DETERMINANTS OF SATISFACTION WITH PREVENTION OF MOTHER TO CHILD TRANSMISSION SERVICES AMONG HIV POSITIVE POSTNATAL MOTHERS ATTENDING MCH/FP CLINIC IN EMBU LEVEL 5 HOSPITAL, KENYA

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Determinants of Satisfaction with Prevention of Mother to Child Transmission Services among HIV Positive Postnatal Mothers Attending Mch/Fp Clinic in Embu Level 5 Hospital, Kenya

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A Thesis submited in Partial Fulfilment of the Requirements for the Degree of Master of Science in Nursing (Reproductive Health) of the Jomo Kenyatta University of Agriculture and Technology

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DECLARATION

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

Signature…… Date……..

Leah Njeri Mureithi

The thesis has been submitted for examination with my approval as university supervisors.

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DEDICATION

I dedicate the thesis to my loving husband Silah Kimanzi and my children; Caleb, Anne, Joel, Prince and Victor for their support, encouragement and perseverance during the study.

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TABLE OF CONTENTS

DECLARATION ..... **ii**

DEDICATION ..... **iii**

ACKNOWLEDGEMENT ..... **iv**

TABLE OF CONTENTS ..... **v**

LIST OF TABLES ..... **xi**

LIST OF FIGURES ..... **xii**

LIST OF APPENDICES ..... **xiii**

LIST OF ABBREVIATIONS AND ACRONYMS ..... **xiv**

OPERATIONAL DEFINITIONS ..... **xvi**

ABSTRACT ..... **xvii**

CHAPTER ONE **1**

INTRODUCTION **1**

1.1 Background to the study 1

1.2 Statement of the problem 4

1.3 Broad Objectives 5

1.4 Specific Objectives 5

1.5 Research Questions 5

1.6 Justification of Study 5

1.7 Study purpose 7

1.8 Scope of study 7

1.9 Study limitations 7

1.10 Hypotheses 8

CHAPTER TWO 9

LITERATURE REVIEW 9

2.1 Introduction 9

2.2 PMTCT services 9

2.2.1 Prong one 10

2.2.2 Prong two 11

2.2.3 Prong three 11

2.2.4 Prong four 11

2.2.5 Integration of PMTCT services 12

2.2.6 Factors associated to PMTCT services 12

2.3 Client Satisfaction 13

2.4 Determinants of Client Satisfaction 15

2.4.1 Client related factors to satisfaction 16

2.4.2 Provider related factors to satisfaction 17

2.4.3 Facility related factors 19

2.5 Theoretical Framework 19

2.6 Conceptual Framework 21

2.7 Summary 22

CHAPTER THREE 24

RESEARCH METHODOLOGY 24

3.1 Introduction 24

3.2 Study design 24

3.3 Study area description 25

3.4 Study population 25

3.4.1 Inclusion criteria 26

3.4.2 Exclusion criteria 26

3.5 Sample size determination 26

3.5.2 Sampling technique 27

3.6 Recruitment and consenting procedures 27

3.7 Variables 27

3.7.1 Dependent variables 27

3.7.2 Independent variables 27

3.8 Data collection procedures 27

3.8.1 Data collection tools 28

3.8.2 Pretest tool 28

3.9 Materials 29

3.10 Recruitment and training of research assistance 29

3.11 Quality assurance procedures 29

3.11.1 Validity 29

3.11.2 Reliability 29

3.12 Ethical considerations 29

3.13 Data management 30

3.13.1 Data processing and analysis 30

3.13.2 Data storage, security, and access 30

3.13.3 Disposal procedure 31

3.14 Study results dissemination plan 31

3.15 Study closure plan and procedure 31

CHAPTER FOUR 32

RESULTS AND FINDINGS 32

4.1 Introduction 32

4.2 Response Rate 32

4.3 Respondents' Sociodemographic Characteristics 32

4.4 Satisfaction level of HIV Positive postnatal Mothers with PMTCT services .. 34

4.5 Client related factors 36

4.5.1 Client related factors that influenced clients' satisfaction 36

4.5.2 Logistic Regression on Socio- demographic characteristics..... 38

4.6 Provider related factors 38

4.6.1 Provider related factors that influenced client's satisfaction 38

4.6.2 Logistic Regression on Provider Related Factors 39

4.6.3 Participants likes about PMTCT service providers..... 40

4.6.4 Participant's dislike about PMTCT service providers 42

4.6.5 Participant's suggestions related to service providers to improve PMTCT services..... 43

4.7 Facility related factors..... 45

4.7.1 Facility related factors that influenced clients' satisfaction..... 46

4.7.2 Logistic Regression on Facility Related Factors..... 47

4.7.3 Participants likes about facility (EL5H) in relation to PMTCT Services . 47

4.7.4 Participants dislike about EL5H in relation to PMTCT services..... 49

4.7.5 Suggestions to improve PMTCT services at Embu Level 5 Hospital..... 50

CHAPTER FIVE..... 52

DISCUSSION, CONCLUSION, AND RECOMENDATIONS 52

5.1 Introduction..... 52

5.2 Discussion 52

5.2.1 Socio-demographic information 52

5.2.2 Satisfaction level of HIV positive postnatal mothers with PMTCT services 52

5.2.3 Client related factors influencing satisfaction of HIV positive postnatal mothers with PMTCT services 53

5.2.4 Provider related factors 54

5.2.5 Facility related factors 59

5.3 Conclusion of the Study 61

5.4 Recommendations 63

REFERENCES 64

APPENDICES 72

LIST OF TABLES

Table 4.1: Sociodemographic Characteristics 33

Table 4.2: Participants' satisfaction with PMTCT services at EL5H 35

Table 4.3: Summary of client related factors and Participants' satisfaction 37

Table 4.4: Logistic Regression on Socio- demographic characteristics..... 38

Table 4.5: Provider related factors and client satisfaction 39

Table 4.6: Logistic Regression on Provider Related Factors 40

Table 4.7: Respondents suggestions to improve various PMTCT services 44

Table 4.8: Summary of facility related factors and participants satisfaction 46

Table 4.9: Logistic Regression on Facility Related Factors..... 47

Table 4.10: Participants likes about EL5H on PMTCT Services..... 48

Table 4.11: Approaches to improve PMTCT Services at EL5H..... 50

LIST OF FIGURES

Figure 2.1: PMTCT Prongs..... 10

Figure 2.2: Donabedian Quality of care model..... 20

Figure 2.3: Conceptual Framework 21

Figure 4.1: Overall rate of satisfaction with PMTCT services at Embu Level 5 Hospital..... 36

Figure 4.2: Participants likes related to service providers on various services..... 41

Figure 4.3: Participant's dislikes related to service providers on various services... 42

Figure 4.4: Dislikes about EL5H regarding PMTCT services..... 49

LIST OF APPENDICES

Appendix I: English Informed Consent Form 72

Appendix II: Fomu ya kupeana hiari 75

Appendix III: English Questionnaire form 78

Appendix IV: Kiswahili Questionnaire form 90

Appendix V: Interview Guide for Focused Group Discussion 105

Appendix VI: Muongozo wa Kikundi Cha Kuzingatia Majadiliano 108

Appendix VII: Publication 112

Appendix VIII: Research Ethical Approval 119

LIST OF ABBREVIATIONS AND ACRONYMS

ART	Anti-retroviral therapy
ARV drugs	Ante-Retro Viral drugs
ANC	Anti-natal care
CWC	Child welfare clinic
DHIS	Division of health information system
DNA	Deoxyribonucleic acid
EL5H	Embu Level Five (5) Hospital
EID	Early infant diagnosis
ERC	Ethical review committee
FGD	Focused Group Discussion
HAART	Highly active antiretroviral therapy
HCT	HIV counseling and testing
HEI	HIV exposed infants
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
KASF	Kenya Aids Strategic framework
KNH	Kenyatta National Hospital
KP	Known positive
MARPS	Most at Risk Populations
MCH/FP	Maternal Child Health/Family planning
MTCT	Mother to child transmission
MNCH	Maternal neonatal child health

NACC	National AIDS Control Council
NASCOP	National AIDS &STI Control Programme
PCR	Polymerase chain reaction
PMTCT	Prevention of Mother To Child Transmission
PPFAR	President's Emergency plan for AIDS relief
PSSG	Psychosocial support group services
SDG	Sustainable development goal
SPSS	Statistical package of social sciences
UON	University of Nairobi
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organization

OPERATIONAL DEFINITIONS

Dissatisfaction	Failure of service offered to meet clients' expectation/needs/demands
Mothers	Clients who are HIV positive attending antenatal and postnatal care
Positive	Presence of HIV virus in one's body
Satisfaction	Ability of service offered to meet clients' expectation/needs/demands

ABSTRACT

Fulfillment of patient/client needs and desires through the delivery of health care is perceived as satisfaction. This study aimed at establishing determinants of satisfaction with Prevention of Mother to Child Transmission services among HIV positive postnatal mothers in Embu County hospital, Kenya. Mixed study design that combined analytical cross-sectional study for quantitative data and phenomenological design for qualitative data was used. The specific objectives were to; establish satisfaction level of HIV positive postnatal mothers with PMTCT services; identify client, provider and facility related factors influencing HIV positive postnatal mother satisfaction with PMTCT services. Census sampling was used to sample HIV positive postnatal mothers who were to provide quantitative data obtained using the questionnaire. Purposive sampling was used to sample participants who participated in focus group discussion. Analysis was done through cross-tabulation, chi-square, and logistic regression analysis. Research findings were presented in pie charts, graphs, and tables. The study achieved a response rate of 92.5% which was considered satisfactory in generalizing the study findings. From the cross-tabulation and chi-square analysis, two independent variables (provider (p-value of 0.001) and facility-related factors (p-value of 0.030) had significant association with client satisfaction while in the client-related factors only marital status (p-value of 0.039) had a significant association with client satisfaction. In relation to the patient satisfaction, facility related factors were rated the highest at an average rate of 97.3 %(n=72/74). From the logistic regression analysis, three variables (marital status, counselling, and male involvement) were significantly associated with patient satisfaction. Provider related factors were associated with over 4% change/variance in participant satisfaction. Qualitative data from the FGD showed that majority of the respondents were satisfied but needed some slight changes including time management and staffing to reduce time wastage. The recommendations include Financing and training of health care workers, Quality Assurance and Quality Improvement implementation, addressing human resource for health gaps, provision of comprehensive Counselling and scale up partner involvement especially male partners is highly recommended in improving and sustaining client satisfaction on PMTCT services. Further studies and periodic assements on client satisfaction on PMTCT services is highly recommended.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Worldwide more than 75million people have been infected with HIV (Nature reviews disease, 2015), and there are now 36.7 million individuals living with the infection (Global AIDS update, 2016). Approximately 25.5 million people living with HIV are in Sub-Saharan Africa, which contributes to 70% of new HIV infections globally (Global HIV & AIDS statistics, 2015). Mainly, Human immunodeficiency virus/Acquired immune-deficiency syndrome affects people of reproductive age, increasing infections among women now account for new cases in sub-Saharan Africa (UNAIDS, 2017).

Kenya is one of the most affected countries by HIV and is jointly ranked fourth in the world alongside Mozambique and Uganda among countries with HIV transmission from Mother to child (MTCT) (Global Information, 2017). Countrywide, HIV prevalence is estimated at 4.8% with 1,493,382 million Kenyans living with HIV (NASCOP estimates, 2018). Men are less susceptible to HIV infection compared to women in Kenya, HIV prevalence nationally is at 4.5% and 5.2% for men and women respectively (NASCOP estimates, 2018). Approximated 15% of children deaths under the age of 5 years, 29% of annual adult deaths and 20% of maternal mortality rate in Kenya are associated with the high burden of HIV/AIDS (Kenya HIV county profiles, 2016).

Prevention of mother to child transmission (PMTCT) of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) refers to intercessions to impede HIV transmission from an infected mother to her infant during prenatal period, labor, delivery, and breastfeeding (WHO, 2015). Similarly, PMTC is a term used for designed programs and interventions to reduce the risk of HIV transmission from mother to child (PPFAR, 2017).

In Kenya, PMTCT was incepted in 2000 and launched in 2002 with the global plan towards keeping the HIV infected mothers alive and eradication of new HIV infections in children (PMTCT guidelines, 2012). The program is an important intervention in prevention and control of HIV and AIDS in both developed and developing countries with commitment being made to end the AIDS epidemic by 2030(UN declaration, 2011). Prevention of Mother to child transmission initiative provides ARV drugs, mother baby pair follow up, early infant diagnosis, counseling, and psychological support to help mothers and safeguard their infants. Four-pronged approach is a comprehensive PMTCT strategy (PMTCT plus) recommended by World Health Organization (WHO, 2004). Evidenced based practice show that with comprehensive PMTCT interventions no child gets infected with HIV.

During the past decade, significant progression has been demonstrated in increasing Mother to Child Transmission Prevention services among gestating women, particularly in limited resource countries. Prevention of mother to child transmission coverage increased from 60% in 2013 to 75 % in 2015 by county representation whereas HIV transmission from mother to child reduced by 49% between 2015 and 2013(AIDS response progress report, 2016). Kenya AIDS Indicator Survey (2012) showed 96% of pregnant women attended antenatal clinic among which 92% were done HIV testing and 90% +VE women received PMTCT interventions. Up take of lifetime antiretroviral drugs (ARV) by all HIV infected breastfeeding and pregnant woman is the main tactic for eradicating pediatric HIV infection as it reduces transmission by at least 75 % (AIDS free generation, 2015).

The Kenyan government through the ministry of health endorses and supports World Health Organization comprehensive 4-prong strategy for PMTCT services launched in 2003. The four prongs include; Primary prevention of HIV among women of reproductive age; prevention of unwanted pregnancies among women living with HIV; prevent transmission of HIV infection from HIV-positive pregnant and lactating women to their children; and provision of appropriate care, treatment, care and support for women living with HIV, their children and families (Hairston *et al.*, 2012). In the study the PMTCT services are based on PMTCT strategies.

Review programs and policies on mother to child transmission prevention of HIV in South Africa and East Central Africa alongside 2005 global PMTCT guidelines shows failure to effectively address the first, second and the fourth of the strategic prongs of comprehensive PMTCT care. This means that clients' needs have remained unmet resulting to lack of satisfaction.

Mother to child transmission Prevention program is the main approach towards elimination of new HIV infection and is in line with Kenya vision 2030 which targets to achieve zero new HIV infections by the year 2030(KASF 2014/15-2018/19). Tremendous progress has been made in a number of global targets in the country. In 2015, there was an improvement in PMTCT coverage from 60% in 2013 to 75% by county coverage whereas HIV transmission from mother to child reduced by 49% among children less than 14 years between 2013-2015 i.e., from 12,940 infected children to 6,613(Kenya AIDS progress report, 2016). Eradicating pediatric transmission of HIV has proved achievable with PMTCT being regarded as a crucial component concerning maternal, neonatal child health care. Integration of Mother to child transmission prevention programs into full continuum of care can not only reduce transmission of HIV but also protect infants from other causes of death as well (Global HIV information, 2017). As such client satisfaction with the PMTCT program is very necessary.

According to Fitz (2014) client satisfaction is core to quality of PMTCT services and serves as an important component in continuous evaluation of delivered services to achieve desired outcomes. Client satisfaction with services offered influences their compliance and is an indirect indicator for quality of services. Safeguarding clients' satisfaction with Mother to child transmission prevention services is essential for increasing uptake, promoting compliance and confinement in care. Furthermore, providing better services attracts more clients and increases the utilization of health care services (Creel *et al.*, 2012).

1.2 Statement of the problem

Fulfillment of patient/client needs and desires through the delivery of health care is perceived as satisfaction (Creel *et al*., 2012)**.** Globally, one of the pillars of improving quality of health services is by measuring and addressing client satisfaction. Client satisfaction has been seen to influence whether a person seeks PMTCT services, adhere to treatment and maintain an enduring relationship with practitioners (Larsen *et al.*, 2014).

According to united nations (USAID, 2022) HIV infections through mother to child transmission continues to account for a substantial proportion of new HIV infections among young children and remains a major public health problem.In absence of any intervention, mother to child transmission ranges from 15-45%. Effective Mother to child transmission prevention intercession, this rate can reduce to below 5% during pregnancy, labor, delivery, and breastfeeding (WHO, 2015). Currently, HIV transmission from mother to child stands at 11.5% nationally and 12.9% for Embu County (NASCOP estimates, 2018). Critical review shows that MTCT in Embu is higher than the national by 1.4%.

Globally, studies identify that large proportions of participants have expressed satisfaction with PMTCT services (Naburi, 2017). However, a study done by Yeshewas (2016) in Dessie Referral Hospital, Ethiopia on Quality of PMTCT Services showed that; despite clients being highly satisfied with the PMTCT services offered, there are clients who were not satisfied with the waiting time they spent while accessing services.

In Embu County hospital, hardly any information is available on whether HIV positive postnatal mothers are satisfied with PMTCT services for the last 18 years. The study aims to explore on determinants associated with satisfaction of HIV positive postnatal mothers with PMTCT services.

1.3 Broad Objectives

To establish determinants of satisfaction with Prevention of Mother to Child Transmission services among HIV positive postnatal mothers in Embu County hospital, Kenya

1.4 Specific Objectives

1) To establish satisfaction level of HIV positive postnatal mothers with PMTCT services.
2) To determine client related factors influencing HIV positive postnatal mother satisfaction with PMTCT services.
3) To assess provider related factors influencing HIV positive postnatal mother satisfaction with PMTCT services.
4) To determine facility related factors influencing HIV positive postnatal mother satisfaction with PMTCT services.

1.5 Research Questions

1) What is the satisfaction level of HIV positive postnatal mothers with PMTCT services?
2) What client related factors influence satisfaction of HIV positive postnatal mothers with PMTCT services?
3) What provider related factors influence satisfaction of HIV positive postnatal mothers with PMTCT services?
4) What facility related factors influence satisfaction of HIV positive postnatal mothers with PMTCT services?

1.6 Justification of Study

Key criterion by which the quality of health care services is evaluated is through client satisfaction (Ringo, 2015). Globally, client satisfaction has been used as an essential tool to measure quality of care through the service provided to determine

effectiveness of health care and is viewed as the most desired outcome in health care provision.

The research is in line with Kenya Aids Strategic framework (KASF 2014/15-2018/19) achievement (strategic direction 1). It focuses on reducing HIV transmission rates from mother to child from 14% to less than 5% through PMTCT program. This can be best achieved through PMTCT four prong comprehensive approaches. Study on determinants of satisfaction with PMTCT services among HIV positive postnatal mothers with PMTCT services will therefore help to identify various factors associated with clients' satisfaction. Patient satisfaction influences: uptake of PMTCT services, confinement in HIV care, compliance to HAART and serves as determinant to HIV suppression.

Evaluating satisfaction with clients should be consistent so as to reevaluate the baseline and to be able to assess interventions and changes in measuring care provision. This is in line with sustainable development goal (SDG 6) which advocates for utilization of strategic information for research; monitoring and evaluation in order to enhance evidence-based programming (KASF 2014/2015-2018/2019).

HIV positive postnatal mothers are clients who have received PMTCT services during pregnancy, labor and delivery as well as postnatal period. Targeting postnatal mothers provide unique opportunity for assessing client satisfaction and associated determinants since they have had more exposure to PMTCT services and can best describe various services given, based on quality of care from experience.

In Kenya and particularly in Embu, information about quality of PMTCT services regarding client satisfaction is limited. This study will be conducted to understand the level of satisfaction of clients with PMTCT services and associated determinants in Embu County hospital, Kenya. Findings of the study will help the policy makers and providers to assess interventions and any changes in PMTCT care provision through evaluating client's satisfaction and associated determinants.

1.7 Study purpose

1. This study aimed at establishing determinants of satisfaction with Prevention of Mother to Child Transmission services among HIV positive postnatal mothers in Embu County hospital, Kenya.
2. Findings of the study will help the policy makers and providers to assess interventions and any changes in PMTCT care provision through evaluating client's satisfaction and associated determinants.
3. The study will also add to the body of knowledge in regard to PMTCT research on client satisfaction.
4. Finally, the research serves as a prerequisite submitted in partial fulfillment for the award of Master of Science degree in nursing.

1.8 Scope of study

The study was conducted at Embu level five hospital in Embu County. The hospital is in the outskirts of Embu town a long Embu- Meru highway approximately two kilometers from Embu town and 120 kilometers from Nairobi (Kenya county guide, 2016). It serves as a referral hospital. The hospital offers general services as well as specialized care in critical unit and renal unit.

Period of study was from October 2019 to October 2022 (an approximate of four years). A total cost of ksh one million (1million) was incurred for successful completion of study.

1.9 Study limitations

Some of study limitations included time constraint which was due to COVID pandemic that affected client movement and sudden interruption of Prevention of mother to child transmission services. Another main challenge encountered was financial constraints which was also aggreviated by COVID pandemic.

1.10 Hypotheses

Based on the research questions and objectives the study adopted the following hypotheses.

H_o1: There is no significant association between client related factors and HIV positive postnatal mother satisfaction with PMTCT services.

H_o2: There is no significant association between provider related factors and HIV positive postnatal mother satisfaction with PMTCT services.

H_o3: There is no significant association between facility related factors and HIV positive postnatal mother satisfaction with PMTCT services.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter provides grounding for understanding what has already been done or written and shades more light on the significance of the new study. It describes theoretical perspectives and previous research findings regarding; PMTCT services, clients' satisfaction with PMTCT services and associated determinants.

2.2 PMTCT services

Mother to child transmission prevention program of HIV is a managed by NASCOP. The vision is to have HIV free society, Mission to keep mothers alive and eliminate MTCT of HIV while the ultimate goal is to reduce MTCT rate of HIV to less than 5% and reduce maternal mortality by 50% by 2019.The program is presently implementing the four-pronged approach to PMTCT that was launched by WHO in 2003 to combat MTCT globally.

Accessibility to PMTCT services by women and their infants alongside taking up of care cascade into completion contribute to effective program. Interventions to reduce mother to child transmission include: -preconception care, early prenatal care services, HIV testing during pregnancy, labor, delivery, and postnatal period; use of anti-retroviral drugs by pregnant and lactating infected with HIV; safe delivery practices, appropriate infant feeding measures, uptake of infant HIV testing and other post-natal healthcare services (PMTCT guideline, 2012). In Cuba the first country to successfully eradicate MTCT and syphilis in the world, interventions include: -antenatal care, HIV and syphilis screening for expectant women and their partners, antiretroviral therapy for HIV infected mothers and infants, caesarian sections and replacement of breast milk. The aspect of care is similar but differs in delivery approach and young infant feeding.

The four prongs endorsed by World Health Organization (WHO, 2013) include.

1) Inhibit new HIV infections among women of reproductive age
2) Inhibit unplanned pregnancies among women infected with HIV
3) Inhibit HIV vertical transmission from infected mother to her baby
4) Providence of appropriate care, support and treatment among HIV infected mothers, partners, children, and families.

PMTCT Prongs (WHO 2013)

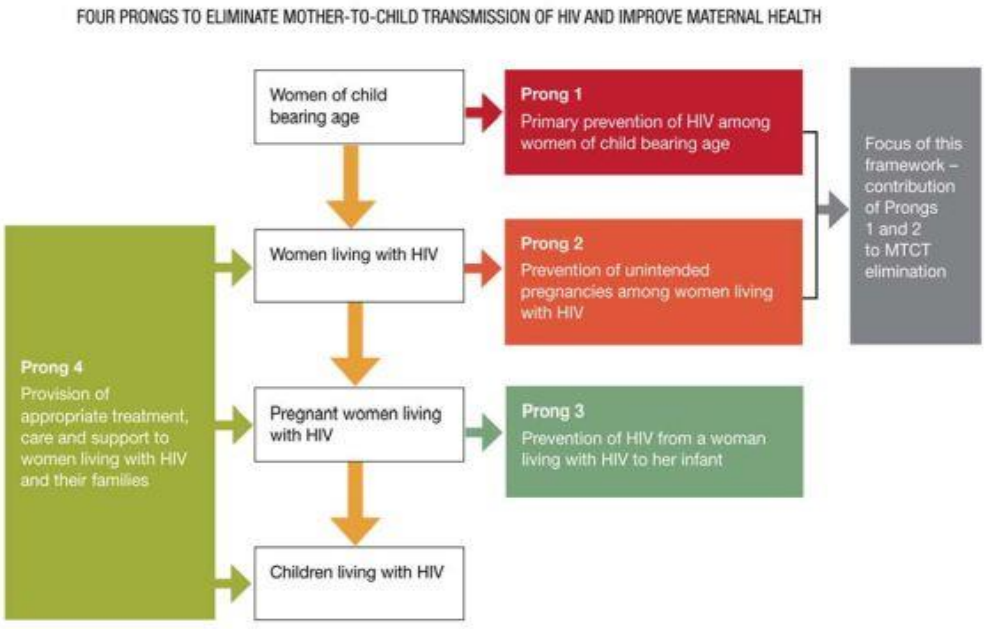

Figure 2.1: PMTCT Prongs (WHO 2013)

2.2.1 Prong one

Men and women of the reproductive age are prone to HIV infection. The prong focus on measures geared towards reduction of HIV transmission. This can be achieved through; Abstinence HIV and syphilis counseling and testing, HIVretesting, HIV services for most at risk populations (MARPS), Partner/ Couple counseling and

testingProviding early diagnosis and treatment of STIs, providing suitable counseling for women and men who are HIV negative, Health promotion, sex education, Safer sexual practices including condom promotion, Male circumcision (WHO, 2013).

2.2.2 Prong two

Great numbers of HIV infected women are sexually active. The prong emphasizes on the importance of preventing unwanted/unplanned pregnancies among HIV infected women within the childbearing age. Measures to achieve the strategy include Effective provision of family planning services, reproductive counseling and screening, Integration of HIV services in Reproductive Health and Family Planning services and safer sexual practices (WHO, 2013).

2.2.3 Prong three

It targets pregnant and lactating women already infected with HIV. Interventions to achieve this include early prenatal care, HIV testing and counseling in pregnancy, labor, delivery and lactation, HIV retesting in late pregnancy and in high prevalence settings, Anti-retroviral therapy for preventing HIV transmission (mother - infant), Safer obstetric practices, Counseling on safer infant feeding and support for exclusive breastfeeding (WHO, 2013).

2.2.4 Prong four

The prong focus on Providence of appropriate care, support and treatment among HIV infected mothers, partners, children, and families. Various aspects of care are integrated to ensure physical and psychological wellbeing of HIV infected mothers, children, and families. It deals with integration of PMTCT care, treatment and support for HIV infected women and their families. Services given include Psychosocial care and support, disclosure, Young infant feeding practices, Co-trimoxazole prophylaxis and for infants starting at 6 weeks, Routine immunization and growth monitoring and support, Early diagnosis of HIV infection as early as 6 weeks of age (EID) with DNA PCR, Antibody testing for young children > 18

months to reconfirm the diagnosis, Antiretroviral therapy for eligible HIV infected children, Syndrome management and palliative care (WHO, 2013).

2.2.5 Integration of PMTCT services

Integration of various services such as family planning, sexual reproductive health and PMTCT within the MNCH component is among the key measures outlined for realizing PMTCT targets (WHO, global plan 2011-2020).

Previous studies done showed that provision of HIV care in HIV segregated centers resulted to clients' fallout from care continuum due to stigmatization. HIV positive clients are eligible to integrated PMTCT services which includes antenatal care, safe delivery practices at a health facility, postnatal care. HIV exposed infants (HEI) care is integrated through CWC at the MNCH Department for 2 years ensuring that the HIV positive mother and her infant are followed up as a pair. PMTCT integrated care is based on 4-pronged comprehensive strategy throughout the care continuum.

2.2.6 Factors associated to PMTCT services

Utilization of various PMTCT services is among the associated factors and is influenced by provider, client and facility-based factors as well as integration of PMTCT services into MNCH services. Utilization can be defined as effective use of PMTCT services and is also viewed as a technique wherein success and performance are determined. Accessibility to essential maternity services such as prenatal care, delivery and postnatal care partly influence utilization of PMTCT services (WHO Bulletin, 2001). Integration of PMTCT services into maternal health services in turn increases utilization and client satisfaction**.**

Studies show that facility-based factors such as accessibility of PMTCT services, health facility location, accessibility, and affordability of PMTCT services, insufficient budgetary allocation and lack of adequate supplies. Other factors associated with client and provider include human resource constraints, socio-economic and cultural factors, lack of staff training, negative staff attitudes, lack of privacy during counseling, long waiting time, limited access to PMTCT information

and services, discrimination and stigma related to HIV and AIDS in the community, inadequate knowledge, myths, and misconception.

2.3 Client Satisfaction

Client satisfaction is core to quality of PMTCT services. According to Nair and Andrew health service market has changed today and even the most technically competent care is useless if it doesn't satisfy the clients' potential (Nair and Andrew, 2005). Globally, studies identify that immense number of participants have showed satisfaction with PMTCT services (Naburi, 2017). Nonetheless, this is largely associated with availability of PMTCT services, client compliance and reduction of MTCT. Generally, satisfaction with PMTCT services influence whether a person seeks care adheres to treatment and sustains an enduring relationship with healthcare providers (Larsen *et al.*, 2002).

Surveying and addressing consumer satisfaction is one of the pillars of improving quality in health care services. A study done by Yeshewas in Dessie, Ethiopia on quality of PMTCT services showed that 86.7% of clients were in general were satisfied with Mother to child transmission prevention services they received and over 87.5% of the respondent's expressed satisfaction with waiting time of services.

Client perceptions and needs towards PMTCT service utilization are reflected through client's satisfaction. In absence of quality healthcare service indicators, to determine the quality of health-care delivery and health system responsiveness, assessing clients' satisfaction is crucial. Clients' satisfaction indicates client acceptance, engagement to care and complaisance to commended care greatly contribute to achieving better health outcomes. Additionally, measuring clients' satisfaction not only helps to improve service delivery but also aid in resource distribution and prioritizing capacity building needs. Previous studies on client satisfaction have viewed this topic from healthcare system prospect or from quality-of-care prospect.

People living with HIV /AIDS worldwide, face significant social and psychological problems primarily related to AIDS stigma and discrimination in addition to their physical condition (Sun *et al.,* 2007). A study done by Stanley et al. (2013) in India on life satisfaction and pessimism in HIV positive people showed manifestation of negative psychological states associated with social stigma, discrimination, isolation, and psychosocial difficulties. Despite of the psychological and social problems alongside HIV infection, majority of pregnant women infected with HIV knew their HIV status before pregnancy (Known positive). In 2016 out of 62,900 HIV positive pregnant women 36,535 were KP, in 2017 out of 58,633 37,228 were KP (DHIS 2 2016, 2017). Though this could be influenced by other probable causes such as lack of integrated family planning services or failure of family planning methods; it is a predictor that HIV Known positive mothers' pregnancies were influenced by satisfaction with PMTCT services.

Client satisfaction can be best determined through the various services offered. HIV testing and counseling is an important entry into the national PMTCT program. A study done by Matseke in South Africa in 2016 among 498 PMTCT clients in 56 HCT sites showed that 89.8% of clients were satisfied with HIV and testing services offered. Similarly, a study done by Ashipa et al. (2013) on client satisfaction assessment with counseling services offered in PMTCT care in Nigeria at Benin city showed that satisfaction was associated with waiting time and type of counseling received.

A client satisfaction measures the extent to which a client is gratified with the services offered by healthcare providers and is viewed as a crucial indicator. Several studies have revealed that among the factors which influence the use of PMTCT services such as family planning is client satisfaction. A study done by Deogratius et al in Tanzania on client satisfaction with Family planning services in 2014/2015 showed that high proportion of HIV positive clients were satisfied with family planning services that could be associated with increased number of health facilities offering family planning services, in service training and adequate supplies from government and non-governmental organizations both in public and private hospitals.

Vertical transmission also known as Mother-to-child transmission (MTCT), accounts for the vast majority of infections in children aged (0-14 years). The likelihood of passing HIV virus from mother-to-child is 15% to 45% in pregnant women, without treatment. Treatment with anti-retroviral drugs and other intercession can reduce this risk to below 5%. Use of lifetime antiretroviral treatment (ART) for all pregnant and breastfeeding women living with HIV reduces transmission by at least 75% and is the major strategy for eradicating pediatric HIV (AIDS free generation, 2015). As such client satisfaction is not only relevant but very crucial as it determines compliance and long-term retention in care. A study done by Chukwuma et al. (2018) in Nigeria showed that patient satisfaction with services offered was associated with retention in care.

Client satisfaction is a subjective concept and an important outcome of healthcare delivery within the PMTCT care continuum. In attempt to scale up PMTCT services, program managers should not only target on increasing number of clients on care to decrease HIV-related mortality but also on aspects of treatment delivery that could affect client's satisfaction.

2.4 Determinants of Client Satisfaction

Determinant is described as an element that identifies the nature of something or that fixes or conditions an outcome (Merriam, 1828). Patient satisfaction is an instrument that is oftenly used to define factors which determine satisfaction. Among clients, the most common determinants of satisfaction with health care include health condition, income, age, communication, politeness of service provider, the service given (private sector or government), and hospital environment (Friese *et al*., 2008; Aiken *et al.,*2011 , 2012; Al-Refaie, 2011; Vozikis & Xesfingi, 2016). Lack of universal instrument for measuring the level of satisfaction with health care, the degree of satisfaction with PMTCT services is determined indirectly based on; communication with health workers, quality of given services, and waiting time (Firminger & Sofaer, 2005; Borm & Adang, 2007).

Classification of factors that influence clients' satisfaction with PMTCT services have been grouped into three broad categories i.e., client, provider and facility related factors. Mother to child transmission prevention services engages both clients and health service providers, assessment of socioeconomic characteristics is crucial in determining clients' satisfaction in relation to other factors. A recent systematic review found that interpersonal skills, providers' efficiency, and facility attributes (e.g., level and type of facility, physical environment,) were highly linked to clients' satisfaction. Several studies also highlight how actual healthcare experiences and clients' perceptions of care contribute to overall patients' satisfaction level.

2.4.1 Client related factors to satisfaction

Client satisfaction is associated with quality of services offered. Quality could be defined from the provider or client's/ patient's point of view but more often from the latter. According to World Health Organization, "Quality of healthcare consists of the proper performance (based on guidelines and outlined standards), intercession that have the ability to produce an impact on malnutrition, disability, morbidity and mortality and are known to be safe and affordable to the society." (WHO, 2010).

Studies also show that when the quality of service satisfies a client, he returns back and also recommend the service to others (WHO, 2010). On the contrary, dissatisfaction and poor-quality care result to fall out of care or movement of clients to other health facilities or service providers. Studies done in developing and developed countries share some common views on what constitutes quality. These are: technical competence (Verot, 2013) understanding client's situation and needs (Hashemi et al.; 2015**),** provision of accurate and complete information (Indonesia, 2016. Survey Report) and), respect for clients **(**Schuler et al., 2014), others include fairness (Barrett & Stein, 2018), access **(**United Nations, 2015), and result (Ndhlovu, 2015).

Leading origin of information concerning a hospital's service delivery system are clients; their prowess's often expose some weaknesses in the operating system and can stimulate important insights into amendments that are necessary to the health

institution. Clients have explicit desires and expectations while visiting the hospital, the extent to which the provider fulfils them define the degree to which the client is satisfied. Relative success or failures on these dimensions dictate the extent of client satisfaction (Fletcher, 2012). Possible patient factors affecting his/her satisfaction with healthcare are principally demographic characteristics (Sitzia, 1983) such as age, gender, race, place or region of residence, education level, employment status, health status among others. Plescia et al. (2001) reported that 33% of respondents cited lack of money as an important barrier to the use of health services. Other factors which affected utilization of PMTCT services included HIV-related stigma, unfavorable attitudes and beliefs directed towards PLHIV (Mrisho *et al.,* 2009).

2.4.2 Provider related factors to satisfaction

One of the primary concerns of a health system revolves around the issue of client satisfaction. When deciding on a specific healthcare provider, individuals are faced with many different options in the modern day. Due to the varying options, two essential elements that stand out to influence the selection process include service and quality. Service provider's reputation for client-centered service and commitment to quality stands as one of the main criteria for individuals in choosing a healthcare provider. One of the most effective tools that the government uses to measure how well services are provided to clients is through client satisfaction surveys.

Determinants of client satisfaction have been reported broadly. A study done in Ethiopia by (Zewdie *et al.,* 2019) on determinants of satisfaction with healthcare providers interactions revealed that interpersonal processes including non-verbal communication, patient enablement, perceived technical competency and perceived empathy significantly influence client satisfaction. The most influential factor for patient satisfaction has been reported as the relationship between clients and health care providers (interpersonal skill), (Cleary & McNeil, 2015). People skills (Interpersonal skills) comprise the ability to gather information in order to facilitate accurate assessment, diagnosis, appropriate counseling, and therapeutic instructions to establish a caring relationship with clients. Several studies have shown that client-

provider interactions and overall client satisfaction can influence ART uptake and adherence, retention in PMTCT care and even viral suppression. A study conducted in Tanzania by (Naburi, 2017) in Dar es Salaam showed that 92 % of HIV positive postnatal mothers were satisfied with PMTCT services which was influenced by good provider interaction.

Other factors associated with the provider includes human resource constraints, lack of staff training, negative staff attitudes, waiting time, privacy, and confidentiality. Confidentiality and privacy involving both counseling and testing for HIV is relevant for clients' satisfaction with ART and Mother to child transmission prevention services, as many patients are worried about accidental disclosure of their HIV status. Confidentiality is central in the communication between health workers and clients in the provision of counseling, testing and treatment services.

Kenya policy document on HIV/AIDS (Kenya health policy 2014-2030) and health workers professional ethics oblique's them to keep information obtained in contacts with clients' private and confidential. A study done by Amos in Bamenda in Cameroon showed that clients' satisfaction levels with confidentiality and privacy at the treatment center was high. Client's levels of satisfaction concerning client-staff-communication, staffing, and provider attitudes towards clients and amenities situation in the Bamenda treatment center were considerably low.

Conclusively, previous studies show that visit time/ long waiting reduce subsequent utilization of prenatal/Mother to child transmission prevention services and client satisfaction with PMTCT services. High levels of client workload in relation to limited human resource and lack of availability to meet this demand result to long waiting time at the clinic, in turn influencing the quality of care. A study done by Yeshewas (2016) in Dessie Referral Hospital, Ethiopia on Quality of PMTCT Services showed that; despite clients being highly satisfied with the PMTCT services offered, there are clients who were not satisfied with the waiting time they spent while accessing services.

2.4.3 Facility related factors

Effective and economic health services can easily and economically be delivered in a health facility. Client satisfaction is multi-dimensional healthcare construct affected by many variables. Studies show that facility-based factors such as health facility location, accessibility, and affordability of PMTCT services, PMTCT service integration and lack of adequate supplies influence client satisfaction. A recent systematic review meeting found that facility characteristics such as physical environment, level and type of facility were positively associated with clients' satisfaction whereas facility management, type, and location remains a significant predictor of overall satisfaction.

Among the critical priorities outlined for reaching PMTCT targets is Integration of sexual reproductive health, family planning and PMTCT services within the MNCH services in health facilities (WHO, global plan 2011-2020). Identification on independent effect of confidentiality and promptness of attention on patient satisfaction with ART services was done in a previous study involving standalone HIV clinics in Dar es Salaam. This was probably because clients could more easily be noticed and stigmatized in clinics where only people living with HIV attended as compared to integrated ANC/PMTCT clinics where all pregnant and breastfeeding women get the services, regardless of their HIV status.

2.5 Theoretical Framework

The study will apply Donabedian quality of care delivery model. The model provides a framework for examining health services and evaluating quality of health care. Model was developed in 1966 at the University of Michigan by Avedis Donabedian, a physician and health services researcher. In the model, quality of care is drawn from three categories: structure, process and outcomes. Structure is referred to as the organizational and professional resources associated with health care provision (e.g., availability of medicines/supplies, equipment, and staff training). Process is referred to as the services offered to the patient (e.g., diagnosis, treatment, referral linkages, defaulter tracing). Outcome is referred to as the desired result in populations and

individuals that can be associated with health care. Outcome variables include client and their family members satisfaction with quality of health care services offered, changes in health status, knowledge or behaviors of clients and family members (Donabedian, 2003:46-48).

Donabedian Quality of care model

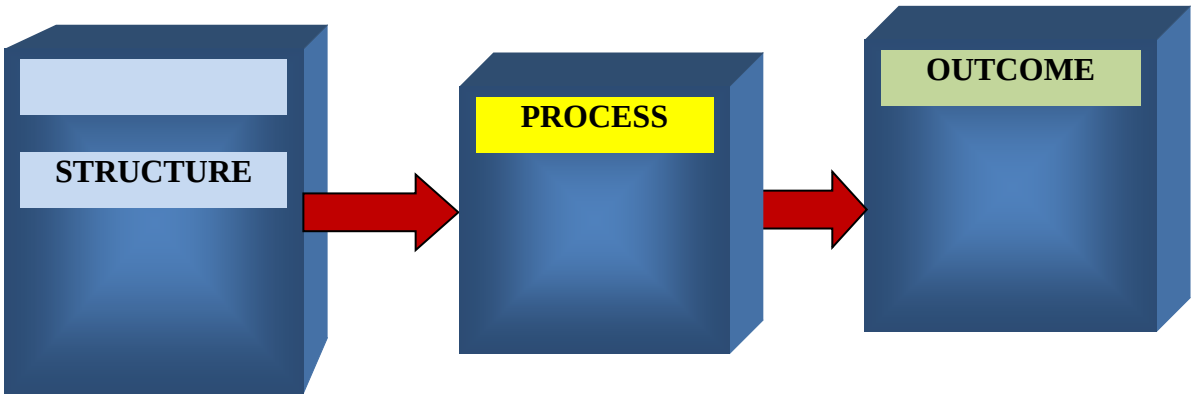

Figure 2.2: Donabedian Quality of care model

Source :(Donabedian 2003:46-48)

2.6 Conceptual Framework

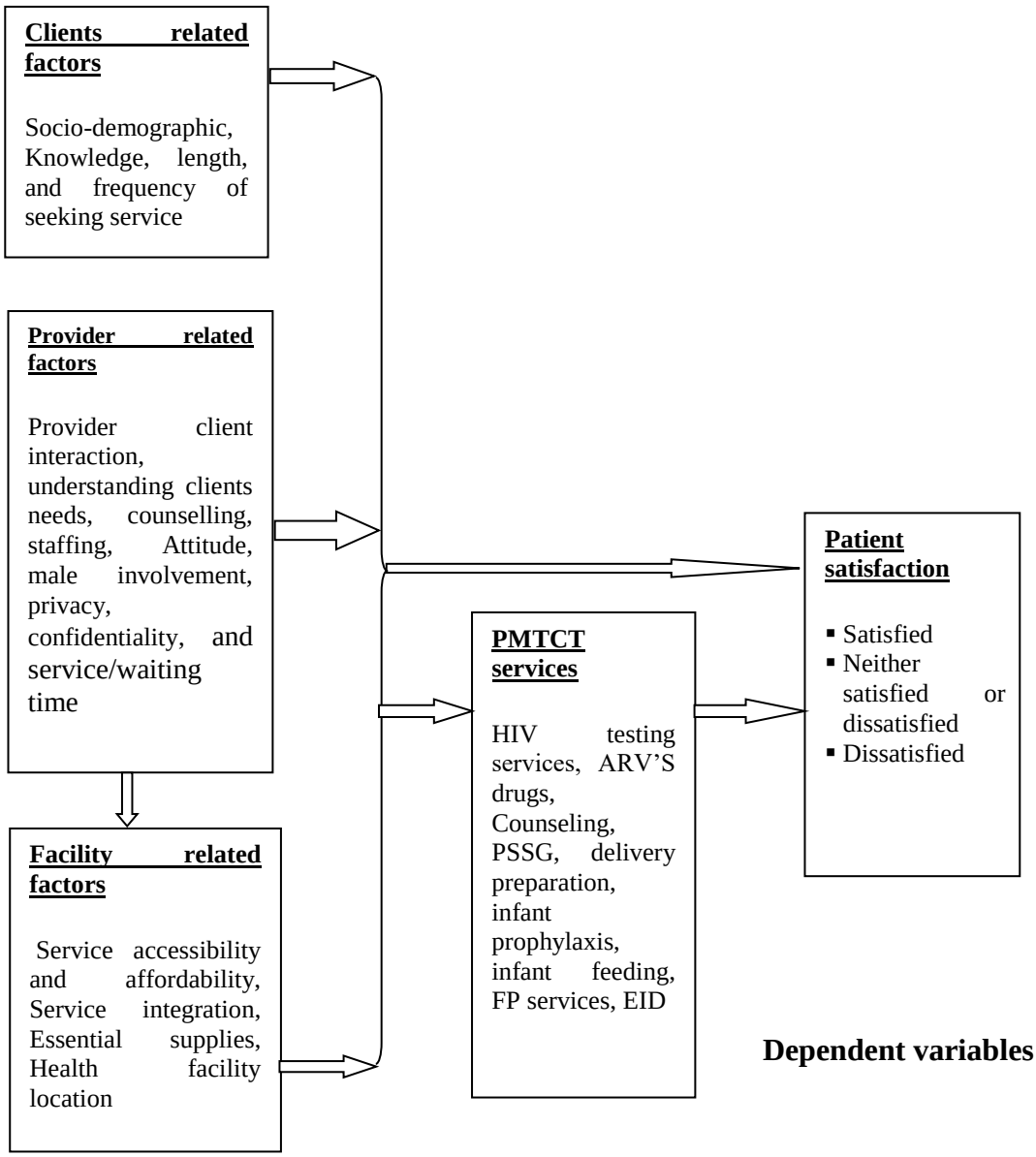

Figure 2.3: Conceptual Framework

The independent variables influenced the dependent variable which is client satisfaction. For instance, provider related factors like provider client interaction, clients need, counselling, attitude, privacy, confidentiality, male involvement, and time taken influenced the overall customer satisfaction. In addition, client-related factors like Socio-demographic characteristics, knowledge, length, and frequency of seeking service also dictated the level of customer satisfaction. Facility related factors like Service accessibility, affordability, Service integration, essential supplies and health facility location also influenced the overall customer satisfaction. The intermediate factors denoted by the PMTCT services, which includes HIV testing services, ARV'S drugs, Counseling, PSSG, delivery preparation, infant prophylaxis, infant feeding, Family Planning services, EID (early infant diagnosis), all anticipated to having an influence on overall customer satisfaction. The independent variables thus influenced the dependent variable either positively or negatively, that is, presence or absence of the aspects of the independent variables reducing or increasing client satisfaction

2.7 Summary

The chapter describes theoretical perspectives, empirical review, conceptual framework, summary of reviewed literature and identified research gaps and previous research findings regarding; PMTCT services, clients' satisfaction with PMTCT services and associated determinants.

Donabedian quality of care delivery model was used. The model provided a theoretical framework for examining health services and evaluating quality of health care. In the model, quality of care was drawn from three categories: structure, process and outcomes. Structure is referred to as the organizational and professional resources associated with health care provision (e.g., availability of medicines/supplies, equipment, and staff training). Process is referred to as the services offered to the patient (e.g., diagnosis, treatment, referral linkages, defaulter tracing). Outcome is referred to as the desired result in populations and individuals that can be associated with health care. Outcome variables include client and their family members satisfaction with quality of health care services offered, changes in

health status, knowledge or behaviors of clients and family members (Donabedian 2003:46-48)

On client satisfaction, according to Nair and Andrew health service market has changed today and even the most technically competent care is useless if it doesn't satisfy the clients' potential (Nair & Andrew, 2005). Globally, studies identify that immense number of participants have showed satisfaction with PMTCT services (Naburi, 2017). Among clients, the most common determinants of satisfaction with health care include health condition, income, age, communication, politeness of service provider, the service given (private sector or government), and hospital environment (Friese *et al*., 2008; Aiken *et al.,* 2011 , 2012; Al-Refaie, 2011; Vozikis & Xesfingi, 2016). Classification of factors that influence clients' satisfaction with PMTCT services have been grouped into three broad categories i.e., client, provider and facility related factors.

From the conceptual framework, the independent variables influenced the dependent variable either positively or negatively, that is, presence or absence of the aspects of the independent variables reducing or increasing client satisfaction.

Conclusively, previous studies show that visit time/ long waiting reduce subsequent utilization of prenatal/Mother to child transmission prevention services and client satisfaction with PMTCT services. High levels of client workload in relation to limited human resource and lack of availability to meet this demand result to long waiting time at the clinic, in turn influencing the quality of care.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes some of the relevant aspects of research methodology such as; study design, study area, study population, sample size determination, data collection tools, data collection process, data analysis and presentation, ethical considerations.

3.2 Study design

Mixed study design that included analytical cross-sectional studies and phenomenological studies was used. Analytical Cross-sectional study was used to obtain quantitative data while phenomenological study design was used to obtain qualitative data.

Cross sectional study is a type of observational study that analyzes data from a population or a representative at a specific point in time (Thomas *et al.,* 2011). Phenomenological study explores what people experienced and focus on their experience of a phenomena (Soren *et al.,* 2017). Data was collected at the same time from people with similar characteristics but different in key factor of interest. HIV positive postnatal mothers were similar in that they were all sero- reactive and had received various PMTCT services. In the study, the designs helped provide information about what was happening currently in management of HIV positive postnatal mothers through various PMTCT services offered.

The designs were used to measure outcome as satisfaction and the exposure as various determinants influencing satisfaction with PMTCT services among HIV positive postnatal mothers. Relationship between various determinants and satisfaction was measured simultaneously.

3.3 Study area description

The study was conducted at Embu level five hospital in Embu County. The hospital is located in the outskirts of Embu town a long Embu- Meru highway approximately two kilometers from Embu town and 120 kilometers from Nairobi (Kenya county guide, 2016). It serves as a referral hospital. The hospital offers general services as well as specialized care in critical unit and renal unit. The hospital has 17 wards with bed capacity of 618 beds (444 adults and 174 cots) and22 support departments.

Average outpatient attendance is about 11,000 patients/month (350-400) per/day, Inpatient 1,300 admissions per month (44 per/day), maternity admissions per month 650(22 per /day), Caesarean section rate is about 20 %(130/month). It has an average of 500 deliveries per month. There are 400 health care workers at Embu level five hospital of whom 253 are nurses,30 doctors,20 laboratory technicians' and technologists,20 clinical officers,15 pharmacists,5 plaster technichian,8 radiographers,5 physiotherapists,2 nutritionists,5 orthopedic technichian,10 clerical officers and 30 support staff.

Maternal neonatal child health clinic has an average of 300-450 clients per/day, sick children 40-70 per/day, CWC 40-80 per/day, ANC 21-50, FP 6-17, PNM 15-20 per/day, HIV positive PNM 30-40 per/week. There are 8 healthcare workers of 5 are nurses, 2 clinical officers, 1 nutritionist and 3 mentor mothers.

3.4 Study population

Eighty (80) HIV positive postnatal mothers attending postnatal clinic in Embu level five hospital from six weeks to twenty-four months. The study population was obtained from the PMTCT diary where all HIV positive post-natal mothers are recorded following the first encounter post-delivery at 2 weeks scheduled for post-natal checkup.

3.4.1 Inclusion criteria

1) HIV positive postnatal mothers

3.4.2 Exclusion criteria

1) Newly diagnosed HIV positive postnatal mothers
2) HIV positive postnatal mothers below 6 weeks post-delivery.
3) Mentally unstable and very sick HIV positive mothers

3.5 Sample size determination

The researcher used Yamane (1967:886) formula**.**

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

Where:

n = sample size

N = Total population

e = Margin of error is 5%

$$n = \frac{80}{1+80(0.05)^2}$$

n = 67

To take care of non-respondent estimated to be 10 %, the sample size was converted to 74.

Minimum sample size =74

3.5.2 Sampling technique

Census sampling was used to sample HIV positive postnatal mothers who were to provide quantitative data obtained using the questionnaire. Purposive sampling was used to sample participants who participated in focus group discussion.

3.6 Recruitment and consenting procedures

Participants were recruited from psychosocial support groups. All the relevant information was shared. Study participants were clients that consented to participate.

3.7 Variables

3.7.1 Dependent variables

Satisfaction with PMTCT services was used as the dependent variable for the study. Overall level of satisfaction was measured through a three-point Likert scale based on various PMTCT services. Direct questions such as what aspects of care made you satisfied or dissatisfied with PMTCT services were asked in the focused group discussion. This enabled development of quantitative and qualitative scores for each category for analysis.

3.7.2 Independent variables

The independent variables for the study included Clients related factors (Socio-demographic, attitude, knowledge, and perception); Provider related factors (Provider client interaction, communication, Attitude, privacy, confidentiality, and time taken); Facility related factors (Service accessibility and affordability, Service integration, Essential supplies, Health facility location).

3.8 Data collection procedures

Data collection was done in 8 weeks. Data was collected during PMTCT psychosocial support group meetings. This is to ensure that clients' schedules were

not interfered with. Before data collection permission was sort from the shift in charge.

The questionnaires were administered by the research assistants. Eight focused group discussions were conducted comprising of approximately 8 HIV positive postnatal mothers. Focused group discussion was moderated by the researcher. The moderator conducted discussion according to focus group guide and kept conversations flowing. The discussion was conducted for 45 to 60 minutes and recorded in a tape. Researcher took note of non-verbal communication during focused group discussion. Research assistants helped in taking notes and tape recording during focused group discussions.

3.8.1 Data collection tools

Data was collected using semi -structured questionnaires (researcher administered). The questionnaires included socio-demographic characteristics and determinants of client satisfaction related to, client, service provider, and facility factors. Likert scale was used to assess satisfaction level. The scale ranged from 1 to 3. One (1) satisfied, 2 neither satisfied nor dissatisfied and 3 denotes dissatisfied.

Focused group discussion guide was used to conduct focused group discussion. The focused group discussion guide covered factors influencing HIV positive postnatal mothers' satisfaction with PMTCT services. Information obtained complemented the quantitative data in the study.

3.8.2 Pretest tool

Pretesting of the semi- structured questionnaires and Focused group discussion guide was done prior to the actual date of data collection at Kerugoya level five hospitals in Kerugoya County. The hospital had similar locality and characteristics thus the researcher expected similar results. Ten (10 %) of study participants was used for pretesting to ensure validity and reliability of instruments.

3.9 Materials

Tape recorder was used for recording information in focused group discussions.

3.10 Recruitment and training of research assistance

Three Research assistants were recruited based on education level and exposure to PMTCT services in maternal neonatal child health clinic. Requirements of research assistants included; Bachelor of Science degree in nursing with duly completed internship. Training of research assistant was done for one day on research process, pretesting of research tools, data collection and research ethics.

The role of researchers included distribution of questionnaires, taking notes and tape recording during focused group discussion.

3.11 Quality assurance procedures

3.11.1 Validity

Issues not clear were clarified after pre-testing. Unnecessary questions were deleted after thorough scrutiny. Rephrasing of necessary questions was done accordingly before study commencement.

3.11.2 Reliability

This was assured by counter checking the completed interview schedules on a daily basis to identify and correct any errors that might have occurred. The Cronbach's alpha results for satisfaction level of HIV positive postnatal mothers with PMTCT services (0.73), client related factors (0.71), provider related factors (0.87) and facility related factors (0.75).

3.12 Ethical considerations

Ethical approval to conduct this study was provided by Research and Ethics committee (ERC) Nairobi University (UON) Kenyatta National Hospital (KNH). Approval was also received from Chief Executive Officer in Embu level five hospital

and Kerugoya level four hospital. Additional approval was provided by officers in charge of maternal neonatal child health clinic. Written consent was obtained from study participants before data collection after they had been informed about the objectives and purpose of the study. Study subjects were given the chance to decline participation or interrupt at any time if they didn't feel comfortable. Client's names were not retrieved from the register.

3.13 Data management

3.13.1 Data processing and analysis

Data collection was done using semi structured questionnaires and focused group discussion guide. The questionnaires were coded before administration. Manual cleaning of the filled questionnaire was done to check for completeness. Information from the focused group discussion was coded in the computer and checked for completeness. Data was then fed in Statistical Package for Social Sciences (SPSS) version 26.0 and cleaned for inconsistencies and missing values. The data was processed, tabulated, and analyzed to generate frequency, tables, and graphs.Rate of satisfaction and other variables was computed using descriptive statistics. Qualitative data was analyzed thematically to generate themes and data expressed in narrative form.

NVIVO software was used to code the data. Bivariate analysis was performed using Chi-square to identify factors related to satisfaction and also measure association between HIV positive postnatal mothers' satisfaction and PMTCT services offered at Embu level five hospital. To further establish the variance and strength of association, ordinal logistic regression analysis was performed on the independent variables. Data was then presented inform of graphs, pie charts and tables.

3.13.2 Data storage, security, and access

The filled in questionnaire and recorded tape for focused group discussion was stored in a locked cupboard and the keys kept by the researcher. Coded data was stored in a folder in the researcher's computer that had password.

The filled in questionnaires were stored in a locked cupboard under the custody of the researcher for a period of ten years after data analysis before being disposed. Accessibility of the same by the authorized persons such as KNH-UON ERC during storage period was possible upon linking with the researcher. The researcher would also allow access of the coded and analyzed data, stored in her computer with a password to the authorized persons upon requisition.

Storage of data in a locked cupboard and in the researchers' computer with a password helped to deny access of the information to the unauthorized persons.

3.13.3 Disposal procedure

The filled in questionnaires are to be issued out to disposal agencies legalized by Kenya for disposal of medical records after ten years of storage. Disposal certificate is to be issued after successful disposal which would then be presented to the KNH-UON ERC as evidence that destruction had been done.

3.14 Study results dissemination plan

Findings of the study shall be disseminated to County Health Management team (CHMT) through the PMTCT coordinator. The study findings shall also be disseminated to Health management team in Embu County hospital through a feedback meeting forum. Further, the findings of the study shall be shared with maternal neonatal child health staff in a Continuous Medical Education (CME) weekly meeting. Publication through journals and abstracts was done.

3.15 Study closure plan and procedure

The study closure shall take place after accomplishment of study objectives and dissemination of study results accordingly. Executive summary shall be given to KNH-UON ERC within ninety days after study completion.

CHAPTER FOUR

RESULTS AND FINDINGS

4.1 Introduction

The chapter describes the findings based on the data collected and analyzed. It also presents the response rate of participants.

4.2 Response Rate

There were eighty (74) respondents who managed to fill in the questionnaires. This was translated to a response rate of 92.5%.

4.3 Respondents' Sociodemographic Characteristics

The survey findings showed that majority of the respondents, 79.7 %(n=59/74) were aged 25-49 years. Majority of the respondents, 79.7% (n=59/74) were married, while 20.2% (n=15/74) were single. Majority of the respondents, 87.8 %(n=65/74) had parity 1+0 and above. Over half of the mothers, 72.2 %(n=46/74) had secondary education and above. Respondents from Embu County contributed 86.9 %(n=65/74) of the sampled respondents (table 4.1).

Table 4.1: Sociodemographic Characteristics

Variables	Frequency (n=74)	Percentage (%)
Age		
15-19 years	3	4.1
20-24 years	12	16.2
25-49 years	59	79.7
Total	74	100
Religion		
Christian	72	97.3
Muslim	2	2.7
Total	74	100
Marital Status		
Married	59	79.7
Single	15	20.2
Total	74	100
Participants' parity		
Para 1+0 and above	65	87.8
Para 1+1 and above	9	12.2
Total	74	100
Level of Education		
None	3	4.1
Primary	25	33.8
Secondary	29	39.2
Tertially	17	22.9
Total	74	100
Employment Status		
Unemployed	45	60.8
Employed	29	39.2
Total	74	100
County of Residence		
Embu	65	87.8
Tharaka Nithi	5	6.8
Nairobi	4	5.4
Total	74	100

4.4 Satisfaction level of HIV Positive postnatal Mothers with PMTCT services

Components measured included HIV counselling and testing, couple counselling, pre-conception care, antenatal care, delivery, post-natal care, health education, family planning counseling/methods, mother, and baby ARVs, mother nutritional counselling, infant feeding counselling, early infant diagnosis (EID), and disclosure. Respondents measured the components by selecting an option based on the five-point Likert scale given (table 4.2).

The survey results indicated that majority of the respondents at 93.9 %(n=69/74) with a median of one (1) were satisfied with PMTCT services. However, 4% (n=3/74) were dissatisfied with services offered with the highest response being recorded on preconception care services. Only 2.1% (n=2/74) of the respondents were neither satisfied nor dissatisfied with PMTCT services offered at EL5H (Figure 4.1).

Table 4.2: Participants' satisfaction with PMTCT services at EL5H

Statement: Satisfaction with:					**Median**	**Mean**	**Std Dev**
HIV counseling and testing	95.9	0	4.1	100	1	1.73	0.672
Couple counseling and testing	81.1	4.1	14.8	100	1	2.04	1.091
Pre- conception care	71.3	2.7	26.1	100	1	2.27	1.17
Antenatal care	95.9	2.7	1.4	100	1	1.6	0.618
Delivery	97.2	0	2.7	100	1	1.62	0.7
Post-natal care in ward	98.7	1.3	0	100	1	1.49	0.53
Health education on discharge	97.3	0	2.7	100	1	1.64	0.632
Family planning counseling	93.1	2.8	4.1	100	1	1.72	0.716
Family planning method given	94.4	1.4	4.2	100	1	1.77	0.68
Mother ARV'S	100	0	0	100	1	1.49	0.503
Baby ARV'S	98.7	1.3	0	100	1	1.54	0.528
Mother nutrition counseling	98.7	1.3	0	100	1	1.59	0.523
Infant feeding counseling	98.6	1.4	0	100	1	1.58	0.524
EID	94.6	1.4	4.0	100	1	1.72	0.693
PSSG	93.2	6.8	0	100	1	1.66	0.606
Disclosure	94.5	5.5	0	100	1	1.68	0.574
TOTAL	1503.2	32.7	70.8	1600			
AVERAGE %	93.9	2	4.0	100			

Key: S- Satisfied, **NS/D**–Neither Satisfied nor Dissatisfied, **D**– Dissatisfied

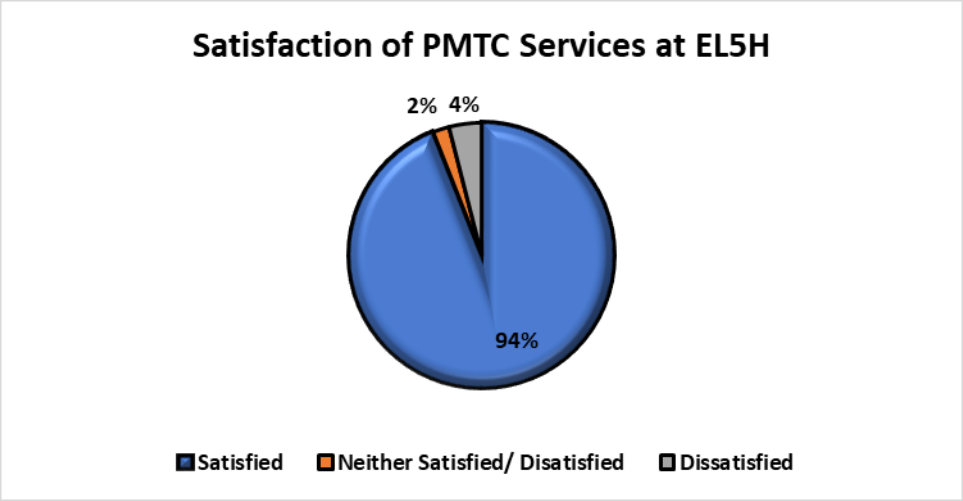

Figure 4.1: Overall rate of satisfaction with PMTCT services at Embu Level 5 Hospital

4.5 Client related factors

This section shows association between clients' related factors and satisfaction with PMTCT Services.

4.5.1 Client related factors that influenced clients' satisfaction

The section presents satisfaction of the respondents based on their socio-demographic characteristics. Other client related factors included length of using PMTCT services, frequency of seeking PMTCT services and knowledge on PMTCTservices. Further, this section shows association between clients' related factors and satisfaction with PMTCT services. The survey results indicated that majority of the respondents, whether categorized by age, religion, marital status, parity, education level, employment status or any other client related factor were generally satisfied. Among the socio-demographic factors, there was a statistical significance association between marital status and client satisfaction (x^2 =6.313, df =2, p<0.039). However, there was no statistically significant association between the other socio-demographic characteristics and client related factors regarding client satisfaction (table 4.3).

Table 4.3: Summary of client related factors and Participants' satisfaction

Client related factors	Category	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	CHI-SQUARE TEST
Age	35 years and below	57(75%)	2(2.7%)	2(2.7%)	X^2=3.621
	Above 35 years	12(16.2%)	1(1.4%)	0(0%)	df=2
					P-value=0.433
Religion	Christian	68(91.8%)	1(1.4%)	1(1.4%)	X^2=5.290
	Muslim	3(4.1%)	1(1.4%)	0(0%)	df=2
					P-value=0.102
Marital status	Married	55(74.4%)	0(0%)	3(4.1%)	X^2=6.313
	Single	13(17.6%)	2(2.7%)	1(1.4%)	df=2
					P-value=0.039
Parity	Para 3+0 and below	59(79.8%)	1(1.4%)	1(1.4%)	X^2=0.278
	Para 3+0 and above	12(16.2%)	0(0%)	1(1.4%)	df=2
					P-value=1.001
Education	Primary level and below	29(39.2%)	0(0%)	0(0%)	X^2=2.442
	Secondary level and above	43(58.1%)	2(2.7%)	0(0%)	df=2
					P-value=0.328
Employment	Employed	26(35.1%)	2(2.7%)	1(1.4%)	X^2=2.987
	Unemployed	43(58.1%)	0(0%)	0(0%)	df=2
					P-value=0.203
Length of service	12 months and below	21(37.6%)	1(1.4%)	0(0%)	X^2=0.798
	13 months and above	50(67.6%)	1(1.4%)	0(0%)	df=2
					P-value=0.785
Frequency of service	12 months and below	21(37.6%)	1(1.4%)	0(0%)	X^2=0.411
	13 months and above	50(67.6%)	1(1.4%)	0(0%)	df=2
					P-value=1.001
Knowledge of PMTCT	By definition	56(90.3%)	2(3.2%)	0(0%)	X^2=1.499
	PMTCT by service	4(6.5%)	0(0%)	0(0%)	df=2
					P-value=0.618

4.5.2 Logistic Regression on Socio- demographic characteristics

Ordinal logistic regression analysis was performed to model the relationship between the predictors (sociodemographic factor) and overall levels of satisfaction (Satisfied, and other). Statistical significance of 0.05 criterion was used for all tests. Marital status was the predictor with significant parameters for comparing the very satisfied group with the satisfied group increasing the odds ratio by over 6 times. This further showed that married clients were 7 times more satisfied than the singles (table 4.4).

Table 4.4: Logistic Regression on Socio- demographic characteristics

Dependent Variable	Independent Variables	Wald Statistics	Odds Ratio (OR)	P-Value	95% Confidence Interval (CI)	
					Lower	Upper
Overall Satisfaction Level	Married	4.219	6.609	0.040	1.090	40.057
	Single	3.539	5.102	0.060	0.934	27.872

4.6 Provider related factors

Provider related factors included the provider interaction with the clients, staff attitude, understanding client's needs, staffing, privacy, and confidentiality, waiting and service time as experienced by the clients. The factors were based on various PMTCT services to include HIV testing, family planning, ARV drug prophylaxis, infant prophylaxis, infant feeding practices, early infant diagnosis, and psychological support group.

4.6.1 Provider related factors that influenced client's satisfaction

Majority of the respondents, 93.7 %(n=69/74) were highly satisfied with provider factors regarding the seven services offered at EL5H. However, 0.9% (n=1/74) and 5.4 %(n=4/74) of the respondents reported dissatisfaction and neither satisfied nor

dissatisfied with provider factors respectively. Cross tabulation showed that, majority of the respondents were dissatisfied with; waiting time 17.6%(n=17/74), male involvement 13.6%(n=11/74),staffing 10.8%(n=8/74) and service time 4.1%(n=3/74) . Based on the outcome of chi-square test, there was a significance association between provider related factors and client satisfaction (x^2 =142.72, df=24, p<0.001) (table 4.5).

Table 4.5: Provider related factors and client satisfaction

PROVIDER FACTORS		**Satisfaction Level**			
		Satisfied	**Neither satisfied nor dissatisfied**	**Dissatisfied**	**CHI-SQUARE TEST**
Provider Factors	Client Needs	74(100%)	0(0%)	0(0%)	X^2=142.72 df=24 P- value=<0.001
	Counselling	73(98.7%)	1(1.4%)	0(0%)	
	Male Involvement	63(75.2%)	4(5.4%)	6(8.1%)	
	Privacy Confidentiality	73(98.6%)	1(1.4%)	0(0%)	
	Provider Interaction	73(98.7%)	1(1.4%)	0(0%)	
	ServiceTime	71(96%)	3(4.1%)	0(0%)	
	Staff Attitude	73(98.7%)	1(1.4%)	0(0%)	
	Staffing	66(89.2%)	8(10.8%)	0(0%)	
	WaitingTime	57(67.1%)	17(17.6%)	0(0%)	
Total		623(93.7%)	36(5.4%)	6(0.9%)	

Provider Factors * Satisfaction Level Cross tabulation

4.6.2 Logistic Regression on Provider Related Factors

Ordinal logistic regression analysis was performed to model the relationship between the predictors (provider related factors) and overall levels of satisfaction (very satisfied, satisfied, and other). The traditional 0.05 criterion of statistical significance

was used for all tests. Counselling and male involvement were the predictors with significant parameters for comparing the satisfied group with the other parameters. This further showed, improvement of the two variables would increase client satisfaction by 8 and 4 times respectively as compared to other provider related factors increasing the odds ratio by over 4 times (Table 4.6).

Table 4.6: Logistic Regression on Provider Related Factors

Dependent Variable	Independent Variables	Wald Statistics	Odds Ratio (OR)	P-Value	95% Confidence Interval (CI)	
					Lower	Upper
Overall Satisfaction Level	Provider Interaction	0.088	1.318	0.767	0.212	8.181
	Counselling	5.885	8.026	0.015	1.492	43.176
	Staff Attitude	3.632	6.125	0.057	0.950	39.506
	Client Needs	0.192	1.525	0.662	0.231	10.089
	Staffing	0.182	0.678	0.670	0.113	4.062
	Privacy and Confidentiality	1.054	0.377	0.305	0.058	2.431
	Service Time	0.000	0.991	0.991	0.228	4.303
	Male Involment	6.066	3.985	0.014	1.326	11.976
	Waiting Time	0.631	1.778	0.427	0.430	7.347

4.6.3 Participants likes about PMTCT service providers

The mothers were asked to mention and rate the aspects they liked most about the service providers offering various PMTCT services. Results indicated that majority of the clients, 33.8% (n=25/74) liked PMTCT service providers due to good

counselling services. Only 5.4 %(n=4/74) of the respondents suggested services to remain as they are (figure 4.2).

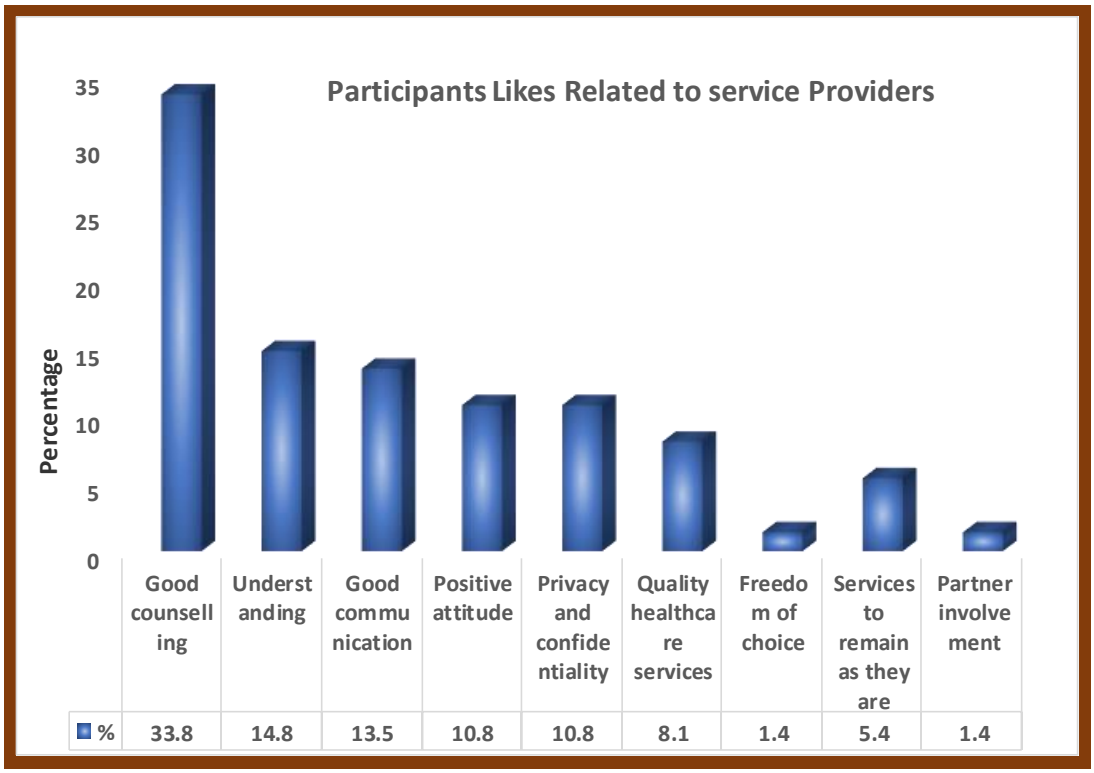

Figure 4.2: Participants likes related to service providers on various services

From the FGD, most of respondents registered satisfaction, stating that the services should continue as they were. In regard to the main theme on participants likes about PMTCT service providers the emerging sub- themes included provider interaction and male partner involvement.

Sub-theme 1: Provider interaction

Majority of the participants reported that, they had good interaction with their service providers. One of the participants noted that:

"*The staff at the facility are emphatic to us and they also understand our needs"* Respondent 5 FGD 2.

This sentiment was seconded by another participant who said that*:*

"*The staff have good communication skills, and they understand our needs adequately*." Respondent 3 FGD 1.

Sub-theme 2: Male partner involvement

Participants echoed to the statement that the service providers provided options and encouraged clients to come with their partners for testing and counselling as one respondent indicated that: "*My partner is able to know his HIV status, he is also counselled before and after testing*" Respondent 3 FGD 6.

4.6.4 Participant's dislike about PMTCT service providers

The mothers were asked to mention and rate the aspects they disliked most about the service providers offering various PMTCT services. It was observed that, 51.4 %(n=38/74) of the participants indicated that they had no particular dislike, representing the highest number. Three-point four percent (3.4 %) (n=3/74) decried of staff negative attitude (figure 4.3).

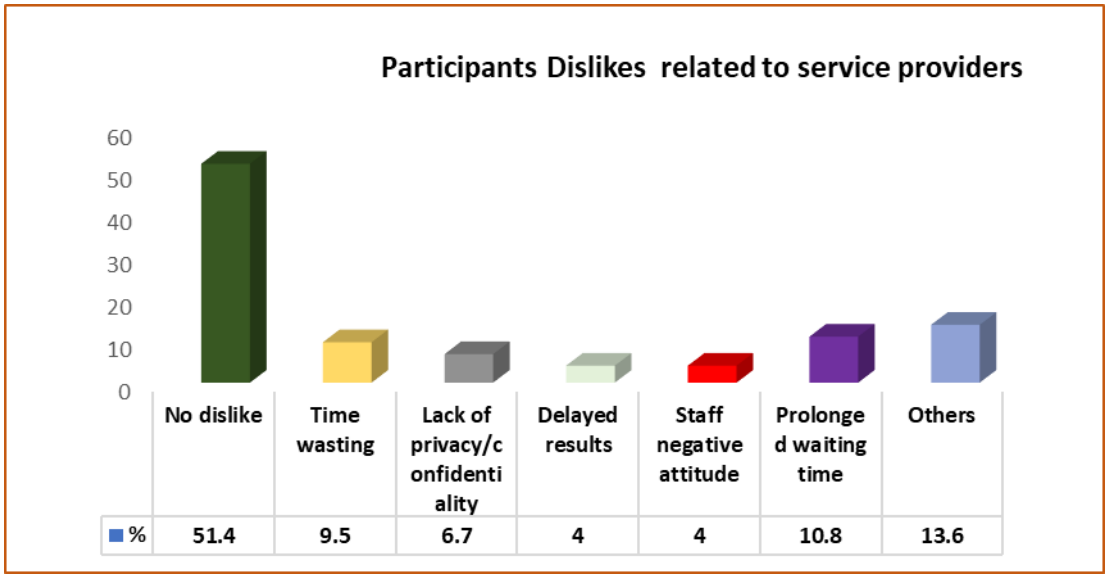

Figure 4.3: Participant's dislikes related to service providers on various services

From the FGD, participants felt that there were aspects that they disliked and needed attention to improve their overall satisfaction. In regard to the main theme on participants dislikes about PMTCT service providers the emerging sub- themes included provider attitude and waiting time.

Sub-theme 1: Provider attitude

Despite the many positive feedbacks, majority of the respondents expressed that there was need for some staff to change their negative attitude. For instance, one participant noted that:

"*Some service providers are rude and lack good interaction skills. In the HIV testing services, health providers did not give counseling to the partner before testing*" Respondent 1 FGD 2.

Sub-theme 2: Waiting time

The other concern was the waiting time where several participants reported that they waited for long before being served. One participant said that:

"*We wait for long period of time before we are attended to, and this reduces our morale to seek treatment*." Respondent 3 FGD 5.

4.6.5 Participant's suggestions related to service providers to improve PMTCT services

It was noted that, 29.7 % (n=22/74) of the respondents were satisfied with providers offering PMTCT services. About 18.9%(n=14/74) of the mothers wanted to have reduction on the time wasted while another 9.5%(n=7/74) of the mothers wanted to have equipment's such as BP and weighing scale machines in PMTCT room instead of waiting bay alone that could aid in reduction on the time wasted. In addition, there were 5.4 %(n=4/74) of respondents agreeing that there was need to improve on infant testing where other means of testing were highly recommended (table 4.7).

Table 4.7: Respondents suggestions to improve various PMTCT services

Suggestions	Average	Percentages
Services to remain as they are	22	29.7
Reduce wasting time/waiting time	14	18.9
Increase supply of equipment's/supplies-BP	7	9.5
Increase number of staff	9	12.2
Change means of infant testing(pricking)	4	5.4
Offer H/Education	5	6.8
Ensure privacy /confidentiality	4	5.4
Improve on services e.g. clients follow up, H/E, ARVinfants' other forms (one injection)	1	1.3
Provide H/E charts e.g., EID	2	2.7
Increase partner involvement	1	1.3
Improve on offering freedom of choice	1	1.3
Mentor grassroot facilities to offer similar services	1	1.3
Increase on service awareness/meetings (PSSG)	1	1.3
Improve on communication	1	1.3
Improve on understanding clients' needs	1	1.3
TOTAL	**74**	**100**

From the FGDs regarding to the main theme on participants suggestions about PMTCT service providers the emerging sub- themes included maintaining client confidentiality and staffing.

Sub-theme 1: Maintaining client confidentiality

One of the suggestions was to ensure high confidentiality for the clients during counseling, and to allay all fears before testing. In support of these assertions, one respondent noted that:

"*The health care professionals need to counsel us while upholding our confidence, and not to instill fears in us. This creates a good environment for the overall testing services and other procedures.*" Respondent 6 FGD 8.

Another respondant in the same FGD supported the above sentiment by reporting that:

"Our confidentiality is paramount and this needs to be maintained" Respondent 4 FGD 8.

Sub-theme 2: Staffing

Majority of participants reported that there was need to improve staffing in MCH/FP clinic. One of them suggested that:

"*There is need to increase the number of health care professional in the section of family planning services"* Respondent 7 FGD 4.

4.7 Facility related factors

The facility related factors were summarized based on the access to the PMTCT services at the hospital, and affordability of PMTCT services like registration, consultation, ARV drugs, laboratory tests, and return visits. Another component measured was the integration of PMTCT services, and satisfaction with individual supplies on test kits, FP commodities, ARV drugs and EID. The section also adds on what the respondents would like to be done to improve the overall satisfaction with the facility related factors.

4.7.1 Facility related factors that influenced clients' satisfaction

Study findings revealed that, majority of the respondents, 97.3 %(n=72/74) were highly satisfied with facility related factors. Only, 1.7% (n=5/74) dissatisfaction was recorded. Based on the outcome of chi-square test, there was a significance association between facility related factors and client satisfaction (x^2 =8.939, df=3, p<0.030). This meant that the level of satisfaction at the PMTCT facility did vary with the facility related factors (table 4.8).

Table 4.8: Summary of facility related factors and participants satisfaction

Facility factors		**Neither satisfied nor dissatisfied**	**Dissatisfied**		
Facility Factors	Ease of Access	70(94.6%)	0(0%)	4(5.4%)	X^2=8.939 df=3 P-value=0.030
	PMTCT Services Integration	74(100.0%)	0(0%)	0(0%)	
	PMTCT Supplies	73(98.6%)	0(0%)	1(1.4%)	
	Services Offered	72(97.3%)	2(2.7%)	0(0%)	
Total		289(97.3.0%)	2(1%)	5.0(1.7%)	

Facility Factors * Satisfaction Level Cross tabulation

4.7.2 Logistic Regression on Facility Related Factors

Ordinal logistic regression analysis was performed to model the relationship between the predictors (facility related factors) and overall levels of satisfaction (satisfied, and other). The traditional 0.05 criterion of statistical significance was used for all tests. As shown, none of the facility related factors made significant unique contributions to the model (table 4.9).

Table 4.9: Logistic Regression on Facility Related Factors

Dependent Variable	Independent Variables	Wald Statistics	Odds Ratio (OR)	P-Value	95% Confidence Interval (CI)	
					Lower	Upper
Overall Satisfaction Level	Ease of Access	0.124	0.647	0.725	0.058	7.271
	PMTCT Services Integration	0.001	1	1.001	0.001	0.001
	PMTCT supplies	0.001	991630044007.201	0.999	0.001	0.001
	Services offered	0.001	1	1.001	0.001	0.001

4.7.3 Participants likes about facility (EL5H) in relation to PMTCT Services

It was noted that 39.2 %(n=29/74) of the respondents always appreciated availability of services, while 18.9 %(n=14/74) liked the fact that services were completely free, and with provision of good, and holistic healthcare services. A further 24.3 %(n=18/74) of the clients liked the fact that the staff understood the needs of the clients and took care of their needs (table 4.10).

Table 4.10: Participants likes about EL5H on PMTCT Services

Participants likes	Frequency(n)	Percentage (100%)
Availability of the services	29	39.2
Free services	14	18.9
Provision of good and holistic health services	14	18.9
The hygiene of the hospital	5	6.8
Understanding client needs	18	24.3
Taking care of clients	18	24.3
Provision of health education	3	4.1
Giving hopes to clients	2	2.7
Counselling offered	9	12.2
There is privacy and confidential	9	12.2
Good time management by staffs	2	2.7
Adequate method choices	4	5.4
Good drug supply	6	8.1
Total	74	100.0

From the FGD, regarding to the main theme on participants likes about PMTCT facility the emerging sub- themes included; satisfaction with PMTCT services offered, drug's availability and accessibility.

Sub-theme 1: satisfaction with PMTCT services offered

Most of the participants registered satisfaction with the aspects of getting the services, including registration, testing, consultation and administration of the ARV drugs. One of the participants emphasized that:

"*Most of the services offered in relation to PMTCT are satisfactory. Let them keep offering the service as they are*" Respondent 3 FGD 7.

Sub-theme 2: drug's availability and accessibility

Majority of the respondents expressed that they were satisfied with the PMTCT facility in regard to drugs availability and accessibility. In support of these, one respondent noted that:

"*The drugs are accessible and available when needed, coupled with quality counselling for every visit*" Respondent 2 FGD 6.

4.7.4 Participants dislike about EL5H in relation to PMTCT services

It was noted that over half of the respondents 58.1 %(n=43/74) decried of the prolonged waiting time, meaning the facility needs to address the issue. Fourteen percent (14 %) (n=10/74) of the respondents pointed that some healthcare providers were arrogant and not humane enough (figure 4.4).

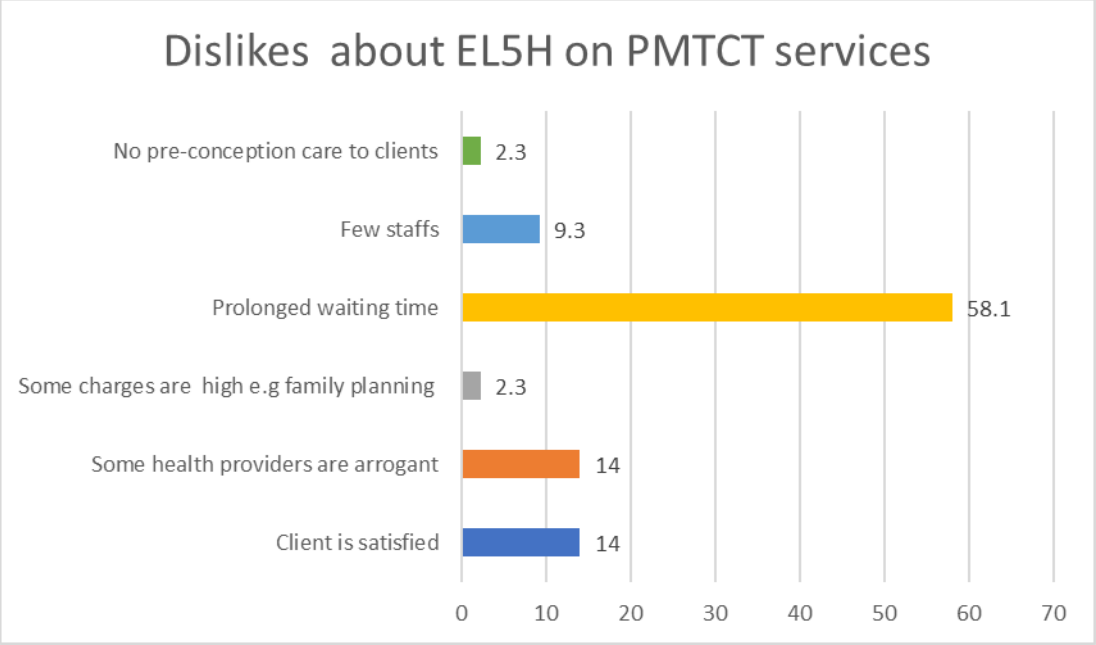

Figure 4.4: Dislikes about EL5H regarding PMTCT services

4.7.5 Suggestions to improve PMTCT services at Embu Level 5 Hospital

Participants suggested that adding more staff (29.7%, n=22/74) to handle the clients would solve the challenges of delayed waiting time. It was also noted that, 20.3 %(n=14/74) of the respondents wished that staff would improve on time management, to better service delivery. One of the suggestions from the FGD forum to improve service delivery was to have strategies that reduce time wastage. While the above suggestions were proposed, a 23.1 %(n=16/74) of the respondents felt there was need to maintain the present level of services (table 4.11).

Table 4.11: Approaches to improve PMTCT Services at EL5H

Suggestions for improving overall PMTCT services at EL5H	Frequency(n)	Percentage (100%)
ARV drugs should always be available	3	4.3
Infant prophylaxis should be given injectable rather than oral suspension	3	4.3
Client is satisfied/Maintain same pace	16	23.1
Adding more staffs	22	29.7
Post-natal HIV mothers should have their own machines e.g., BP in PMTCT room	1	1.4
Adequate supply of drugs	1	1.4
Conduct outreach services	5	7.2
Continue offering PMTCT services	3	4.3
Offer suggestion box to clients	1	1.4
Manage time	14	20.3
Creating awareness	3	4.3
Staffs should be friendly	1	1.4
Come up with new methods of sample collection for infants	1	1.4
Total	74	100

From the FGD regarding to the main theme on participants suggestion about PMTCT facility, emerging sub- themes included; infants drug administration. The following were some comments on the overall facility-related factors and the patient satisfaction.

Sub-theme 1: Infants drug administration

There were concerns made to the facility in relation to drugs and infant prophylaxis. Members felt that there was need to review infant's drug administration as one participant noted:

"*Some clients prefer other methods of giving drugs (other than oral) as some are very bitter*" Respondent 7 FGD 1.

There were suggestions to have a vaccine rather than a daily route medicine for the infants to protect them from exposure. For instant one participant remarked that:

"I wish the children are given these anti-retroviral drugs inform of a vaccine instead of the syrups that we give everyday" Respondent 6 FGD 4.

It was felt that there was need to reduce on the drug dosage on septrin by the respondents. Other recommendations for improvement included giving options for injections instead of orals and sharing more information with clients as one participant pointed out:

"*There is need to consider reducing dosage for septrine and giving options for injections other than orals, and sharing more information on the use, adherence and other components of the drug use*" respondent 4 FGD 5.

CHAPTER FIVE

DISCUSSION, CONCLUSION, AND RECOMENDATIONS

5.1 Introduction

This chapter presents the discussion of the study findings. The researcher's conclusions on the research questions are also presented. In addition, recommendations for policy, practice and further research are made.

5.2 Discussion

5.2.1 Socio-demographic information

The survey findings showed that majority of the respondents, 79.7 % (n=59/74) were aged 25-49 years. Majority of the respondents, 79.7% (n=59/74) were married. Most of the respondents, 87.8% (n=65/74) had parity of 1+0 and above. Over half of the mothers, 72.2% (n=46/74) had secondary education and above. Respondents from Embu County contributed 87.8 % (n=65/74) of the sampled respondents.

5.2.2 Satisfaction level of HIV positive postnatal mothers with PMTCT services

Components measured included HIV counselling and testing, couple counselling, pre-conceptioncare, antenatal care, delivery, post-natal care, health education, family planning counseling/methods, mother and baby ARVs, mother nutritional counselling, infant feeding counselling, early infant diagnosis (EID), and disclosure. The components are what prevention of mother-to-child transmission services focus on in established specialty clinics. The responses were based on five-point Likert scale with the following keys and their meanings; S- satisfied, NS/D – Neither satisfied nor dissatisfied, D – dissatisfied.

The sampled respondents 93.9 %(n=69/74) indicated that they were satisfied with most of the PMTCT services offered. However, 4 %(n=3/74) were dissatisfied with services offered with the highest response being recorded on preconception care services. Only 2.1 %(n=2/74) of the respondents were neither satisfied nor

dissatisfied with PMTCT services offered at EL5H. This explained that there was satisfaction with different components. A study done by Ndonga and Matu (2019) noted that patient satisfaction with PMTCT services was a function of conducive environment offered by the medical staff, and level of professionalism. The study findings on patient's satisfaction with PMTCT services are in agreement with what Elwell (2016) found in their study on the satisfaction with the PMTCT services among positive mothers seeking care at hospital facility that good staff, with conducive environment, good attitude, and support from administration greatly contribute to patient's satisfaction. Health education and family planning score satisfaction of above 90%, showed similarities with the study done by Lumbantoruan *et al* (2018) who concluded that patient education and post-natal care were critical components of patient satisfaction in PMTCT.

5.2.3 Client related factors influencing satisfaction of HIV positive postnatal mothers with PMTCT services

The section presents satisfaction of the respondents based on their socio-demographic characteristics. Other client related factors included length of using PMTCT services, frequency of seeking PMTCT services and knowledge on PMTCT services. Further, this section showed association between clients' related factors and satisfaction with PMTCT services. The survey results indicated that majority of the respondents, whether categorized by age, religion, marital status, parity, education level, employment status or any other client related factor were generally satisfied. Among the socio-demographic factors, there was a statistical significance association between marital status and client satisfaction (x^2 =6.313, df=2, p<0.039). The study findings differred with the conclusions by Lumbantoruan et al (2018) who noted that demographic factors were not likely to influence patient satisfaction in relation to seeking PMTCT services.

Mothers were able to correctly describe and explain what they perceived to be PMTCT, and the services offered at the EL5H. The high understanding of the meaning of PMTCT in this study correlates with the findings by Lyatuu, Msamanga, and Kalinga (2008) and Elwell (2016) who noted that many of the sampled

respondents in their studies understood the concept of PMTCT and knew the services they were likely to get from the facility. The findings are similar to the conclusions made by Kinuthia et al (2011) that there was a high coverage of PMTCT services in Kenya's Nairobi Central and Nyanza regions, and mothers were able to explain the context, and the need to use PMTCT services. Similar findings were shared by Mukandayisaba (2017) on a study in Rwanda where mothers were able to correctly explain the PMTCT services offered.

Correct explanation or understanding of the PMTCT services among HIV+ mothers gave them an advantage in knowing what is expected, and what they needed to do to protect the unborn children.

The study findings are also in line with WHO (2010) recommendations that HIV+ mothers need to understand the principles and suggestions made for infant feeding in the context of HIV (PMTCT) services. This study findings also relate to findings by Gumede-Moyo et al (2017) who concluded that informed patients were likely to know their expectations from PMTCT and that offering critical services during pre-, and post-delivery was likely to increase patient satisfaction.

5.2.4 Provider related factors

Provider related factors included the provider interaction with the clients, counseling, staff attitude, understanding client's needs, staffing, male involvement, privacy, and confidentiality, waiting and service time as experienced by the clients. The factors were based on various PMTCT services to include; HIV testing, family planning, ARV drug prophylaxis, infant prophylaxis, infant feeding practices, early infant diagnosis, and psychological support group.

5.2.4.1 Provider related factors that influenced satisfaction of HIV positive postnatal mothers with PMTCT services

Majority of the respondents, 93.9 %(n=69/74) were highly satisfied with provider factors regarding the seven services offered at EL5H. However, 0.9 %(n=1/74) and 5.4 %(n=4/74) of the respondents reported dissatisfaction and neither satisfied nor

dissatisfied with provider factors respectively. Cross tabulation showed that, majority of the respondents were dissatisfied with; waiting time 17.6% (n=17/74) male involvement 13.6% (n=11/74), staffing 10.8 %(n=8/74) and service time 4.1 %.(n=3/74) Based on the outcome of chi-square test, there was a significance association between provider related factors and client satisfaction (x^2 =142.72, df=24, p<0.001).

The results pointed that respondents were satisfied with the provider factors as opposed to other options, neither satisfied nor dissatisfied and dissatisfied. The findings by Lyatuu, Msamanga, and Kalinga (2008) also relate to this study findings where aspects like counselling, preconception care, antenatal care, health education and family planning were offered by supporting, non-judgmental staff with adequate time to listen to each of the patients.

There was high rate of satisfaction on understanding client's needs at 100.0%(n=74/74) , counseling services 98.6%(n=73/74), provider interaction 98.6%(n=73/74),staff attitude 98.6%(n=73/74),Privacy and confidentiality 98.6%(n=73/74),service time 96%,(n=71/74) Staffing 89.2%(n=66/74),male involvement 85.1%(n=63/74) and waiting time at 77%(n=57/74).A study with similar findings was conducted by Naburi in Dar es Salaam in Tanzania which showed that 92 % of HIV positive postnatal mothers were satisfied with PMTCT services that were influenced by good provider interaction. This study has similar findings with a study done by Amos (2016) in Bamenda in Cameroon that showed clients' satisfaction levels with confidentiality and privacy at the treatment center was high. Findings of the study are similar to a study done by Ashipa et al (2013) on client satisfaction assessment with counseling services offered in PMTCT care in Nigeria at Benin city which showed that satisfaction was associated with waiting time and type of counseling received.Further, the study findings agrees and disagrees with a study done by Amos(2016) in Bamenda in Cameroon which showed that clients' satisfaction level's with confidentiality and privacy at the treatment center was high but Client's levels of satisfaction concerning client-staff-communication, staffing, and provider attitudes towards clients and amenities situation in the Bamenda treatment center were considerably low.

It was noted that, some of the respondents were dissatisfied with; waiting time 17.6%(n=17/74) , male involvement 13.6%(n=11/74) , staffing 10.8%(n=8/74) and service time 4.1%(n=3/74) . A study with similar findings was done by Yeshewas (2016) in Dessie Referral Hospital, Ethiopia on Quality of PMTCT Services that showed; despite clients being highly satisfied with the PMTCT services offered, there are clients who were not satisfied with the waiting time they spent while accessing services.

Qualitative data from the FGD showed that majority of the respondents were satisfied but needed some slight changes including time management, staffing to reduce time wastage, increased confidentiality from the service providers, and alternative forms of early diagnosis for the children. The findings were similar to a study done on the provider related factors and satisfaction of clients at PMTCT by Kevin *et al* (2014) who indicated that proper counselling, right advice on family planning, proper drug administration and other supportive services were major contributors to overall satisfaction of patients.

In conclusion, based on the outcome of chi-square test, there was a significance association between provider related factors and client satisfaction (x^2 =142.72, df=24, p<0.001). This study, therefore, finds provider-related factors as key determinants of clients' satisfaction. The study findings are like the conclusions made by Rwema et al (2019) and Al-Refaie (2011) who concluded that the medical facilities offering the PMTCT services needed to offer a wide scope of health services related to their conditions. Logistic regression analysis showed that, Counselling and male involvement were the predictors with significant parameters for comparing the very satisfied group with the satisfied group increasing the odds ratio by over 4 times. This further showed, improvement of the two variables would increase client satisfaction by 8 and 4 times respectively as compared to other provider related factors. Satisfaction on aspects like; HIV testing, infant feeding practices, early infant diagnosis and male involvement ensure HIV+ mothers are able to care for their infants, thus promising quality health.

5.2.4.2 Participants likes related to service providers on various PMTCT services

The mothers were asked to mention and rate the aspects they liked most about the service providers offering various PMTCT services. Survey results indicated that majority of the clients were satisfied with PMTCT service providers due to; good counselling services 33.8%(n=25/74) staff understanding of clients 14.8%(n=11/74), good communication 13.5%(n=10/74),privacy and confidentiality and positive staff attitude 10.8%(n=8/74),, quality healthcare services 8.1%(n=6/74),freedom of choice and partner involvement 1.4%(n=1/74),). Only 5.4 %(n=4/74), of the respondents suggested services to remain as they are.

Participant's responses correspond with the study findings which revealed that there was a high rate of satisfaction on understanding client's needs at 100.0%(n=74/74), counseling services 98.6%(n=73/74), provider interaction 98.6%(n=73/74),staff attitude 98.6%(n=73/74),Privacy and confidentiality (98.6%)(n=73/74),service time 96%(n=71/74),Staffing 89.2%(n=66/74),male involvement 85.2%(n=63/74), and waiting time at 77.1%(n=57/74).

From the FGD, most of respondents registered satisfaction, stating that the services should continue as they are. In regard to participants likes about PMTCT service providers, the emerging themes included provider interaction and male partner involvement. Majority of the participants reported that, they had good interaction with their service providers. Similarly, participants echoed to the statement that the service providers provided options and encouraged clients to come with their partners for testing and counselling.

5.2.4.3 Participants dislikes related to service providers on various PMTCT services

The mothers were asked to mention and rate the aspects they disliked most about the service providers offering various PMTCT services. Some of the responses included no dislike, prolonged waiting time, delayed results and time wasting among others. It was observed that 51.4% (n=38/74), of the participants indicated that they had no

particular dislike, representing the highest number. Prolonged waiting time 10.8(n=8/74), Time wasting 9.5 %(n=7/74), lack of privacy/confidentiality 6.7% (n=5/74), and staff negative attitude 3.4% (n=3/74), were some of the challenges the respondents were not satisfied with.

From the FGD, members felt that there were aspects that they disliked and needed attention to improve client overall satisfaction. The emerging themes included; provider attitude and waiting time. Majority of the respondents expressed that there was need for some staff to change their negative attitude.Concerning the waiting time, several participants reported that they waited for long before being served.

Participants dislikes agree with study finding which revealed that, some of the respondents were dissatisfied with; waiting time 17.6% (n=12/74) , male involvement 13.6%(n=10/74), staffing 10.8%(n=8/74) and service time 4.1%(n=3/74) (Leah, 2020).

5.2.4.4 Respondents suggestions to improve PMTCT services

Satisfaction of customers involves, among others, improvement of the existing approaches to handling customer services. Respondents were asked to share on what they felt could improve PMTCT services and more so aspects related to service providers. Some findings of provider suggestions were as follows; an average of 23.1%(n=16/74) of the respondents were satisfied with what the PMTCT facility was doing in terms of giving services, as they wanted the staff to continue with their current level and standards. About 20.3%(n=14/74) of the mothers wanted to have reduction on the time wasted while another 1.4%(n=1/74) of the mothers wanted to have equipment's such as BP and weighing scale machines in PMTCT room instead of waiting bay alone that could aid in reduction on the time wasted. In addition, there were 1.4 %(n=1/74) of respondents agreeing that there was need to improve on infant testing where other means of testing were highly recommended. There was need to increase number of staff as it was supported by 29.7 %(n=22/74) of the respondent.

From the FGDs, the emerging themes included; maintaining client confidentiality and staffing. One of the suggestions was to ensure high confidentiality for the clients during counseling, and to allay all fears before testing. Majority of participants reported that there was need to improve staffing in MCH/FP clinic.

5.2.5 Facility related factors

The facility related factors were summarized based on the access to the PMTCT services at the hospital, and affordability of other PMTCT services like registration, consultation, ARV drugs, lab work up, and return visits. Another component measured was the integration of PMTCT services, and satisfaction with individual supplies on test kits, FP commodities, ARV drugs and EIDs. The section also adds on what the respondents liked, disliked and suggestions to improve the overall satisfaction with the facility related factors.

5.2.5.1 Facility related factors that influenced client satisfaction with PMTCT services

Study findings revealed that, majority of the respondents were highly satisfied with facility related factors at an average rate of 98.3%. Dissatisfaction was recorded at an average rate of 1.7%.Based on the outcome of chi-square test, there was a significance association between facility related factors and client satisfaction (x^2 =8.939, df=3, p<0.030).This meant that the level of satisfaction at the PMTCT facility did vary with the facility related factors.The findings were similar to a study done by Schnack *et al.* (2016) who noted that mothers attending PMTCT clinics registered high levels of satisfaction when the components were offered free or relatively cheap.

From the FGD, it emerged that there was satisfaction with PMTCT services offered. Most of the respondents registered satisfaction with the aspects of getting the services, including registration, testing, consultation and administration of the ARV drugs.

5.2.5.2 Participants likes about EL5H in relation to PMTCT Services

The researcher sought to establish what the respondents liked about EL5H relating to PMTCT services. In this respect, they mentioned some of the actions and services that they did appreciate at the PMTCT facility. It was noted that 39.2 %(n=29/74) of the respondents appreciated availability of services at all times, while 18.9% (n=14/74) liked the fact that services were completely free, and with provision of good, and holistic healthcare services. A further 8.1 %(n=6/74) of the clients liked the fact there was good supply of drugs and commodities. In addition, 6.8% (n=5/74) each appreciated the facility due to cleanliness.

From the FGD, it emerged that there was drug's availability and accessibility. The study findings relate with findings by Hampanda *et al* (2020) who noted that most of level two and above hospitals were equipped with PMTCT services, and thus majority of patients could access it. There have been agreements among many studies including by Friese et al (2008), and by Fitzpatrick, et al (2014) that with the widely available education on PMTCT made it easy for facilities to institute and make it available to the mothers and couples who need it.

This study found similar findings as those by the (Buh, 2015) that the PMTCT were easily available and accessible. The study also recorded high satisfaction levels (all above 95%) with PMCTC supplies, including test kits, PMTCT/family planning commodities, ARV drugs and EID. The findings show that since family planning and test kits are offered free, the respondents were likely to register their satisfaction. Schnack *et al.* (2016) also noted that mothers attending PMTCT clinics registered high levels of satisfaction when the components were offered free or relatively cheap.

5.2.5.3 Participants dislike about EL5H in relation to PMTCT Services

It was also noted that respondents disliked some aspects. In this respect, they mentioned some of the actions and services that they did not appreciate at the PMTCT facility. Over half of the respondents at 55.8 %(n=43/74) decried of the prolonged waiting time, meaning the facility needs to address the issue. Apart from

the delayed waiting time, 11.6 %(n=9/74) of the respondents indicated that there was no pre-conception care to clients, while another 16.3 %(n=9/74) of the mothers pointed that some healthcare providers were arrogant and not humane enough. Four-point seven percent 4.7% (n=3/74) expressed that some service charges were high e.g, FP. It was noted that majority of the mentioned dislikes touched on service providers and services.

5.2.5.4 Approaches to improve EL5H relating to PMTCT services

Respondents provided the suggestions on how best to improve EL5H relating to PMTCT services. Members suggested that adding more staff 29.7 %(n=22/74) to handle the patients would solve the challenges of delayed waiting time. It was also noted that if the staff could also advance their time management, then there would be better service delivery, leading to increased satisfaction among the clients visiting the facility. While the above suggestions were proposed, a 23.1 %(n=16/74) of the respondents felt there was need to maintain the present level of services.It was felt that there was need to reduce on the drug dosage of septrin by the respondents. Other recommendations for improvement included giving options for injections instead of orals.

5.3 Conclusion of the Study

The study sought to establish the overall patient satisfaction among PMTCT mothers attending post-natal clinic at the Embu Level Five Hospital. The study achieved a response rate of 92.5% which was considered satisfactory in generalizing the study findings. Majority of the study respondents, 79.7 %(n=59/74) belonged to the age group 25-49 years. In terms of marital status, it was observed that 79.7 %(n=59/74) were presently married, while those single were 20.2% (n=15/74). Another component to note was the parity of the mothers, where majority of them 87.8 %(n=65/74) had parity of 1+0 and above.It was also noted that a sizeable number of the respondents had primary 33.8 %(n=25/74) and secondary education 39.2 %(n=29/74) as their highest level of education. Majority of the respondents indicated to be unemployed 60.8% (n=45/74). In terms of using PPMTCT services, over 68.9 %(

n=51/74) had been enrolled into the program for over one year. Another 83.8% (n=62/74) of the mothers had visited the PMTCT facility for services once in every month.

On overall rate of satisfaction, sampled respondents 93.9 %(n=69/74) indicated that they were satisfied with most of the PMTCT services offered. However, 4 %(n=3/74) were dissatisfied with services offered with the highest response being recorded on preconception care services. Only 2.1 %(n=2/74) of the respondents were neither satisfied nor dissatisfied with PMTCT services offered at EL5H.

On client related factors, it was noted that the majority of the respondents, whether categorized by age, religion, marital status, parity, education level, employment status or any other client related factor were generally satisfied.

Regarding the provider related factors, majority of the respondents were highly satisfied with the seven services offered at an average rate of over 93.7% (n=69/74). However, dissatisfaction and neither satisfied or dissatisfied with provider factors was recorded at an average rate of 0.9% (n=1/74) and 5.4% (n=4/74) respectively. It was noted that, majority of the respondents were dissatisfied with; waiting time 17.6% (n=17/74). male involvement 13.6 %(n=11/74), staffing 10.8 %(n=8/74) and service time 4.1% (n=3/74). There were some suggestions like improving time management, staffing and improving partner involvement.

In relation to facility related factors, majority of the respondents were highly satisfied with an average rate of 97.3 %(n=72/74). Dissatisfaction was recorded at an average rate of 1.7 %(n=2/74). There were some suggestions like; change infant prophylaxis from orals to injection, find out on new methods of infant sample collection e.g., oral test kits, conduct outreach services and also provide suggestion box for clients.

From the chi-square analysis, it was found that the three variables (client, provider and facility related factors) influenced client satisfaction. The results formed the basis for rejecting the null hypothesis and adopting the alternative.

The study thus concluded that there was significant association between the three independent variables (client related factors, facility and provider factors) and client satisfaction at the EL5H PMTCT facility.

5.4 Recommendations

The findings point towards some aspects across the three independent and on the dependent variables. From the quantitative data and qualitative data, recommendations would include the following;

1. Health care providers should plan for periodic forums where clients are encouraged to share ideas on PMTCT services offered such as clients' suggestion boxes.
2. Policy makers to plan and provide financing on training health care providers on Quality Assurance and Quality Improvement for increased client satisfaction on PMTCT services.
3. Need for the policy makers to address Human Resources for Health to improve provider – client ratios for improved quality of PMTCT services.
4. Need to develop policies that encourage comprehensive counselling and support partner involvement for increased and sustained client satisfaction on PMTCT services.
5. Further studies and periodic assements on client satisfaction on PMTCT services are recommended.

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APPENDICES

Appendix I: English Informed Consent Form

Study title- Determinants of satisfaction with prevention of mother to child transmission services among HIV positive postnatal mothers attending maternal neonatal child health clinic in Embu county hospital, Kenya

Introduction: I Leah Njeri MScN student in Reproductive health at Jomo Kenyatta University of Agriculture and Technology am conducting a study on Determinants of satisfaction with prevention of mother to child transmission services among HIV positive postnatal mothers and would like to recruit you/ your next of kin into the study. Your participation will involve you allowing me to access your/ your next of kin personal information like the age, marital status and level of satisfaction with PMTCT services and possible influencing factors. In addition, I request you allow me to record focused group discussion in a tape.

Broad Objective: The aim is to establish determinants of satisfaction With PMTCT services among HIV positive post-natal mothers in Embu County Hospital. Voluntariness of Participation: Your participation in this study is on a voluntary basis and should you wish to withdraw from the study at any point then you will be at liberty to do so.

Confidentiality: Your / your kin participation in this study will be kept in confidence and your/ your kin's actual name will not be used in the study. Confidentiality of information obtained from you/ from your/your kin's record will be protected through such processes as using code numbers for concealed identity and limiting the number of people with access to the information.

Benefits: The benefits to you for being involved in the study will not be direct. The indirect benefit includes: assess quality of PMTCT services and identify any existing gaps in the care provision.

Risks: There are no risks from you getting involved in this study. The study findings will not be used for any monetary gains.

Right to Withdrawal: Should you decide to withdraw from the study at any point, you will not be subjected to any discriminatory treatment.

Should you require any further information or clarification then the main researcher may be contacted using the contacts on the consent certificate/form

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The Ethics and research committee secretariat may also be contacted on the following contacts

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Participant's Statement

I have read this consent form or had the information read to me. I have had the chance to discuss this research study with a study counselor. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study.

I understand that all efforts will be made to keep information regarding my personal identity confidential

By signing this consent form, I have not given up any of the legal rights that I have as a participant in a research study.

I agree to participate in this research study: Yes No

Participant printed name:

_____

Participant / Next of Kin's signature / Thumb stamp _____

Date _____

Researcher's statement

I, the undersigned, have fully explained the relevant details of this research study to the participant named above and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher's / Research Assistant's Name:

_____

Signature _____ Date: _____

Appendix II: Fomu ya kupeana hiari

Utafiti kuhusu: Uchunguzi wa vigezo vinavyohusishwa na kulidhisha wazazi wanaoishi na virusi vya ukimwi kutokana na huduma ya kuzuia maambukizi kwa watoto wakati wauzazi katika hospitali kuu ya Embu, Kenya

Utangulizi: Mimi Leah Njeri MScN mwanafunzi wa udaktari wa watoto na magonjwa yao kutoka chuo kikuu cha Jomo Kenyatta. Nafanya utafiti kuhusu Uchunguzi wa vigezo vinavyohusishwa na kulidhisha wazazi wanaoishi na virusi vya ukimwi kutokana na huduma ya kuzuia maambukizi kwa watoto wakati wauzazi na ningependa kukuhusisha wewe/mridhi wako katika utafiti huu. Utafiti huu utasaidia kuonyesha kama wamama ambao wanaoishi na virusi vya ukimwi ameridhika na huduma za kuzuia maambukizi na vile vile kuonyesha vigezo mbalimbali.Ningeomba pia uniruhusu kuhifaghi ajadiliano ya kikundi katika mtandao ya kisasa.

Kusudio pana: Nia ya utafiti wangu ni kutambua, vigezo vinavyohusishwa na kulidhisha wazazi wanaoishi na virusi vya ukimwi kutokana na huduma ya kuzuia maambukizi kwa watoto wakati wauzazi katika hospitali kuu ya Embu.

Watakaojitolea kutoa habari: Kuchangia kwako katika utafiti huu ni kwa hiari. Ikiwa ungetaka kujiuzulu, hatuna budi kukuacha huru. Udumishaji wa siri: Kushiriki kwa mridhi wako katika utafiti huu ni siri kubwa, na jina lake halisi halitatumika kamwe wakati wa kuwasilisha utafiti. Tutahakikisha tumelinda maelezo yoyote tutakayopata kukuhusu na pia yanayohusu mridhi wako. Hili litafanikishwa kwa kutumia nambari za siri ili kuzuia kujulikana kwa moja kwa moja na pia kupunguza idadi ya watu ambao wanaweza kuwa na maelezo yoyote kukuhusu.

Faida: Faida zako kutokana na utafiti huu hazitakuwa za moja kwa moja. Lakini kunazo faida kama vile; Matokeo ya utafiti itasaidia kuchambua mambo yanayombolesha au kudunisha huduma ya kuzuia maambukizi ya virusi vya Ukimwi kwa watoto wakati wakuzaliwa na malezi

Hatari :Hakuna hasara zozote utakazokumbana nazo kwa kushiriki katika mahojiano. Uamuzi wa kujiaondoa kwenye mahojiano: Iwapo utaamua kutoendelea na na mahojiano haya, hakuna hukumu yoyote itakayotolewa dhidi yako. Ingawaje, ukiwa na maelezo yoyote au ufafanuzi wowote una ruhusa ya kuwasilisns na mhojaji mkuu kwa kutumia nambari zilizoko kwenye cheti chake.

Leah Njeri Mureithi

Mhojiwa : nimeelezewa kila kitu kilichoandikwa na nimeelewa na niko tayari kuchangia katika utafiti huu.

Sahihi

Tarehe

Mtahini

Sahihi

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Appendix III: English Questionnaire form

Client's personal data and knowledge on HIV/AIDS/PMTCT/PMTCT service satisfaction:

SECTION 1

Clients related factors

Sociodemographic data

1. How old are you? .....

2. What is your gender? Male [ ] Female [ ]

3. What is your religion? Christian [ ] Muslim [ ] Others [ ]

4. What is your marital status? Married [ ] Single [ ] Divorced [ ] Widow [ ] Others [ ]

5. How many times have you given birth (Parity)? .....

6. What is your level of education? (a)None [ ] (b). Primary [ ] (c).Secondary [ ]

(d). College [ ] (e) University [ ]

7. What is your employment status? (a) Unemployed [ ] (b) Employed part-time [ ] (c) Employed full-time or permanent [ ] (d) Retired [ ] (e) Student [ ] (f) Housewife [ ] (g) (casual Prefer not to answer [ ] (h) Housewife

8. How long have you used PMTCT services in EL5H? (a) Less than 3 months [ ] (b) At least 3 months but less than 6 months [ ] (c) At least 6 months but less than 1 year [] (d) At least one year but less than 2 years [ ] (e) Above 2 years [ ]

9. How frequently do you visit PMTCT service in EL5H? (a) Weekly [ ] (b) Monthly [ ] (c) 2 to 3 monthly [ ] (d) 4 to 6 months [ ] (e) Once/ twice per year [ ]

10. What is the location of your Residence?

(a) If you reside in Embu indicate estate/Area's name

……..…….……

(b) If you reside outside Embu then indicate County

…….

11. What is PMTCT?

……
……
……

12. What services are offered in PMTCT?

……
……

13. What is your perception about PMTCT services?

……
……

SECTION 2

LIKERT SCALE

Overall Rate of satisfaction

Service	Very satisfied	Satisfied	Neither satisfied or dissatisfied	Dissatisfied	Very dissatisfied
HIV counseling and testing					
Couple counseling and testing					
Pre- conception care					
Antenatal care					
Delivery					
Post-natal care in ward					
Health education on discharge					
Family planning counseling					
Family planning method given					
Mother ARV'S					
Baby ARV'S					
Mother nutrition counseling					
Infant feeding counseling					
EID					
PSSG					
Disclosure					

SECTION 3

Provider related factors

Provider related factors determining client satisfaction

i) HIV testing services

PMTCT services	Provider factors	Very satisfied	Satisfied	Neither satisfied or dissatisfied	dissatisfied	Very dissatisfied
HTS	Provider interaction					
	Pre-counseling					
	HIV testing					
	Post-counseling					
	Staff attitude					
	Understanding clients needs					
	Staffing					
	Privacy and confidentiality					
	Waiting time					
	Service time					

What did you like about service providers in relation to HIV testing services?

……

……

What didn't you like about service providers in relation to HIV testing services?

……
……

How best can the service provider improve HIV testing services?

……
……

ii) <u>Family planning services</u>

PMTCT services	Provider factors	Very satisfied	Satisfied	Neither satisfied or dissatisfied	dissatisfied	Very dissatisfied
FP	Provider interaction					
	counseling					
	Staff attitude					
	Understanding clients' needs					
	Service offered					
	Staff client time utilization					
	Client choice of option					
	Staffing					
	Privacy and confidentiality					
	Waiting time					
	Service time					

What did you like about service providers in relation to family planning services?

……
…….

What didn't you like about service providers in relation to family planning services?

……
……

How best can the service providers improve family planning services?

……
……

iii) prophylaxis/ARV DRUGS

PMTCT services	Provider factors	Very satisfied	Satisfied	Neither satisfied or dissatisfied	dissatisfied	Very dissatisfied
ARV Drugs	Provider interaction					
	counseling Drug supply					
	Staff attitude					
	Understanding clients' needs					
	Staff client time utilization					
	Staffing					
	Privacy and confidentiality					
	Waiting time					
	Service time					

What did you like about service providers in relation to ARV drug services?

……
……

What didn't you like about service providers in relation to ARV drug services?

……
……

How best can the service providers improve ARV drug services?

……
……

iv) <u>Infant prophylaxis</u>

PMTCT services	Provider factors	Very satisfied	Satisfied	Neither satisfied or dissatisfied	dissatisfied	Very dissatisfied
	Provider interaction					
	Adherence counseling					
	Drug supply					
	Staff attitude					
	Understanding clients' needs					
	Privacy and confidentiality					
	Waiting time					
	Service time					

What did you like about service providers in relation to infant treatment services (ARV drugs)?

……
……

What didn't you like about service providers in relation to infant treatment services (ARV drugs)?

……
……

How best can the service providers improve infant treatment services (ARV drugs)?

……
……

v) <u>Infant feeding counseling</u>

PMTCT services	Provider factors	Very satisfied	Satisfied	Neither satisfied or dissatisfied	dissatisfied	Very dissatisfied
Infant feeding	Provider interaction					
	counseling					
	Staff attitude					
	Understanding clients' needs					
	Client choice option					
	Privacy and confidentiality					
	Waiting time					
	Service time					

What did you like about service providers in relation to Infant feeding counseling services?

.....

.....

What didn't you like about service providers in relation to Infant feeding counseling services?

.....

.....

How best can the service providers improve Infant feeding counseling services?

……

…….

vi) <u>Early Infant Diagnosis (EID)</u>

PMTCT services	Provider factors	Very satisfied	Satisfied	Neither satisfied or dissatisfied	dissatisfied	Very dissatisfied
EID	Provider interaction					
	counseling					
	Sample collection					
	PCR results					
	Staff attitude					
	Privacy and confidentiality					
	Waiting time					
	Understanding clients' needs					
	Staffing					
	Service time					

What did you like about service providers in relation to Early Infant Diagnosis (EID) services?

.....

What didn't you like about service providers in relation to Early Infant Diagnosis (EID) services?

.....

How best can the service providers improve Early Infant Diagnosis (EID) services?

.....

vii) <u>Support Group Services (PSSG)</u>

PMTCT services	Provider factors	Very satisfied	Satisfied	Neither satisfied or dissatisfied	dissatisfied	Very dissatisfied
PSSG	Provider communication					
	Health message					
	Psychosocial support					
	Partner involvement					
	Meeting frequency					
	Staff attitude					
	Understanding clients' needs					
	Staffing					
	Privacy and confidentiality					
	Waiting time					
	Service time					

What did you like about service providers in relation to Psychosocial Support Group Services
(PSSG)?.....
.....

What didn't you like about service providers in relation to Psychosocial Support Group services
(PSSG)?.....
.....

How best can the service providers improve Psychosocial Support Group Services (PSSG)?.....
.....

SECTION 4

Facility related factors

1) Is it easy to access PMTCT services Yes [ ] No [ ]

If no explain

……

3) How do you rate affordability of PMTCT services in Embu county hospital?

Services	Expensive	Fair	Cheap	Free	Outcome	
					Satisfied	Not satisfied
Registration						
Consultation						
ARV drugs						
Lab work up						
Return visit						

4) Are you satisfied with PMTCT services integration Yes [ ] No [ ]

If no explain

……
……

5) Satisfaction with PMTCT supplies

Service	Very satisfied	Satisfied	Neither satisfied or dissatisfied	dissatisfied	Very dissatisfied
Test kits					
FP commodities					
ARV drugs					
EID					

6) What do you like about Embu county hospital in relation to PMTCT services?

……
……

7) What don't you like about Embu county hospital in relation to PMTCT services?

……
……

8) How best can we improve PMTCT services in relation to the facility?

……
……
……

Appendix IV: Kiswahili Questionnaire form

Habari ya mshiriki dhidi ya ukimwi/kuzuia virusi kwa watoto/kuridhika kwa mshirika na huduma:

Sehemu ya kwanza

Habari kuhusu mshiriki

1. Umri wako? .....

2. Jinsia yako? Kiume [ ] Kike [ ]

3. Dini yako? Mkristo [ ] Muislamu [ ] Zinginezo [ ]

4. Habari ya ndoa? Olewa [ ] Huishi pekee [ ] Talaka [ ] Mjane [ ] Zinginezo [ ]

5. Je! Umejifungua watoto mara ngapi?.....

6. Kiwango cha elimu? (a)Hamna [ ] (b). Msingi [ ] (c).Sekondari [ ] (d).Kitengo cha mafunzo [ ] (e) Chuo kikuu [ ]

7. Hali ya kuajiliwa? (a) Sijaajiliwa [ ] (b) Kazi ya ziada [ ] (c) Kazi ya mwezi/Serikali [ ]

(d) Nimestaafu [ ] (e) Mwanafunzi [ ] (f) Mama Nyumbani [ ] (g) (Kazi ya vibarua [ ]

8. Je! Umepata huduma dhidi ya kuzuia maambukizi ya virusi vya ukimwi kutoka kituo hiki Kwa muda upi? (a) Chini ya miezi tatu [ ] (b) Kati ya miezi tatu na sita [ ] (c) Kati ya miezi sita na mwaka mmoja [ ] (d) Kati ya mwaka mmoja na miaka mbili [ ] (e) Juu ya miaka mbili [ ]

9. Je! Unatembelea kituo hiki cha matibabu baada ya muda upi (a) Mara moja kwa wiki [ ] (b) Mara moja kwa mwezi [ ] (c) Baada ya miezi mbili au tatu [ ] (d) Kati ya miezi nne na sita 4 to 6 months [ ] (e) Mara moja au mbili kwa mwaka [ ]

10. What is the location of your Residence Maeneo ya kuishi?

(a) Mkaaji wa Embu Elezea maeneo ……..……

(b)Mkaaji wanje ya Embu elezea sehemu ya majimbo

……

11.Je! kuzuia mtoto kuambukizwa virusi vya ukimwi kutoka kwa mama ni nini?

……

12. Je! Huduma zipi zinahusishwa na kuzuia mtoto kuambukizwa virusi vya ukimwi kutoka kwa mama?

……
……

13. Je !unamaoni yapi kuhusu huduma za kuzuia mtoto kuambukizwa virusi vya ukimwi kutoka kwa mama

……
……

SEHEMU YA PILI

KIPIMO

Kuridhika na huduma Kwa jumla

Huduma	Kuridhika zaidi	Kuridhika	Kuridhika wala Kutoridhika	Kutoridhika	Kutoridhika zaidi
Ushauri na kupimwa virusi vya ukimwi					
Ushauri na kupimwa virusi kama mme na mke					
Matibabu kabla ya kushika mimba					
Huduma ukiwa na mimba					
Huduma ukijifungua					
Huduma baada ya kujifungua					
Maelezo ya ushauri					
Ushauri wa kupanga uzazi					
Njia ya kupanga uzazi					

Matibabu ya dawa za virusi kwa mama					
Matibabu ya dawa za virusi kwa mtoto					
Maelezo ya chakula kwa mama					
Maelezo ya kurisha mtoto					
Kupima mtoto virusi vya ukimwi					
Kikundi cha akina mama wanaishi na virusi					
Kuvunja siri ya kuishi na virusi					

SEHEMU YA TATU

Sababu zinazohusu muunguzi

Sababu za muunguzi zinazosababisha kuridhika na huduma

Ushauri na kupimwa virusi vya ukimwi

Huduma	Sababu kuhusu muunguzi	Kuridhika zaidi	Kuridhika	Kuridhika wala Kutoridhika	Kutoridhika	Kutoridhika zaidi
HTS	Uhusiano					
	Ushauri kabla ya kupimwa					
	Kupimwa virusi					
	Ushauri baada ya kupimwa					
	Mkao ya muunguzi					
	Kuelewa mahitaji ya mteja					
	Wingi wa waunguzi					
	Siri na upweke					
	Muda wa kusubiri					
	Muda wa huduma					

Je! ni nini kilikupendeza kuhusu waunguzi dhidi ya huduma kuhusu Ushauri na kupimwa virusi vya ukimwi?

……

……

Je! ni nini hakikupendeza kuhusu waunguzi dhidi ya huduma kuhusu Ushauri na kupimwa virusi vya ukimwi?

.....

Je! Twaweza kufanya nini kuboresha huduma za Ushauri na kupimwa virusi vya ukimwi

……
……

ii.**Huduma za kupanga uzazi**

Huduma	Sababu kuhusu muunguzi	Kuridhika zaidi	Kuridhika	Kuridhika wala Kutoridhika	Kutoridhika	Kutoridhika zaidi
kupanga uzazi	Uhusiano					
	Ushauri					
	Mkao ya muunguzi					
	Kuelewa mahitaji ya mteja					
	Huduma uliyopata					
	Muda wa huduma					
	Uamuzi wa mteja					
	Wingi wa waunguzi					
	Siri na upweke					
	Muda wa kusubiri					
	Muda wa huduma					

Je! ni nini ilikupendeza kuhusu waunguzi dhidi ya huduma ya kupanga uzazi?

……..……
…….

Je! ni nini haikukupendeza kuhusu waunguzi dhidi ya huduma ya kupanga uzazi?

……
……

Je! Twaweza kufanya nini kuboresha huduma za kupanga uzazi?

……

iii. **Matibabu ya dawa za virusi kwa mama**

Huduma	Sababu kuhusu muunguzi	Kuridhika zaidi	Kuridhika	Kuridhika wala Kutoridhika	Kutoridhika	Kutoridhika zaidi
Matibabu ya dawa za virusi kwa mama	Uhusiano na muunguzi					
	Mashauri ya kuzingatia dawa					
	Uletaji wa Dawa					
	Mkao ya muunguzi					
	Kuelewa mahitaji ya mteja					
	Muda wa huduma na muunguzi					
	Wingi wa waunguzi					

	Siri na upweke					
	Muda wa kusubiri					
	Muda wa huduma					

Je! ni nini kilikupendeza kuhusu waunguzi dhidi ya huduma ya dawa za virusi kwa mama?

.....
.....

Je! ni nini hukupenda kuhusu waunguzi dhidi ya huduma ya dawa za virusi kwa mama ?

……
……

Je! Twaweza kufanya nini kuboresha huduma ya dawa za virusi kwa mama?

……

iv. Matibabu ya dawa za virusi kwa mtoto

Huduma	Sababu kuhusu muunguzi	Kuridhika zaidi	Kuridhika	Kuridhika wala Kutoridhika	Kutoridhika	Kutoridhika zaidi
Matibabu ya dawa za virusi kwa mtoto	Uhusiano na muunguzi					
	Mashauri ya kuzingatia dawa					
	Uletaji wa Dawa					
	Mkao ya muunguzi					
	Kuelewa mahitaji ya mteja					
	Siri na upweke					
	Muda wa kusubiri					
	Muda wa huduma					

Je! ni nini kilikupendeza kuhusu waunguzi dhidi ya huduma ya dawa za virusi kwa mtoto?.....
.....

Je! ni nini haikukupendaza kuhusu waunguzi dhidi ya huduma ya dawa za virusi kwa mtoto ?

……
……

Je! Twaweza kufanya nini kuboresha huduma ya dawa za virusi kwa mtoto?

……

……

v. **<u>Maelezo ya kurisha mtoto</u>**

Huduma	Sababu kuhusu muunguzi	Kuridhika zaidi	Kuridhika	Kuridhika wala Kutoridhika	Kutoridhika	Kutoridhika zaidi
Kurisha mtoto	Uhusiano na muunguzi					
	Ushauri					
	Mkao ya muunguzi					
	Kuelewa mahitaji ya mteja					
	Uamuzi wa mteja					
	Siri na upweke					
	Muda wa kusubiri aiting time					
	Service time Muda wa huduma					

Je! ni nini kilikupendeza kuhusu waunguzi dhidi ya Maelezo ya kurisha mtoto?.....
.....

Je! ni nini haikukupendaza kuhusu waunguzi dhidi ya Maelezo ya kurisha mtoto ?.....
.....
.....

Je! Twaweza kufanya nini kuboresha Maelezo ya kurisha mtoto .....

.....

vi <u>Kupima mtoto virusi vya ukimwi</u>

Huduma	Sababu kuhusu muunguzi	Kuridhika zaidi	Kuridhika	Kuridhika wala Kutoridhika	Kutoridhika	Kutoridhika zaidi
Kupima mtoto virusi vya ukimwi	Uhusiano na muunguzi					
	Ushauri					
	Tarakibu ya damu					
	Matokeo ya damu					
	Mkao ya muunguzi					
	Siri na upweke					
	Muda wa huduma					
	Kuelewa mahitaji ya mteja					
	Wingi wa waunguzi					
	Muda wa huduma					

Je! ni nini kilikupendeza kuhusu waunguzi dhidi ya huduma ya kupima mtoto virusi vya ukimwi?

……

……

Je! ni nini haikukupendaza kuhusu waunguzi dhidi ya huduma ya kupima mtoto virusi vya ukimwi?

……..……
……

Je! Twaweza kufanya nini kuboresha huduma ya kupima watoto virusi vya ukimwi ……

Vii. <u>Kikundi cha akina mama wanaoishi na virusi</u>

Huduma	Sababu kuhusu muunguzi	Kuridhika zaidi	Kuridhika	Kuridhika wala Kutoridhika	Kutoridhika	Kutoridhika zaidi
Kikundi cha akina mama wanaoishi na virusi	Mawasiliano na muunguzi					
	Maelezi					
	Faida ya kisaikolojia					
	Kuhusisha mwenzi					
	Mara za kukutana					
	Mkao ya muunguzi					
	Kuelewa mahitaji ya mteja					
	Wingi wa waunguzi					
	Siri na upweke					
	Muda wa huduma					

Je! ni nini kilikupendeza kuhusu waunguzi dhidi ya huduma ya Kikundi cha akina mama wanaoishi na virusi vya ukimwi?.

.....

Je! ni nini haikukupendaza kuhusu waunguzi dhidi ya huduma ya Kikundi cha akina mama wanaoishi na virusi vya ukimwi ?

.....

Je! Twaweza kufanya nini kuboresha huduma ya Kikundi cha akina mama wanaoishi na virusi vya ukimwi?

……

SEHEMU YA NNE

Sababu zinazohusu kituo cha afya

1) Je! ni rahisi kufikia huduma hizi za kuzuia kuambukiza mtoto vurusi vya ukimwi?

Ndiyo [ ] Apana [ ]

Kama apana eleza sababu

……

3) Je! waweza kusema nini kuhusu kumudu huduma hizi za kuzuia kuambukiza mtoto vurusi vya ukimwi katika hospitali hii?

Huduma	Ghali	Nafuu	Rahisi	Bure	Matokeo	
					Ridhika	Kutoridhika
Usajili						
Ushauri						
Madawa ya ukimwi						
Chumba cha						

majaribio						
Siku ya kurudi						

4)Je! Umeridhika na namna huduma hizi za kuzuia kuambukiza mtoto vurusi vya ukimwi zinapeanwa pamoja na huduma zingine katika hospitali hii

Ndiyo [ ] Apana [ ]

Kama apana eleza sababu

……
……..……
……

5)Kuridhika na uletaji wa vifaa mbali mbali huduma hizi za kuzuia kuambukiza mtoto vurusi vya ukimwi

Huduma	Kuridhika zaidi	Kuridhika	Kuridhika wala Kutoridhika	Kutoridhika	Kutoridhika zaidi
Vifaa vya kupima ukimwi					
Njia za kupanga uzazi					
Madawa za ukimwi					
Kupima watoto virusi vya ukimwi					

6)Je! ni nini kinakupendeza kuhusu hospitali hii katika utoaji wa huduma hizi za kuzuia kuambukiza mtoto vurusi vya ukimwi?

……
……

7)Je! ni nini hakikupendeza kuhusu hospitali hii katika utoaji wa huduma hizi za kuzuia kuambukiza mtoto vurusi vya ukimwi?

……
……

8)Je!twaweza kufanya nini kuboresha huduma hizi za kuzuia kuambukiza mtoto vurusi vya ukimwi katika kituo hiki?

Appendix V: Interview Guide for Focused Group Discussion

1. What are your perceptions of the quality of PMTCT services? ……

2. What are your views on health-providers' attitudes toward PMTCT services?

……

3. What are your views on customer satisfaction on the following aspects?

Aspect of care	Satisfying	Dissatisfying
HTS-person		
HTS-Partner		
HTS-children		
FP		
Preconception care		
HAART		
Infant prophylaxis		
Infant feeding options		
EID		
Nutritional counseling		
Psychosocial support		

4. What aspects of care made you satisfied with?

HTS-person……

HTS-Partner/couple…….

HTS children…….……

FP……

Preconception care……

HAART……

Infant prophylaxis……..

Infant feeding options…….

EID……

Nutritional counseling……

Psychosocial support……..……

5. What aspects of care made you dissatisfied with?

HTS-person…….

HTS-Partner…….

HTS-children……

FP……..

Preconception care……..

HAART……

Infant
prophylaxis……

Infant feeding options……..

EID……

Nutritional counseling ……

Psychosocial support…….……..

6. What are your suggestions for PMTCT services improvement to achieve desired customer satisfaction?

……
……
……

Appendix VI: Muongozo wa Kikundi Cha Kuzingatia Majadiliano

1. Je! maoni yako ni yapi kuhusu huduma hizi za kuzuia kuambukiza mtoto vurusi vya ukimwi?

.....
.....

2. Je! ungesema nini kuhusu mikao ya waunguzi wa huduma hizi za kuzuia kuambukiza mtoto vurusi vya ukimwi?

……
……

3.Je! maoni yako ni yapi katika kuridhika na muunguzi katika huduma zifuatazo?

Huduma	Kuridhika	Kutoridhika
Kupimwa virusi		
Kupimwa virusi kwa mwenzi		
Kupimwa virusi kwa watoto		
Kupanga uzazi		
Huduma kabla ya mimba		
Madawa ya ukimwi		
Mdawa ya kuzuia ukimwi kwa watoto		
Kurisha mtoto		
Kupima mtoto virusi		
Ushauri wa chakula		
Huduma za kisaikolojia		

4. Je! ni mbaathi ya mambo gani ilisababisha uridhike na huduma zifuatazo?

Kupimwa
virusi……..

Kupimwa virusi kwa mwenzi/Na mwenzi

……

Kupimwa virusi kwa watoto

…….....

Kupanga uzazi

…….

Huduma kabla ya mimba

……

Madawa ya ukimwi

…….

Infant
prophylaxis……..

Kurisha
mtoto……..

Kupima motto virusi

……...

Ushauri wa chakula

…….

Huduma za kisaikolojia

……..

5. 4. Je! ni mbaathi ya mambo gani ilisababisha usiridhike na huduma zifuatazo?

Kupimwa virusi

……..

Kupimwa virusi kwa mwenzi/Na mwenzi

……

Kupimwa virusi kwa watoto

…….....

Kupanga uzazi

…….

Huduma kabla ya mimba

……

Madawa ya ukimwi

…….

Infant prophylaxis……..

Kurisha mtoto……..

Kupima mtoto virusi ……...

Ushauri wa chakula…….

Huduma za kisaikolojia……..

6. Je! maoni yako ni yapi kuhusu namna ambazo twaweza kuboresha huduma hizi za kuzuia kuambukiza mtoto vurusi vya kimwi ili wateja waridhike zaidi? ……
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Appendix VII: Publication

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Provider Related Factors Influencing Satisfaction with Prevention of Mother to Child Transmission Services among HIV Positive Postnatal Mothers Attending MCH/FP Clinic in EL5H, Kenya

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Abstract Fulfilment of patient/client needs and desires through the delivery of health care is perceived as satisfaction. Client satisfaction has been seen to influence whether a person seeks Prevention of Mother To Child Transmission (PMTCT) services, adhere to treatment and maintain an enduring relationship with practitioners. To establish provider related factors influencing Human Immunodeficiency Virus (HIV) positive postnatal mother satisfaction with PMTCT services a facility based cross-sectional study was used for both qualitative and quantitative data. Data was analysed through cross-tabulation, chi-square correlations and logistic regression model. 91.0 percent response rate was achieved and considered satisfactory in generalizing the study findings. Majority of the respondents, 93.7% were highly satisfied with provider factors regarding the seven services offered at EL5H. However, 0.9% and 5.4% of the respondents reported dissatisfaction and neither satisfied nor dissatisfied with provider factors respectively. Cross tabulation showed that, majority of the respondents were dissatisfied with; waiting time (17.6%), male involvement (13.6%), staffing (10.8%) and service time (4.1%). Based on the outcome of chi-square test, there was a significance association between provider related factors and client satisfaction (x^2 =142.72, df=24, p<0.001), logistic regression analysis showed counselling and male involvement were significantly associated with client satisfaction. Financing and training of health care workers, Quality Assurance and Quality Improvement, addressing human for health gaps, provision of comprehensive Counselling and scale up partner involvement especially male partners is highly recommended in improving and sustaining client satisfaction on PMTCT services. Further studies and periodic assessments on client satisfaction on PMTCT services is highly recommended.

Keywords **Provider related factors**-service provider's aspects that influenced client satisfaction, **Satisfaction**-State of fulfilment or gratification of one's needs or expectations

1. Introduction

1.1. Background of Study

Research has shown that Prevention Mother To Child Transmission (PMTCT) of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) refers to intercessions to impede HIV transmission from an infected mother to her infant during prenatal period, labor, delivery, and breastfeeding (WHO, 2015). Similarly, Prevention of Mother to Child Transmission prevention (PMTCT) is a term used for designed programs and interventions to reduce the risk of HIV transmission from mother to child (PPFAR, 2017).

Worldwide more than 75million people have been infected with HIV (Nature Reviews Disease, 2015), and there are now 36.7 million individuals living with the infection (Global Aids Update, 2016). Approximately 25.5 million people living with HIV are in Sub-Saharan Africa, which contributes to 70% of new HIV infections globally (Global HIV&AIDS Statistics, 2015). Mainly, Human Immunodeficiency Virus/Acquired Immune-Deficiency Syndrome affects people of reproductive age, increasing infections among women who now account for new cases in Sub-Saharan Africa.

Kenya is one of the most affected countries by HIV and is jointly ranked fourth in the world alongside Mozambique and Uganda among countries with HIV transmission from mother to child (MTCT) (global information, 2017). According to Fitz (2014) client satisfaction is core to quality of PMTCT services and serves as an important component in

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continuous evaluation of delivered services to achieve desired outcomes. Client satisfaction with services offered influences their compliance and is an indirect indicator for quality of services. Safeguarding clients' satisfaction with mother to child transmission prevention services is essential for increasing uptake, promoting compliance and confinement in care. Furthermore, providing better services attracts more clients and increases the utilization of health care services (creel, *et al,* 2012).

1.2. Objective

To assess provider related factors influencing HIV positive postnatal mother satisfaction with PMTCT services.

2. Research Materials and Methods

2.1. Study Design

Facility based cross sectional study was used to obtain both qualitative and quantitative data.

2.2. Study Area Description

The study was conducted at Embu Level Five Hospital in Embu County (EL5H). The hospital is in the outskirts of Embu town a long Embu- Meru highway approximately two kilometres from Embu town and 120 kilometres from Nairobi (Kenya County Guide, 2016).

2.3. Study Population

One eighty (180) HIV positive post-natal mothers booked for July, 2019 psychosocial support group meetings.

2.4. Inclusion Criteria/ Exclusion Criteria

2.4.1. Inclusion Criteria

1) HIV positive postnatal mothers

2.4.2. Exclusion Criteria

1) Newly diagnosed HIV positive postnatal mothers
2) HIV positive postnatal mothers below 6 weeks post-delivery.
3) Mentally unstable and very sick HIV positive mothers

2.5. Sampling

2.5.1. Sample Size Determination

The researcher used Yamane (1967:886) formula;

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

Where:
n = sample size
N = Total population
e = Margin of error is 5%

$$n = \frac{188}{1+180(0.05)^2}$$

n = 130

To take care of non-respondent estimated to be 10%, the sample size was converted to 143.

2.5.2. Sampling Technique

Proportionate to sample size was used to calculate HIV positive postnatal mothers to be sampled from the estimated sample size of 143 mothers in each of the eight (8) psychosocial support groups.

Expected sample representative per group

Groups	Number of mothers	Proportionate sampling as shown below= No of mothers per group / Target population X sample size
Group 1	23	23/180x143=18
Group 2	22	23/180x143=18
Group 3	23	23/180x143=18
Group 4	22	22/180x143=17
Group 5	23	23/180x143=18
Group 6	23	23/180x143=18
Group 7	21	23/180x143=18
Group 8	23	23/180x143=18
Total	**180**	**143**

Purposive sampling was used to recruit mothers to participate in the focused group discussion (FGD). Simple random sampling was used to determine mothers to participate in filling the semi-structured questionnaire. Eighty mothers were recruited in filling the questionnaires (ten from each group) and sixty-three mothers were recruited to participate in eight focused group discussions (seven groups had eight mothers whereas one group had seven mothers).

2.6. Variables

2.6.1. Dependent Variables

Satisfaction with PMTCT services was used as the dependent variable for the study. Overall level of satisfaction was measured through a five-point Likert scale based on various pmtct services offered.

2.6.2. Independent Variables

The independent variables for the study included provider related factors (provider client interaction, counselling, understanding client's needs, staff attitude, staffing, male involvement, privacy, confidentiality, waiting and service time.

2.7. Data Collection

2.7.1. Data Collection Procedures

Data collection was done in 8 weeks. Data was collected during pmtct psychosocial support group meetings.

The questionnaires were administered by the research assistants.

2.7.2. Data Collection Tools

Data was collected using semi -structured questionnaires. The questionnaires included socio-demographic characteristics and client satisfaction related to service providers. Likert scale was used to assess satisfaction level. The scale ranged from 1 to 5. Three (3) neither satisfied nor dissatisfied, 1 denotes very dissatisfied, 2 dissatisfied, 4 satisfied and 5 very satisfied.

2.8. Pretest Tool

Pretesting of the semi- structured questionnaires was done prior to the actual date of data collection at Kerugoya level five hospitals in Kerugoya County. The hospital had similar locality and characteristics thus the researcher expected similar results. Ten (10%) of study participants was used for pretesting to ensure validity and reliability of instruments.

2.9. Quality Assurance Procedures

2.9.1. Validity

Issues not clear were clarified after pre-testing. Unnecessary questions were deleted after thorough scrutiny. Rephrasing of necessary questions was done accordingly before study commencement.

2.9.2. Reliability

This was assured by counter checking the completed interview schedules daily to identify and correct any errors that might have occurred.

2.10. Ethical Considerations

Ethical approval to conduct this study was provided by research and ethics committee (ERC) Nairobi University (UON) Kenyatta National Hospital (KNH). Approval was also received from chief executive officer in Embu level five hospital and Kerugoya level four hospital. Additional approval was provided by officers in charge of maternal neonatal child health clinic. Written consent was obtained from study participants before data collection after they had been informed about the objectives and purpose of the study. Study subjects were given the chance to decline participation or interrupt at any time if they didn't feel comfortable. Client's names were not retrieved from the register.

2.11. Data Management

Data collection was done using semi structured questionnaires. The questionnaires were coded before administration. Manual cleaning of the filled questionnaire was done to check for completeness. Information from the focused group discussion was coded in the computer and checked for completeness. Data was then fed in statistical package for social sciences (SPSS) version 24.0 and cleaned for inconsistencies and missing values. The data was processed, tabulated, and analysed to generate frequency, tables, and graphs.

Rate of satisfaction and other variables was computed using descriptive statistics. Bivariate analysis was performed using chi-square to identify factors related to satisfaction and measure association between HIV positive postnatal mothers' satisfaction and PMTCT services offered at Embu level five hospital. To further establish the variance and strength of association, logistic regression analysis was performed on the independent variables. Data was then presented inform of graphs, pie charts and tables.

2.12. Data Storage, Security, and Access

The filled in questionnaire was stored in a locked cupboard and the keys kept by the researcher. Coded data was stored in a folder in the researcher's computer that had password. Filled in questionnaires were stored in a locked cupboard under the custody of the researcher for a period of ten years after data analysis before being disposed. Accessibility of the same by the authorized persons such as KNH-UON ERC during storage period shall be possible upon linking with the researcher. The researcher would also allow access of the coded and analysed data, stored in her computer with a password to the authorized persons upon requisition.

Storage of data in a locked cupboard and in the researchers' computer with a password would help to deny access of the information to the unauthorized persons.

2.13. Study Limitations

Due to limited time and finances the study was confined to maternal neonatal child health clinic in Embu county hospital. Further, since it is not a trend study, the results obtained were only applicable at one point in time when the study was carried out. Similarly, low turnout of HIV positive postnatal mothers made the study take longer than expected. Finally, the study focused on HIV positive post-natal mothers hence limiting its generalization to all the HIV positive clients.

3. Results and Findings

3.1. Response Rate

There were seventy-four (74) respondents who managed to fill in the questionnaires (51.7%) and seven (7) FGD interviews were conducted due to saturation (39.2%). Each group had an average of eight members, making a total of 130 respondents out of the targeted sample size of 143. This was translated to a response rate of 91.0%.

3.2. Respondents' Sociodemographic Characteristics

The survey findings showed that majority of the respondents, 79.7% (n=110/138) were aged 25-49 years

while the least, 5.1% (n=7/138) were those aged between 15-19 years. Majority of the respondents, 79.7% (n=110/138) were married, while 17.4% (n=24/138)) were single. Those divorced and widowed were 1.4% (n=2/138) each. Majority of the respondents, 36.2% (n=50/138) had parity 2+0, while the least, 6.5% (n=9/138) were para 3+1 and above. Over half of the mothers, 60.1% (n=83/138) had secondary education and above. Most of the respondents, 42% (n=58/138) were housewives. Respondents from Embu county contributed 86.9% (n=9/138) of the sampled respondents.

Table 3.1. Sociodemographic Characteristics

Variables	Frequency (N=138)	Percentage (%)
Age		
15-19 Years	7	5.1
20-24 Years	21	15.2
25-49 Years	110	79.7
Religion		
Christian	134	97.1
Muslim	4	2.9
Marital Status		
Married	110	79.7
Single	24	17.4
Divorced	2	1.4
Widow	2	1.4
Participants' Parity		
Para 1+0	34	24.6
Para 2 +0	50	36.2
Para 3+0 and Above	45	32.6
Para 3+1 and Above	9	6.5
Level of Education		
None	5	3.6
Primary	50	36.2
Secondary	58	42
College	22	15.9
University	3	2.2
Employment Status		
Unemployed	14	10.1
Employed Part-Time	28	20.3
Full Time/ Permanent	30	21.7
Retired	3	2.2
Student	5	3.6
Housewife	58	42
County of Residence		
Embu	120	86.9
Tharaka Nithi	11	7.8
Nairobi	7	5.1

3.3. Provider Related Factors

Provider related factors included the provider interaction with the clients, staff attitude, understanding client's needs, staffing, privacy, and confidentiality, waiting and service time as experienced by the clients. The factors were based on various PMTCT services to include HIV testing, family planning, ARV drug prophylaxis, infant prophylaxis, infant feeding practices, early infant diagnosis, and psychological support group.

3.3.1. Provider Related Factors that Influenced Client's Satisfaction

Majority of the respondents, 93.7% were highly satisfied with provider factors regarding the seven services offered at EL5H. However, 0.9% and 5.4% of the respondents reported dissatisfaction and neither satisfied nor dissatisfied with provider factors respectively. Cross tabulation showed that, majority of the respondents were dissatisfied with; waiting time (17.6%), male involvement (13.6%), staffing (10.8%) and service time (4.1%). Based on the outcome of chi-square test, there was a significance association between provider related factors and client satisfaction (x^2 =142.72, df=24, p<0.001).

3.3.2. Logistic Regression on Provider Related Factors

Ordinal logistic regression analysis was performed to model the relationship between the predictors (provider related factors) and overall levels of satisfaction (very satisfied, satisfied, and other). The traditional 0.05 criterion of statistical significance was used for all tests. Counselling and male involvement were the predictors with significant parameters for comparing the very satisfied group with the satisfied group. This further showed, improvement of the two variables would increase client satisfaction by 8 and 4 times respectively as compared to other provider related factors increasing the odds ratio by over 4 times.

3.3.3. Participants Likes about PMTCT Service Providers

From the FGD, most of respondents registered satisfaction, stating that the services should continue as they were. Regarding the main theme on participants likes about pmtct service providers the emerging sub- themes included provider interaction and male partner involvement.

3.3.3.1. Sub-Theme 1: Provider Interaction

Majority of the participants reported that, they had good interaction with their service providers. One of the participants noted that:

"*The staff at the facility are emphatic to us and they also understand our needs*" (Respondent 5 FGD 2).

This sentiment was seconded by another participant who said that:

"*The staff have good communication skills, and they understand our needs adequately.*" (Respondent 3 FGD 1).

3.3.3.2. Sub-Theme 2: Male Partner Involvement

Participants echoed to the statement that the service providers provided options and encouraged clients to come

with their partners for testing and counselling as one respondent indicated that: "*My partner is able to know his HIV status, he is also counselled before and after testing*" (Respondent 3 FGD 6).

3.3.4. Participant's Dislike about PMTCT Service Providers

From the FGD, participants felt that there were aspects that they disliked and needed attention to improve their overall satisfaction. Regarding the main theme on participants dislikes about PMTCT service providers the emerging sub- themes included provider attitude and waiting time.

3.3.4.1. Sub-Theme 1: Provider Attitude

Despite the many positive feedbacks, majority of the respondents expressed that there was need for some staff to change their negative attitude. For instance, one participant noted that:

"*Some service providers are rude and lack good interaction skills. In the HIV testing services, health providers did not give counselling to the partner before testing*" (Respondent 1 FGD 2).

3.3.4.2. Sub-Theme 2: Waiting Time

The other concern was the waiting time where several participants reported that they waited for long before being served. One participant said that:

"*We wait for long period of time before we are attended to, and this reduces our morale to seek treatment.*" (Respondent 3 FGD 5).

Table 3.2. Provider Related Factors and Client Satisfaction

Provider Factors		Satisfaction level				Chi-Square Test
		Very Satisfied	Satisfied	Neither Satisfied nor Dissatisfied	Dissatisfied	
Provider factors	Client Needs	45(60.8%)	29(39.2%)	0(0%)	0(0%)	x^2=142.72 df=24 **p-value=<0.001**
	Counselling	21(28.4%)	52(70.3%)	1(1.4%)	0(0%)	
	Male Involvement	21(28.4%)	42(56.8%)	4(5.4%)	6(8.1%)	
	Privacy Confidentiality	45(60.8%)	28(37.8%)	1(1.4%)	0(0%)	
	Provider Interaction	44(59.5%)	29(39.2%)	1(1.4%)	0(0%)	
	Service time	33(44.6%)	38(51.4%)	3(4.1%)	0(0%)	
	Staff Attitude	19(25.7%)	54(73%)	1(1.4%)	0(0%)	
	Staffing	17(23%)	49(66.2%)	8(10.8%)	0(0%)	
	Waiting time	13(17.6%)	44(59.5%)	17(17.6%)	0(0%)	
Total		**258(38.8%)**	**365(54.9%)**	**36(5.4%)**	**6(0.9%)**	

Provider Factors * Satisfaction Level Cross Tabulation

Table 3.3. Logistic Regression on Provider Related Factors

Dependent Variable	Independent Variables	Wald Statistics	Odds Ratio (OR)	P-Value	95% Confidence Interval (CI)	
					Lower	Upper
Overall Satisfaction Level	Provider Interaction	0.088	1.318	0.767	0.212	8.181
	Counselling	5.885	8.026	0.015	1.492	43.176
	Staff Attitude	3.632	6.125	0.057	0.950	39.506
	Client Needs	0.192	1.525	0.662	0.231	10.089
	Staffing	0.182	0.678	0.670	0.113	4.062
	Privacy and Confidentiality	1.054	0.377	0.305	0.058	2.431
	Service Time	0.000	0.991	0.991	0.228	4.303
	Male Involvement	6.066	3.985	0.014	1.326	11.976
	Waiting Time	0.631	1.778	0.427	0.430	7.347

3.3.5. Participant's Suggestions Related to Service Providers to Improve PMTCT Services

From the FGD'S regarding to the main theme on participants suggestions about PMTCT service providers the emerging sub- themes included maintaining client confidentiality and staffing.

3.3.5.1. Sub-Theme 1: Maintaining Client Confidentiality

One of the suggestions was to ensure high confidentiality for the clients during counselling, and to allay all fears before testing. In support of these assertions, one respondent noted that:

"The health care professionals need to counsel us while upholding our confidence, and not to in still fears in us. This creates a good environment for the overall testing services and other procedures." (Respondent 6 FGD 8).

Another respondent in the same 7 supported the above sentiment by reporting that:

"Our confidentiality is paramount and this needs to be maintained" (Respondent 4 FGD 8).

3.3.5.2. Sub-Theme 2: Staffing

Majority of participants reported that there was need to improve staffing in MCH/FP clinic. One of them suggested that:

"There is need to increase the number of health care professional in the section of family planning services" (Respondent 7 FGD 4).

4. Discussion, Conclusions, and Recommendations

4.1. Discussion

4.1.1. Socio-Demographic Information

The survey findings showed that majority of the respondents, 79.7% (n=110/138) were aged 25-49 years. Majority of the respondents, 79.7% (n=110/138) were married. Most of the respondents, 36.2% (n=50/138) had parity 2+0 and above. Over half of the mothers, 60.1% (n=83/138) had secondary education and above. Most of the respondents, 42% (n=58/138) were housewives. Respondents from Embu county contributed 86.9% (n=9/138) of the sampled respondents.

4.1.2. Provider Related Factors

Provider related factors included the provider interaction with the clients, counselling, staff attitude, understanding client's needs, staffing, male involvement, privacy and confidentiality, waiting and service time as experienced by the clients. The factors were based on various PMTCT services to include HIV testing, family planning, ARV drug prophylaxis, infant prophylaxis, infant feeding practices, early infant diagnosis, and psychological support group.

4.1.2.1 Provider Related Factors that Influenced Satisfaction of HIV Positive Postnatal Mothers with PMTCT Services

Majority of the respondents, 93.7% were highly satisfied with provider factors regarding the seven services offered at EL5H. However, 0.9% and 5.4% of the respondents reported dissatisfaction and neither satisfied nor dissatisfied with provider factors respectively. Cross tabulation showed that, majority of the respondents were dissatisfied with; waiting time (17.6%), male involvement (13.6%), staffing (10.8%) and service time (4.1%). Based on the outcome of chi-square test, there was a significance association between provider related factors and client satisfaction (x^2 =142.72, df=24, p<0.001).

The results pointed that respondents were satisfied with the provider factors as opposed to other options, neither satisfied nor dissatisfied and dissatisfied. The findings by Lyatuu, Msamanga, and Kalinga (2008) also relate to this study findings where aspects like counselling, preconception care, antenatal care, health education and family planning were offered by supporting, non-judgmental staff with adequate time to listen to each of the patients. A study with similar findings was done by Yeshewas (2016) in Dessie referral hospital, Ethiopia on quality of PMTCT services that showed; despite clients being highly satisfied with the PMTCT services offered, there are clients who were not satisfied with the waiting time they spent while accessing services.

Logistic regression analysis showed that, counselling and male involvement were the predictors with significant parameters for comparing the very satisfied group with the satisfied group increasing the odds ratio by over 4 times. This further showed, improvement of the two variables would increase client satisfaction by 8 and 4 times respectively as compared to other provider related factors. satisfaction on aspects like; HIV testing, infant feeding practices, early infant diagnosis and male involvement ensure HIV+ mothers are able to care for their infants, thus promising quality health.

4.2. Conclusions

Majority of the respondents were highly satisfied with an average rate of over 93 percent compared to those who were dissatisfied and neither satisfied or dissatisfied with the services of health providers at the MCH/FP clinic at an average rate of 0.9% and 5.4% respectively. Cross tabulation showed that, majority of the respondents were dissatisfied with, waiting time (17.6%), male involvement (13.6%), staffing (10.8%) and service time (4.1%). Counselling and male involvement were the predictors with significant parameters for comparing the very satisfied group with the satisfied group increasing the odds ratio by over 4 times. Shortage of health care workers, time management and partner involvement are critical component of providing quality PMTCT services at MCH/ FP clinics. Therefore, training of health care workers on time management,

addressing the human for health gaps and scaling up of partner involvement especially male partners can contribute significantly to improving and sustaining client satisfaction on PMTCT services in Kenya.

4.3. Recommendations

1. Policy makers to plan and provide financing on training health care providers on Quality Assurance and Quality Improvement for increased client satisfaction on PMTCT services.
2. Need for the policy makers to address Human Resources for Health to improve provider – client ratios for improved quality of PMTCT services.
3. Need to develop policies that encourage comprehensive counselling and support partner involvement for increased and sustained client satisfaction on PMTCT services.
4. Further studies and periodic assessments on client satisfaction on PMTCT services are recommended.

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DEFINATION OF TERMS

Dissatisfaction - Failure of service offered to meet clients' expectation/needs/demands

Embu Level 5 Hospital (EL5H) - Referral and teaching hospital

Focused Group Discussion (FGD) - A group of HIV positive postnatal mothers

HIV Positive postnatal Mothers - Clients who are HIV positive attending post-pregnancy clinic

Maternal Child Health & Family Planning (MCH/FP) - Department offering integrated services to under-fives, pregnant and postnatal mothers

Prevention of Mother To Child Transmission (PMTCT) - program that prevents HIV transmission from HIV positive mother to her baby in pregnancy and postnatally during lactation

Provider related factors-service provider's aspects that influenced client satisfaction

Psychosocial Support Groups (PSSG)-groups of HIV positive postnatal mothers

Satisfaction -Ability of service offered to meet clients' expectation/needs/demands

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Appendix VIII Research Ethical Approval

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18th September, 2019

Leah Njeri Mureithi
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School of Nursing
College of Health Sciences(CoHES)
J.K.U.A.T

Dear Leah

RESEARCH PROPOSAL : DETERMINANTS OF SATISFACTION WITH PREVENTION OF MOTHER TO CHILD TRANSMISSION SERVICES AMONG HIV POSITIVE POSTNATAL MOTHERS ATTENDING MATERNAL NEONATAL CHILD HEALTH CLINIC IN EMBU COUNTY HOSPITAL, KENYA (P316/04/2019)

This is to inform you that the KNH- UoN Ethics & Research Committee (KNH- UoN ERC) has reviewed and **approved** your above research proposal. The approval period is 18th September 2019 – 17th September 2020.

This approval is subject to compliance with the following requirements:

a. Only approved documents (informed consents, study instruments, advertising materials etc) will be used.
b. All changes (amendments, deviations, violations etc.) are submitted for review and approval by KNH-UoN ERC before implementation.
c. Death and life threatening problems and serious adverse events (SAEs) or unexpected adverse events whether related or unrelated to the study must be reported to the KNH-UoN ERC within 72 hours of notification.
d. Any changes, anticipated or otherwise that may increase the risks or affect safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH- UoN ERC within 72 hours.
e. Clearance for export of biological specimens must be obtained from KNH- UoN ERC for each batch of shipment.
f. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. (*Attach a comprehensive progress report to support the renewal*).
g. Submission of an *executive summary* report within 90 days upon completion of the study. This information will form part of the data base that will be consulted in future when processing related research studies so as to minimize chances of study duplication and/ or plagiarism.

Protect to discover

For more details consult the KNH- UoN ERC website **http://www.erc.uonbi.ac.ke**

Yours sincerely,

PROF. M. L. CHINDIA
SECRETARY, KNH-UoN ERC

c.c. The Principal, College of Health Sciences, UoN
The Director, CS, KNH
The Chairperson, KNH- UoN ERC
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