificial feeding. This is the worst of all alternatives as it exposes the infant to all types of infection risk which may cause malnutrition (Latham and Preble, 2000)
- e. High cost and often irregular supply of breast milk substitutes; lack of safe clean drinking water with which to mix commercial or home – prepared milk formula, limited supplies of fuel for boiling water e.t.c. (WHO, 2000).
- f. Many infants refusing to drink from cups or bottles when deprived of the breast. This can quickly lead to dehydration.
- g. The stress of cessation of breastfeeding leading to infants refusing to eat. This can cause lethargy and crying which in turn cause or exacerbate dehydration.
- h. Young infants not accustomed to eating other foods can be quickly lose weight and become severely malnourished when taken off the breast. Infants who stop breast feeding too early may develop marasmus (an extreme form of malnutrition) (Jelliffe, 1968)

- i. Infant removed from the breast may cry and fuss to indicate that their needs are not being met. The infants who are becoming malnourished may also become listless, silent and withdrawn. Their physical decline may go unnoticed by the mother and family. Health workers should be concerned about both the quiet, sleeping and “good” baby and the baby who indicates trauma by intense crying.
- j. Most common breast milk substitute in Africa is cow’s or goat’s milk. Both have lower concentration of most micronutrients than breast milk. Vitamin A deficiency is a major concern in weaned infants because Vitamin A in infants are low (Humphrey and Rice, 2000), West et al, 1986, Tarwotjo et al 1982, Cohe et al, 1983). Vitamin A deficiency is associated with higher rates of diarrhea and respiratory infection in children. High dose Vitamin A supplements need to be provided to infants around the time of breast feeding cessation (Carpenter, 1999).

2.7 RELATIONSHIP BETWEEN EARLY WEANING, HIV / AIDS TRANSMISSION AND MALNUTRITION.

In the absence of interventions like early weaning from breast milk, to prevent mother to child transmission (MTCT) of HIV, an estimated 25 to 45 percent of HIV infected untreated mothers will pass the virus to their infants (UNAIDS, 2000).

The risk of HIV infection from partial breast feeding, by untreated HIV – infected mothers range from 10 to 20 percent. About a half of all postnatal transmission occurs after the six months of life (de Cock et al, 2000, Piwoz, 2000a).

Recent studies show that providing HIV positive mothers with short term course anti – retroviral drugs can reduce MTTC by 40 to 50 percent by the end of the six weeks delivery. However even with this treatment about 8 to 10 percent of mothers pass the virus to their babies through continued breast feeding upto 24 Months (Wiktor et al, 2000; Owor et al, 2000).

A recent review paper from research undertaken in Brazil, Pakistan and Philippines found that babies who were not breastfed were 5.8 times more likely to die in the first month of life than breast fed babies. The survival protection afforded by breast feeding declined with age but was greatest among mothers with limited education. This suggests that the benefits of breastfeeding in some African settings could be even higher than stated (WHO, 2000).

A study carried out in Nairobi, Kenya found out that mortality rates at 24 months were not significantly different between breast fed (24 percent) and formula fed (20 percent) babies born to HIV – positive mothers (Nduat et al, 2000b). Consistent with the review paper, the formula – fed infants (0.8 percent) to die in the first 6 months of life (Mbori – Ngacha et al, 2000).

Scurry occurred in the United States in the early twentieth century among children whose mothers boiled cow milk and thus destroying Vitamin C content (Carpenter, 1999). A similar problem with scurry and other micronutrient deficiencies may develop among African infants whose mothers boil their milk if they do not consume enough vitamins from foods. (Sullivan, 1993)

CHAPTER THREE: METHODOLOGY

3.1 STUDY DESIGN

This is a cross sectional descriptive study to determine the malnutrition prevalence among infants of HIV positive mothers practicing early weaning after exclusive breast feeding in Kibera slum in Nairobi, Kenya.

3.2 STUDY AREA

The study will be conducted in Kibera slum in Nairobi West District of Nairobi Province, Kenya.

3.3 STUDY POPULATION

The targeted population is all HIV positive mothers' infants on early weaning from exclusive breast feeding who are upto one year of age.

3.4 INCLUSION CRITERIA

- All HIV positive mothers' infants on early weaning from exclusive breastfeeding upto one year of age.
- The infants of HIV positive mothers living in Kibera slums.
- The infants whose HIV positive mothers give informed consent to participate.

3.5 EXCLUSIVE CRITERIA

- Infants of HIV positive mothers who are not usual residents of Langata division.

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- The infants of HIV positive mothers living in Kibera slums.
- The infants whose HIV positive mothers give informed consent to participate.

3.5 EXCLUSIVE CRITERIA

- Infants of HIV positive mothers who are not usual residents of Langata division.
- HIV positive mothers infants not early weaning from exclusive breastfeeding.
- HIV positive mothers infants older than one year.

- Infants whose HIV positive mothers have declined to give informed consent to participate.

Calculation of the required sample size will be done using the formula.

$$N = \frac{Z^2 P (1 - P)}{D^2}$$

Where N = Sample size

P = Estimated prevalence of HIV positive mothers with infants on early weaning from exclusive breast feeding among upto one year old infants in Kibera slums. This is estimated to be 50% since no existing estimates has been done before.

Z = 1.96 (Standard deviation value at 95% confidence interval).

D = 0.05 (Confidence limit at 95% confidence interval)

$$\text{Therefore} = \frac{1.96 \times 0.5 \times 0.5}{0.05^2}$$

$$= 384.16$$

$$= 384 \text{ Clients}$$

Since the study population is less than 10,000 the alternative formula will be applied when

$$Nf = \frac{N}{1 + \frac{N}{n}}$$

Where Nf = the desired sample size (when the population is less than 10,000)

N = the desired sample size (when the population is more than 10,000)

n = the estimate of the population size which is 1,200

3.7 SAMPLING METHOD

Simple random sampling will be used to select subjects.

All HIV positive mothers who satisfy the inclusion criteria and are attending child welfare clinics in Kibera slums will be serialized and a table of random numbers used to select the first mothers.

Every Nth mother will then be selected until the sample size is attained when N is the sample interval (x). The selected subjects infants will then be included in the study.

3.8 SAMPLING INTERVAL.

$$\text{Sampling interval (x)} = \frac{\text{Total study population}}{\text{Sample size}}$$

It is estimated that in one month 2400 mothers have children breastfeeding and attending child welfare clinics in Kibera slums. 50% of these as estimated to be HIV positive mothers practicing early weaning from exclusive breast feeding. This gives a study population of 1200 per month.

$$\begin{aligned} \text{Therefore the sampling interval} &= \frac{1200}{Nf} \\ &= 3 \end{aligned}$$

3.9 STUDY INSTRUMENT

In this study a pretested questionnaire will be administered to the subjects by the research assistants.

3.10 PRETESTING OF STUDY INSTRUMENT

The questionnaire will be pretested at Riruta Health Center in the neighboring Dagoretti Division.

The result from the pretesting will be used to ascertain the validity and reliability of the study instrument.

3.11 RECRUITMENT AND TRAINING RESEARCH ASSISTANTS

2 research assistants will be selected from third year BscN. Students and be subjected to one week to familiarize them with the study instrument and required research techniques.

3.12 DATA COLLECTION CLEANING AND ENTRY

Data will be collected using pretested closed ended questionnaire.

Collected data will be cleaned, entered into the computer using Ms Access Package.

Incomplete or poorly filled questionnaire will be discarded.

3.13 DATA ANALYSIS AND PRESENTATION

The data will be presented in tables, pie charts, graphs and other descriptive statistical methods.

Inferential statistical analysis will be done to include T-Test and Chi square using SPSS computer package.

3.14 ETHICAL CONSIDERATION

1. Confidentiality will be maintained. No names of participants will be used in the questionnaire, code numbers will be used instead.
2. Written informed consent will be obtained from the mothers of the subjects by research assistants.

3. The objectives of the study will be explained to the mothers of the subjects who will have the option to participate or to decline.
4. All data obtained will be properly stored.
5. There will be no extra cost incurred by the participants as the study will be performed on subjects who have come for clinics.
6. Permission to conduct the study will be sought for from KNH Research and Ethical Committee,
7. Clients will be reassured and properly counseled and will be have the right to ask questions and clarifications whenever necessary.
8. Those who decline to participate will have their wishes respected.

3.15 STUDY LIMITATIONS

1. Some medical terminologies may be difficult to translate into the local language. Visual aids may be used where necessary to give clear interpretation to mothers.
2. Language barrier may pose a problem for some common languages to aid communication.
3. Some subjects may refuse to participate in the study because of the stigma attached to HIV.

Adequate counseling will be given to overcome this. It is hoped that the number of declining subjects will be reduced to less than 10%.

3.16 STUDY ASSUMPTIONS

1. That all the respondents will give consent to participate.
2. That respondents will offer honest responses.
3. That the weather will remain friendly for the duration of study.

CHAPTER FOUR: TIME PLANNING

4.1 TIME FRAME

	ACTIVITY	DURATION IN WEEKS																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1.	Problem identification	■																
2.	Proposal writing		■															
3.	Writing and seeking consent from committee			■	■													
4.	Selection and training and of research assistants					■												
5.	Pretesting of questionnaire						■											
6.	Data collection							■	■	■	■							
7.	Data cleaning and entry											■						
8.	Data analysis												■	■				
9.	Research, report writing and presentation														■	■		
10.	Compiling of final report																	■

CHAPTER FIVE: BUDGETING

5.1 BUDGET ESTIMATION

ACTIVITY / RESOURCE	QUANTITY	UNIT COST(Kshs)	TOTAL COST (Kshs)
A: PERSONNEL			
1: TRAINING			
2 Research assistants	2 x 2 days	400 per person	1600.00
1 principal investigator	1 x 2 days	700 per person	1400.00
2: PRETESTING			
2 Research assistants	2 x 2 days	400 per person	1,600.00
1 Principal investigator	1 x 2 days	700 per person	1,400.00
3: ALLOWANCES			
2 Research assistants	2 x 5 x 4 days	500 per person	20,000.00
1 Principal investigator	1 x 5 x 4 days	1,000 per person	20,000.00
SUB - TOTAL			46,000.00
B: STATIONERY			
Full scaps	1 ream	Each 300	300.00
Staplers	5	Each 100	500.00
Staples	5 packets	Each 20	100.00
Ball pens	20 assorted	Each 15	300.00

Folders	3	Each 50	150.00
Pencils	1 Packet	Each 150	150.00
Flash disk	1	Each 1500	1,500.00
Calculator	1	Each 900	900.00
SUB - TOTAL			3,900.00
C: Computer and Other Services			
Internet services	1	Each 4,000	4,000.00
Proposal writing and printing	55 Pages	20 per page	1,100.00
Photocopying proposal	3 Copies x 55 Pages	2 per page	330.00
Binding proposal	5 Copies	50 Per proposal	250.00
Photocopying questionnaire	384 copies x 10 Pages	2 Per Page	7,680.00
Data processing and analysis.	5 x 3 days	3000 Each day	45,000.000
Typing and printing report	60 Pages	Each 20	1,200
Photocopying report	5 copies x 60 Pages	Each 2 Per Page	600.00
Binding report	5 Copies	Each 50 Per Copy	250.00
SUB TOTAL			60,410.00
TOTAL			110,310.00
10% CONTIGENCIES			11,031.00
GRAND TOTAL			121,341.00

CHAPTER SIX: BIBLIOGRAPHY

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CHAPTER SEVEN: APPENDIXES

APPENDIX 1: QUESTIONNAIRE

UNIVERSITY OF NAIROBI

SCHOOL OF NURSING SCIENCES,

TITLE : MALNUTRITION PREVALENCE IN HIV POSITIVE MOTHER'S INFANTS
DUE TO EARLY WEANING FROM BREASTFEEDING ATTENDING
CHILD WELFARE CLINICS WITHIN KIBERA SLUMS IN NAIROBI,
KENYA.

1. IDENTIFICATION.....
LOCATION
RESPONDENT NUMBER.....
2. DATE.....
3. NAME OF INTERVIEWER.....

PUT A TICK IN THE APPROPRIATE BOX

Demography

1. What is your age?

- i. Below 13 Years old ii. 13 Years to 45 Years old iii. Above 45 Years old

2. What is your infant's age

- i. Upto one year old ii. Above one year

3. What is your infant's sex?

- i. Male ii. Female

4. Where do you stay?

- i. Within Kibera slums ii. Out of Kibera slums

5. Do you have a latrine in your physical environment

- i. Yes ii. No

6. How many live children do you have?

- i. Specify number.....

7. Which disease is common in your place?

- i. HIV / AIDS ii. Others

8. How many members of your family suffer from chronic diseases?

- i. Specify number.....

9. How many children have died in your family?

i. Specify number.....

Economic Status

10. How much money do you earn monthly?

i. Specify amount.....

11. How much money does your husband earn monthly?

i. Specify amount.....

12. How many of your older children earn monthly?

i. Specify amount.....

13. How much money do your older children earn monthly?

i. Specify amount.....

14. Who is the bread winner in your family?

i. Specify amount.....

15. Do you belong to any income generating community project?

i. Yes ii. No

16. Do you plan for your expenditure?

i. Yes ii. No

17. Do you keep records of your expenditure?

i. Yes ii. No

Social Status

18. Are you married?

i. Yes

ii. No

19. If no, why?

Specify.....

20. What is your education level?

Primary

Secondary

Tertiary

21. Do you belong to a religion?

Yes

No

22. Which is your religion

Christian

Muslim

Hinduism

23. Do you belong to any women group?

Yes

No

24. What do you share commonly in the women group?

Specify

25. Do you have friends?

Yes

No

26. Are you close with your relatives?

Yes

No

27. What do you do during your leisure time?

Specify

Maternal HIV Status

28. Do you know about Voluntary Counseling and Testing of HIV?

Yes No

29. Do you know your HIV status?

Yes No

30. When did you last test for HIV?

i. Less than 3 Months ago . More than 3 months ago

31. If HIV positive, have you accepted your status?

Yes No

32. If HIV positive, is your community aware of your status?

Yes No

33. If HIV positive, has community accepted your status?

Yes No

34. If HIV positive are you on anti retro viral drugs?

Yes No

35. If HIV positive are you getting health support from the health workers?

Yes

No

36. If HIV positive, are you getting health support from any non governmental organization?

Yes

No

Breastfeeding

37. Do you know about breastfeeding?

38. Yes

No

39. Did you start breastfeeding within first 30 minutes after delivery?

Yes

No

40. Do you breastfeed exclusively?

Yes

No

41. Do you know about expressed breastmilk breastfeeding?

Yes

No

42. Is your family supportive in respect to milk-feeding?

Yes

No

43. Do you know the step to take incase your breast is infected?

Yes

No

44. Do you know nutrition and immunity benefits of breastfeeding?

Yes

No

45. Did you seek health education about breastfeeding from health workers?

Yes

No

Replacement Feeding

46. Do you know about replacement feeding?

Yes

No

47. Did you seek health training about replacement feeding from health workers?

Yes

No

48. Do you like replacement feeding?

Yes

No

49. If No, specify reason

50. When are you planning to start replacement?

i. At three months of infancy age

ii. After three months of infancy age

51. Is the replacement feeding available?

Yes

No

52. Is the replacement feeding affordable

Yes

No

53. Are you accessible to replacement feeding?

Yes

No

54. Is the replacement feeding acceptable?

Yes

No

55. Do you know about arrangements for night feeds?

Yes

No

Early Weaning

56. Do you know about early weaning?

Yes

No

57. Do you like early weaning?

Yes

No

58. If No, specify reason.....

59. Did you seek health training about early weaning from exclusive breastfeeding from health workers?

Yes

No

60. When do you plan to start early weaning?

i. During first three months of infant age

ii. After three months of infant age

61. Is early weaning accepted in your community?

Yes

No

Malnutrition

62. What is the weight of your infant?

i. Specify.....

63. What is the height of your infant?

i. Specify.....

64. What is the measurement of your infant's arm circumference?

Specify.....

65. Does your infant have the following reflexes intact?

i. Babinski

iv. Routing

ii. Grasping

v. Sucking

iii. Stepping

vi. Blinking

66. Does your infant have the following kwashiorkor characteristics?

i. Retarded growth

ii. Changes in skin and hair pigment

iii. Edema

iv. Enlarged abdomen

v. Immunodeficiency and pathologic changes in liver including fatty infiltration,
necrosis and fibrosis

vi. Mental apathy

- vii. Atrophy of the pancreas
- viii. Gastro intestinal disorder
- ix. Anemia
- x. Low serum albumin
- xi. Dermatoses

67. Does your infant have the following marasmus characteristics?

- i. Retarded growth
- ii. Progressive wasting of subcutaneous fat and muscle

68. Has your infant achieved milestones / growth and development expected at her / his age?

Yes No

69. Does your infant cry without good reason like hunger?

Yes No

70. Does your infant keep quiet all the time?

Yes No

71. Does your infant keep awake during the night?

Yes No

72. Does your infant refuse playing?

Yes No

APPENDIX II: RESPONDENTS CONSENT FORM

I am hereby requesting in this research concerning you to participate.

This is completely voluntary and you will not be compelled to answer any question.

You will suffer no consequences or risk by you decision to participate or not. Everything will be held in strict confidentiality and your name is not required in the form or the questionnaire.

Your honest answers and co-operation will be highly appreciated.

Signature of Respondent.....Date.....

Signature of Interviewer.....Date.....

**APPENDIX III: LETTER REQUESTING PERMISSION TO CONDUCT
RESEARCH FROM KNH – ER COMMITTEE.**

JENIFFER N. WAWIRE.

SCHOOL OF NURSING SCIENCES,

UNIVERSITY OF NAIROBI,

P.O. BOX 19676,

NAIROBI.

07 / 07 / 08.

TO THE CHAIRMAN,

KENYATTA NATIONAL HOSPITAL ETHICAL AND RESEARCH COMMITTEE, NAIROBI

Dear Sir / Madam,

REQUEST FOR PERMISSION TO CONDUCT RESEARCH.

I do hereby kindly request for your permission to conduct research on malnutrition prevalence among infants of HIV positive mothers attending child welfare clinics in Kibera slums, Nairobi, Kenya.

The research proposal has herein been submitted for your perusal and approval.

I would be most grateful for your due action.

Yours faithfully,

Jeniffer N. Wawire.

APPENDIX IV: OVERVIEW OF STUDY AREA

Kibera slums are in Langata Division of Nairobi West District in Kenya. It has a population of more than 3 million with half of people being in reproductive ages.

Economically Kibera is a poor residential area. Few men walk from the slums to industrial area (over 20 Km away) in search of casual jobs, like lifting luggages. The majority is idlers, or involve in small scale business enterprise.

The environment has no toilets, often sited are feaces rolled in polythene bags and dirty water thrown all over producing very bad smell. Sanitation condition is thus extremely poor. There is very low moral standards due to low level of education (Primary Level) and poor social economical status.

There is no security in the slums. There are no employed watchmen and the shelters are made of polythene papers without lockable doors. Water is a major problem. The only source of water is from street vendor; 20 litres cost Kshs 5.

The level of HIV and STIs are thought to be very high due to the low living standards although most of the population has not yet been screened. Prevalence of malnutrition related to breastfeeding practices among positive mothers is unknown. Problem of PMTCT in Kibera is that replacement feeds are not available, affordable, accessible, nor acceptable by the HIV Positive mothers.

Malnutrition related to breastfeeding practices among HIV Positive mothers' infants is assumed to be very high because of lack of adequate replacement feeding.