

The Effectiveness of Interpersonal Communication on Adherence to The Prevention of Mother-To-Child Transmission of Hiv Cascade A Case of Homa Bay and Kisumu Counties Kenya

by

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APPROVAL

THE EFFECTIVENESS OF INTERPERSONAL COMMUNICATION ON  
ADHERENCE TO THE PREVENTION OF MOTHER-TO-CHILD  
TRANSMISSION OF HIV CASCADE: A CASE OF HOMA BAY AND KISUMU  
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## DECLARATION

THE EFFECTIVENESS OF INTERPERSONAL COMMUNICATION ON  
ADHERENCE TO THE PREVENTION OF MOTHER-TO-CHILD  
TRANSMISSION OF HIV CASCADE: A CASE OF HOMA BAY AND KISUMU  
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## LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Care
ARV	Antiretroviral Drugs
CBI	Cognitive Behavioural Intervention
CDC	Centers for Disease Control and Prevention
CHW	Community Health Worker
eMTCT	Elimination of Mother-to-Child Transmission of HIV
FGD	Focus Group Discussions
GoK	Government of Kenya
HIV	Human Immunodeficiency Virus
HIV+	HIV-positive
HIV+PW	HIV-positive pregnant woman
HBCTRH	Homa Bay County Teaching and Referral Hospital
KDHS	Kenya Demographic and Health Survey
KMMP	Kenya Mentor Mother Programme
KNBS	Kenya National Bureau of Statistics
m2m	mothers2mothers
MoH	Ministry of Health
MTCT	Mother-to-Child Transmission of HIV
NACC	National Aids Control Council
NASCOP	National AIDS and STIs Control Programme
PMTCT	Prevention of Mother-to-Child Transmission of HIV
UN	United Nations
UNAIDS	The Joint United Nations Programme on HIV/AIDS

UNICEF United Nations Children's Fund

WHO World Health Organization

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## ABSTRACT

Interpersonal communication, and in particular provider-patient communication, is integral to health communication and benefits patient satisfaction, retention, and overall health outcomes. Kenya is one of six HIV/AIDS 'high burden' countries in Africa, with about 1.5 million people reported to be living with HIV at the end of 2019 and 6800 new infections among children. A contributing factor to these infections is the mother-to-child transmission of HIV (MTCT) during pregnancy, labour, delivery, or breastfeeding. Anchored on the convergence theory and social influence theory, a pre-post survey (N = 161), interviews (N = 2) and focus group discussions (N = 11) were employed to identify differences and determine challenges between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support. The study also established the perceptions of mentor mothers on the prevention of mother-to-child transmission (PMTCT) programme in Homa Bay, Kenya. Study participants were selected using convenient sampling at Homa Bay County Teaching and Referral Hospital and Kandege Health Centre. Qualitative data was analysed using a Welch t-test, while thematic analysis using Dedoose was used for qualitative data. Findings showed that post-natal participants had significantly greater PMTCT knowledge (sig = 0.02) than post-intervention participants who had access to a mentor mother. No significant differences were found between the groups in terms of attitudes, PMTCT practices, interpersonal communication, mutual understanding, compliance, identification, and internalization. The study recommends provision of interpersonal communication skills training for mentor mothers to better improve their impact in communities.

## CHAPTER ONE

### INTRODUCTION AND BACKGROUND TO THE STUDY

#### 1.1 Introduction

According to Woods (2016), “interpersonal communication is a selective, systemic process that allows people to reflect and build personal knowledge of one another and create shared meanings” (p. 39). The above definition of interpersonal communication captures the essence of this study that focused on the communication between an HIV-positive pregnant woman and the mentor mother who guides her (HIV-positive pregnant woman) in the process of prevention of mother-to-child transmission of HIV (PMTCT). The communication between the mentor mother and her client is purposive as both women would have chosen to share their experiences, challenges, and knowledge. It is also systematic in that the interaction occurs in a PMTCT clinical context where the women meet to build knowledge and attribute meanings. Additionally, communication is a process that evolves over time, becoming more personal as the women interact over the period of the pregnancy and beyond.

#### 1.2 Background to the Study

Kenya is considered to be one of the six HIV/AIDS “high burden” countries in Africa, with approximately 1.5 million people reported as being living with HIV at the end of 2019 (Joint United Nations Programme on HIV/AIDS [UNAIDS], 2020). In Kenya, women have a higher prevalence rate than their male counterparts at a rate of 5.2% for women compared to 4.5% for men (Government of Kenya, Ministry of Health & National Aids Control Council [GoK, MoH & NACC, 2018). These differences could be attributed to unequal cultural, social, and economic status

(UNAIDS, 2019). Furthermore, GoK, MoH, and NACC (2018) and GoK, MoH (2020) acknowledged that the HIV epidemic is geographically varied within the country, ranging from a high prevalence of 21% and 20.7% in Siaya and Homa Bay counties, respectively, to a low of 0.4% in Wajir County in the North-Eastern region. These variances in HIV prevalence can be credited to cultural practices, sexual practices and behaviour, and fisher folk and fishing industry networks (NACC, 2013).

It was estimated that 111,500 children of age 0-14 years in Kenya would be living with HIV in 2020, with 6800 new infections among children (UNAIDS, 2020; United Nations Children's Fund [UNICEF], 2020). A contributing factor to these infections is the mother-to-child transmission of HIV during pregnancy, labour, delivery, or breastfeeding (Kassa, 2018). According to WHO (2015a), without any interventions, MTCT rates range between 15-45%. However, the same source notes that these rates can be reduced to levels below 5% through antiretroviral therapy.

There, however, remains a number of gaps that challenge the PMTCT of HIV: Women within the reproductive ages have limited knowledge on how HIV is transmitted from mother-to-child as well as no knowledge of their own or their partner's HIV status (Kenya National Bureau of Statistics [KNBS], 2015; Sirengo et al., 2014). There is a lack of adherence to the PMTCT cascade - attending antenatal care (ANC) clinics, prenatal testing, access to Antiretroviral drugs (ARVs), infant feeding counselling, and postpartum mother-exposed infant pair clinic (Plessis et al., 2014; Wamalwa, Neyole, Poipoi, & Bitok, 2015). These factors have had an impact on the rise of new HIV infections among children over the years (2015 - 6,613 and 2020 - 6800) (UNAIDS, 2020; UNICEF, 2020).

In response to the AIDS epidemic, the Kenyan government, collectively with partners, has invested considerable financial resources over the past two decades in

programs focusing on increasing awareness and knowledge of the disease and epidemic, prevention efforts, reinforcing positive attitudes, and maintaining interests and increasing demand for health services (Bertrand, 2004; Global Fund, 2018; McKenzie, Neiger, & Smeltzer, 2005; Melkote, Muppidi, & Goswami, 2000; UNAIDS, 2011). However, PMTCT campaigns, such as those of the Beyond Zero campaign championed by the First Lady, H. E. Margaret Kenyatta; and the *Kata Shauri* (a Kiswahili term meaning ‘decide’) campaign by the National AIDS and STIs Control Programme (NASCOP) and the MoH, rely heavily on media messages to encourage behaviour change (GoK, MoH, 2012a; Mberia & Mwangi, 2018; NASCOP, 2012; Office of the First Lady, 2012).

Critics of the mass communication approach to health and disease prevention have highlighted that the heavy reliance of HIV/AIDS campaigns on mass media has overlooked the widespread research showing the ineffectiveness of these approaches and the intricacy of the health communication methods in behaviour change (Flynn et al., 2006; Locker & Kay, 2002; Oriaso, 2013). Interpersonal and sexual relations are intricate, necessitating HIV/AIDS messages from an African cultural perspective (Airhihenbuwa & Webster, 2004; Ndati, 2013).

Interpersonal communication for PMTCT and HIV messaging has been found to be more appropriate than traditional communication through media due to personalization and the interactive learning process which interpersonal communication provides (Eveland & Thomson, 2006; Hendriksen et al., 2009; Kaur, 2020; Kohler, Behrman, & Watkins, 2007; Muturi, 2008; Noar, 2006; Real & Rimal, 2007; Southwell, 2005). Yet PMTCT campaigns in Kenya rely heavily on media. Furthermore, mutual understanding, compliance, identification, and internalization are considered significant elements to interpersonal communication and behaviour change

(Deci & Ryan, 2000; Kelman, 1958; Kincaid, 1979; Littlejohn & Foss, 2009; Schiavo, 2014).

### 1.3 Statement of the Problem

Although PMTCT campaigns such as the 'Beyond Zero' campaign and *Kata Shauri* campaign in Kenya have made a dent in behaviour change communication, they have relied heavily on mass media to pass on PMTCT messages and change behaviour making these approaches linear (GoK, MoH, 2012f; Mberia & Mwangi, 2018; NASCOP, 2012; Office of the First Lady, 2012). Studies have found that HIV/AIDS communication, through interpersonal communication, within peer-to-peer networks (such as expert patients, community health workers (CHWs), and mentor mothers) is more effective than the media due to its interactive learning process yet national PMTCT campaigns remain media heavy (Hendriksen et al., 2009; Muturi, 2008).

Claims that mass media supports awareness of health challenges, on the one hand, interpersonal relationships between health care workers, on the other hand, have been said to motivate adherence (Korhonen, Uutela, Korhonen, & Puska, 1998; Sood, Shefner-Rogers, & Sengupta, 2006; Southwell & Yzer, 2007). In both urban and rural Kenya, women within the reproductive ages lack knowledge of their own or their partner's HIV status and have limited knowledge on how HIV is transmitted from mother to child (KNBS, 2015; Sirengo et al., 2014). Research has also confirmed the lack of adherence to the PMTCT cascade (Plessis et al., 2014; Wamalwa et al., 2015). These gaps have contributed to an increase in new HIV infections among children in Kenya, from 6,613 in 2015 to 6800 in 2020 (UNAIDS, 2020; UNICEF, 2020).

Even though mentor mothers have been shown to support the uptake of PMTCT services, the majority of the research on the mentor mothers' focuses on

clinical results rather than the process of communication between the mentor mother and her HIV-positive pregnant client (Shroufi, Mafara, Saint-Sauveur, Taziwa, & Viñoles, 2013). This study has filled this knowledge gap by examining key variables of interpersonal communication - mutual understanding, compliance, identification, and internalization - within the interpersonal communication context of the mentor mother and her client (Woods, 2016).

#### 1.4 Purpose of the Study

This study evaluated the effectiveness of mutual understanding, compliance, identification, and internalization within interpersonal communication in preventing mother-to-child transmission of HIV in Homa Bay and Kisumu counties, Kenya

#### 1.5 Objectives of the Study

The objectives of this research were as follows:

1. Identify differences in knowledge, attitudes, practices, mutual understanding and the processes of influence between mothers who receive support through the mentor mother program in Homa Bay County Kenya, and their counterparts who do not have access to such support.
2. Determine the challenges HIV-positive pregnant women face towards adherence to the PMTCT cascade in Homa Bay, Kenya.
3. Establish the perceptions of mentor mothers on the prevention of mother-to-child programme in Homa Bay, Kenya.

#### 1.6 Hypotheses

This research tested the following theory-based hypotheses:

- H1: There will be a difference in PMTCT knowledge between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>0</sub>1: There will be no difference in PMTCT knowledge between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H2: There will be a difference in attitudes toward HIV between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>0</sub>2: There will be no difference in attitudes towards HIV between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H3: There will be a difference in PMTCT practices between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>0</sub>3: There will be no difference in PMTCT between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H4: There will be a difference in interpersonal communication between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>0</sub>4: There will be no difference in interpersonal communication between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H5: There will be a difference in mutual understanding between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H05: There will be no difference in mutual understanding between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H6: There will be a difference in compliance, identification and internalization between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>0</sub>6: There will be no difference in compliance, identification and internalization between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

### 1.7 Research Questions

This research sought to answer the following research questions:

1. What challenges do HIV-positive women face as they adhere to the preventing mother-to-child transmission of HIV cascade?
2. What perception do mentor mothers have of the programme that they are involved in to prevent mother-to-child transmission of HIV?

### 1.8 Justification for the Study

This research hoped to contribute to the larger efforts in the reduction of mother-to-child HIV transmission. As WHO (2015b) noted, without any interventions there is a 15-45% HIV transmission rate. This range can be reduced to less than 5% through effective interventions. PMTCT interventions include HIV testing,

antiretroviral treatment, and prophylaxis for mothers and babies (during pregnancy, labour, delivery, and breastfeeding), and safe infant feeding (McColl, 2012).

Many developing countries face challenges in ensuring that these interventions are available and effective. Such challenges include the presence of HIV/AIDS stigma, weak health systems, and severe shortages of health workers (McColl, 2012). The Kenya Mentor Mother Programme (KMMP) addresses these weaknesses through training mentor mothers to assist HIV-positive pregnant women and aid health system shortages.

Through a quasi-experiment, this study allowed for a greater understanding of the interpersonal relationship between a mentor mother and their HIV+ pregnant clients who are encouraged and guided on following the PMTCT cascade and, therefore, have greater chances of bearing HIV- negative children.

### 1.9 Significance of the Study

Scholars in interpersonal communication would benefit from the findings of the study as the study is hoped to clarify the effect of interpersonal communication on PMTCT of HIV. Communication academics would also benefit from the extension of the convergence theory and social influence theory to PMTCT in Kisumu and Homa Bay counties.

Methodologically, the use of the quasi-experimental design and cognitive behavioural interventions (CBIS) to analyse interpersonal relationships is expected to contribute to knowledge about the effectiveness of communication programs.

Further, the finding would contribute to the literature on interpersonal communication as useful consideration for effective targeted social change within society.

The study findings are hoped to demonstrate the benefits of interpersonal communication and CBI on PMTCT of HIV. Consequently, communities in Homa Bay and Kisumu counties would benefit. Future generations would likely be rescued from the scourge of HIV/AIDs through effective interpersonal communication in the mentor mother approach.

#### 1.10 Assumptions of the Study

PMTCT services offered at the study sites would not be interrupted through stock-outs, strikes, or any other interference.

The claims of the mentor mother technique as a multifaceted intervention hold true in the study sites in Homa Bay county.

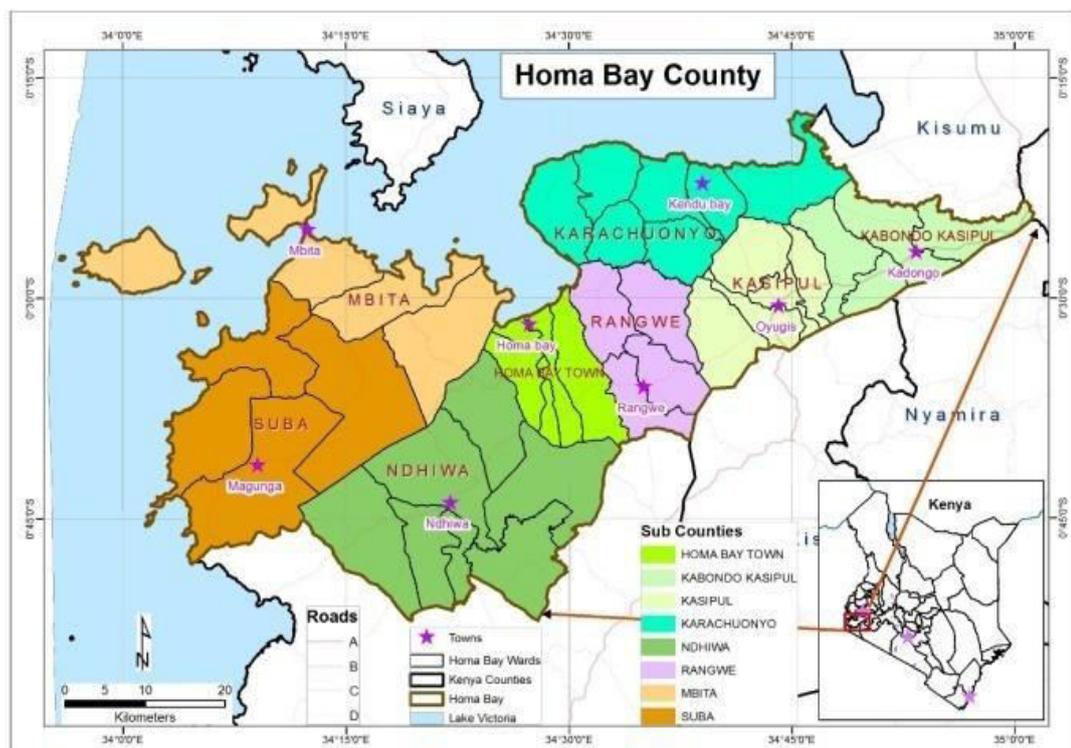
#### 1.11 Scope of the Study

This research was carried out in Homa Bay and Kisumu counties in Kenya. Situated in East Africa, Kenya borders the Indian Ocean. It shares a border with Somalia, Ethiopia, Sudan, Uganda, and Tanzania. It has a population of about 45.8 million people (National Council for Population and Development, 2018). The Kenyan geography covers approximately 582,000 sq. Kms divided into 47 counties. The capital city is known as Nairobi.

According to the Kenya HIV estimates, Homa Bay County has the highest rate of new HIV infections in Kenya annually among children (700) (GoK, MoH & NACC, 2018). Homa Bay County is also one of the counties where the mentor mother's programme is widely implemented and, therefore, presented an ideal platform for conducting this research. This research targeted HIV-positive pregnant women within Homa Bay County and specifically in Homa Bay County Referral and

Teaching Hospital (the largest public hospital in the county). The mentor mothers' program has been running for over five years in these hospitals.

Kisumu County was utilized as the control group. Kisumu County neighbours Homa Bay County and has the third-largest number of new HIV infections among children in Kenya - 616 (GoK, MoH & NACC, 2018). The research in Kisumu County targeted HIV-positive pregnant women visiting Kandege Health Centre, Muhoroni Sub-County.



*Figure 1.1: Map of Homa Bay County*  
Source: Ongeko, Mugalavai, and Obiri (2017)

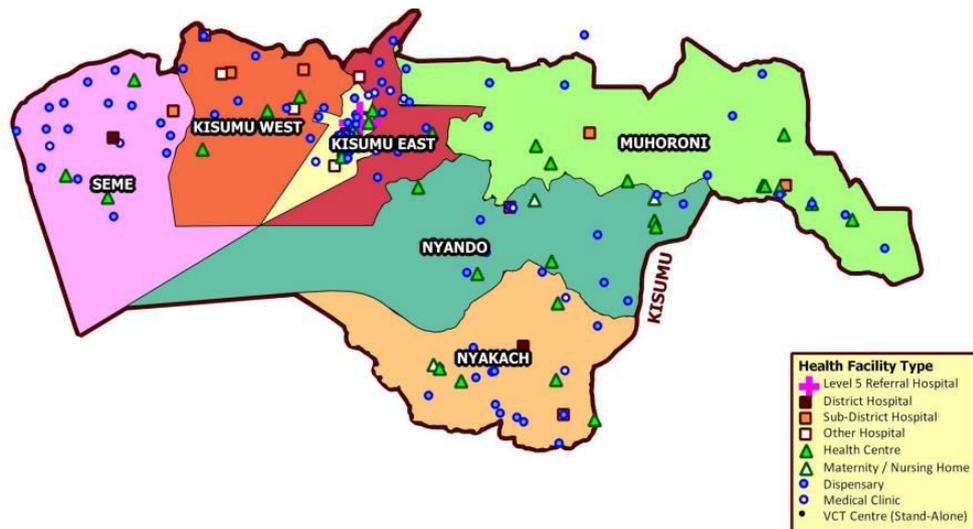


Figure 1.2: Kisumu County Map

Source: United States Agency for International Development (2013)

Theoretically and methodologically, this study, through a CBI infused quasi-experiment, tested the role of Kincaid's mutual understanding and Kelman's compliance, identification, and internalization in PMTCT among HIV-positive pregnant women in Homa Bay and Kisumu counties. The perception of the mentor mothers about the program they are involved in was also studied through interviews. The relationship between the HIV+ women and their mentor mothers or clinicians was examined using indicators of mutual understanding, compliance, identification, and internalization.

#### 1.12 Limitations and Delimitations of the Study

The following limitations were foreseen and delimited:

Discussing HIV/AIDS is a sensitive topic, especially for HIV-positive pregnant women. Some women may have been hesitant to speak to the researcher or research assistants concerning their experience with the mentor mothers or communication material regarding PMTCT. To deal with this issue, the researcher/research assistants assured them that their information would only be used

for study purposes, and pseudo names would be used to mask their identities. This study only included participants who had consented to take part in the study willingly.

Language barrier: Participants in Homa Bay and Kisumu counties mainly speak Swahili and the local language Dholuo. The survey questionnaire was translated to Kiswahili and Dholuo to ease understanding. The questionnaire was also pretested to check for understanding of the instrument in order to correct any possibility of distortion. The research assistants also spoke Kiswahili and Dholuo speakers to ease communication with participants.

COVID-19 travel restrictions: Due to government restrictions which banned travel outside the Nairobi Metropolitan area at the time of the study, the researcher was unable to travel to the sites to collect data. The researcher instead trained two research assistants (one at either site), who then proceeded to assist with data collection. The researcher conducted telephone interviews with the mentor mothers.

### 1.13 Definition of Terms

Interpersonal communication: This is a selective, systemic method allowing persons to contemplate and construct knowledge of one another and create shared meanings (Woods, 2016). The interpersonal communication under study in this dissertation is between the mentor mother and their clients (HIV+ pregnant women). Messages within this relationship will be emanating from both the Mentor Mother and the HIV+ pregnant woman. The relationship represents a two-way flow of communication.

Mentor mothers: These are HIV-positive mothers working with doctors and nurses in short-staffed health centres as members of the healthcare workforce. They meet with HIV-positive pregnant women individually and in groups, providing health education and psychosocial support at both prenatal and post-natal stages. The mentor

mothers form close interpersonal relationships with HIV-positive mothers and guide them on how to protect their unborn children from acquiring HIV (mothers2mothers [m2m], 2013). The communication between mentor mothers and their clients is similar to that between peers, where each party can ask questions and provide feedback.

**Effectiveness:** Schiavo (2014) defined effectiveness in health communication contexts as an evidence-based practice that determines ‘what works?’ or ‘what works best?’ with an additional explanation of ‘why?’ In this study, effectiveness of the interpersonal communication between the mentor mother and HIV-positive pregnant woman was determined through testing the hypothesis for increase in knowledge, attitudes, PMTCT practices, interpersonal communication, mutual understanding, compliance, identification, and internalization. The ‘why?’ was also explained through data collected qualitatively through focus group discussions (FGDs) and interviews.

**Influence:** In this study, influence was made up of three different processes: compliance, identification, and internalization (Kelman, 1958). Compliance takes place when an HIV-positive pregnant woman consents influence to achieve a positive reaction from a mentor mother/health provider. Identification takes place when an HIV-positive pregnant woman accepts influence to build or maintain a relationship with the mentor mother/health provider. On the other hand, internalization occurs when an HIV-positive pregnant woman accepts to be influenced as a result of the content of the mentor mother/health provider’s behaviour, which is rewarding to the individual and in line with the individual’s value system and is best for their needs.

**Mutual understanding:** The process of sharing and exchanging of information in dialogue in order to clarify misunderstanding between information, knowledge,

messages, symbols, and meaning to converge on a goal (Littlejohn & Foss, 2009). For this study, mutual understanding shall be achieved between the HIV-positive pregnant woman and the mentor mother, who both clarify messages and meaning through feedback until mutual understanding is achieved.

Option B+: A WHO policy adopted by the government of Kenya which offers antiretroviral treatment to all women who are HIV-positive and pregnant for the rest of their lives irrespective of their CD4 count (WHO, 2015a).

Prevention of Mother-to-Child Transmission of HIV Cascade: Globally adopted prescribed method on preventing mother-to-child transmission of HIV. It includes attending ANC clinics, prenatal testing, access to ARVs, infant feeding counselling, and postpartum mother-exposed infant pair clinic (Plessis et al., 2014; Wamalwa et al., 2015; WHO, 2012). Mentor mothers support HIV-positive pregnant women to understand and follow the PMTCT cascade in order to increase the likelihood of PMTCT.

Behaviour change communication: This refers to:

“A research-based consultative process of addressing knowledge, attitudes, and practices through identifying, analysing, and segmenting audiences and participants in programmes by providing them with relevant information and motivation through well-defined strategies, using an audience-appropriate mix of interpersonal, group, and mass-media channels, including participatory methods.” (UNICEF, 2005, p. 6)

The behaviour change communication under study was the interpersonal communication between the mentor mother and HIV-positive pregnant woman in Homa Bay county.

Convergence: A movement towards one point, toward another communicator, toward a common concern, and toward greater homogeneity (Schiavo, 2014). In this research, convergence refers to a movement towards mutual understanding between the HIV-positive pregnant woman and the mentor mother in Homa Bay.

HIV knowledge: Correctly identifying the ways of preventing the sexual transmission of HIV and discarding the most common misconstructions about HIV transmission (Elbadawi & Mirghani, 2016). In this study, knowledge of HIV focuses on HIV-positive pregnant women's knowledge of the transmission of HIV from mother to child.

HIV attitudes: Refers to the feelings people have towards people living with HIV (Ugoji & Agokei, 2012). This can be either positive or negative. In this study, HIV attitudes referred to the attitudes HIV-positive pregnant women have towards people living with HIV.

Prevention of Mother-to-Child Transmission of HIV practices: Steps HIV-positive pregnant women take to prevent Mother-to-Child transmission of HIV (Linguissi et al., 2019). In this study, this entailed HIV-positive pregnant women adhering to the PMTCT cascade.

HIV stigma: Having undesirable beliefs and attitudes about people with HIV (Centers for Disease Control and Prevention [CDC], 2021). When an HIV-positive person believes negative ideas and stereotypes about their HIV status, this is known as self-stigma. When a community accepts and showcases negative beliefs and attitudes towards people living with HIV, this is known as social stigma. It can lead to feelings of shame, fear of disclosure, isolation, and despair. In this study, HIV stigma is represented in negative attitudes and beliefs HIV-positive pregnant women have about their own positive HIV status and the positive status of others.

### 1.14 Summary

Previous literature on the PMTCT has revealed gaps such as lack of knowledge of one's status and how HIV is transmitted from mother to child, inadequate literature on interpersonal communication between the mentor mother and the HIV-positive pregnant woman. The chapter has also identified Homa Bay County and Kisumu County (Homa Bay County Referral and Teaching Hospital and Kandege Health Centre) as its study sites.

Chapter two will expound on the theoretical underpinning two associated with this research (social influence theory and convergence theory) and the variables this research focused on: HIV knowledge, attitudes, practices, interpersonal communication through the mentor mother network, mutual understanding, compliance, identification, internalization, and adherence to the PMTCT cascade.

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## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

Much of the research on the prevention of mother-to-child transmission (PMTCT) of HIV and mentor mothers has analysed the relationship between mentor and mentee from a clinical perspective. This research sought to explore this relationship from an interpersonal communication perspective using social process theories, most notably the Convergence Theory by Lawrence Kincaid (Kincaid, 1979) and the Social Influence Theory by Herbert Kelman (Kelman, 1958). These theories recognize the significance of mutual understanding, compliance, identification, and internalization in interpersonal relationships and behaviour change.

This section discusses the convergence theory (Kincaid, 1979) and the social influence theory (Kelman, 1958), both of which form the theoretical bases for this study. This will be followed by a literature review, which provides the context of PMTCT in Kenya, the mentor mothers approach, and the processes of influence in relation to interpersonal communication, and the conceptual framework.

#### 2.2 Theoretical Framework

Craig (1999) in his book 'Communication theory as a field' reconstructed the seven traditions of communication theory. The traditions include the rhetorical tradition, which theorizes the audience, enthymeme, agency, argument, identification, and persuasion and conceptualizes communication as an art of discourse; the semiotic tradition, which examines the structure of language and the use of signs and symbols; the phenomenological tradition, which focuses on concepts such as experience, dialogue, authenticity, interpretation, and otherness; the cybernetic tradition, which

centers on information processing; the sociopsychological tradition, which studies behavior in social contexts and focuses on interpersonal, organizational, and mass communication theories; the sociocultural tradition, which focuses on concepts such as social structures, identities, norms, rituals, and collective belief systems; and finally the critical tradition, which, through discursive reflection, centers on aspects such as ideology, truth, deception, liberation, democracy, and participation.

### The Sociopsychological Tradition

As the name suggest this tradition is drawn from the social psychology field. The field of social psychology seeks to understand human behavior in social settings (Craig & Muller, 2007). These settings include group interaction, cultural interaction, as well as individual conduct and how people think, feel, and act (Harvard University, 2017). Social psychology aims to develop greater understanding of self-perception and the perception of others and how this knowledge can better the lives of interactants (Craig, 1999).

Furthermore, the sociopsychological tradition of communication studies behavior in social contexts. It attempts to identify how human interaction occurs in small groups or between two or more interactants at an interpersonal level (Berger & Calabrese, 2007). Scholars in this field therefore focus on symbolic interactions between groups and individuals. Interaction within this tradition will aim to strengthen group efforts and ease uncertainty among interactants or groups (Poole, 2007). This aspect of the tradition is especially seen when meeting new people for example in office settings or parties, where interactants try and find out as much information as they can in order to decide whether to continue forming a relationship or not. This key aspect of the sociopsychological tradition can also be seen within small groups such as mentorship networks. In the beginning before participants get to

know one another discussions are structured and slow, however as individuals share information and get to know one another the discussions flow more naturally.

Metadiscursive vocabulary such as perception, personalities, emotion, attitude, interaction, and individual effects are also key within the sociopsychological tradition (Littlejohn, Foss, & Oetzel, 2017). Concerns center on what individuals think about others and their behaviour, understanding of individual differences including in thought and feeling, relationship development between two or more individuals and the effects of all this on individuals. The current study falls within the sociopsychological tradition as it examined mentor mother perceptions as well as attitudes and individual effects of PMCTC.

Scholars such as Littlejohn et al. (2017) distinguished between three branches of sociopsychological tradition. First is the behavioural branch which analyses how people behave in communication situations. Do people speak in front of strangers? Do they lie? Are they comfortable or uncomfortable? These are some of the questions asked within this branch. Here communication is seen to be interaction and influencing of individuals. For example, most people would prefer to be liked by others and therefore would behave in a socially acceptable manner in order to influence others perception of them. These are some of the aspects examined within this branch.

Second is the cognitive branch which centres on patterns of thinking and thought. These include internal mental processes concerning self and others on matters such as problem solving, understanding of behaviour, creativity and thinking. Finally, the biological branch which analyses brain function to explain human behaviour and rationalization. The human mind plays a large role within the sociopsychological tradition. The mind is where thoughts about self and others,

perceptions, and attitudes are developed within an individual. It is therefore a central aspect of the tradition. As a result of the influence of the mind and thought, the sociopsychological tradition upholds responsible choice making based on empirical evidence and rationality with a view of the consequences of our messages (Craig, 1999).

In their work, “some explorations in initial interaction and beyond: toward a developmental theory of interpersonal communication,” Berger and Calabrese (2007) viewed communication transactions from a sociopsychological aspect in three phases. The first stage is the entry phase where appropriate rules and norms apply whether through direct instruction or social modelling. During this phase, communication content is structured and not fluid. This is as a result of persons getting to know one another and trying to find out their similarities and differences. The second phase is the personal phase, where participants begin to discuss issues of a personal nature such as personal problems, attitudinal issues and basic values. Berger and Calabrese noted that to reach this phase, the individuals involved must have interacted on various occasions. In this phase interaction flows better than the first phase, discussions are less structured.

The third phase is the exit phase where decisions are made on the possibility of future interaction with participants. This may involve future interaction or no interaction at all. The time between each stage differs among different relationships and the phases are not exclusive, meaning not all interactions lead to the personal phase for example. This is because interactants may decide that after the entry phase, the relationship is not feasible.

Kincaid’s convergence theory and Kelman’s social influence theory fit squarely in the sociopsychological tradition. Similar to the sociopsychological

tradition, the convergence theory and social influence theory emphasize group and interpersonal interactions. Information sharing and mutual understanding is also supported in the convergence theory with the aim of interactants moving towards a common interest. The theories recognize the significance of individual's perceptions and behavior and their influence on other members of society, which is also a key factor in the sociopsychological tradition. The conflict phase of convergence, which was later added by Kincaid, is similar to the exit phase that Berger and Calabrese (2007) noted, where relationships are threatened and may dissolve as a result of lack of mutual understanding.

Social process theories include theories of social comparison, social influence and convergence theories which specify that one's perception and actions are influenced by the perceptions and actions of members of groups to which they belong and by members of one's individual networks (Kincaid, Figueroa, Storey, & Underwood, 2001). Social process theories posit that persons rely on the thoughts of others, particularly when a situation is highly ambiguous and when no impartial evidence is freely available. Theories of emotional response such as the facial feedback theory, suggest that emotional response leads and conditions reasoning and attitudinal effects. This implies that extremely emotive messages in entertainment would be more apt to effect behaviour than messages low in emotive content. Mass media theories, such as the cultivation theory of mass media, specify that recurring, intense contact to divergent definitions of perceived reality in the mass media leads to insight that such a reality is typical (Gerbner & Gross, 1976). As a result, there is social legitimization of what is depicted in the mass media, which can influence behaviour.

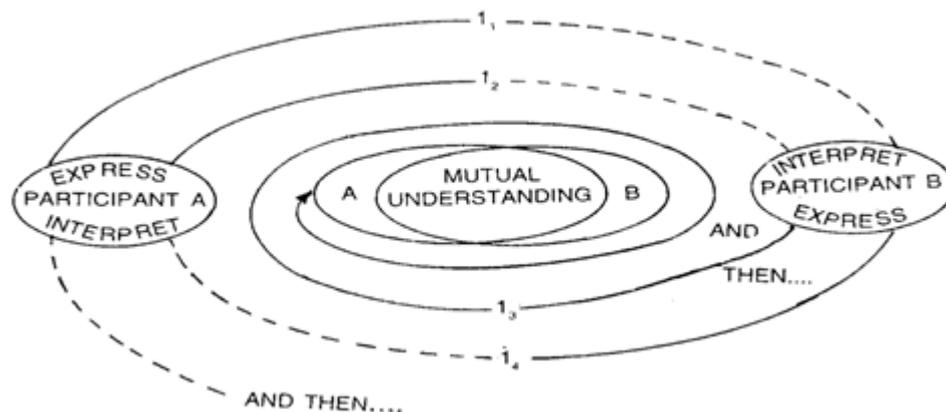
#### Convergence Theory

The convergence theory was developed by Lawrence Kincaid in the year 1975. It was initially developed to provide a model of communication overpowering criticisms and shortcomings of previous models, notably information and transmission models such as Shannon and Weavers mathematical theory of communication (Littlejohn & Foss, 2009). Convergence should not be mistaken for consensus. It is instead a movement towards one point, toward another communicator, toward a common interest and toward greater uniformity (Schiavo, 2014). This theory is based on the viewpoint that one's perceptions and behaviour are swayed by the perceptions and behaviours of affiliates of the same group. These may include workmates, family members, association members, and individual networks such as friends and peers.

In the convergence theory, communication is considered a process and not an individual action; information is exchanged rather than transmitted in one-way; dialogue between two or more people is involved; it is considered a means to connect meaning, information, messages knowledge, and symbols; and feedback is essential for achievement of communicative goals (Kincaid, 1987; Kincaid 1988; Littlejohn & Foss, 2009). These features are classified by Schiavo (2014) into three categories: a) A participatory process where participants are both senders and receivers of information (participants include individuals or groups); b) Individual thoughts and understandings are shared, which encourages dialogue, mutual understanding, and agreement on common meanings; c) Communication is considered horizontal, involving more than two participants. Here, all participants are considered equal and aim for mutual agreement for group action. Therefore, all participants must respect and consider other people's feelings, emotions, and beliefs.

Both Kincaid and Schramm (Figure 2.1) closely link communication and information. It is through several sequences of information exchange that more than

two individuals may converge towards a more mutual understanding of each other's meaning and come within the level of tolerance required for the purpose that brought them together. The communication model shown below (Figure 2.1) reflects the convergent nature of mutual understanding as well as the cyclical nature of exchange of information.



*Figure 2.1: Convergence Model of Communication*  
Source: Kincaid and Schramm (1975)

Flor (1984) described the communication process as shown in Figure 2.1 beginning with 'and then...,' portraying that the process had already begun. Participant A may or may not consider this past before he shares information ( $I_1$ ) with participant B. Participant B will recognise and decode participant A's information before responding ( $I_2$ ). Participant A interprets this new information and expresses himself again with more information about the topic ( $I_3$ ). Thereafter, B interprets this information and both participants continue this process ( $I_4$ ) until one or both participants becomes content that mutual understanding has been achieved about the topic for the purpose at hand. It is at this point of mutual understanding that convergence is achieved.

Mutual understanding is a key element of the convergence model. Kincaid (1979) defined mutual understanding as the combination of the accuracy of each

individual's estimate of the others actual meaning. It represents a merger of each individual's own understanding of a situation into one coherent whole. Toma (2014) further added to this description describing mutual understanding as a strategic adaptation driven by relational goals. The author further notes that for mutual understanding to take place language must be understandable to both parties, each party must take turns speaking and adjust to each other's interaction styles.

Since its inception in 1975, convergence theory has evolved. An extended model was introduced by Kincaid (2002). This extension allowed for divergence and conflict and convergence and cooperation (Littlejohn & Foss, 2009). Six phases were identified for communication as convergence or divergence: scene setting which allows for dialogue; a build-up phase which allows participants to take final positions within a common form of reference; a resolution phase where members mutually agree on a common position they trust each other to implement; A climax phase where emotional and cognitive reasoning do not lead to variations in mutual understanding and position; in the conflict phase neither participant changes, resorting to their threatened fall back positions; finally, a resolution phase where cooperation or conflict is applied (Littlejohn & Foss, 2009).

Communication is therefore defined as a process in which more than two participants share information and converge toward a state of greater mutual understanding and agreement leading to cooperation or diverge toward a state of incompatible viewpoints and disagreements leading to conflict (Kincaid, 1987; Kincaid, 1988). In the case of development, the hope will be to lead to greater mutual understanding for the betterment of society – positive behaviour change.

Figuroa et al. (2016) have used the convergence theory as their theoretical basis in their study of communities in Mozambique in the year 2009–2010. The

program aimed to change gender and sexual norms for HIV prevention through the use of facilitated discussion sessions. In the study the researchers argue that through facilitated sessions, the program sparks critical thinking and open dialogue among participants on gender and social norms. The researchers note that dialogue and information exchange is an important part of convergence in communicating health messages and successful programs. The study revealed that the program was a success in generating change in the following areas: HIV stigma, gender roles and attitudes. The program also succeeded in changing factors such as discussion of HIV between sex partners, HIV prevention knowledge and having multiple sex partners.

In this study the convergence theory was used to better understand the interpersonal communication between the mentor mother and her HIV-positive pregnant client. Through the research questionnaire, participants verified a series of statements, such as 'I can express my ideas and thoughts to the Mentor Mother/Clinician,' that reflect mutual understanding. Participants' responses were then analysed to determine the significance of mutual understanding in adhering to the PMTCT cascade. The communication may at first be divergent between the two women as the mentor mother would have more knowledge of HIV and PMTCT than her client. However, as these women continued communicating interpersonally, they clarified thoughts, ideas, and meaning towards convergence.

The original model of convergence was criticized for aiming for ideal contexts of mutual understanding, a challenge which was later updated in 2002 by its founder D. Lawrence Kincaid (Littlejohn & Foss, 2009). Now that the theory takes into consideration divergence, it can also be criticized for not doing enough to support convergence as divergent views and conflict seem to be acceptable. Yet, despite these limitations and criticisms, convergence theories are still widely used in development

communication and continue to metamorphosize and adapt to current communication challenges.

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## Social Influence Theory

The social influence theory was fronted by Herbert C. Kelman in 1958. This theory focuses on explaining the nature of changes in individuals brought about by a particular type of communication (Kelman, 1958). The social influence theory not only determines if there was a change, but also examines the type of change experienced. Kelman described conformity as an individual's acceptance of influence, where there are three different processes of influence: compliance, identification, and internalization (Kelman, 1958).

Compliance, according to Kelman (1958), is when a person accepts to be influenced in the hope they will achieve a favourable reaction from another person or group to gain specific rewards or avoid certain punishments as a result of conforming. Identification takes place when an individual accepts influence in order to build or maintain a relationship with another individual or group. Internalization occurs when an individual accepts to be influenced as a result of his/her value system. Deci and Ryan (2000) recognized internalization to mean a reconstitution of external regulations into individual and personal regulations. This constitution happens when individuals recognize the significance of social regulations and assimilate them, accepting them as their own. Kelman notes that internalization is therefore the most desired form of conformity as it is also the longest lasting.

Kelman initially tested this theory on black American college freshmen prior to the U.S Supreme Court ruling attempting to desegregate public schools. In this experiment Kelman tested through questionnaires administered at different times, the levels of conformity to three different communications on the subject of desegregation of public schools. The experiment supported the hypothesis that attitudes assumed from a communicator whose power is based on means-control will

often be articulated under situations of surveillance by the communicator; attitudes assumed from a communicator whose power is grounded on attractiveness will normally be expressed only under conditions of salience of the subjects relationship to the communicator; attitudes espoused from a communicator whose power is based on credibility will tend to be expressed under conditions of relevance of the issue regardless of surveillance or salience.

The social influence theory has also been used in various communication research such as Zhou (2011) who studied the factors associated with online community user participation from a social influence perspective. The researcher used data from 450 survey questionnaires and found both social identity and group norm have significant effects on user participation. Additionally, group norm affects social identity. In their study on individual and shared intentions to participate in a group activity for Koreans and for Americans, Bagozzi and Kyu-Hyun (2002) found that interpersonal relationships played a big role in social influence. For Americans, social influence was determined at the point of internalization, while for Koreans social influence was determined through identification. Batinic and Appel (2013), in their study on advertising and its effect on social influence processes, found that the behaviour of targeted advertising consumers influences other consumer's behaviour.

Davidson (2008) examined relationship problems between white clinicians and black clients in the United States and found that Black clients question the expertness, trustworthiness and attractiveness of the white clinician as a result of the race interplay in the U.S. The challenge of race within the clinician-patient relationship within the U.S has been raised severally (Paul-Emile, Smith, Lo, & Fernández, 2016; Sharma & Kuper, 2017; Whitgob, Blankenburg, & Bogetz, 2016). As recommended by Davidson (2008), educational, process, and policy objectives

should be undertaken by clinicians committed to improving their interpersonal relationships with Black clients without which an unsuccessful clinical relationship may be anticipated.

A challenge of the social influence theory is that in hierarchical relationships the superior is entitled to exert influence on the subordinate, while the subordinate is obligated to accept the superiors influence. However, these rights are not only limited to organizational relationships and apply also to family units. In relation to this study, it is the Mentor Mother's role to influence the HIV-positive pregnant women, however, this influence is voluntary.

Therefore, do the HIV-positive pregnant women in the program only take their ARVs, come to the clinics for their tests, and deliver in the hospital because of compliance? In this case these positive actions will tend to be performed under the surveillance of the influencing agent, the mentor mother. On the other hand, do the HIV-positive pregnant women conform as a result of identification to the mentor mothers i.e. to maintain a relationship with the mentor mothers? In this case the positive behaviour will only be done in positions of salience. While on the other hand are the actions to prevent mother-to-child transmission of HIV such as taking ARV's, visiting the clinic and delivering at a medical centre performed as a result of internalization where these actions are done because of the content of the Mentor Mother Program and advise the HIV-positive women receive from the mentor mothers. In this case the actions are done under conditions of relevance of the issue regardless of surveillance or salience.

Some of the HIV-positive pregnant women may be experiencing dissonance as a result of knowing their HIV status. The social interaction with mothers who are also

HIV-positive assisted in allowing the clients to internalize their status and share their concerns.

Mutual understanding is the main element of the convergence theory (Kincaid & Schramm, 1975), and is defined as the process of sharing and exchanging of information in dialogue in order to clarify confusion between information, knowledge, messages, symbols, and meaning to converge on a goal (Littlejohn & Foss, 2009). For this study, mutual understanding shall be achieved between the HIV-positive pregnant woman and the mentor mother who both clarify messages and meaning through feedback until mutual understanding is achieved. Compliance, identification, and internalization are components of the social influence theory (Kelman, 1958), where compliance in this study is experienced when an HIV-positive pregnant woman accepts influence because she hopes to achieve a favourable reaction from a Mentor Mother/Health provider. Identification takes place when an HIV-positive pregnant woman accepts influence in order to build or maintain a relationship with the Mentor Mother/Health provider. Internalization occurs when an HIV-positive pregnant woman accepts to be influenced as a result of the content of the Mentor Mother/Health provider's behaviour which is rewarding to the individual and in line with her value system and best for their needs.

### 2.3 General Literature Review

#### Health Communication

Schiavo (2014) defined health communication as:

“A multifaceted and multidisciplinary approach to reach different audiences and share health-related information with the goal of influencing, engaging, and supporting individuals, communities, health professionals, special groups, policymakers and the public to champion, introduce, adopt, or sustain a

behavior, practice, or policy that will ultimately improve health outcomes” (Schiavo, 2014, p. 7).

Health communication is multifaceted as it applies to a range of health related information on vaccinations, nutrition, blood pressure, exercise, and information concerning our eyesight or even noise pollution. The range through which health communication concerns itself cannot be exhausted. It is multidisciplinary as it draws from various fields such as medicine, health education, mass and speech communication, marketing, psychology, sociology, and anthropology (Schiavo, 2014). It reaches different audiences such as individuals, communities, health professionals, special groups, policymakers, and the general public.

Health communication aims to influence the various audiences towards a goal. It aims to engage audiences on various health outcomes, its benefits and even drawbacks. Health communication should be supportive of the adoption, sustainability, and practice of elements that improve health outcomes.

Much of the available history of health communication has strong links to the development of the United States (Thomas, 2006). After world War II, personal health became a distinct value in the U.S, and the provision of health services became an important issue to the public (Thomas, 2006). As a result of the need for personal health services, there was an emergence of a formal healthcare system. The health care system backed by the growing demand for better health, beauty, and self-actualization was able to garner support from economic, political, and educational institutions.

In the early days of medicine, health communication was informal and poorly developed (Thomas, 2006). Communication was not recognized as a distinct discipline instead it was relegated to announcements related to quarantine and

contagious diseases. At this time, those who were considered doctors may not have had much in terms of knowledge, tools, or skills when it came to conditions that existed within the population at the time. They did have communication skills which they developed during the course of their careers. The doctors with heightened communication skills are reported as having had the best chance of affecting a cure.

### HIV, PMTCT, and eMTCT

According to the CDC, HIV is a virus that spreads through bodily fluids and attacks the body's immune system, the CD4 cells (CDC, 2017). CD4 cells are white blood cells that help the body fight against infection. The virus can be spread by sexual transmission, sharing needles with infected persons, and from mother-to-child during pregnancy, birth, and breastfeeding. Over time, the HIV virus destroys numerous CD4 cells leaving the body unable to fight off infections or disease. This deterioration of white blood cells leaves the person vulnerable to opportunistic infections and cancers, which can result in death if not managed. The CDC (2017) noted that it is at this stage that a person is referred to as having AIDS.

Although there have been major advances in the treatment of HIV and improved quality of life for people living with HIV, there is currently no cure for HIV. The virus can be managed through Antiretroviral Therapy (ART). ART contains the combination of ARVs, which suppress the HIV virus and prevents transmission of HIV (U.S Department of Health and Human Services, 2019). The WHO recommends ART for all persons living with HIV without any restrictions such as CD4 counts. WHO also recommends pre-exposure prophylaxis (PreP) to people at great risk of HIV infection as an additional prevention measure. The WHO have also strongly recommended that HIV-positive pregnant women regardless of their clinical stage and CD4 cell count should begin ART and continue for the lifelong (WHO, 2015b).

Grassroots PMTCT programs faced challenges with providing different drugs at different times for HIV+ pregnant women (Besada et al., 2012; Hoffman et al., 2017). To address these challenges, the WHO recommends lifelong ART for HIV-positive pregnant women regardless of their CD4 count. The now once-daily fixed-dose combination tablet for pregnant women and all women (Option B+) is considered to offer the greatest benefit in countries with high HIV prevalence and high fertility rates (WHO, 2015a). Option B+ is considered the best method for pregnant and breastfeeding women to reduce HIV incidence and prevent HIV transmission in both current and future pregnancies (Besada et al., 2012).

In Kenya, about 1.5 million people were living with HIV in the year 2017 (GoK, MoH & NACC, 2018). The same report also estimates that 44,800 new HIV infections among adults and about 7,978 new infections among children annually were recorded in Kenya in 2017. This great burden of HIV and AIDS in Kenya accounts for about 29% of adult deaths yearly, 20% of maternal mortality, and 15% of deaths of children under the age of five (GoK, MoH & NACC, 2016).

The number of new HIV infections among adults has been declining over the years - 88,622 new HIV infections among adults in 2013, 71,034 new HIV infections among adults in 2015, and 44,800 new infections among adults in 2017 (GoK, MoH & NACC, 2016; GoK, MoH & NACC, 2018; GoK, MoH, NACC, & NASCOP, 2014), which also signifies a decline in the number of women in their reproductive ages infected by HIV. However, new HIV infections among children has increased between the years 2015 - 6,613 and 2017 - 7,978 (GoK, MoH & NACC, 2016; GoK, MoH & NACC, 2018). As new infections are reported among adults (majority women), and an increase in new HIV infections among children, more needs to be done to prevent mother-to-child transmission of HIV (GoK, MoH & NACC, 2016).

Prevention of Mother-to-Child Transmission of HIV faces its own challenges including stigma, guilt, lack of knowledge, denial, stress, access to ARVs, lack of resources, physical abuse of HIV+ pregnant women, and non-adherence to treatment (Gaillard et al., 2002; Kohler et al., 2014; Paintsil & Andiman, 2009; Van't Hoog et al., 2005). To counter some of these challenges, Kohler et al. (2014) suggested interventions that aim to reduce maternal depression and internalization of stigma may expedite the uptake of PMTCT, while Gaillard et al. (2002) recommended counselling for women to address these issues. This study proposes the implementation of a CBI into the Mentor Mother Programme which has been shown to deal with some of the above-mentioned challenges affecting HIV-positive pregnant women and increase the uptake of PMTCT services (Futterman et al., 2010).

The global plan to eliminate new HIV infections among children by 2015 and keeping their mothers alive (Global Plan) was launched in June 2011 at the UN General Assembly High Level Meeting on HIV and AIDS. Global leaders made a commitment to end vertical transmission of HIV by 2015 and support mothers to stay alive and healthy (UNAIDS, 2011). The Global Plan focuses on 22 priority countries where 89% of all new infections among children are found. Twenty-one of these countries are in the African Region (Angola, Botswana, Burundi, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, India, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, and Zimbabwe).

The Global Plan was upheld by 2 overall targets, reduce the number of new HIV infections among children by 90%, and reduce the number of AIDS-related maternal deaths by 50% (UNAIDS, 2015). By the time of the lapse of the Global Plan mandate in 2015, none of the priority countries within the plan had achieved either

target although significant improvements towards eMTCT and maternal health - 48% decline in the number of HIV infections between 2009-2014, 8 out of 10 HIV-positive pregnant women received ARVs to prevent mother to child transmission of HIV and an achievement of 14% mother-to-child transmission rate (Vrazo, Sullivan, & Phelps, 2018).

The year 2016 saw the introduction of sustainable development goals, which under goal 3, calls for healthy lives and the promotion of the well-being for all at all stages. Under this goal, governments working together with the United Nations (UN) aim to end the AIDS epidemic by 2030 (UN, 2016). This target is in line with the purpose of eliminating mother-to-child transmission of HIV. In tandem with sustainable development goals, in January 2017 UNAIDS launched the 90-90-90 initiative - interim milestones within the HIV targets for the 2030 Agenda on sustainable development. The initiative targeted that by 2020, 90% of persons living with HIV will be aware of their HIV status, 90% of all individuals with confirmed HIV infection will receive continued ART, and 90% of all people receiving ART will suppress the HIV virus (UNAIDS, 2017). Although countries have moved closer to attaining these targets, progress has been slow and impacted by the COVID-19 pandemic (UNAIDS, 2020).

Kenya has not been left behind in the pursuit of ending AIDS. Apart from working with UN partners on achieving Global set targets, counties such as Siaya County have launched five year eMTCT Business plans from 2017-2021 to reduce mother-to-child transmission of HIV to below five percent, as per the national and international targets, as the county strives towards a bold target of validation of EMTCT (Centre for Health Solutions Kenya, 2017). Part of the strategy for the success of this plan is the KMMP.

## The Global HIV Context

In 2018, it was estimated that about 37.9 million people worldwide were living with HIV (UNAIDS, 2019). Approximately 19.6 million of these people live in East and Southern Africa, while 17.3 million are living in other parts of Africa and the rest of the world. Worldwide, 1.8 million children are living with HIV, most of these children were infected by their HIV-positive mothers during pregnancy, labour, delivery, or breastfeeding.

Kenya is considered as an HIV/AIDS 'high burden' country in Africa (contribution to annual adult deaths, maternal mortality, deaths of children under the age of five and negatively affecting the country's economy by lowering per capital output) with about 1.5 million people reported to be living with HIV at the end of 2017 (GoK, MoH & NACC, 2018). Other countries within the continent with high burdens of HIV include Swaziland, Lesotho, South Africa, Zimbabwe, and Botswana (UNAIDS, 2018).

A report by UNAIDS (2016), AIDS by the numbers, estimated that there were 56,000 new HIV infections among children below the age of 15 in Eastern and Southern Africa, while 66,000 new HIV infections among children were recorded in West and Central Africa in the year 2015. This meant that, out of the 150,000 new HIV infections among children globally, Sub-Saharan Africa accounted for 81% of these infections.

### Kenyan Counties and Mother-to-child Transmission Rates

The people of Kenya voted in favour of a new constitution on August 4, 2010. The constitution presented major changes in the administrative structuring of the country. Forty-seven new counties were formed from the Provincial and Local

Government administration systems that previously existed (Commission on Revenue Allocation, 2011). The counties differ in population, geography, and culture.

In relation to HIV health data, the counties are also diverse. In 2017, Kenya recorded 44,800 new HIV infections among ages 15+, however the highest numbers of these infections were recorded in Nairobi, Homa Bay, Siaya, and Kisumu counties (6499, 3858, 3419, and 3396 respectively). Garissa, Mandera, and Wajir counties had no new HIV infections among adults in 2017. In the same way new HIV infections among children (0-14), ranges from county to county.

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Table 2.1: New HIV Infections among Children (0-14) in 2017 by County

County	New Infections	County	New Infections	County	New Infections	County	New Infections	County	New Infections
Homa Bay	700	Turkana	15	Kwale	115	Taita Taveta	61	Mandera	19
Siaya	620	Kiambu	13	Makueni	151	Baringo	39	Garissa	55
Kisumu	616	Bungoma	24	Muranga	72	Laikipia	61	Isiolo	19
Nairobi	660	Uasin Gishu	21	Nandi	84	Nyandarua	38	Lamu	16
Migori	432	Trans Nzoia	19	Meru	147	Embu	66	Tana River	13
Kakamega	437	Bomet	70	Kericho	115	West Pokot	39	Marsabit	16
Nakuru	325	Narok	12	Busia	318	Kirinyaga	34	Wajir	6
Kisii	191	Kilifi	19	Kitui	176	Samburu	20	<b>Total</b>	<b>7978</b>
Nyamira	96	Machakos	18	Nyeri	51	Tharaka Nithi	52		
Mombasa	248	Kajiado	16	Vihiga	164	Elgeyo Marakwet	31		

Source: GoK, MoH and NACC (2018)

Table 2.2: New HIV Infections among Children (0-14) in 2015 by County

County	New Infections	County	New Infections	County	New Infections	County	New Infections	County	New Infections
Homa Bay	996	Turkana	90	Kwale	140	Taita Taveta	69	Mandera	48
Siaya	796	Kiambu	76	Makueni	115	Baringo	22	Garissa	36
Kisumu	909	Bungoma	71	Muranga	29	Laikipia	31	Isiolo	14
Nairobi	262	Uasin Gishu	107	Nandi	45	Nyandarua	14	Lamu	14
Migori	527	Trans Nzoia	105	Meru	102	Embu	44	Tana River	16
Kakamega	119	Bomet	45	Kericho	66	West Pokot	19	Marsabit	11
Nakuru	165	Narok	64	Busia	90	Kirinyaga	13	Wajir	18
Kisii	214	Kilifi	186	Kitui	113	Samburu	12	<b>Total</b>	<b>6613</b>
Nyamira	153	Machakos	128	Nyeri	20	Tharaka Nithi	36		
Mombasa	319	Kajiado	81	Vihiga	45	Elgeyo Marakwet	18		

Source: GoK, MoH, NACC, and NASCOP (2014)

Homa Bay and Kisumu rank among the counties with the highest new HIV infections among children in both 2015 and 2017. In 2020, 6800 new infections among children were recorded in Kenya (UNAIDS, 2020; UNICEF, 2020). Mother-to-child transmission of HIV during pregnancy, labour, delivery or breastfeeding is a contributor to these infections (WHO, 2015b).

#### The Kenya Mentor Mother Programme (KMMP)

The KMMP provides training, employment, and empowerment to HIV-positive local mothers, called mentor mothers, as healthcare workers at the forefront in understaffed health centres. As HIV-positive mothers these women have completed the PMTCT cascade with their own children. This means, they have attended ANC clinics, undergone prenatal testing, take ARVs, have knowledge of infant feeding counselling, and attended postpartum mother-exposed infant pair clinic (Sam-Agudu et al., 2014).

Mentor mothers provide support and health education to HIV-positive pregnant women on how they can protect their babies from HIV infection and keep themselves and their families' healthy (GoK, MoH, 2012c). Their personal understanding of the social and cultural challenges of living with HIV gives them an exclusive skill to form trusted relationships with other women, fundamental to helping them overcome their fears and make lifesaving decisions.

Mentor mothers work together with CHWs on two aspects of the PMTCT process: Defaulter tracing, referrals and linkages (GoK, MoH, 2012b). The same source notes that defaulter tracing is the process of tracking an HIV-positive pregnant woman or a mother with a new born who has missed their scheduled appointment at the clinic. Once a mentor mother has identified a defaulter in the mentor mother programme, the mentor mother sends a message from her mobile phone reminding the

client about their appointment. If there is still no response, the mentor mother attempts to call the client. If there is still no response to the phone call, the mentor mother passes on the contact details of the client to CHWs who conduct home visits to the client's residence. Feedback is then given back to the mentor mothers for reporting and follow up. Both mentor mothers and CHW's refer and link their clients to other critical services such as family planning or nutritional support.

However, mentor mothers differ from CHWs in that, it is a requirement that the MM's must be HIV-positive mothers, with at least a primary school certificate. Mentor mothers also provide individual and group education and psychosocial support to their PMTCT clients. They facilitate support groups for their PMTCT clients and provide HIV education for pregnant women (GoK, MoH, 2012b). CHWs do not necessarily have to be HIV-positive women and their clients are not limited to HIV-positive pregnant women within their communities.

As a result of the personal relationship the mentor mothers have with HIV-positive pregnant women, knowledge of PMTCT practices and adherence have been adopted, to a much greater extent, than messages communicated through mass media channels (Shroufi et al., 2013). Mentor mothers have helped improve uptake and successful completion of PMTCT services such as HIV testing and honouring clinic appointments, which contribute to reduced MTCT rates. Mentor mothers also have a positive effect on other outcomes for mothers and babies in PMTCT programs, such as breastfeeding rates and infant survival. The success of the mentor mother programme is supported by the sense of identity the HIV+ pregnant women have with the HIV+ mentor mothers, the interpersonal communication and rapport between the two HIV+ women, and openness and experience of the mentor mothers who openly share their HIV status and knowledge of PMTCT techniques. This knowledge in turn

fighters the effect of isolation and stigmatization that would naturally occur if the mentor mother technique was not in use.

Kenya was the initial country to implement the Mentor Mother Model on a national level in the year 2012 (m2m, 2017). Developed by the Ministry of Health in consultation with m2m, the KMMP is central to Kenya's national framework for eMTCT (elimination of mother-to-child transmission). As of February 2017, m2m had trained 16 partner organisations and had approximately 462 KMMP sites located in 33 of 47 counties (m2m, 2017). Health centres that do not practice KMMP follow standard PMTCT care through the clinicians. The PMTCT cascade is followed without the formation of close-knit relationships with mentor mothers.

Although the KMMP was rolled out nationally in the year 2012, m2m began providing Mentor Mother services in Kenya in the year 2008. Since then, m2m has educated and supported more than 100,000 HIV-positive mothers. In 2015, m2m enrolled 10,000 HIV-positive women directly in their programme (m2m, 2017). In 2015, m2m reached more than 7,000 HIV-exposed infants through their Mentor Mother services (m2m, 2015). The Mentor Mother Program has also been found to benefit from a CBI, which has been shown to increase adherence to treatment, reduce depression and improve HIV knowledge scores (Futterman et al., 2010).

#### HIV/AIDS and Women

There is no doubt that women are greatly affected by health issues most notably HIV. According to the WHO (2014) global health observatory data, an estimated 17.4 million women aged 15 and over were living with HIV world over, with 700,000 of these women living with HIV in Kenya. In 2015, UNAIDS (2015) estimated 36.7 million people living with HIV around the globe, with 19 million of these people living in East and Southern Africa. UNAIDS further noted that women

account for more than half the total number of people living with HIV in eastern and southern Africa, a status Rodrigo and Rajapakse (2010) called a 'feminization of HIV/AIDS.'

Rural households, especially in developing countries, rely greatly on agriculture for income and sustainability (UNAIDS, 2014a). When family members are HIV-positive, resources can be diverted to provide medical treatment and care for the infected person (Drimie, 2002; Hosegood, 2009; UNAIDS, 2014a). This diversion of resources affects the economic and health status of the whole family. This scenario especially affects women who account for 70% of the agricultural workforce and 80% of food production labour force. As family members become ill, women must increase their level of production and take on supplementary responsibilities to sustain the family (Seeley, Dercon, & Barnett, 2010).

Studies have also shown differences in awareness of HIV prevention and control programmes among rural and urban women, where women in rural areas are less likely to be aware of MTCT and voluntary counselling and testing (Olujide, 2011). Differences have also been noted in access to medical services, attendance of educational institution contact with CHWs and awareness of HIV/AIDS programmes. Despite these trends, recent studies have highlighted increased vulnerability to HIV infection among the urban poor and, especially, among women in sub-Saharan Africa (Madise et al., 2012; Magadi, 2017; Piot, Greener, & Russell, 2007).

Women living with HIV are likely to face greater challenges related to caring for their families, gaining access to medical care and treatment, as well as dealing with social stigma than their HIV-positive male counterparts (Ji, Li, Lin, & Sun, 2007). These challenges may arise due to poverty, sexism, lack of health literacy, and access to high quality HIV care (Aziz & Smith, 2011). As a result of the disease,

women may not be able to be as participatory and active in the home, social lives, or workplace as they were before infection. Additionally, women living with HIV experience health issues related to gynaecological care and family planning as they try and live normal lives with the disease (Aziz & Smith, 2011).

### Antiretroviral Therapy and the HIV+ Pregnant Woman

World Health Organization guidelines on when to start antiretroviral therapy recommend that treatment be initiated on all pregnant and breastfeeding women living with HIV regardless of their CD4 cell count and to be continued throughout the women's lifetime (WHO, 2012). This recommendation was driven by program implementation experience, which showed that PMTCT prophylaxis (using different drugs at different times during pregnancy, labour, and delivery as well as long duration of infant prophylaxis while breastfeeding) was more challenging to implement in the field than giving Anti-retroviral therapy (ART) to all pregnant women - especially if the ART regimen was a once-daily fixed-dose combination tablet.

### Prevention of Mother-to-Child Transmission of HIV (PMCTC) Knowledge and Adherence Gaps

There remains a gap among women within the reproductive ages with limited knowledge on how HIV is transmitted from mother-to-child, even with a fixed dose combination tablet (GoK, MoH & NACC, 2018; KNBS, 2015). The 2014 Kenya demographic and health survey (KDHS) revealed that only 65% of women aged 15 to 24 years had knowledge that HIV could be transmitted by breastfeeding and that the risk of mother-to-child transmission (MTCT) could be reduced by a mother taking antiretroviral drugs during pregnancy (KNBS, 2015). Although this figure was slightly higher for age range 25-39 and 30-39 (76% and 75.7% respectively) the data

revealed that a knowledge gap remained on the value of antiretroviral drugs to reduce mother-to-child transmission of HIV. The KDHS survey also revealed that many of these women who lacked this knowledge come from lower level wealth quartiles, had little or no education and resided in rural areas.

In addition, other studies within Kenya have revealed knowledge gaps among HIV-positive pregnant women concerning their own HIV status and that of their partners as well as lack of adherence to the PMTCT cascade. For example, Sirengo et al. (2014) in their study of HIV-positive women who had given birth prior to participating in the study, half of the participants were unaware of their HIV status before participating in the survey. Plessis et al. (2014) found that HIV-positive pregnant women they surveyed presented themselves late to clinics once they found out they were pregnant (approximately visiting the clinic on average at 20 weeks pregnant), had less than four ANC visits, had low screening rates for opportunistic infections, and limited contraception counselling. Wamalwa et al. (2015) in their study of knowledge level gaps in western Kenya found low level of knowledge of the phases in which MTCT could occur (Pregnancy, labour, delivery, and breastfeeding).

#### Interpersonal Communication - A History

Heath and Bryant (2008) marked the 1960's as a time for the origin of the field of interpersonal communication when research in psychiatry recognized that psychiatric problems were not only a result of self-problems, but a result of relational problems as well. It is then that the idea that relationships could be improved through effective communication was birthed. During this time, research conducted under the title of interpersonal communication mainly focused on persuasion, social influence, and small group processes, which interpersonal researchers such Festinger, Heider, Kelley, and Hovland took on (Berger, 2005).

In the 1970s, interpersonal research interests focused more on social interaction and relational development (Berger, 2005). This shift was influenced by the research of such scholars as Knapp, Mehrabian, Altman, Taylor, Duck, Kelley, and Thibaut. In the 1980s, cognitive approaches became more popular in interpersonal communication research made possible by researchers such as Hewes, Planalp, Roloff, and Berger. In the present, interpersonal communication focuses on communication as a function of developing relationships.

Interpersonal communication is the verbal and nonverbal interaction between two (or sometimes more than two) interdependent people. It involves interdependent people who are inherently relational. Interpersonal communication occurs on a scale that ranges from impersonal to highly personal (Miller, 1978, 1990). At the impersonal end of the continuum, you have simple conversation between people who may not know each other well, while on the other end of the spectrum communication takes place intimately through connections such as a husband and wife or parent and child. Interpersonal communication involves verbal and non-verbal messages such as words, body posture, facial expression and eye contact.

Interpersonal communication is considered to comprise of seven elements, these are source–receiver, encoding–decoding, messages, channels, noise, contexts, and ethics. The source and the receiver are the primary senders and receivers of the messages and provide feedback to messages they have received (Miller, 1978, 1990). Encoding is the process of producing messages by a sender, while decoding is the process of understanding messages from the receiver (Miller, 1978). All participants in the interpersonal communication process both encode and decode messages. Messages can be received in various forms both verbally or non-verbally. Messages are received through the five senses- auditory (hearing), visual (seeing), tactile

(touching), olfactory (smelling), gustatory (tasting), or any combination of these senses (Miller, 1990).

The communication channel represents the medium through which messages pass (Neher & Sandin, 2007). The same source notes that interpersonal communication normally takes place over various channels simultaneously, for example speaking, listening, touching all at the same time. Noise is anything that prevents the receiver from receiving the message (Tompkins, 2019). This could be physical noise such as blaring horns, physiological noise such as hearing loss, psychological noise like wandering thoughts, or semantic noise, where both the sender and receiver have different meanings. The communication context is the environment in which the communication takes place. Participants in interpersonal communication must also be aware of the consequences that come with interpersonal interaction (Neher & Sandin, 2007; Tompkins, 2019). Ethical considerations related to messages, contexts, and channels must also be considered.

In this research the interpersonal communication took place between a mentor mother and an HIV+ pregnant woman. The interaction is mainly clinic based and is mainly face-to-face, as the client see's the mentor mother after she has had her ANC check-up. Both participants shared information pertaining to the PMCTC but also any other information that affects the PMTCT process such as stigma and disclosure of one's HIV status to their partners. Information on PMTCT techniques are shared until both participants get to the point of shared understanding and meaning. Ethical considerations are mainly regarding cultural aspects of the participants, and since both participants come from the same culture, many of these considerations are known.

#### Interpersonal Communication for Behaviour Change

Interventions among the government and partners in Kenya include the implementation of Option B+, A WHO policy adopted by the government of Kenya, which offers all HIV-positive pregnant women antiretroviral treatment for life regardless of their CD4 count (CDC, 2015) and free maternity care introduced by President Uhuru Kenyatta (Gitobu, Gichangi, & Mwanda, 2018). While campaigns include the Beyond Zero campaign championed by the First Lady, H.E. Margaret Kenyatta as well as the 'Kata Shauri' campaign, referred to earlier in the chapter and the MoH, Kenya.

Health campaigns have often been used to raise awareness, inform, educate, and encourage healthy behaviours. However, the mixed effects of health campaigns have also been reported. These include negative effects (an increase in behaviour) (Snyder & Blood, 1992), small effects (hardly any change) (Hornik, Jacobsohn, Orwin, Piesse, & Kalton, 2008), and even no effects at all on behaviour change (Noar, 2006; Stautz, Frings, Albery, Moss, & Marteau, 2015). Furthermore, although mass media health campaigns have been used to influence awareness, knowledge, and attitude (Piotrow et al., 1990; Rogers et al., 1999; Valente, Kim, Lettenmaier, Glass, & Dibba, 1994; Vaughan, Rogers, Singhal, & Swalehe, 2000), limited effects of mass media on behaviour change have been reported (Booker, Miller, & Ngure, 2016; Nabi & Clark, 2008; Sood et al., 2006; Yoder, Hornik, & Chirwa, 1996). Instead, interpersonal communication is seen as the mediator between mass media and behaviour change (Korhonen et al., 1998; Lee, 2009; Seo & Matsanganis, 2013; Sood et al., 2006; Southwell & Yzer, 2007).

Both the 'Kata Shauri' and beyond Zero campaign rely heavily on media messages to encourage behaviour change. The Beyond Zero Campaign calls for policy formulation prioritization, increased resource allocation, improved service

delivery and better individual health seeking behaviours and practices for maternal and child health (Beyond Zero, n.d.; Office of the First Lady, 2012). However, its advocacy efforts involve a media campaign, a media personality in their steering committee as well as the development of opinion articles in the media (Mberia & Mwangi, 2018; Office of the First Lady, 2012). The 'Kata Shauri' campaign involved the creation of public service announcement (PSA) videos on the importance of HIV-positive pregnant women visiting the clinic and adhering to the ARVs regimen throughout their pregnancy, delivery and breastfeeding period (GoK, MoH, 2012f; NASCOP, n.d.). Scholars who question the mass media approach have pointed out that the overreliance of HIV/AIDS campaigns on mass media has snubbed the widespread research highlighting the ineffectiveness of these media approaches and the complexity of the health communication methods in behaviour change (Flynn et al., 2006; Locker & Kay, 2002; Oriaso, 2013).

An alternative strategy for behaviour change communication is interpersonal communication (Briscoe & Aboud, 2012; Ntshebe, Pitso, & Segobye, 2006). Interpersonal communication is recognized as playing a crucial role in changing strongly held attitudes leading to behaviour change and has regularly been directly associated to positive health intentions and behaviours and improving the processing and learning of health information (Eveland & Thomson, 2006; Kohler et al., 2007; Noar, 2006; Real & Rimal, 2007; Southwell, 2005). Interpersonal communication for PMTCT and HIV messaging has been found to be more appropriate than traditional communication through media due to the private nature of HIV/AIDS and the interactive learning process which it provides (Hendriksen et al., 2009; Muturi, 2008). However, the interpersonal relationship between mentor mothers and their clients has hardly been studied in a communication context.

Interpersonal communication within health contexts can include the use of support networks such as expert patients, CHWs, peer-to-peer support networks, and mentor mothers. Expert patients are patients living with a disease, who use their day-to-day experiences to provide solutions to practical and psychosocial barriers to disease management among other patients (Decroo, Van Damme, Kegels, Remartinez, & Rasschaert, 2012; Rosenberg et al., 2014). CHWs are key members of health teams and essential for the provision of primary health care and health promotion within communities (Adam et al., 2014; Mwai et al., 2013; Perry, Zulliger, & Rogers, 2014). CHWs support health priority areas such as maternal and child health, nutrition, family planning services, and contributing to the control of HIV, malaria, and tuberculosis infections.

An emerging trend in peer support in health contexts is peer-to-peer connections - spontaneous communication among online communities of individuals with varied health needs (Naslund, Aschbrenner, Marsch, & Bartels, 2016). Individuals suffering with illness turn to social media sites such as Facebook, Twitter, or YouTube, to share their ailment experiences and seek advice from others with similar health conditions (Bargh & McKenna, 2004; Naslund et al., 2016). These peer networks challenge societal stigma and discrimination by giving patients their own voice and opportunity for self-expression, however it is difficult to confirm the reliability of what peers say to each other in an online network (Duggan, 2005; Parr, 2011).

Mentor mothers, as their name suggests, are mothers living with HIV, working together with doctors and nurses in short-staffed health centres as members of the healthcare team (Teasdale & Besser, 2008). They are also known as expert patients in PMTCT (Cataldo et al., 2017). Working in individual and group sessions, mentor

mothers provide health education and psychosocial support to other HIV-positive mothers on how to protect their children from HIV infection at both prenatal and post-natal stages and keep themselves and their families healthy (Cataldo et al., 2017; m2m, 2017). The mentor mothers form close inter-personal relationships with HIV-positive mothers and guide them on protecting their unborn children from contracting the disease. The relationship that exists between the mentor mothers and the HIV-positive pregnant women is horizontal where they see each other as equal, going through the same challenges that HIV brings to women.

#### HIV/AIDS and Behaviour Change

Factors such as intention, environmental constraints, skills, attitude, norms, self-standards, emotion, and self-efficacy are considered major determinants of behaviour change (Fishbein, Triandis, Kanfer, Becker, & Middlestadt, 2001). As noted by Morisky and Ebin (2000), STD/HIV prevention programs for adolescents have used different educational approaches to increase knowledge and awareness as well as provide important communication skills required for safe sexual behaviour. This includes school-based programs, which have been found to delay sexual debut, reduce the number of sexual partners, and increase condom use (Gallant & Maticka-Tyndale, 2004).

Role plays have also been used to change behaviour in HIV health contexts. Studies have found that role-play in classroom settings are effective in modelling behaviour, sharing information, developing interpersonal skills, and increasing their self-efficacy (Taylor, Dlamini, Khanyile, Mpanza, & Sathiparsad, 2012). Furthermore, role plays have encouraged community dialogue about HIV/AIDS and empowered persons living with HIV (Jaganath, Mulenga, Hoffman, Hamilton, & Boneh, 2013). According to Kincaid (2002), characters playing a role in a play can

affect the audience to the extent that they become involved with a characters' feelings, thoughts, and emotions as well as sympathise with what happens to them. Kincaid further argued that role plays are important to the training of HIV and AIDS as it delivers the idea that, by viewing what is taking place in a drama, learners are able to undergo a similar change themselves.

Despite the relative success of these approaches, the most successful interventions have included components of peer-based interventions. In this approach members of a social group or network communicate with, educate, or counsel members of their own group. Mentor mothers are considered part of the social group the pregnant HIV-positive women belong to and educate and counsel these mothers on HIV/AIDS for their own health and for the health of their children and families. This peer-based intervention is considered quite effective in enacting behaviour change as the mentor mothers have peer credibility, where peers are often considered frequent, reliable, and preferred sources of information on sexuality related topics such as HIV/AIDS (Busza et al., 2012)

### Cognitive Behavioural Interventions (CBIs)

Cognitive Behavioural Interventions are psychologically based therapies that aim to reduce distress and assist individuals to develop strategies to manage their conditions and its consequences (Hakim, Keer, & Grahame, 2010). Literature suggests that Cognitive Behavioural Therapy (CBT) emerged in the 1970's as researchers and clinicians attempted to relate cognitive theory to behaviour change (Rnic, Dobson, & Dozois, 2019). CBT has three founding principles: thoughts affects behaviour, one's cognitive activity can be observed and altered, and desired behaviour change may be affected through changing one's thoughts.

Cognitive behavioural therapy can be categorized into 3 major divisions: cognitive restructuring, deals with maladaptive thoughts to counter emotional distress; coping-skills therapies develops skills to cope with stress; and problem solving therapies emphasize the development of general strategies to deal with a broad range of personal problems and emphasizes collaboration between the client and therapist (Mahoney & Arnkoff, 1978). The intervention in this study focuses on problem solving therapies to deal with the personal challenges HIV-positive pregnant women experience daily. The study participants worked closely with their mentor mothers to overcome these challenges.

Cognitive behavioural interventions have been found to significantly reduce unprotected sex decrease the acquisition of sexually transmitted diseases, reduce depression and increase coping skills (Crepaz et al., 2008; Soroudi & Safren, 2008; Tobin et al., 2017). Furthermore, studies have found that interventions with the following characteristics significantly reduced sexual risk behaviours: (1) based on behavioural theory; (2) designed to alter HIV risky behaviour; (3) conveyed by health-care providers or counsellors; (4) delivered to individuals; (5) delivered in an intensive manner; (6) delivered in settings where people living with HIV receive routine services or medical care; (7) provided skills building, or (8) addressed a myriad of issues related to mental health, medication adherence, and HIV risk behaviour (Brown, Gause, & Northern, 2016; Koob, Brasfield, & Bernstein, 1993).

Furthermore, CBT does not necessarily have to be administered by a therapist, as self-help therapy has been shown to have positive results (Hirai & Clum, 2006; Williams et al., 2013), although insurance companies tend to support physician led CBT sessions (Payne & Myhr, 2010).

## 2.4 Empirical Literature Review

### 2.4.1 Mass Media and Behaviour Change

The significance for behaviour change cannot be underscored in health communication contexts. An altered direction has been the use of mass media for public service messaging to adjust individual health behaviours by targeting the attitudes and beliefs on which these behaviours are based (Morton & Duck, 2001). Previous research has shown researchers and public officials faith in mass media as a tool for behaviour change (Coleman, 1993; Tulloch, 1992; Wallack, 1989, 1990). However, despite this support, the role of media in influencing individual thoughts or action remains ambiguous because of the individual tendency towards selective exposure to messages that are consistent with one's cognitions (McGuire, 1986).

Media may have the capability to influence individuals, however, its impact is limited because of interpersonal communication, which has primacy over media messages (Lazarsfeld, Berelson, & Gaudet, 1968). Researchers such as Flay and Burton (1990) indicated that although media may be useful in raising awareness of an issue, interpersonal communication is necessary for behaviour change to occur.

Furthermore, Tyler and Cook (1984) noted that using both experimental and quasi experimental methodologies, media impact has been shown to occur predominantly on judgements of risk to the wider community or others in general at the societal level and to do so with little effect on related personal judgments. The authors continue to say that beliefs about personal risk are thought to be informed through direct experience or interpersonal communication.

#### Prevention of Mother-To-Child Transmission of HIV (PMCTC) Campaigns

Apart from employing the services of mentor mothers, NASCOP has employed media initiatives to assist in achieving mother-to-child transmission of

HIV. These include the 'Kata Shauri'. This campaign included creating public service announcement (PSA) videos on the importance of HIV-positive women visiting the clinic and adhering to the ARVs regimen throughout their pregnancy, delivery, and breastfeeding period (Karongo, 2010). NASCOP also speaks of various advertisements running on different media channels, sharing messages of prevention of vertical HIV transmission for HIV-positive pregnant women.

The MoH Kenya published a communication strategy that would guide the country's eMTCT efforts between 2012 and 2015 (GoK, MoH, 2012a). The strategy had three main objectives: an increase of 95% in knowledge and awareness of eMTCT by the year 2015; increase demand to achieve 90% access to integrated MNCH services, including PMTCT by 2015; and create a socially, politically, and programmatically enabling environment to achieve eMTCT by 2015. The communication channels to achieve these objectives include: meetings and workshops, print materials (fact sheets, leaflets, and posters in own language, information pack, and newsletters), mass media, peer-to-peer communication, newspapers, group discussions, folk media (Community radio/listening groups), community meetings, peer education, chief's barazas', community blackboards, multimedia communication, traditional ceremonies, social media, workplace programs, interpersonal communication workshops, and lobbying. Unfortunately, the evaluation of the success of this strategy and its proposed channels of communication is not available to the researcher's knowledge.

On June 1, 2013, President Uhuru Kenyatta of Kenya announced that his government would be offering free maternity care in all public hospitals starting from June 1, 2013 (Nation reporter, 2013). This move provided a boost to PMTCT as it removed the cost barrier of delivery in public hospitals which aided HIV-positive

pregnant women from lower economic strata's who could not have afforded to deliver in hospital. The free maternity care was further bolstered through the 'Linda Mama' initiative, which provided all pregnant Kenyan women free maternal services under the National Hospital Insurance Fund (National Hospital Insurance Fund, 2019). Delivery at a health centre is pertinent to the success of PMTCT, as the virus can be transmitted during the delivery process.

The Beyond Zero campaign advocacy efforts involve a media campaign, a media personality in their steering committee as well as the development of opinion articles in the media (Office of the First Lady, 2012). Additional advocacy efforts comprise social mobilization during commemoration of key national and global days, national events, hosting of high level meetings with different constituencies, and influential individuals to catalyse change.

Despite these efforts the 'Kata Shauri' campaign seems to have stalled since its launch in the year 2010 as the last communication about the campaign was posted in 2012 (NASCOP, 2012). The free maternity care programme faces challenges such as lack of motivation of health care workers, inadequate funding for supplies, staff shortages, and overwhelming workload for available staff (Otieno, 2018; Pyone, Smith, & van den Broek, 2017; Wamalwa, 2015). The First Lady's beyond zero campaign also faces its own operational challenges such as lack of accessibility to rural communities, lack of funds, personnel, and supplies (Moindi, Ngari, Nyambati, & Mbakaya, 2015; Odenyo, 2017).

#### The Role of Interpersonal Communication in Health Communication

Interpersonal communication is an important action area of health communication influenced by social, cultural, age, and gender-related aspects, as well as knowledge levels and personal factors and attitudes (Schiavo, 2014). Examples of

interpersonal communications are counselling, provider-patient communications, and personal selling counselling (Schiavo, 2014). Personal selling refers to one-on-one engagement of intended audiences in their own homes, offices, or places of work and leisure and the ability to sell one's image and expertise, an important skill in most consulting activities (Rolph, Rajiv, & Alan, 2014). It is an acquired communication skill that requires training but is also dependent on individual, social, and cultural factors.

Bogart et al. (2011), in their study of 150 young black adults visiting a public clinic in South Africa for sexually transmitted infections, found that participants who subscribed to the notion that "Witchcraft plays a role in HIV transmission," had fewer positive attitudes about use of condoms and their role in preventing HIV transmission. Some study participants subscribed to the belief that "vitamins and fresh fruits and vegetables can cure AIDS," which were associated with lower intentions to use condoms. Women involved in the study, who endorsed the belief that a cure for AIDS was being withheld, had a lower likelihood of having had unprotected sex. The authors of the study noted the need for knowledge about HIV/AIDS misconceptions, which aid in developing culturally appropriate HIV prevention interventions that address such beliefs. These interventions include peer groups.

Additionally, Sano et al. (2016), in their study of HIV transmission misconceptions in Malawi, found that marital status and ethnicity were significant predictors of HIV transmission misconceptions among females but not among males. In addition, aspects such as education, household wealth quintiles, religion, and urban-rural residence were significantly associated with endorsing misconstructions about HIV transmission. Based on these findings the authors recommend integration of cultural and ethnic considerations in the education of HIV transmission.

Provider-patient communication is an important area of interpersonal communications and has been shown to affect patient satisfaction, retention, and overall health outcomes (Schiavo, 2014). This type of communication is considered therapeutic (Travaline, Ruchinskas, & D'Alonzo, 2005). Effective communication in the provider-patient situation varies, dependent of several patient- and physician-related factors, as well as exterior factors such as time constraints and managed care requirements. Although formal training for physician-patient communication exists, many of these efforts are isolated in academic settings. Therefore, the communication skills of busy physicians in resource poor environments is limited (Duffy et al., 2004; Stewart, 1995).

In counselling, personal selling is a powerful determinant of one's ability to have an impact on the beliefs, attitudes, and behaviour of the person who is seeking counsel (Feltham & Horton, 2012). Mentor mothers through the use of personal selling provide health education and psychosocial support to other HIV-positive mothers on protecting their children from HIV infection at both prenatal and post-natal stages and keep themselves and their families' healthy (GoK, MoH, 2012c).

According to the Minnesota Department of Health (2019), the most effective preventive efforts are led by diverse groups of community members, public health professionals, social workers, and health campaign designers. Balint and Shelton (1996) advocated for collaborative medical communication, where both the provider and client treat each other as peers who openly discuss health options and make mutually satisfying decisions. Mentor mothers take a collaborative approach with their clients, whom they see as peers, discussing relevant information on their health and that of their unborn children.

For behaviour change communication to be successful, it should incorporate strategies that build a relationship with audiences through dialogue. Dialogue contributes toward the maintenance of newly adopted behaviours and practices (Muturi, 2005). It is recommended that community based participatory programs and interpersonal communication activities utilizing existing social, cultural, and religious networks be utilized to support and pass on HIV/AIDS health information (Bekalu & Eggermont, 2013). The mentor mother's interpersonal communication with HIV-positive pregnant women allows them to discuss the private intricacies of HIV/AIDS and sexual reproductive health in a culturally appropriate environment enable greater understanding of the health messages communicated through the interaction. This relationship enables the HIV-positive pregnant woman to follow the PMTCT cascade and therein raises their chances of delivering HIV negative babies.

#### Interpersonal Communication Skills

Floyd and Andriescu (2013) described interpersonal communication skills as the skills that build an evolving communication between two people. It helps negotiate and define a relationship. Interpersonal communication skills build kindness, openness, and attentiveness between medical personnel and their clients (Chichirez & Purcărea, 2018).

When one engages in interpersonal communication, there are a few aims they would like to achieve. These include; achieving mutually acceptable goals, establishing a relationship filled with trust and respect, exchanging information, understanding perceptions, creating a platform for renewed understanding, and enhancing understanding of attitudes, ideas, and beliefs (Bach & Grant, 2011). In order to achieve these goals, persons involved in interpersonal communication must

be active listeners and have negotiations, decision making, and problem-solving skills.

Interpersonal communication has been flagged as a key skill for successful leadership. Results from a study of graduate students by Lolli (2013) revealed experiences that built one's interpersonal communication skills. These included dealing with conflict, providing feedback, leadership experience, and dealing with diverse audiences. As mentor mothers communicate interpersonally with HIV-positive pregnant women, it is pertinent that they have the skills to do so effectively, however, interpersonal communication skills are not articulated in their training manual.

#### Peer Support and Behaviour Change

Peer-based strategies have been found to be effective for improving maternal and infant uptake and retention in care (Rosenberg et al., 2014). These strategies include the use of CHWs, mentor mothers, and expert patients. CHWs are often times volunteers who form relationships with their community members and support them in achieving health goals (Kim et al., 2012; Mohajer & Singh, 2018). They have been called effective behaviour change agents as they view their role as a calling and accompany community members towards their health journey with the aim of empowering them. CHWs have been linked to positive personal changes among mental health patients suffering from conditions such as depression and anxiety (Perales, Reininger, Lee, & Linder, 2018).

Lack of following up HIV-positive pregnant is a major challenge in PMTCT, CHWs have managed to bridge this gap through improving service utilization and retention of mothers and infants in care (Kim et al., 2012). CHW intervention is effective in identifying pregnant women within their communities early in pregnancy

and before they had attended ANC, which improves ANC uptake, early HIV testing, and PMTCT enrolment in pregnancy (Lema et al., 2014). This intervention also improves the dignity and quality of life of HIV-positive pregnant women (Mwai et al., 2013).

Despite their impact on communities and enacting positive behaviour change, CHWs feel under-resourced to meet the needs of the communities they work for and to meet the expectations of their employers (Mohajer & Singh, 2018). While supervision and support from the MoH was strong, studies have found that CHW training is inconsistent and inadequate with regard to behaviour change and CHWs often lacked material resources necessary for their work (Aseyo et al., 2018; Nuwagaba-Biribonwoha, Mayon-White, Okong, & Carpenter, 2007; Perales et al., 2018). Furthermore, CHWs challenges extend to lack of recognition, remuneration and involvement in decision making (Mwai et al., 2013).

The concept of the 'expert patient' was conceptualized to help patients with self-management of diseases such as cancer (Kielmann & Cataldo, 2010). These expert patients learned how to manage and understand their conditions and make decisions regarding their care. These self-management programs were extended to provide additional human resources within the health sector in low-resource, high disease burdened settings, where HIV/AIDS presented a challenge (Kober & Van Damme, 2006; Tenthani et al., 2012). Scholars such as Horton (2008) acknowledged the fragile health care system with scanty human, physical, and logistic infrastructure for delivery of MCH services in many developing countries that mentor mothers plug into. Chabikuli et al. (2013) recommended optimising and strengthening service uptake in existing programmes before starting new PMTCT sites. The scholars found

that greater sensitisation of the community significantly improved the uptake of ARVs prophylaxis in this study.

Mentor mothers are expert patients in PMTCT care. They have also been included in service delivery within PMTCT settings such as providing psychosocial and treatment adherence support, supporting mothers in providing infant nutrition and health, and providing reminders for clinic appointments (Shroufi et al., 2013). Expert patients also track lost to follow up patients missing from PMTCT and ART care through the CHWs. Although general frameworks exist that guide the involvement of expert patients within the health sector (GoK, MoH, 2012b; GoK, MoH, 2012c; GoK, MoH, 2012d; GoK, MoH, 2012e; GoK, MoH, 2012f; WHO 2007a; WHO 2007b), standardized guidelines are lacking regarding the engagement, involvement, and remuneration of expert patients in HIV-related programming (Cataldo et al., 2017). Online peer support networks are also growing especially in areas with internet access (Naslund et al., 2016). This online support is considered a cost effective intervention to support self-management of various long-term conditions (Munce et al., 2017).

#### Mentor mothers Program Successes

Pregnant women who are HIV-positive participating in Mentor Mother Programs in countries such as South Africa, Nigeria, and Zimbabwe have been associated with better adherence to antiretroviral treatment. They have also been associated with improved PMTCT retention rates, viral suppression, being an important learning resource, significant in promoting exclusive breastfeeding, encouraging HIV testing early during pregnancy, and providing psychosocial support to patients in their homes (Baek et al., 2007; Hamilton et al., 2018; Sam-Agudu et al., 2017; Shroufi et al., 2013).

Futterman et al. (2010) conducted a pilot study to assess whether PMTCT services provided by the South African Government could be enhanced by a program known as Mamekhaya (a combination of a peer-mentoring program and a culturally adapted cognitive-behavioural intervention). The results of the study showed adherence to PMTCT practices that were high across both study sites (90%). Women at the Mamekhaya site showed considerably greater progress in establishing social support, reducing depression, and HIV knowledge scores than women at the control site. Participants in the experimental site also showed better attendance at follow-up medical visits, and greater improvements in positive coping.

Another intervention on the KMMP is also currently being implemented through the Henry M. Jackson Foundation for the Advancement of Military Medicine (2016). The Mentor Mother consistently evaluates the HIV+ pregnant woman's treatment plan after each clinic visit and plans for their next appointment. A reminder in form of a text message will also be sent to the patient by the Mentor Mother directly on the patient's mobile phone. This intervention takes place in 12 clinics in the south-rift valley region of Kenya. The study targets a total of 360 patients. Looking forward technology will play a greater role in supporting PMTCT efforts.

#### Understanding the Processes of Influence (Compliance, Identification, and Internalization)

Compliance, identification, and internalization are processes of influence where compliance is when an individual accepts influence because he hopes to achieve a favourable reaction from another person or group (Dillard & Knobloch, 2002; Kelman, 1958). Identification takes place when an individual accepts influence in order to build or maintain a relationship with another individual or group. Internalization occurs when an individual accepts to be influenced as a result of the

content of the individual's behaviour which is rewarding to the individual and in line with his/her value system and best for their needs. According to Kelman (1958), internalization is the most desired form of conformity as it is also the longest lasting.

Scholars argued that individuals who participate in creating rules are more likely to comply with them and share in the responsibility to ensure compliance (Murphy & Coster, 1997; Thibaut, Friedland, & Walker, 1974). Individuals are more likely to identify themselves with groups based on how well the group's image preserves the continuity of their own self-concept, provides distinctiveness, and enhances self-esteem. Moreover, people derive their identity from the social groups to which they belong, and the consequences for their feelings, thoughts, and behaviour of psychologically belonging to a group depending on the image of the group (Abrams, 2016; Dutton, Dukerich, & Harquail, 1994).

The process of internalizing a value or behavioural regulation is more probable to occur if one has assumed the belief that relevant results are potentially under one's control (Ryan & Connell, 1989). Meaning, if individuals feel like they are in control of an outcome or a behaviour change, they are more likely to internalize the process towards the outcome. Results of two studies using a sample of university employees found that psychological attachment may be predicated on compliance, identification, and internalization (Oreilly & Chatman, 1986). The studies found that identification and internalization are positively related to prosocial behaviours and negatively related to turnover. Meaning university employees who identified with their colleagues or internalized information within the institution were more likely to be more social and less likely to leave their jobs. Furthermore, the studies found internalization as predictive of financial donations to a fund-raising campaign.

Strong interpersonal bonds have been linked to adolescence compliance and internalization (Peterson, Rollins, & Thomas, 1985). The study also found expert power (derived from possessing knowledge or expertise in an area) having a positive relationship with compliance and internalization, while legitimate power (brought about by holding a particular position/rank) related more strongly to internalization.

#### Towards Mutual Understanding

Lawrence Kincaid (as cited in Littlejohn & Foss, 2009) described mutual understanding as a process of sharing of information between more than two participants in dialogue in order to “clarify confusion between information, knowledge, messages, symbols, and meaning and a self-correcting feedback process defined dynamically as a diminishing series of corrections that enable communicators to converge on a goal,” (Littlejohn & Foss, 2009). The theory views communication as a process, involving two or more participants clarifying information among themselves, enabling the convergence on a goal.

In their study, Adnan and Jambari (2016) proposed a set of determinants for mutual understanding, which have also been incorporated in the questionnaire of this study. These determinants are: a) semantics and mental model - where each team speaks a common language and understands each other’s requirements; b) environment - trust, informal and formal communication platforms; c) shared domain knowledge - openness, frequent communication, easy presentation of technical issues; d) relationship management - good communication skills, positive feedback, understanding objectives, and vision.

Several scholars have also determined that mutual understanding is a significant factor within interpersonal relationships and builds strong feelings of accomplishment and effectiveness as well as trust and adherence to medical treatment

(Gordon, 1983; Hantho, Jensen, & Malterud, 2002; McCann & Baker, 2001; Quinlan & Robertson, 2010). It is also the assertion of this study that mutual understanding mediates the success of PMTCT of HIV through the mentor mother network. The mentor mothers create an environment of mutual understanding between themselves and their clients on matters regarding PMTCT. Because of mutual understanding the HIV+ pregnant women adhere to the PMTCT cascade, which increases the chances of their children being born HIV negative.

### HIV Knowledge, Attitudes, and Practices

Identifying HIV knowledge, attitudes, and practices are important to create programs that meet the needs of audiences and participants in programmes (UNICEF, 2005). An analysis of population based surveys conducted since the year 2000 shows slow advancement in increasing broad knowledge of HIV among young women in eastern and southern Africa (UNAIDS, 2020). HIV knowledge is modifiable and an important contributor to sexual behavior and health (Swenson et al., 2010). It is important for audiences to understand how HIV is spread as well as the myths and misconceptions of HIV (Elbadawi & Mirghani, 2016).

According to Ugoji and Agokei (2012), HIV attitudes refer to the positive or negative feelings one has towards people living with HIV. Negative HIV attitudes often lead to stigma, a discrimination of people living with HIV (Green, 1995). Stigma within communities can cause adverse health and psychosocial effects (Turan et al., 2016). PMTCT practices are important to reduce MTCT incidences. These practices include attending ANC clinics, prenatal testing, access to ARVs, infant feeding counselling, and postpartum mother-exposed infant pair clinic (Plessis et al., 2014; Wamalwa et al., 2015; WHO, 2012).

Dzah, Tarkang, and Lutala (2019) studied HIV knowledge, attitudes, and practices among Ghanaian youth (15 - 24 years of age). Their findings showed inadequate knowledge regarding HIV/AIDS, negative attitudes towards PLHIV, and engaging in risky practices among their target group. Dzah et al. recommended culturally adapted and age-oriented HIV information for youth on matters regarding HIV misconceptions, transmission, attitudes, as well as the risky practices of students regarding HIV.

Mosnier et al. (2019) conducted a study on HIV knowledge, attitudes, and practices of inhabitants of the HIV-transmission zone between French Guiana and Brazil. About 621 inhabitants of the area were surveyed. Results showed language (Portuguese and French) was an indicator of better HIV knowledge, the level of HIV stigma was high in the area, and HIV risk behavior was more frequent in men and in younger age groups.

This study tested participant's knowledge, attitudes, and HIV prevention practices, by asking basic questions about the spread of HIV, attitudes about people living with HIV, and PMTCT practices that they should be following. Participants also had to identify some misconceptions of HIV.

#### PMTCT Challenges

Prevention of Mother-to-Child Transmission of HIV challenges refer to barriers that hinder practices leading to PMTCT of HIV (Nuwagaba-Biribonwoha et al., 2007). These, according to Plessis et al. (2014), include unwillingness to test for HIV, lack of follow-up of participants, lack of disclosure of HIV status, and difficulties with infant feeding for HIV-positive mothers. Ashaba et al. (2017) interviewed 20 women living with HIV in Mbarara, Uganda in order to identify challenges during pregnancy and postpartum. The findings revealed the following

themes: the presence of HIV stigma from health workers, reluctance to share one's HIV status, gender based violence amongst partners, unintended pregnancy, and distress and fear related to maternal and child health.

Etoori et al. (2018), in a study of 665 HIV-positive pregnant women in Malawi, found resistance to lifelong ART from both patients and health workers. The researchers further noted programmatic challenges which affect the effectiveness of the PMTCT cascade. These include low HIV testing rates, lack of follow up of mother-infant pairs, and high treatment attrition. PMTCT programmes at both study sites may also face similar problems.

Not only does the HIV stigma remain a challenge to PMTCT globally, but also in Kenya. McHenry et al. (2017) conducted a qualitative study among adolescents in western Kenya. Results revealed that, although there was an increase in treatment access and HIV knowledge, negative feelings about HIV persisted. HIV infection was related to immorality and casual interaction. HIV stigma among the study group led to negative feelings about self (self-stigma), lack of adherence to treatment, lack of HIV status disclosure, and mental health problems.

In their study of stigma among communities in East Africa, Akatukwasa et al. (2021) found stigma to be gendered towards women more than men. Women were often the targets of stigma and the holders of stigma. This often revealed itself in verbal, physical, and emotional abuse. Victims of stigma often felt shame and had suicidal thoughts. This resulted in avoidance of treatment and hiding HIV medications.

#### Perceptions of mentor mothers

Perception is described by Kenny (1994) as forming an impression about something or someone. Kenny further differentiated between other, meta, and self-

perception. Other perception is one's impression of someone else, while self-perception is one's own impression of themselves. Meta perception is the impression one thinks the other has of him/her.

As mentor mothers assist HIV+ pregnant women realise their goal of bearing HIV negative children, their thoughts, opinions, and impressions are key to understanding the PMTCT process. Mentor mothers have their own challenges and desires to improve programs that they are working for, however, as the focus is normally on the HIV+ pregnant woman, the mentor mothers can easily be forgotten. Sam-Agudu et al. (2018) interviewed mentor mothers on their experiences and found mentor mothers reported both positive and negative relationships with healthcare workers. Specific issues that were highlighted included issues with facility-level scope of work, workplace hierarchy, exclusivism, and stigma from healthcare workers. The interviewed mentor mothers identified clarification, formalization, and health system integration of their roles and services as potential mitigations to tenuous relationships with healthcare workers and challenging working conditions.

Mentoring comes with responsibilities. Dhlamini, Knight, Rooyen, Heerden, and Rotheram-Borus (2012) studied the mental health of mentor mothers who recounted their HIV stories to their clients often. The study found this repetitive telling of their stories was a painful reminder of their personal experiences. The mentor mothers applied coping mechanisms such as taking breaks, journaling, and debriefing sessions. However, some mentor mothers found group sessions with their clients therapeutic and empowering.

## 2.5 Conceptual Framework

Figure 2.2 presents the conceptual framework.

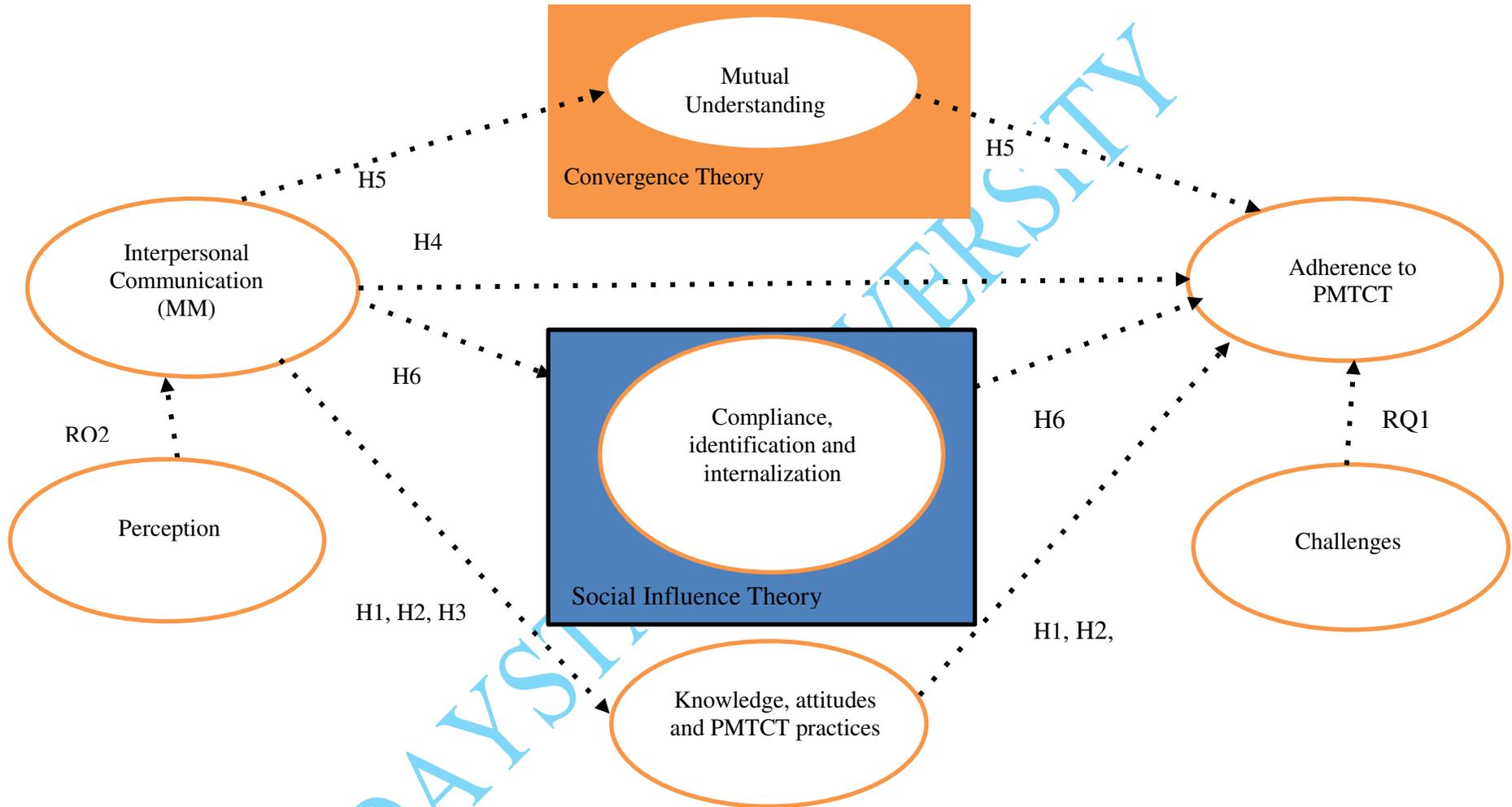


Figure 2.2: Conceptual Framework  
 Source: Author (2021)

The above conceptual framework reveals the relationships under study in this research, guided by the following hypotheses and research questions:

### Hypotheses

- H1: There will be a difference in PMTCT knowledge between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>01</sub>: There will be no difference in PMTCT knowledge between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H2: There will be a difference in attitudes toward HIV between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>02</sub>: There will be no difference in attitudes towards HIV between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H3: There will be a difference in PMTCT practices between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>03</sub>: There will be no difference in PMTCT between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H4: There will be a difference in interpersonal communication between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>04</sub>: There will be no difference in interpersonal communication between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H<sub>5</sub>: There will be a difference in mutual understanding between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>05</sub>: There will be no difference in mutual understanding between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

- H<sub>6</sub>: There will be a difference in compliance, identification and internalization between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

H<sub>06</sub>: There will be no difference in compliance, identification and internalization between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

#### Research Questions

1. What challenges do HIV-positive women face as they adhere to the preventing mother-to-child transmission of HIV cascade?
2. What perception do mentor mothers have on the programme that they are involved in to prevent mother-to-child transmission of HIV?

The conceptual framework identifies the variables and relationships under study within this research. The independent variable (interpersonal communication) is shown on the left of the diagram, the dependent variable (adherence to PMTCT cascade) is shown on the right of the diagram, while the moderator variables (compliance, identification, internalization, and mutual understanding) are shown in

the middle of the diagram. Compliance, identification, and internalization are the main tenants of the social influence theory, as defined by Herbert Kelman (1958), while mutual understanding is the main tenant of the convergence theory by Lawrence Kincaid (Littlejohn & Foss, 2009). The researcher will also be measuring the perception of the mentor mothers within the PMTCT program.

The diagram below shows the interpersonal communication elements being tested within this study. The communication relationship being tested is that between the mentor mother and the HIV+ pregnant woman. The study will find out if this communication increases the adherence to the PMTCT cascade. In addition, this study will also identify if mutual understanding, compliance, identification, and internalization also play a key role within the interpersonal communication to increase the adherence to the PMTCT cascade. The mentor mothers will also provide their perceptions on the mentor mother program.

## 2.6 Summary

Mutual understanding and the processes of influence (compliance, identification, and internalization) are key variables in this study and tenets of the convergence theory of Lawrence Kincaid and social influence theory of David Kelman. These variables are also important elements of effective interpersonal communication. Other variables under study include PMTCT knowledge, attitudes, and practices. The literature has shown the successes of the mentor mother program in countries such as Kenya, Nigeria, South Africa, and Zimbabwe. The programme has been positively associated with higher retention rates, viral suppression, and positive behaviour change. The literature has also shown that the mentor mother program has also benefited from a cognitive-behavioural intervention and enhanced follow up by mentor mothers, which improves PMTCT retention, coping skills, lowers depression,

and increases the women's knowledge of HIV. Many of these studies approach the mentor mother program from a clinical or psychological point. However, this research studied the interpersonal communication aspect of the program. The following chapter will discuss the research methodology including the research design, population, sample size, and data collection instruments.

DAYSTAR UNIVERSITY

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter details the research design, the researchers philosophical underpinning for the research, study population, and target population. The chapter also discuss the sample size, sampling techniques for this research, data collection methods, and data analysis plan. The chapter ends with an analysis of the validity and reliability of the research, as well as ethical considerations undertaken for this research.

This research employed a mixed method research approach through a quasi-experiment. A quasi experiment uses approaches and processes to make observations in a study that is designed comparable to an experiment, however the study lacks random assignment into the control and experimental group which have already been preassigned by location (Gravetter & Forzano, 2018). Homa Bay county sites have access to a Mentor Mother Programme, while sites in Kisumu county do not.

Data from the HIV+ pregnant women were collected through a pre and post questionnaire testing for mutual understanding, compliance, identification, and internalization. CBI FGDs were conducted in the experimental group. Interviews with mentor mothers were conducted to gather their perception of the programme. The pre and post questionnaire in both groups allowed the researcher to measure the impact of the CBI FGD. Respondents participated in the study voluntarily and consent forms were signed by those willing to take part in the study. This research takes a pragmatic approach, where participants' thoughts and opinions shall be involved in making conclusions and recommendations (Misak, 2013).

This study used a mixed method research approach to examine the effectiveness of interpersonal communication in PMTCT of HIV, specifically focusing on the KMMP. The KMMP trains HIV-positive mothers, known as mentor mothers, on PMTCT of HIV techniques. Mentor mothers form close interpersonal relationships with HIV-positive pregnant women in their communities and guide them on practices that prevent MTCT of HIV during the period of their pregnancy, delivery and breastfeeding. The research compared PMTCT in a KMMP site in Homa Bay with a PMTCT site without the KMMP in Kisumu County. The study site in Homa Bay had a CBI input through FGDs. A post intervention survey at the experimental site was then compared to responses from participants receiving standard PMTCT services in Kisumu County. Interviews with mentor mothers were also held to gather their perspectives on the KMMP.

### 3.2 Research Design

This research used a mixed method design approach through a quasi-experiment. Experimental methods are ideal in identifying cause and effect relationships. This is done through manipulations of some aspects of the environment and observing its effect (Field & Hole, 2003). In the quasi-experimental design, the experimenter does not have entire control over the manipulation of the independent variable (Field & Hole, 2003). Although, the researcher can regulate when the dependent variable will be measured, they have no control over the timing of the experimental manipulation or in what way participants are allocated to the various conditions of the study. Therefore, it is not possible to isolate cause and effect as irrefutably as with a full experimental design where participants are indiscriminately allotted to different groups which receive varied treatments.

Exploratory research helps provide greater understanding of the problem (Saunders, Lewis, & Thornhill, 2012). The objective is not to provide conclusive responses to the research questions, but discover the research topic with variable points of complexity. Exploratory research forms the basis of more conclusive research as it tends to provoke novel problems on which little or no previous research has been done (Brown, 2006; Singh, 2007).

### Mixed Method Research Paradigm

This study falls under health communication studies and focuses on self-reports from participants through a pre and post-test survey, a CBI through a FGD and in-depth interviews. The nature of this study dictates the mixed method research paradigm since this analysis is both descriptive and inferential.

Mixed methods research is a category of research where the researcher merges quantitative and qualitative research techniques, methods, approaches, and concepts into a distinct study (Field & Hole, 2003). Philosophically, mixed methods research utilises the pragmatic system of philosophy whose logic of inquiry includes the use of induction, deduction and abduction. Mixed methods research also uses multiple approaches in answering research questions (Teddlie & Tashakkori, 2009).

Within this study, mixed methods research is carried out through the quasi experimental study pre and post-test survey, CBI FGD, and in depth interviews. Data collected using each method shall inform the other method. This is known as triangulation. Heale and Forbes (2013) identified triangulation as “the use of more than one approach to researching a question” (p. 98). The aim of triangulation is to increase assurance in the findings through validation of a proposition using two or more independent findings. For example, data collected from the pre-test survey, shall also be analysed in light of FGDs and data from in depth interviews.

## Quantitative Element

In this research, the quasi-experimental research design was employed. The quasi-experimental research design was chosen as it is used to demonstrate causality between an intervention and an outcome in nonrandomized samples (Harris et al., 2006). It is also the most widely used research approach employed to evaluate the outcomes of social programs and policies (Thyer, 2012). Furthermore, reactions of participants are more likely to be genuine because they are not in artificial research environment (White & Sabarwal, 2014). In this study it is not possible to randomize individuals to the groups under study as the mentor mother programme only runs in specific counties and sites.

Additionally, under the quasi experimental design, the researcher made use of the static group comparison design where there are two groups involved in the quasi experiment. One group is the control group to whom nothing is done by the experimenter (HIV+ women not participating in the mentor mother programme in Kisumu county - Kandege Health Centre) and an experimental group who receive some treatment (HIV+ women participating in the mentor mother programme - participants from Homa Bay County Teaching and Referral Hospital (HBCTRH)). A baseline survey was conducted to establish a benchmark of the level of awareness, knowledge, attitude, and practices of PMTCT as well as the levels of mutual understanding, compliance, identification, and internalization that the HIV+ women have. The same survey was administered again to the experimental group after the intervention had been administered and the results analysed and compared to the previous survey.

## The Qualitative Elements

### The intervention

A CBI, based on the premise of a reciprocal relationship between thoughts, emotions, and behaviour, was introduced to the experimental group (Gresham & Lochman, 2009). It is assumed that a change in one of these elements will result in changes in the other elements. Studies in HIV related CBI have been linked to positive behavioural outcomes such as reduced unprotected sex, increased use of condom protected intercourse, greater adherence to treatment, reduced depression and hostility, and increased behavioural skills (Futterman et al., 2010; Hill & Kavookjian, 2012; Koob et al., 1993; Lawrence et al., 1995; Parsons, Golub, Rosof, & Holder, 2007).

Cognitive behavioural interventions are part of CBT, which is a conversation therapy that helps people manage their difficulties by shifting the way they think and act (National Health Service, 2016). CBT can be done as a group or individual sessions, however each session enables the individual to reflect on their situations, thoughts, emotions, and actions in order to help patients comprehend their existing habits of thinking and acting and furnishing them with the apparatuses to change their maladaptive cognitive and behavioural patterns (Fern & Byrne, 2013).

The CBI allowed HIV+ pregnant women to be more aware of their emotions, thoughts, and actions. This intervention developed problem solving skills which include setting goals, developing plans, and solving challenges. The intervention also assisted partakers discover how to implement their ideas, to practice, and get better over time. CBT at the group level will allowed the HIV+ pregnant women, some of whom may be experiencing some dissonance because of knowing their status, to learn from other members of the group how they accepted their status.

Due to COVID-19 travel restrictions in Kenya (Aluga, 2020), the researcher was unable to travel and train the 2 mentor mothers at the experimental site in Homa Bay County. The researcher therefore trained her research assistant through the phone, who then trained the 2 mentor mothers on CBI. The two mentor mothers work at Homa Bay County Referral and Teaching Hospital. The mentor mothers, under the supervision of the research assistant, led the 2 focus groups with HIV+ pregnant women at HBCTRH for 3 sessions on matters regarding PMTCT using guidelines developed by the MoH and WHO (2016). The mentor mothers led the focus groups in the presence of the research assistant, as the mentor mothers are the point of contact for information for their clients. Continuity of the focus groups can also be ensured after the conclusion of the research period. Kamberelis and Dimitriadis (2005) noted that the participation of familiar persons in leading focus groups increase chances of more varied and honest responses. During the FGDs, the research assistant recorded the discussions and provided any support for the running of the deliberations.

The HIV-positive pregnant women went through the 3 session CBI as part of FGDs led by the trained mentor mother. The FGDs were held once every month (June, July, and August 2020) and therefore, the women met 3 times in the course of the three months. This is in line with the WHO recommendation of at least one contact a month with a health provider for pregnant women (WHO, 2015b). Therefore, the 2 focus groups met once a month (June - August 2020) for 3 months at Homa Bay County Referral and Teaching Hospital. Guest, Namey, and McKenna (2016) recommended at least 2 focus groups for health research involving FDGs. The focus groups were initially planned to have between 6-12 HIV-positive pregnant women, however, one participant dropped out of the second group as she was unable to continue with the research (Wimmer & Dominick, 2010). Therefore, FGD group 1

had 6 participants, while FGD group 2 had 5 participants. This means FGD participants were 11 for both FGDs. Having a lesser number of participants in the post survey as a result of the FGD intervention has also been supported by other researchers (Futterman et al., 2010), as only the 11 participants in the CBI FGD intervention will participate in the post survey.

Since focus group participants must have taken part in the baseline survey, the post survey after the intervention at the experimental site was only completed by 11 HIV+ pregnant women who participated in the intervention. This procedure allowed the researcher to analyse the differences in mutual understanding, compliance, identification, and internalization between the control group, which did not have the intervention and the experimental group who were exposed to the intervention.

Focus group discussions were chosen as they provide a background and an outlook that enables experiences to be understood holistically (Carey & Asbury, 2012). Within FGDs, follow up questions can be asked by the facilitator and experiences from other participants can be shared. Furthermore, as FGD members describe experiences it can offer insight on how participants make sense of and organize experiences within their social context. HIV+ pregnant women are also considered vulnerable groups (Sengupta, Lo, Strauss, Eron, & Gifford, 2010; UNAIDS, 2014b). A FGD would give this vulnerable group a voice to share their own experiences with other members of their own society who have similar experiences.

The FGDs included content from two broad topics based on the mentor mother training manual (GoK, MoH, 2012c). The topics were learned over the 3 sessions, each session lasting about one hour. The topics were: a) living a healthy life – HIV & AIDS basics, opportunistic infections and HIV related illnesses, HIV testing, PMTCT, and antiretrovirals and b) dealing with feelings - disclosure, partner testing, stigma,

support, challenges related to HIV, and avoiding negative emotions. The first topic was discussed in one session and provided a base for further discussions as it gave a background to HIV and PMTCT. The second broad topic was discussed in two sessions, the first session dealing with disclosure and partner testing and the second session dealing with support, challenges, and stigma. CBIs are especially suited to deal with managing emotions and decision making (Fern & Byrne, 2013).

As the topics were discussed, participants were encouraged to share personal experiences, have paired conversations on the current topic, participate in role plays, exercises, brainstorming activities, breathing exercises, and goal setting. After the 3 FGDs sessions, FGD participants were asked to fill in the questionnaire again and their results compared to previous scores.

#### Interview

The researcher telephone interviewed the two mentor mothers stationed at the intervention facility (Homa Bay County Referral and Teaching Hospital) about their experiences and perceptions of the Mentor Mother program (GoK, MoH, 2012e). The interviews allowed for clarification of any questions and follow up on responses provided by the Mentor Mother (Wimmer & Dominic, 2010).

The practise of several data sources in qualitative research to advance greater understanding of phenomena is known as triangulation (Patton, 1999). In this study, triangulation is applied through the use of FGDs and in-depth interviews to gather information on the Mentor Mother Programme.

#### Philosophical Underpinnings

Teddlie and Tashakkori (2009) distinguished between 5 broad paradigms, namely constructivism, the transformative perspective, pragmatism, post positivism, and positivism. These distinctions are made based on epistemology, ontology,

axiology, and preferred methods. Paradigms are philosophical representations used within any given field (Kuhn, 1970). Epistemology focuses on assumptions about knowledge. It questions what it means to know. Some typical questions in epistemology include: what can we really know? How is knowledge accumulated? And is there a relationship between the knower and the known? (Steup, 2005). Some scholars believed that knowledge must be supported by empirical observation, while others assumed that knowledge claims must be supported by conceptual analysis and rational argument (Littlejohn & Foss, 2009). Yet, contrary to all this, there are other scholars who believe that knowledge cannot be proven with much certainty at all. As a result of these different schools of thought, a number of competing epistemologies arose such as empiricism, rationalism, constructivism, and positivism, among others.

Lincoln and Guba (1985) distinguished between positivism and constructivism in the following ways: positivists are generally related to quantitative research methods and believe that knowledge and the knower are separate entities, inquiry is value free, and that there is a single reality. In this paradigm, causes can be linked to effects and time and context free generalizations are possible. Constructivists are generally related to qualitative research and believe that the knower and the known are inseparable, inquiry is value bound, and that there are multiple constructed realities. Here, it is difficult to differentiate between causes and effects, and time and context bound generalizations are possible.

Post positivism is primarily linked to quantitative research (Phillips & Burbules, 2000). Research under this paradigm aims to discover laws that are generalizable. It is mainly informed by critical realism where reality is imperfectly apprehendable. Post positivism relies on replicability of findings and causes are identified through probability, which changes over time.

The transformative and pragmatic paradigms are both related to mixed method research, where qualitative and quantitative participants are involved in decision making (Teddlie & Tashakkori, 2009). As the current study is a mixed method research, the philosophical underpinning will fall within either of these two philosophies. Epistemologically, both paradigms accept that knowledge is gained through objectivity and interaction with the participants, furthermore within pragmatism knowledge is considered a tool for action. Furthermore, both worldviews share diverse viewpoints regarding social realities, however the transformative paradigm leans towards realities that promote social injustice, while pragmatism leans on the best explanations within personal value systems. Axiologically, the transformative paradigm is guided by social injustice while in pragmatism values are acknowledged in interpreting results. In terms of causal relations, within the transformative paradigm causal relations should be understood within the framework of social justice, while pragmatists view causal relations as transitory and hard to identify.

Taking into consideration the above worldviews, this research is best situated in the pragmatic paradigm where participants' thoughts and opinions within the mixed method approach shall be involved in making conclusions and recommendations. Pragmatism recognizes the influence of the mentor mothers over their clients through knowledge. The personal value system of the HIV-positive pregnant women which is significant for the operationalization of internalization within the study is also acknowledged.

According to Misak (2013), pragmatism originated around the 1870's, initiated by 'classical pragmatists' such as Charles Sanders Peirce (1839–1914), William James (1842–1910), John Dewey (1859–1952), Jane Addams (1860–1935)

and George Herbert Mead (1863–1931). These ‘classic pragmatists’ defined and defended pragmatists views, extended pragmatist theory to areas of education, politics, and other scopes of social improvement within communities (Shields, 2004). Pragmatism is founded on the pragmatists maxim developed by Charles Sanders Pierce (Legg, 2008). The maxim aims to clarify pragmatist’s thoughts through discovering what is tangible and practical. Truth therefore within this paradigm is considered to be that which is ultimately agreed to by all who investigate. The pragmatist maxim has been accused of being aloof by its critics, however, in response, Misak (2013) advised critics to read Pierce’s entire work to fully understand the maxim and foundations of pragmatist thought.

The current research extends pragmatists views to interpersonal health communication within the Kenyan context. The study attempts to discover how PMTCT of HIV can be reduced among women in rural communities through already existing networks and built on evidence collected by other scholars. This knowledge of past evidence on PMTCT of HIV was implemented through the quasi experiment in Kisumu and Homa Bay County and through the interviews with Kenya Mentor Mothers. Information gathered through these validated and reliable research methods tackled PMTCT problems based on the HIV-positive woman’s experience. In this way the study contributed in bringing audiences closer to the truth on reducing MTCT of HIV. The study also payed attention to ensure validity and reliability of the data collection tools.

### 3.3 Population

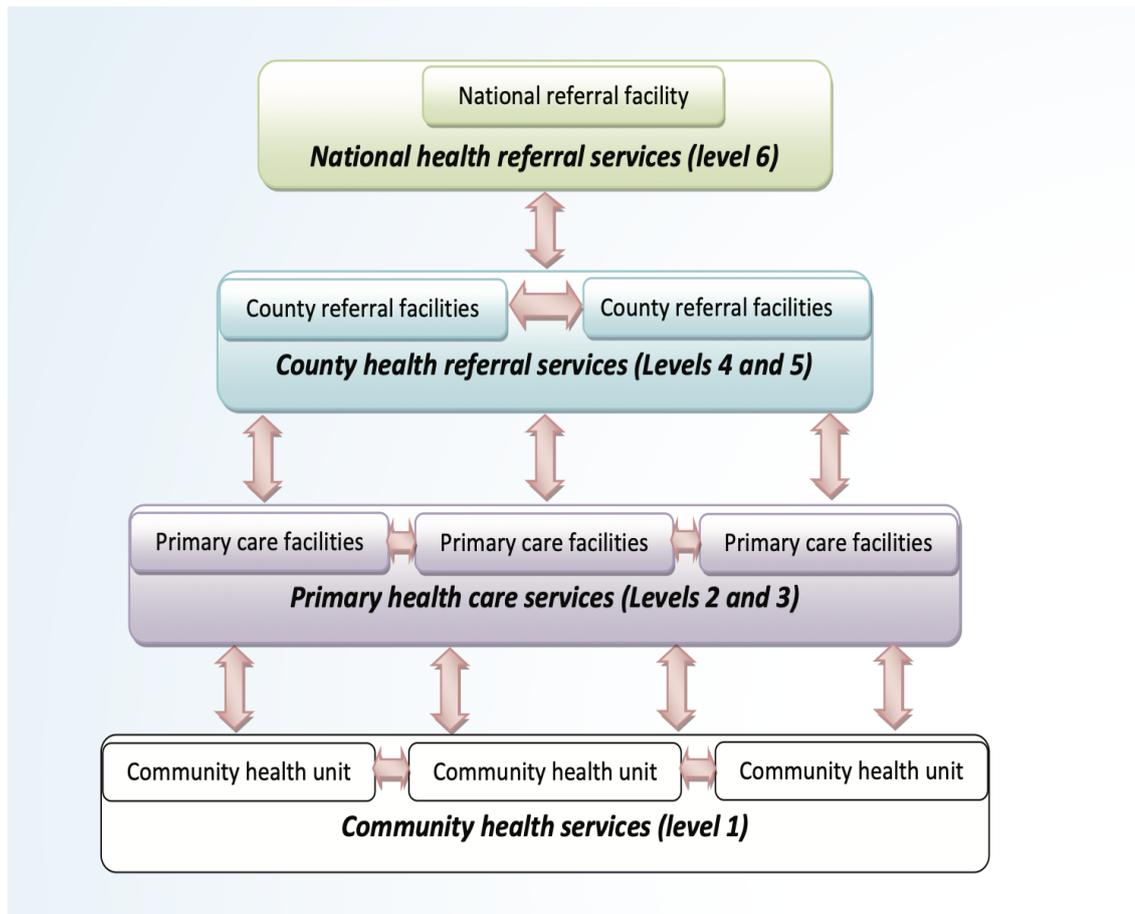
The population for this study consisted of HIV-positive pregnant women aged 18-49 years, accessing PMTCT services in Homa Bay County and Kisumu County. According to the Kenya HIV Estimates, there were 53,067 women accessing PMTCT

services in Kenya in the year 2017 (GoK, MoH & NACC, 2018). Of this number, 6,304 HIV+ pregnant women were accessing PMTCT services in Homa Bay county, while 5398 HIV+ pregnant women were accessing PMTCT services in Kisumu County. The total population of HIV-positive pregnant women accessing PMTCT services in Kisumu and Homa Bay Counties is 11702 HIV-positive pregnant women. This was the population for this study. Education in these counties also seems to be low as only 28.1% (Homa Bay) and 24% (Kisumu) of women in these counties had completed primary education (KNBS, 2015). Mentor mothers working in Homa Bay County also make up part of the population for this study - 52 in Kisumu and 39 in Homa Bay Counties (GoK, MoH, 2012e).

#### 3.4 Target Population

The target population for this study was HIV-positive pregnant women in Homa Bay County attending clinics at Homa Bay County Referral and Teaching Hospital (257 in 2018) and Kandege Health Centre in Kisumu county (14 in 2018) (NASCO, 2019). The total population for the baseline survey was therefore 271 participants. The participants in the Homa Bay sites were the experimental group and had access to the mentor mothers, while participants in the Kisumu site only accessed standard care of PMTCT through the available clinician. Only the experimental group of participants in Homa Bay County participated in the CBI FGDs. There were two focus groups in Homa Bay County Referral and Teaching Hospital meeting once a month for three months. Each focus group was introduced by the research assistant and then led by the Mentor Mother. The two mentor mothers working at Homa Bay County Referral and Teaching Hospital were also the targeted population for the interviews in this research.

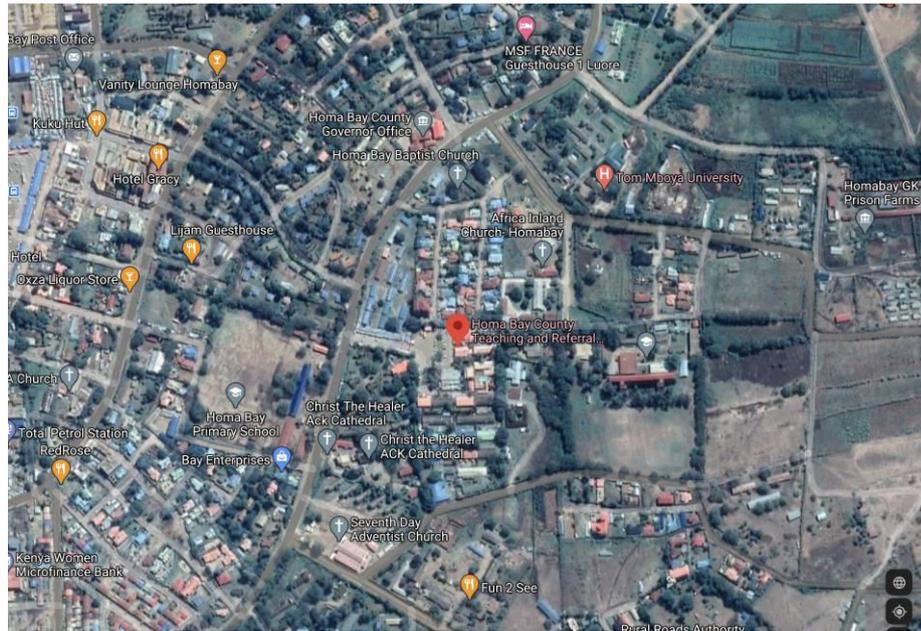
The public health care system in Kenya is organized into a referral system (GoK, MoH, 2014). The referral system is used to administer client health care desires by referring clients from an originating facility to an organization, service, or community unit that can best deliver the level of care needed. The referral system in Kenya is organized into 6 levels (GoK, MoH, 2014). Beginning at the community, level 1 includes support by CHWs, who then refer their clients to dispensaries (level 2) for further treatment. Level 3 includes health centres and maternity and nursing homes. Level 4 & 5 include county referral hospitals that are able to offer laboratory diagnostic services and specialized curative services such as dialysis and cancer treatment. Level 6 includes the national teaching referral hospital, where specialized skills, expertise, and services are offered with links to international universities, facilities, and staff.



*Figure 3.1: The Kenya Health Referral System*  
Source: GoK, MOH (2014)

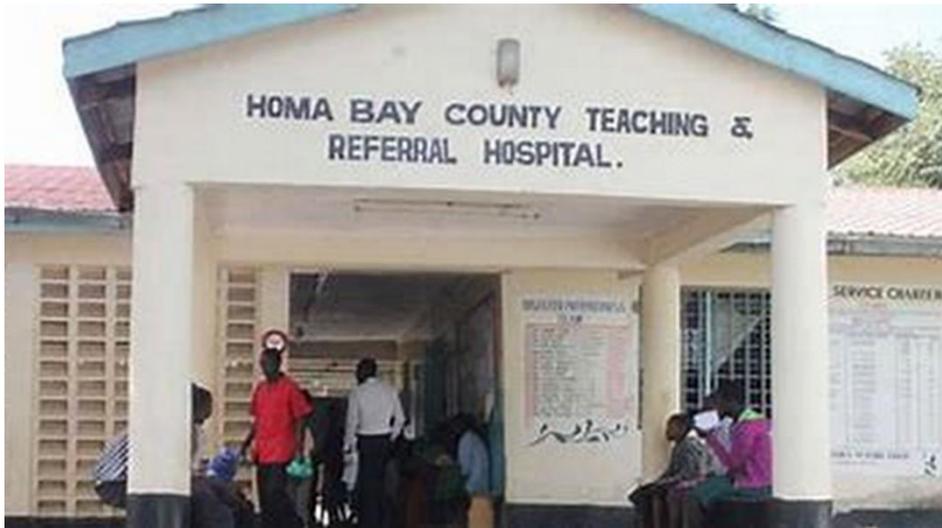
### Homa Bay County Teaching and Referral Hospital (HBCTRH)

Homa Bay County Teaching and Referral Hospital is a level four referral unit with a 300 bed capacity in Homa Bay County (HBCTRH, 2020). It serves eight (8) sub-counties, which are Homa Bay Town, Ndhiwa, Rangwe, Karachuonyo, Suba, Kasipul Kabondo, Mbita, and Kabondo Kasipul. The hospital was first established in 1969 as a dispensary for the community and grew to the referral facility (Okoth, 2018).



*Figure 3.2: Map of the Location of HBCTRH*  
Source: Maphill (n.d.)

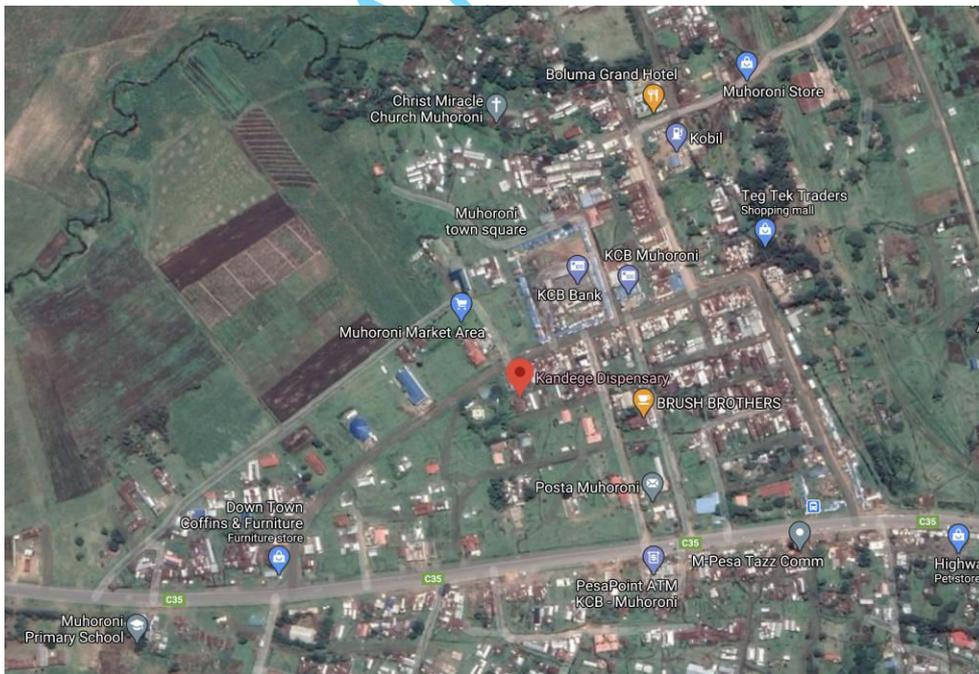
DAYSTAR UNIVERSITY



*Figure 3.3: Front View of HBCTRH*  
Source: HBCTRH (2020)

### Kandeg Health Centre

Kandeg Health Centre is a level 3 health facility located in Muhoroni Sub-County within Kisumu County. It started off as a dispensary and then as it grew, was changed in to a health centre. The health centre is able to offer in-patient services including maternity services and receives referrals from level 1 and 2.



*Figure 3.4: Map of Kandeg Health Centre*  
Source: Google (2020)



*Figure 3.5: View of Kandege Health Centre from the Front Gate*

### 3.5 Sample Size

The sample size for the quantitative element of this study was calculated using Qualtrics (2018), a 95% confidence level, 5% margin of error, and a population size of 271 HIV-positive pregnant women visiting both study sites in 2018. Therefore, using the above figures the sample size is 124 participants for the baseline survey. This figure was divided proportionately among both sites as Homa Bay county and referral hospital had 95% cases compared to the control group which made up 5% of the cases. Therefore, for the baseline survey Homa Bay County and Referral Hospital will have 122 participants, while Kandege Health Centre will have 2 participants. The researcher however oversampled participants in both sites. There were therefore 143 survey respondents at the experimental site and 18 respondents at the control sites. The total survey population was therefore 161 participants.

There were 2 focus groups, each group meeting once a month for 3 months. Each focus group had between 5-6 participants each. Mason (2010) noted that in qualitative research more data does not necessarily mean more information. Qualitative research functions on information (data that has meaning), therefore, at least one occurrence of data is all that is needed to ensure that it is analysed.

Frequencies are not the focus of qualitative research as one occurrence is as useful in understanding the subject under research. Guest et al. (2016) recommended at least 2 focus groups to be conducted. The sample size for the focus group was therefore 11 participants, 5 participants in one group and 6 participants in the other. The researcher interviewed all two mentor mothers located at the intervention sites as they participated in administering the intervention.

### 3.6 Sampling Techniques

Convenience sampling was employed for the quasi experiment. This sampling technique involves picking participants who are readily available at a particular time (Mitchell & Jolley, 2013). This sampling method was chosen for this study as the research targets HIV+ pregnant women who are attending clinics at all the sites for the first time.

In each of the study sites, health workers approached the HIV-positive pregnant women after their clinic visit. The health workers informed the women about the research study and asked whether they were willing to hear more about it. If the HIV-positive pregnant woman agreed to participate, she was referred to the research assistant who provided more information on the study. Once the potential participant agreed, they were given a consent form to sign (Appendix A).

Mothers at both sites receive standard PMTCT care from medical staff, however HIV+ pregnant woman enrolled at the intervention site (Homa Bay County Referral) participated in the Mentor Mother program and the CBI 1. Therefore, in addition to the consent form to participate in the survey (Appendix A), HIV-positive pregnant women at the experimental site (Homa Bay Referral and Teaching Hospital) were asked if they would also like to participate in a FGD. The research assistant at the experimental site explained the purpose of the focus groups, how many times they

will be meeting, where they will be meeting, and benefits of participating in the FGDs. Once the HIV+ pregnant woman agrees to participate in the FGD, the research assistant asked her to read and sign the consent form (Appendix B), or explained the form to her before her signature was provided. A drink and a snack were provided to the HIV+ pregnant women who participate in the FGDs after each session.

The sample size for the survey was 161 participants. In the experimental site, 143 participants participated in the survey at pre-intervention level. Eleven of the 143 participants were included in the FGDs and the post-intervention survey. At the control site, 2 participants took part in the pre-survey, while 16 participants participated in the post-survey. Only 11 participants in the experimental site were included in the FGDs as the two FGDs would not be effective with a larger number of participants (Wimmer & Dominick, 2010). Furthermore, due to COVID-19 regulations in Kenya with regards to social gatherings and social distance, it was advisable to keep FGD numbers small (Aluga, 2020). The questionnaire was therefore sent on email to the research assistants at both sites. The research assistants then printed them for distribution among the target population within the sites. Post survey questionnaires were completed by all participants at the control site and only the participants in the experimental site who participated in the FGDs. This allowed the researcher to compare the effect of the intervention with those who did not have the intervention. In addition, as this design was quasi-experimental, participants did not have to be paired for the pre-post test. Unequal variances could still be compared statistically.

All participants of the pre and post survey, as well as the FGDs, were enrolled in the PMTCT programme either at the experimental site (Homa Bay Teaching and Referral Hospital) or the control site (Kandegge Health Centre). For the interviews

with the mentor mothers, the researcher spoke to each of the mentor mothers and discussed a convenient time to call them for their interviews.

### 3.7 Data Collection Instruments

After obtaining ethical clearance from the Daystar University Ethics Review Board (DU-ERB), a research permit from the National Commission for Science, Technology and Innovation (NACOSTI), and research approvals from Kisumu and Homa Bay counties' health directors, the study employed the following data gathering methods. Pre and post survey, CBI, FGD, and interviews. For the pre and post survey, a questionnaire (Appendix D) was utilized to collect data. The questionnaire was self-administered and collected data related to participant's level of awareness, knowledge, attitude, and practices of PMTCT. The questionnaires also tested for mutual understanding, compliance, identification, and internalization between Mentor Mother or PMTCT provider and the targeted population. A self-administered questionnaire was chosen to collect information for the survey as a questionnaire is a standard tool used to collect information from large audiences. The research assistant only assisted participants in filling the questionnaire if they were illiterate therefore unable to read and answer the questions by themselves.

The questionnaire was developed to test each of the variables (interpersonal communication, compliance, identification, internalization and mutual understanding, and PMTCT). The interpersonal communication under study in this dissertation is between the mentor mother and their clients (HIV+ pregnant women). This variable was measured through the interpersonal communication competence scale (ICCS) by Rubin and Martin (1994). The ICCS is a 30-item scale that tests skills that facilitate effective communication in interactive settings. These skills are self-disclosure, empathy, social relaxation, assertiveness and interaction management, alter centrism,

expressiveness, supportiveness, immediacy, and environmental control. This research utilized the short form of Rubin and Martin's (1994) ICCS, which incorporates one question testing each skill. For example, two sample items include 'my conversations are pretty one-sided' and 'I am comfortable in social situations.' Responses are made on a 5-point scale ranging from almost never to almost always.

Compliance, identification, and internalization are three processes of influence under the social influence theory. Compliance, according to Kelman (1958), is when an individual accepts influence because he hopes to achieve a favourable reaction from another person or group - to gain specific rewards or avoid certain punishments as a result of conforming. Identification takes place when an individual accepts influence in order to build or maintain a relationship with another individual or group. Internalization occurs when an individual accepts to be influenced as a result of the content of the individual's behaviour, which is rewarding to the individual and in line with his/her value system and best for their needs.

Fourteen items thought to represent compliance, identification, and internalization were adapted from previous studies (Kelman, 1958; Oreilly & Chatman, 1986). For example, 4 compliance items were developed based on Kelman's (1958) definition of compliance as behaviour engaged in to obtain specific rewards (for example, "unless I'm rewarded for it in some way, I see no reason to spend extra effort on doing what the mentor mothers/clinician want me to do " and "in the presence of the mentor mother/clinician, I sometimes have to act in ways that are not completely consistent with my true values").

Four items were also included to reflect identification with the organization (for example, "I tell other HIV-positive women I know about the great services offered by mentor mothers/clinicians " and "the mentor mothers have achieved

worthwhile accomplishments in my community"). A final set of 6 items was chosen to assess internalization (for example, "I find that my values and the mentor mother's/clinicians' values are very similar" and "since joining the mentor mother program/PMTCT program, my personal values and those of the mentor mothers/clinicians have become aligned"). Respondents will indicate on a 7-point scale the degree to which they agreed or disagreed with each statement. The 14 items are randomly ordered and embedded in the questionnaire.

Eighteen items thought to represent mutual understanding were adapted from the study by Adnan and Jambari (2016). The authors differentiated four aspects of mutual understanding: language, environment, shared domain of knowledge, and relationship management. Five items were chosen to assess language (for example, sometimes the Mentor Mother/Clinician uses words I do not understand). Three items were chosen to assess the environment (for example, 'I can contact the Mentor Mother/clinician outside our scheduled sessions'). Three items were chosen to assess shared domain of knowledge (for example 'the Mentor Mother/clinician is knowledgeable about HIV/AIDS issues'), and a final seven items were chosen to assess relationship management (for example, 'I feel supported by the Mentor Mother/clinician to achieve my goals'). Respondents will indicate on a 3-point scale, by ticking either 'yes,' 'No,' or 'Not sure' for each statement.

Questions testing knowledge and practices of the PMCTC and attitudes towards HIV were adopted from the KDHS (KNBS, 2015) and the guidelines for the PMCTC in Kenya (GoK, MoH, 2012d). Five items were chosen to assess knowledge of PMTCT (for example, babies can acquire the infection from breastfeeding by an infected mother) and six items were chosen to assess attitude towards HIV (for example, I do not want to associate with other HIV-positive people). An additional

five items were chosen to assess the adherence to the PMTCT cascade (for example, I have been tested for HIV; I take my ARVs daily). Respondents will indicate on a 3-point scale, by ticking either 'yes,' 'No,' or 'Not sure' for each statement.

A FGD guide (Appendix G) was used to guide each of the 2 focus groups led by the mentor mothers. The focused on two broad topics based on the mentor mother training manual (Futterman et al., 2010; GoK, MoH, 2012c). The topics are living a healthy life - the HIV virus, HIV prevention, ARVs and when to take them, and family planning- and dealing with feelings - disclosure, stigma, support, challenges related to HIV, and avoiding negative emotions. As the topics are discussed, participants were encouraged to share personal experiences, have paired conversations on the current topic, and participate in role plays, exercises, and brainstorming activities.

Each FGD was recorded and transcribed. A word analysis software (Dedoose) was used to identify themes in each session/discussion from the participants. The research assistant was in the room during the FGD, assisting the Mentor Mother with recording and facilitating the session. An interview guide (Appendix E) was used to collect data from the mentor mothers about their perception of the Mentor Mother program. Interview guides guide the researcher on asking relevant questions to the interviewee (Lewis-Beck, Bryman, & Liao, 2004).

#### Types of Data

Quantitative data was collected from the questionnaire (Appendix D), where items were measured to provide numerical results (Wimmer & Dominick, 2010). Qualitative data was collected from the interviews with the mentor mothers and the FGDs to provide greater understanding of situations using non-numerical results.

### 3.8 Data Collection Procedures

Due to the government directive, which quarantined Nairobi Metropolitan area (Aluga, 2020), the researcher could not travel to Homa Bay and Kisumu counties to administer the questionnaires, interviews, and FGD. The researcher therefore trained the research assistants to administer the questionnaires in both facilities, while only the research assistant at the experimental site (HBCTRH) was trained on facilitation and recording of the FGDs. Questionnaires at HBCTRH were administered between 11th May 2020 and 1<sup>st</sup> August 2020 with 143 filled questionnaires, while questionnaires at Kandege Health Centre were administered between 4<sup>th</sup> June 2020 and 3<sup>rd</sup> August 2020 with 18 filled questionnaires.

Two focus groups were formed at HBCTRH. FGD 1 had 6 HIV-positive pregnant women, while FGD 2 had 5 HIV-positive pregnant women (one participant dropped out as she was unable to come for the meetings with a toddler). Both Focus Group 1 and 2 met in June, July, and August 2020. FGDs were carried out in Dholuo and the recordings were transcribed and translated. The questionnaire (Appendix D) for the pre and post survey was self-administered, however the research assistant was available to allow for any clarification of questions (Oladipo, Ikamari, Kiplang'at, & Barasa, 2015). The FGDs were led by the mentor mothers, assisted by the research assistant. The research assistant recorded the FGDs for analysis.

The researcher carried out the telephone interviews with the mentor mothers at an agreed upon time. Telephone interviews have been used over the years to access populations that might be difficult to reach in person or by some other means (Maritan, 2001; Sturges & Hanrahan, 2004). In this case, COVID 19 government movement restrictions across Kenyan counties was a barrier to conducting physical interviews. Telephone interviews are considered to be cost effective and time

efficient, where researchers can access various resources and experiences without bearing the expense and time related to traveling to the different locations (Dinham, 1994; Taylor et al., 2012).

The mobile numbers of the mentor mothers at Homa Bay Teaching and referral hospital were provided to the researcher by the research assistant who was stationed on site. The research assistant spoke to the mentor mothers and explained the objectives of the interviews and asked them if they would want to participate. The mentor mothers then agreed to speak to the researcher. Furthermore, before the interview, the researcher asked each mentor mother if they would want to participate in the research to which they both verbally agreed and signed the interview consent forms (APPENDIX C).

The research assistant conducted a pre-interview with the mentor mothers on 10<sup>th</sup> May 2020. The pre-interview introduced the research objectives to the mentor mothers and discussed any preliminary questions they had before the actual interview. The interviews aimed at answering research question 2 (What perception do mentor mothers have of the programme that they are involved in to prevent mother-to-child transmission of HIV?). The interview with the first mentor mother (MM1) was done on 13<sup>th</sup> May 2020, while the interview with the second mentor mother (MM2) was done on 3<sup>rd</sup> June 2020. Each interview took about 16 minutes each and followed the interview guide (APPENDIX E) and was recorded and transcribed by the researcher (APPENDIX I). During the interview, the researcher asked further questions to probe answers provided by the mentor mothers for clarity. At the time of the interview, Mentor Mother 1 (MM1) had been a mentor mother for 1 year and a few months, while Mentor mother 2 (MM2) had been a mentor mother for 6 months.

### 3.9 Pretesting

Pretesting of the questionnaires was done in Homa Bay County but in a different region (Rachuonyo North). The researcher through a research assistant carried out the pre-test for the questionnaires at Kendu Sub County Hospital in order to detect misunderstandings, ambiguities, or other difficulties participants may encounter in filling out the questionnaire. According to scholars such as Beatty and Willis (2007) and Wild et al. (2005), a default sample size of 5-15 participants is recommended for the pre-test. This research had 6 participants for the pre-test.

The pre-test participants represented the target population for the study who were HIV-positive pregnant women, culturally similar backgrounds as the target population, and within the reproductive age of 18-49 years. Once the pre-test was conducted, the researcher corrected any ambiguities that existed in understanding the questions in the questionnaire. The pre-test was conducted in May 2020 before commencing the actual study in order to allow time to make any adjustments to questionnaires.

### 3.10 Data Analysis Plan

Data analysis consists of descriptive statistics for summary of research outcomes. Group differences for continuous data have been analysed by a Welch t-test for unequal variances (Trochim, Donnelly, & Arora, 2016). As described by Ahad and Yahya (2014), the Welch t-test is a “parametric test for comparing means between two independent groups without assuming equal population variances.” It is robust for testing the mean impartiality when the similarity assumption is not contented. As each group at pre-and post-test level had different numbers of participants, the Welch t-test was best placed to analyse differences in the groups. Categorical variables are analysed using chi-square test.

Data analysis was done using SPSS version 27. Qualitative data collected using FGDs and interviews with the mentor mothers was recorded, transcribed, translated, and analysed using thematic characterization using Dedoose. The transcripts were read, annotated, conceptualized, segmented, analysed, and reported. Furthermore, a case node was created for each participant on Dedoose and their comments coded within their case node. Topic coding and analytical coding was then assigned to each case node.

### Validity and Reliability

Validity denotes the accurateness and importance of inferences, the scale to which results obtained from the investigation of the data characterise the concept being studied (Creswell, 2014). It can be narrowed into two broad forms: translation validity - face and content validity- and criterion-related validity - predictive, concurrent validity (Trochim et al., 2016). Translation validity tries to measure the scale to which a researcher operationalized their constructs this entails looking at one's measurement to see if it measures what it intends to measure. Within the questionnaire of this study, face validity has been ensured through the various sections created measuring (mutual understanding, compliance, identification, and internalization). The researcher has also ensured that the FGD and Interview guide are focused on the CBI, PMTCT, and the work of the mentor mothers. Qualitative data was also triangulated to help explain quantitative findings.

Content validity requires viewing the operationalization of variables against the relevant content. Content validity has been ensured in the questionnaire through the adaptation of questions that have already been validated through previous research, or policy documents for the same constructs. In addition, a pre-test will be conducted further validate the constructs.

In predictive validity, the scores on a scale applied earlier should predict scores on a later measure. Previous studies have suggested that mentor mothers and, in addition, CBI within mentor mother programs increase adherence and knowledge scores of HIV-positive pregnant women (Baek et al., 2007; Sam-Agudu et al., 2017). Additionally, previous research has shown that mentor mothers have shown positive and challenging perceptions of their work (Sam-Agudu et al., 2018). It is predictive that similar findings will be seen in the post test questionnaire and interviews in this study.

Concurrent validity assesses the operationalization's ability to distinguish between groups. This has been catered for within the study through the quasi experimental design, where the questionnaire administered to participants relate with MM and those attending clinician led PMTCT services. HIV-positive women with access to Mentor Mother networks are more likely to have higher levels of mutual understanding between herself and the mentor mother, as well as to have been greater influenced by the mentor mother to change health behaviour, as opposed to an HIV-positive pregnant woman without access to the mentor mother. Validity of the interviews is ensured through the use of structured questions in the interview guide, all of which focus on the mentor mother's work and her perceptions of her job (Whetzel, Schmidt, & Maurer, 1994).

Reliability refers to repeatability or consistency (Trochim et al., 2016). In order to ensure reliability and internal consistency of the results, a pre-test was done in Kendu Sub County Hospital in Homa Bay County. Cronbach Alpha test of reliability was used to determine the reliability coefficient of the questions. A reliability coefficient of 0.70 or above is considered coefficient for internal consistency for questionnaires (Trochim et al., 2016). To ensure the reliability of the

FGDs and interviews, each session/interview was conducted by one person and directed by the FGD guide/interview guide, which has standardized questions (Conway, Jako, & Goodman, 1995).

### 3.11 Ethical Considerations

Perebinossof (2017) defined ethics as doing what is morally right in terms of self in relation to others. Morality is described as a set of codes of conduct of an industry accepted by an individual to guide their own behavior (Stanford University, 2004). Therefore, when we consider ethics, we should understand it in light of one's own values as well as those of industry practices - in our case, communication practice.

In communication practice, ethics is guided by a number of key principles that ran across the various aspects of communication (media studies, development, political communication, and corporate communication, among others). These principles include truth and honesty, non-discrimination, consent, freedom of expression, transparency, respect for privacy, accuracy, integrity, and confidentiality (Mizzoni, 2017).

To ensure high ethical standards are maintained, the researcher trained the research assistants on client confidentiality and data collection. This training included explaining the purpose, duration and methodology of the research to possible participants, gaining voluntary consent from willing participants, and data storage. The research assistants are fluent in English, Kiswahili, and Dholuo and will assist in verbally explaining the purpose, duration, and methodology of the research. Hard copies of the questionnaires and transcripts of the FGDs are stored in secure locked cabinets at the researcher's office while the electronic data were password protected

on the researcher's computer. Pseudo names were being provided for each individual during reporting of the data collected in the survey, interviews, and FGDs.

In addition to the assurance of confidentiality of the information provided, only willing participants were recruited for this study. Those who agreed to participate were asked to sign consent forms (Appendix A, B, and C). Participants were notified that taking part in the study may contribute to improving the PMTCT program in the county. Participants of the FGDs were informed that their participation will enable them to interact with and be encouraged by discussions between other HIV-positive pregnant women. Focus group participants also benefited from discussions of PMTCT and HIV in an environment that encourages feedback and clarification of questions, thoughts, and ideas. Participants of the FGDs were notified that they could withdraw from the study at any point if they wished to.

Any psychological risks that may arise from FGDs were handled by the research assistant, who was a health worker at the facility and the mentor mothers. Challenging cases were to be referred to the clinical officer on site. The researcher prepared consent forms (Appendix A, B, and C) to be signed by research participants before their participation. These forms explain the purpose, duration, and methodology of the research. The consent forms were translated into Kiswahili and Luo and verbally explained to the participants by the research assistants. Should a participant decline from participating in the study, their decision was accepted, and the research assistant followed up on an alternative participant.

After obtaining ethical clearance from DU-ERB and research permit from NACOSTI, the researcher received permission from the County Director of Health Services Dr. Gordon Okomo (APPENDIX J) and Mr James Odiga (APPENDIX K) to

carry out the research at HBCTRH, Homa Bay, as well as Kandege Health Centre, Kisumu.

### 3.12 Summary

This chapter described the research methodology of this study. A quasi-experimental design (pre and post survey and FGD intervention) and descriptive research design (interviews) was used for this study. The population for the study was identified as HIV-positive pregnant women attending clinic sessions at HBCTRH, Bay County, and Kandege Health Centre, Kisumu County. Focus group participants met once each month for three months and interviews with the mentor mothers were carried out through mobile phone. Numbers were used when reporting participant responses to maintain confidentiality. Research approvals were obtained from DU-ERB, NACOSTI, and the study sites. Consent forms (Appendix A, B, and C) were also signed by the participants in order to gain their approval before data was collected.

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND INTERPRETATION

#### 4.1 Introduction

This chapter presents the findings, analysis, and interpretation of the pre and post survey at both HBCTRH and Kandege Health Centre. Completed questionnaires (N=143) were received from HBCTRH at the pre-intervention level, while 11 questionnaires were received from the same site at the post intervention level. Two questionnaires were received from pre-natal participants at the beginning of the study at Kandege Health Centre, while 16 questionnaires were received from post-natal participants at the same site. This chapter will also present the findings of the FGDs and mentor mother interviews. The findings are then analysed and interpreted.

#### 4.2 Analysis and Interpretation

##### Demographic Characteristics

Table 4.1 present the descriptive statistics from HBCTRH and Kandege Health Centre at both pre and post intervention.

*Table 4.1: Descriptive statistics HBCTRH and Kandege Health Centre at both Pre and Post Intervention*

Description	HBCTRH		Kandege Health Centre	
	Frequency n=143 (%)	Frequency n=11 (%)	Frequency n=2 (%)	Frequency n=16 (%)
Age				
18-20	18 (12.6)			1 (6.25)
21-25	27 (18.9)	4 (36.4)		5 (31.25)
26-30	59 (41.3)	3 (27.2)		9 (56.25)
35 – and above	33 (23)	4 (36.4)	2 (100)	1 (6.25)
Median age	27	30	35	26
Level of education				
No schooling	4 (2.80)			1 (6.25)
Primary	77 (53.8)	7 (63.6)	1 (50)	9 (56.25)
Secondary	35 (24.5)	3 (27)		6 (37.5)
College/University	19 (13.3)	1 (9)	1 (50)	
Other	2 (1.40)			
Occupation				
Not employed	23 (16)	3 (27.27)	1 (50)	7 (43.75)
Farmer	48 (33.5)	4 (36.4)		4 (25)
Odd jobs	8 (5.60)	3 (27.27)		1 (6.25)
Student	22 (15.4)	1 (9)		
Other	32 (22.4)		1 (50)	4
Marital status				
Single	25 (17.48)	1(9)		3 (18.75)
Married	97 (67.83)	10	2 (100)	13 (81.25)
Widow	12 (8.39)			
Other	2 (1.40)			
No of children				
0 (1 <sup>st</sup> pregnancy)	38 (26.57)	1 (9)		
1-3	62 (43.36)	5 (45.45)	2 (100)	11 (68.75)
4-6	32 (22.38)	5 (45.45)		5 (31.25)
7-9	9 (6.29)			
10+	2 (1.40)			
Mean	3	3	2	3

Although the median age for participants in this study ranged between 27 to 35 years of age, respondents from Kandege Health Centre pre-natal were the oldest respondents (median age of 35 years). At least half of all respondents in both sites had a primary school education, while 50% of KHC pre-natal participants had attended college or university. A great percentage of participants at the control site were unemployed (50% pre-natal, 43.75 post-natal), while a great number of participants at the experimental site were farmers (33.5 pre-intervention, 36.4 post intervention).

Majority of participants at both sites in all stages of the research were married. Most study participants at both sites had between 1 to 3 children.

#### Knowledge of PMTCT of HIV

Figure 4.1 illustrates the mean knowledge scores at pre and post level.

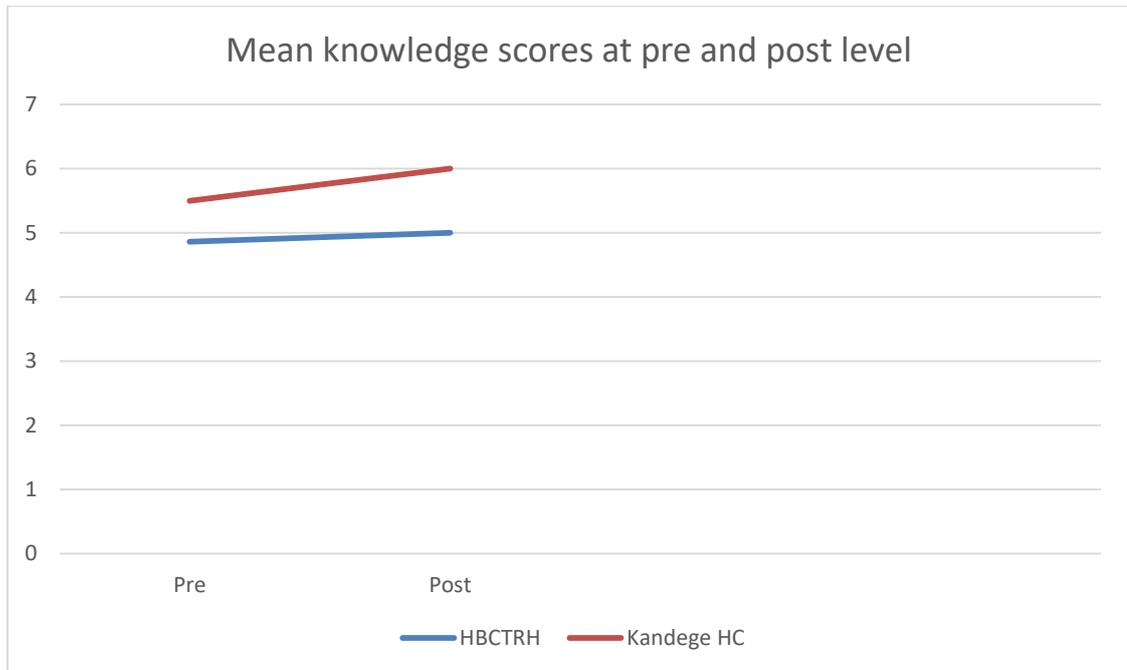


Figure 4.1: Mean Knowledge Scores at Pre and Post Level

Six questions were asked to test participants PMTCT knowledge. The Kuder-Richardson 20 (KR-20) test for this scale was 0.59. The mean knowledge score for HBCTRH participants at pre-intervention level was 4.86, while the mean score at post intervention level for the same group was 5.00. A Welch t-test was conducted to identify differences between the target populations knowledge at pre and post intervention level. Sig = 0.33  $p > 0.05$ . Therefore, although post intervention participant's mean knowledge increased after the CBT focus group intervention there was no statistically significant improvement in knowledge at the experimental site.

At the control site, the mean knowledge score for prenatal participants was 5.50 while the mean score at post-natal level was 6.00. A Welch t-test was conducted to identify knowledge differences between the prenatal and post-natal participants

showed a significance of 0.32  $p > 0.05$ . Therefore, although post-natal participant's mean knowledge increased there was no statistically significant improvement in PMTCT knowledge between the prenatal and post-natal participants at Kandege Health Centre.

A Welch t-test was then conducted to identify knowledge differences between HBCTRH post-intervention participants and Kandege postnatal participants. Sig = 0.02  $p < 0.05$ . The differences in knowledge between these two groups was found to be significant. Post-natal participants at the control site had significantly more knowledge than post-intervention participants at the experimental site.

#### Attitudes Towards HIV

Figure 4.2 presents the mean attitude scores at pre and post level.

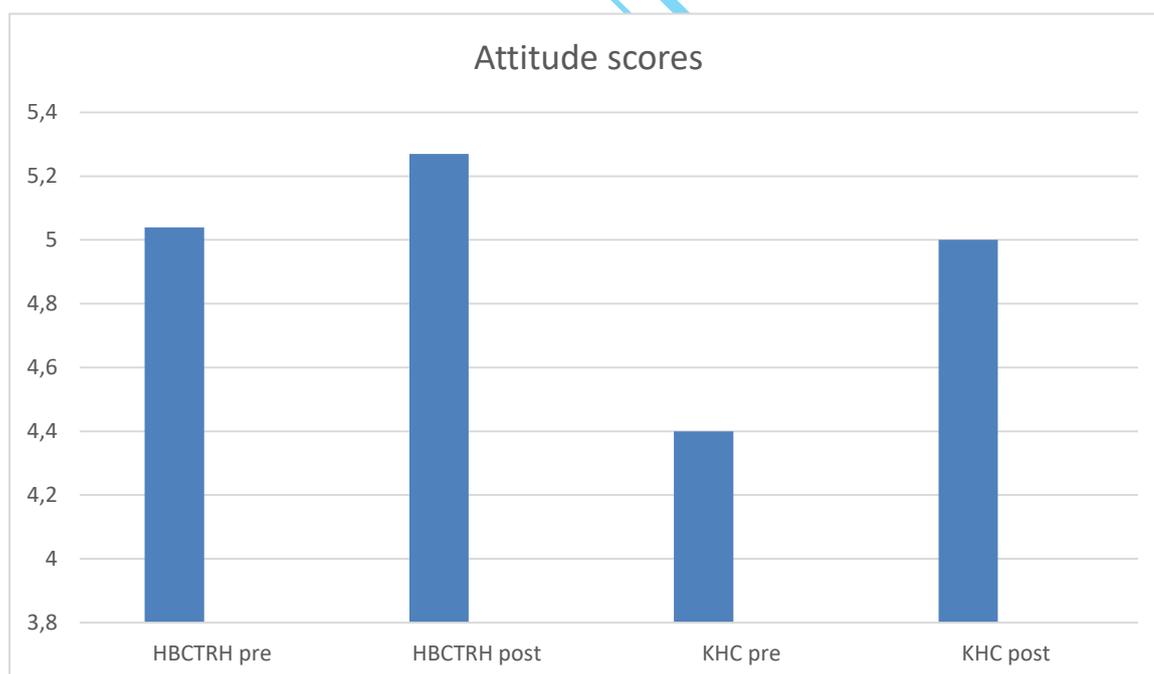


Figure 4.2: Mean Attitude Scores at Pre and Post Level

Respondents were then asked to respond to six statements regarding their attitudes towards people with HIV. The Kuder-Richardson 20 (KR-20) test for this scale was 0.71. Post intervention participants had a better attitude towards people

living with HIV with a mean of 5.27, compared to pre-intervention participants who had a mean score of 5.04. A Welch t-test was conducted to identify differences between the target populations attitudes towards HIV at pre and post intervention level, sig = 0.23  $p > 0.05$ . There was therefore no statistically significant change in attitude following the CBT FGDs at the experimental site.

Postnatal respondents at Kandege Health Centre also had a higher mean score (5.00) than their counterparts at prenatal level (4.40). A Welch t-test was conducted to identify differences between the prenatal and postnatal attitudes towards people living with HIV. Sig = 0.35  $p > 0.05$ . There was therefore no statistically significant change in attitude between the control group participants at prenatal and postnatal. A Welch t-test was then conducted to identify attitude differences between HBCTRH post-intervention participants and Kandege postnatal participants. Sig = 0.08  $p < 0.05$ . There was therefore no statistically significant difference in attitude between the post-intervention and postnatal respondents.

#### Prevention of Mother-to-Child Transmission of HIV (PMTCT) Practices

Figure 4.3 illustrates the PMTCT practices mean score.

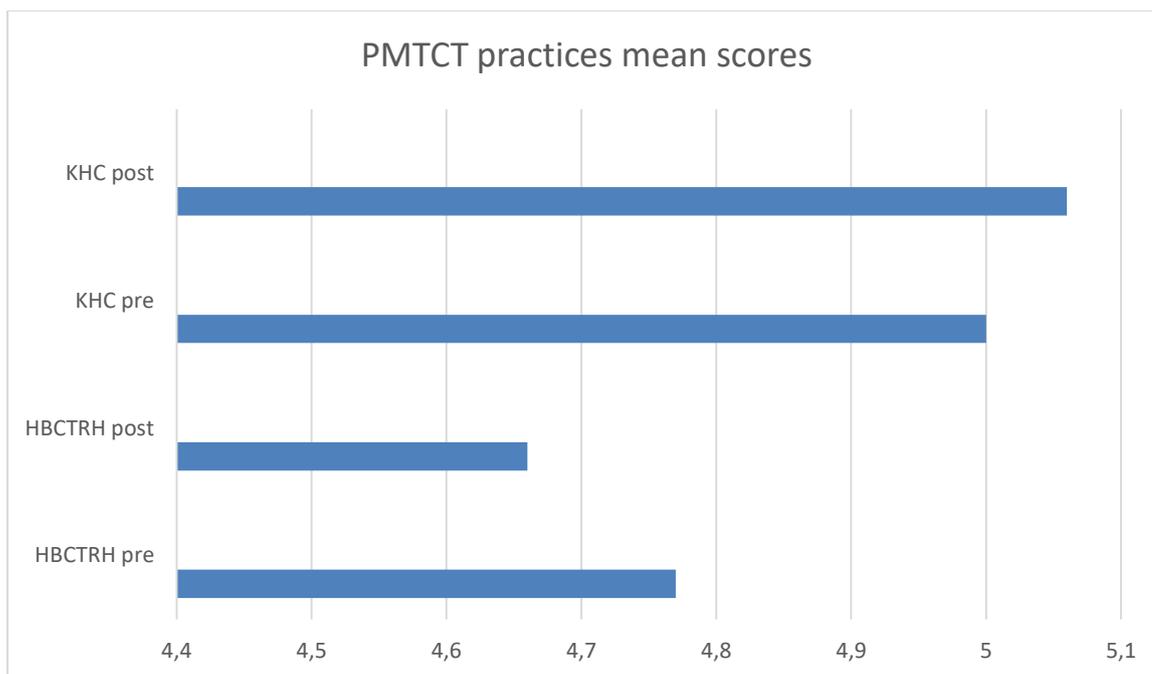


Figure 4.3: PMTCT Practices Mean Score

The Kuder-Richardson 20 (KR-20) test for this scale was 0.76. The mean score for pre-intervention participants was 4.77, while the mean score for post intervention participants was 4.66. A Welch t-test was conducted to identify differences between the prenatal and postnatal PMTCT practices. Sig = 0.36  $p > 0.05$ . There was therefore no statistically significant change in PMTCT practices between the experimental group participants at pre and post intervention.

The PMTCT cascade is a globally adopted prescribed method of preventing mother-to-child transmission of HIV. It includes attending ANC clinics, prenatal testing, access to ARVs, infant feeding counselling, and postpartum mother-exposed infant pair clinic (Plessis et al., 2014; Wamalwa et al., 2015; WHO, 2012). All respondents at the post-intervention site acknowledge following the PMTCT cascade fully (100% affirmative responses in this section) which increases the likelihood of PMCTC. Through the FGDs, mentor mothers supported HIV-positive pregnant women to understand and follow the PMTCT cascade in order to increase the likelihood of PMTCT.

At the control site in Kandege Health Centre, participants at in the prenatal group admitted to fully following the PMTCT cascade (100%), however the postnatal group provided varied responses in this section. For example, 93.8% confirmed that they and been tested for HIV, 81.3% conformed that they take their ARVs daily, and 75% attend their clinic visits without fail. The mean score for PMTCT practices at pre-natal level was 5.00, while the mean score for post-natal level was 5.06. A Welch t-test was conducted to identify differences between the prenatal and postnatal PMTCT practices. Sig = 0.43  $p > 0.05$ . There was therefore no statistically significant change in PMTCT practices between the control group participants at prenatal and postnatal stage.

A Welch t-test was then conducted to identify PMTCT practice differences between HBCTRH post-intervention participants and Kandege postnatal participants. Sig = 0.19  $p < 0.05$ . There was therefore no statistically significant difference in PMTCT practices between the post-intervention and postnatal respondents.

#### Interpersonal Communication

Table 4 presents the Statistical analysis of variables (interpersonal communication, mutual understanding, compliance, identification, and internalization).

*Table 4.2: Statistical Analysis of Variables*

Variables (Items)	Group	Mean	Std. Deviation	Cronbach's alpha
<b>Interpersonal Communication</b>				
HBCTRH	Pre-intervention	7.44	.65	.79
	Post-intervention	6.91	.67	
Kandege Health Centre	Prenatal	7	1.4	
	Postnatal	6.69	.62	
<b>Mutual Understanding</b>				
HBCTRH	Pre-intervention	15.9	0.12	.52
	Post-intervention	13.3	0	
Kandege Health Centre	Prenatal	16	0	
	Postnatal	13.3	.34	

Compliance, Identification and Internalization				
HBCTRH	Pre-intervention	9.56	1.3	0.91
	Post-intervention	7.82	1.5	
Kandege Health Centre	Prenatal	10	.71	
	Postnatal	9.06	.91	

Questionnaire participants responded to statements regarding interpersonal communication. Cronbach's alpha for this scale was 0.79 (Table 4.2). HBCTRH Pre-intervention participants had higher interpersonal communication competency with a mean of 7.44, compared to post intervention participants who had a mean score of 6.91. A Welch t-test was conducted to identify differences between the target populations knowledge at pre and post intervention level. Sig = 0.23  $p > 0.05$ . There was therefore no statistically significant change in interpersonal communication following the CBT FGDs at the experimental site.

Kandege Health Centre prenatal participants had higher interpersonal communication competency with a mean of 7, compared to postnatal participants who had a mean score of 6.69. A Welch t-test was conducted to identify differences between the target populations knowledge at pre and post intervention level. Sig = 0.41  $p > 0.05$ . There was therefore no statistically significant change in interpersonal communication competency in the control group at prenatal and postnatal stages.

A Welch t-test was then conducted to identify differences in interpersonal communication between HBCTRH post-intervention participants and Kandege postnatal participants. Sig = 0.39  $p < 0.05$ . There was therefore no statistically significant difference in interpersonal communication between the post-intervention and postnatal respondents.

#### Mutual Understanding

Respondents were then asked to respond to statements on mutual understanding between themselves and the mentor mothers. Cronbach's alpha for this

scale was 0.52 (Table 4). HBCTRH pre-intervention participants had higher mutual understanding with their mentor mothers with a mean of 15.9, compared to post-intervention participants who had a mean score of 13.3. A Welch t-test was conducted to identify differences between the target populations level of mutual understanding at pre and post intervention level.  $\text{sig} = 0.00$   $p < 0.05$ . There was therefore statistically significant change in mutual understanding following the CBT FGDs at the experimental site.

Kandeg Health Centre prenatal participants had higher mutual understanding with their clinicians with a mean of 16, compared to postnatal participants who had a mean score of 13.3. A Welch t-test was conducted to identify differences between the target populations level of mutual understanding at pre and post intervention level.  $\text{sig} = 0.07$   $p > 0.05$ . There was therefore no statistically significant change in mutual understanding at prenatal and post-natal stage.

A Welch t-test was then conducted to identify differences in mutual understanding between HBCTRH post-intervention participants and Kandeg postnatal participants.  $\text{Sig} = 0.48$   $p < 0.05$ . There was therefore no statistically significant difference in mutual understanding between the post-intervention and postnatal respondents.

#### Compliance, Identification, and Internalization

Respondents were then asked to respond to statements on compliance, identification, and internalization. Cronbach's alpha for this scale was 0.91 (Table 4.2). HBCTRH pre-intervention participants exhibited higher scores in compliance, identification, and internalization with the mentor mothers with a mean of 9.56, compared to post intervention participants who had a mean score of 7.82. A Welch t-test was conducted to identify differences between the target populations knowledge

at pre and post intervention level.  $\text{sig} = 0.12$   $p > 0.05$ . There was therefore no statistically significant change in compliance, identification and internalization following the CBT FGDs at the experimental site.

Kandege Health Centre prenatal participants had higher scores of compliance, identification, and internalization with their clinicians with a mean of 10, compared to postnatal participants who had a mean score of 9.06. A Welch t-test was conducted to identify differences between the target populations knowledge at pre and post intervention level.  $\text{sig} = 0.31$   $p > 0.05$ . There was therefore no statistically significant change in compliance, identification, and internalization at prenatal and post-natal stage.

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Table 4.3 demonstrates the compliance, identification, and internalization mean and SD scores per facility.

*Table 4.3: Compliance, Identification and Internalization Mean and SD Scores per Facility*

Facility	Group	Compliance		Identification		Internalization	
		Mean	SD	Mean	SD	Mean	SD
HBCTRH	Pre-intervention	2.34	1.57	2.93	1.46	4.28	2.05
	Post-intervention	1.45	1.37	2.45	1.63	3.91	1.92
Kandege Health Centre	Prenatal	1.5	.71	3	0	5.51	.71
	Postnatal	1.25	1.13	3	.97	4.8	1.52

As Table 4.3 above notes, all groups at both sites scored higher mean scores in internalization than compliance and identification.

#### Focus Group Discussions (FGDs)

The first research question (RQ1) sought to determine the challenges HIV-positive women face as they adhere to the preventing mother-to-child transmission of HIV cascade. The focus groups focused on topics related to HIV & AIDS basics, opportunistic infections and HIV related illnesses, HIV testing, PMTCT and ARVs, dealing with feelings (disclosure), partner testing, stigma, support, challenges related to HIV, and avoiding negative emotions. The following themes emerged from the FGDs: HIV is a curse, negative feelings about HIV status, fear of disclosure, other diseases are worse than HIV, and importance of self-encouragement.

#### The Curse of HIV

Myths and misconceptions about HIV play a role in hindering internalization and mutual understanding of information. The following statements from the HIV-positive pregnant women below reflect the 'curse' theme that arose from FGD discussions:

*Participant 3: People believe it is something impossible... Something deadly! That once you have it you're as good as dead!*

Participant 6: *People take it as a curse*

Participant 10: *I take my medicine say at eight o'clock and I make sure that that time does not pass. Because if it passes, you know chier can return to the baby so when you maintain time, the baby sleeps throughout so you know that before the baby is delivered they may not have contracted the virus.*

Participant 8: *Some people suggested that someone might have cursed me*

Findings show that within the community, HIV is still widely referred to as a curse (*Chier*) that can be passed on to the baby and can lead to death. Participants also showed that they take their medication consistently however, still believed in curses and evil spirits which could affect their HIV treatment. Furthermore, these beliefs may affect their ability to internalize PMTCT information.

#### Negative Feelings about HIV Status

The HIV-positive pregnant women shared their thoughts when they first found out they were HIV-positive. Many recounted negative feelings regarding the first time they found out they were HIV-positive. Some of their comments are reflected below:

Participant 5: *The kit showed two lines. I was very worried about what I would say to my father and my people at home. I even tried to swallow poison...*

Participant 7: *I accepted that I was positive. If I came out negative, I would accept it. It did not frighten me because it was something I had come with from ages ago and it had started to finish me ages ago. So I accepted so that I should not die.*

Participant 11: *It frightened me. It frightened me ... but I did not hurt myself so much. When I found out that I am sick, I wanted to die.*

From the findings HIV-positive pregnant women expressed their negative feelings when they first found out about their HIV status. However, they came to accept their status and live with the virus. Although some participants admitted their fear on finding out their HIV status, they finally came to accept their condition.

#### Fear of Disclosure

Participants fears about sharing their HIV status with their loved ones also strongly came out as a theme.

Participant 2: *Some people fear others who may turn mad and even kill you. People thinking that 'She might infect me!'*

Participant 3: *In my view, confessing your status to your husband may result in a change in his mood or demeanour towards you.*

Participant 11: *When I am travelling it (the drugs) make noise, but I will have a piece of cloth to cover the drugs.*

Participant 1: *As a person who takes drugs, my challenge is to carry the drugs. It makes noise when I carry it and this will make my secret be known when I am travelling. So taking the drugs become difficult. So I find it challenging to remove and use the drug.*

From the findings HIV-positive pregnant women are fearful of disclosing their status for reasons such as stigma, rejection, and even death. Furthermore, the women are afraid of being stigmatised when the community becomes aware that they have been prescribed medication. The noise the tablets make in their container, as the women travel from one place to another was seen as an HIV identifier, which could lead to discrimination in the community.

#### Other Diseases are Worse than HIV

Another theme that came out of the FGD is the comparison of HIV to other diseases such as cancer or corona. Participants thought living with HIV was not as bad as having these other diseases.

Participant 1: *After looking at other diseases which are many, I can say that HIV is at least not as bad. So now, when you are abused that you are suffering from Corona or from HIV which one feels painful? Corona.*

Participant 4: *When someone is saying I am suffering from HIV; does he/she know that he might be suffering from cancer? Cancer is more dangerous than HIV. HIV has ARVs to suppress it but cancer when it attacks the womb, it cannot be controlled.*

Findings show participants used comparison of other diseases to HIV as a coping mechanism. By thinking about other diseases and their effect on the human body, participants were more accepting of their own situation.

#### Importance of Self-encouragement

Encouraging oneself during the HIV journey also came out as a theme during the FGD. Some noted quiet time to think and reflect helped, others learned a new skill to cope, while some dressed up to feel good about oneself. Some participants preferred talking to someone about their feelings and others just moved on.

Participant 8: *When I am saddened, I don't always like to be with people but rather I prefer a solemn place where I talk to my heart till I get happy again.*

Participant 9: *You can train on a certain job.*

Participant 10: *Okay. When I am feeling discouraged, I put on very smart dress. I decorate my lips and put on ear rings. So even when I woke up discouraged, when I will be walking people will tell me that I am smart and this will encourage me, isn't it? Yes. When I have dressed shaggily and I am also discouraged people will say that how is she nowadays? She doesn't care, isn't it? So those are what I do so that I remain positive.*

Participant 8: *Even if I didn't know how to forget issues, I should learn to do that so long as I am moving on and I should not mind what others say in my absentia.*

Findings show that HIV-positive pregnant women feel discouraged at times, and in these times use tactics such as dressing up and wearing make-up to lift their moods.

#### Mentor Mother Interviews

The second research question (RQ2) sought to examine the perception of mentor mothers on the programme that they are involved in to prevent mother-to-child transmission of HIV. The following themes emerged from the Mentor Mother interviews regarding their perception: use of medication for PMTCT, effects of

COVID-19, challenges to behaviour change, importance of male involvement, and desire for self-improvement and altruism.

#### Use of Medication for PMTCT

In multiple instances during the interviews, both mentor mothers consistently stated that the use of ARVs to PMTCT of HIV was prominent among HIV-positive pregnant women in the mentor mother program. One Mentor Mother who had been a mentor for 1 year and a few months noted:

*MM 1: From the women I support I haven't seen one whose child has turned out positive all are HIV negative. Now that makes me happy. I even used to go to their houses to see how they have kept their medication. So when I go their place I ask how they have stored their medication.*

The other Mentor Mother who had been a mentor for 6 months responded:

*MM 2: When a mother has a LVL (low viral load) and takes her medication well and her child turns out to be HIV negative. My happiest moment is when a child is found to be HIV negative*

The mentor mothers have genuine concern for their clients, and understand the significance of ARVs to the treatment of HIV and PMCTC. They are therefore careful to check the conditions these drugs are stored in, within their client's homes. ARVs must be stored in a controlled temperature not exceeding 25-30°C as exposures to extremes of high temperature and humidity can affect drug potency (Arya, 2002).

#### Challenges to Behaviour Change

Challenges related to behaviour change to PMTCT was also a major theme. The challenges that the HIV-positive pregnant women faced at home (lack of partner support, not taking their medication, use of traditional medicines, and belief that HIV is a curse) were seen by the mentor mothers as barriers to their client's adherence to treatment and the PMTCT cascade, thereby increasing their chances of delivering

HIV-positive newborns. The Mentor mothers at the experimental site highlighted the following challenges:

*MM 1: You find that they get different teachings so for some they take traditional medicine, others think the virus will end, others think HIV is a curse. So these are the issues.*

*MM 2: We would discuss how they would take their medicine, telling them not to mix this medicine with herbal medicine ... I ask them if their partners accept to use condoms, some say yes, others refuse so some do not use condoms. There was one who was chased from her home...*

HIV-positive pregnant women face a number of challenges that prevent them from changing their behaviour and following the PMTCT cascade. These include cultural barriers where HIV is considered a curse, one that can be cured by traditional medicine. The mentor mothers have a difficult task convincing their clients about the facts of HIV and PMTCT, as core values must be changed.

#### Importance of Male Involvement

The significance of male involvement in relation to prevention of transmission of HIV among couples was identified as another theme. When asked how they deal with some of the challenges, their clients face they said:

*MM 1: For those who are on care, you can find some couples who are discorded so you invite their partners to get tested and support them so that they take their medication and not rely on traditional medicine.*

*MM 2: I ask them if their partners accept to use condoms, some say yes, others refuse, so some do not use condoms.*

The findings show mentor mothers understand that their work would be more successful if their client's partners supported the program and the treatment. It also shows adherence to the PMTCT cascade is dependent on support from partners who support HIV-positive pregnant women to take medication and prevent further spread of the virus through use of condoms.

## Altruism and Desire for Self-improvement

Both mentor mothers consistently talked about their desire and joy in supporting and encouraging HIV-positive pregnant women in adhering to their medication, keeping their clinic appointments, and staying positive.

MM 1: *The women I support I haven't seen one whose child has turned out positive all are HIV negative. Now that makes me happy.*

MM 2: *My happiest moment is when a child is found to be HIV negative.*

The mentor mothers had their own questions regarding HIV and PMTCT which they desired answers to. They also expressed their desire for additional training.

MM 1: *I wanted to ask, why is it that you can find an HIV-positive pregnant woman who takes her medication faithfully but her child still turns out positive?*

MM 2: *Why is it that a woman may be HIV negative when she is tested but when she becomes pregnant she then tests positive?*

MM1: *As I continue growing, if they take me for seminars I would be happy.*

The mentor mothers desire to improve their knowledge of the HIV virus and adopt new measures to assist their clients ensure PMTCT, this was seen in their questions and desire for additional training. They therefore asked for additional training incorporated for them in the programme.

## Gratification and Continuity of mentor mothers

During the interview, the mentor mothers displayed great passion towards their work with mentor mothers and had a desire to ensure that their clients deliver HIV negative babies.

MM 1: *I am happy when children turn out to be negative ... for the next generation*

MM 2: *What makes me happy is that I am supporting fellow mothers especially those who have not accepted their HIV status.*

MM 1: *When I have already taught a mother the process of taking her medicine well, to keep appointments but her child still ends up being HIV-positive. Both mother and child are positive. This is my worst memory.*

MM 2: *The memory I can remember is how I have suffered before with the HIV virus.*

Mentor mothers provide critical support to HIV-positive pregnant women. This finding is in line with Sam-Agudu et al. (2018), who also found that although mentor mothers enjoy their work, they also go through their own set of challenges. These challenges relate to their relationship with other health workers who may not recognize their role as well as lack of remuneration. Although the mentor mother's relationship with other health care workers did not arise in the interview, the mentor mothers at HBCTRH are receive a stipend from the MoH (GoK, MoH, 2014).

As the mentors work with HIV-positive women, they also relive their own challenges which can affect their own mental health. Dhlamini et al. (2012) studied the mental health of mentor mothers who recounted their HIV stories to their clients. They found the repetitive telling of their stories was a painful reminder of their personal experiences. As the mentor mothers assist their clients, their own mental health must also be considered. Coping mechanisms such as taking breaks, journaling, and debriefing sessions should be employed with the mentor mothers and their supervisors (Dhlamini et al., 2012).

#### 4.3 Summary of Key Findings

This chapter presented the findings of the study. Demographically, median age of participants ranged between 26-35 years of age. Most participants had at least a primary education and were either farmers or not employed. Majority of participants were married and had a mean number of 3 children. In relation to the variables under study, knowledge scores were found to be significant at the control group. Although

PMTCT attitudes improved, this finding was not significant. Participants scored highly in mutual understanding and internalization pointing to a possible correlation.

Qualitative data collected through FGDs at HBCTRH revealed the following themes: HIV as a curse, negative feelings about one's HIV status, fear of disclosure, other diseases being worse than HIV and the importance of self-encouragement. Building on these themes could improve participant's knowledge, internalization and mutual understanding on matters dealing with PMTCT. Data collected through interviews with the mentor mothers also revealed the following themes: use of medication for PMTCT, challenges to behaviour change, importance of male involvement, desire for self-improvement and gratification, and continuity arose as themes during the mentor mother interviews. The mentor mother program and the mentor mother's perceptions of the program could be enriched by working on each of the themes.

#### 4.4. Summary

This chapter has presented the results of the study. Qualitative data collected through FGDs at HBCTRH revealed the following themes: HIV as a curse, negative feelings about one's HIV status, fear of disclosure, other diseases being worse than HIV and the importance of self-encouragement. Data collected through interviews with the mentor mothers also revealed the following themes: use of medication for PMTCT, challenges to behaviour change, importance of male involvement, desire for self-improvement and gratification, and continuity arose as themes during the mentor mother interviews. The next chapter entails the discussions of key findings and the conclusion and recommendations drawn from the study

## CHAPTER FIVE

### DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter discusses the study hypotheses and research questions in relation to the findings presented in the previous chapter. Conclusions and recommendations for further research are also drawn within this chapter.

#### 5.2 Discussions of Key Findings

##### Hypotheses

##### Knowledge

The first hypothesis (H1) studied PMTCT knowledge scores at both sites. Results show both post intervention participants at HBCTRH and postnatal participants at Kandege Health Centre had more knowledge of PMTCT (4.86 vs 5.00 and 5.50 vs 6.00 respectively) than their counterparts at pre-intervention and prenatal stage. The mean scores indicate a greater increase in knowledge in the control group (an increase of 0.5) compared to the experimental group (an increase of 0.14). A possible explanation to this difference is post-natal participants would have already given birth and presented with information on PMTCT in relation to breastfeeding and mother-infant clinic visits and therefore would likely have more knowledge as compared to post-intervention participants at HBCTRH who were still pregnant. Despite this change in means, there was no statistical significance within either group (sig. 0.33, sig. 0.32).

A t-test was conducted to identify knowledge differences between HBCTRH post-intervention participants and Kandege postnatal participants. Findings show significant differences in knowledge between the two groups (Sig = 0.02  $p < 0.05$ ).

The alternative hypothesis is accepted. Post-natal participants have significantly more knowledge on PMTCT than HIV+ pregnant women under the mentor mother programme.

These findings are consistent with the research by Dlamini and Mokoboto-Zwane (2019) who studied knowledge, attitudes, and practices of post-natal HIV-positive pregnant women in Eswatini. The authors found majority of participants had high levels of PMTCT knowledge, 90% had positive attitudes towards people living with HIV and 90% also had positive behaviour towards PMTCT. The researchers did find risk factors for non-adherence to the PMTCT cascade. These included stigma, discrimination among family members, non-disclosure of HIV status, poverty, fear, and inconsistent condom use.

Abteu et al. (2016), in their study of knowledge of HIV-positive pregnant women on MTCT of HIV in Ethiopia, found that although half of the participants had full knowledge about critical modes of mother-to-child transmission, only 18.4% knew possible prevention methods.

#### Attitudes

The second hypothesis (H2) examined attitude scores towards people living with HIV. Attitude scores improved between pre-intervention and post-intervention participants (5.05 to 5.27) as well as between pre-natal and post-natal groups (4.40 to 5.00). A possible explanation for this improvement could be the discussions and encouragement expressed within the FGDs. Contrary to the hypothesized association, the data suggests no significant improvements in attitudes within the experimental and control group (sig. 0.23 and sig.0.35) as well as between the post-intervention and post-natal group (sig. 0.08). The alternative hypothesis is therefore rejected and null hypothesis is accepted. There were no significant differences in attitudes between

mothers who receive support through the mentor mother program and their counterparts who do not have access to such support. A possible explanation for the lack of significant difference between the experimental and control groups could be the stigma some participants expressed, towards themselves when they first found out they were HIV-positive.

Participants expressed their fears when they first found out they were HIV-positive. Most participants articulated their shock and horror on realising their status. Some of the women even wanted to die. For other women, it was the fear of disclosing their status to family members and what they would think of them. Participants shared stigma related challenges, including how to safely transport their medication without being identified as a person living with HIV.

In their study on the challenge of stigma as a barrier to ANC and PMTCT uptake in Nigeria, Dirisu et al. (2020), through key informant interviews with 12 stakeholders in the region, found stigma to be a key barrier to the uptake of PMTCT. Stigma was associated with not wanting to be seen accessing HIV related services, low male partner involvement, socio-cultural beliefs, and poor attitudes of health workers. The authors recommended programmes that support stigma-free environments and spousal support in communities.

HIV stigma negatively affects quality of life and treatment outcomes (Tran et al., 2019). The higher attitude scores experienced by the post-experimental group supports research by Laterra et al. (2020) who also found access to mentor mothers having a positive effect on attitude scores of HIV-positive pregnant women. In addition, Teasdale and Besser (2008) found HIV-positive women who attended clinics with Mentor mothers adopted an attitude of hope and were better equipped with the information they need to lead healthier lives than their counterparts who had

no access to a Mentor Mother. Zainiddinov (2019) found low HIV attitudes among women of low socioeconomic status. On the contrary, the increase in attitude scores between the pre-natal and post-natal participants (an increase of 0.6) was much higher than similar score at the experimental site (an increase of 0.2) towards people living with HIV.

#### PMTCT Practices

The third hypothesis (H3) examined PMTCT practices in both sites. While PMTCT practice scores at the experimental site did not improve (4.77 to 4.66), this was different at the control site which saw some improvement (5.00 to 5.06). These differences however were not found to be significant (sig. 0.36 and sig. 0.43 respectively). In addition, no significant differences were found between the post-intervention and post-natal participants with regards to PMTCT practices (sig. 0.19). The alternative hypothesis is rejected and the null hypothesis is accepted. There were no significant differences in PMTCT practices between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

These findings are contrary to previous research by Futterman et al. (2010), who conducted a study in South Africa comparing HIV-positive pregnant women with access to mentor mothers and those without. The authors suggested significantly greater improvement in adhering to PMTCT practices in the experimental group who had access to a mentor mother than the control group which had no access to a mentor mother. Furthermore, the researchers found, participants with access to mentor mothers had greater social support resulting in reducing depression.

However, Sibanda, Manimbulu, and Naidoo (2017) recognized the use of African Traditional Medicine (ATM) together with ARVs in Southern Africa which

may dilute gains towards PMTCT. Participants in their study acknowledged use of ATM, however before initiation of ARVs treatment. Their findings also revealed place of residence, age, and education level were significantly and positively correlated with ATM use.

Additionally, Gursahaney et al. (2019), in their study of HIV-positive African-American women, found only 53% of participants reported using condoms consistently. The researchers recommended strategies to educate women on the importance of safe sexual practices and condom negotiation.

Similar challenges are experienced by the participants of this study, which provides a possible explanation to these findings. These barriers include use of traditional medicine and non-adherence to condom use, which could prevent adherence to the PMTCT cascade. One of the mentor mothers who had been a mentor for 6 months noted that some of their clients believed that HIV is a curse and therefore cannot be cured or assisted by any medication. Other HIV-positive pregnant women use traditional medicine together with their antiretrovirals, incorporating both science and culture, in the hope of getting the best of both fields.

#### Interpersonal Communication

The fourth hypothesis (H4) examined interpersonal communication scores at both sites. Both post-intervention and post-natal groups at experimental and control sites respectively scored lower than their counterparts at pre-intervention and pre-natal stages on interpersonal communication (7.44 to 6.91 at HBCTRH and 7 to 6.69 at Kandege Health Centre). Despite this drop in mean scores, no significant differences were found in either group (sig. 0.23 and sig. 0.41 respectively). Furthermore, no significant differences were found in the interpersonal communication between post-intervention and post-natal participants of the study

(sig. 0.39). The null hypothesis is therefore accepted. There were no significant differences in interpersonal communication between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

These findings are contradictory to scholars such as Shroufi et al. (2013), who found interpersonal communication between mentor mothers and HIV-positive pregnant women having helped improve uptake and successful completion of PMTCT services such as HIV testing and honouring clinic appointments, which contribute to reduced MTCT rates. One would therefore expect significant differences in interpersonal communication between the groups with the mentor mothers and those without.

Additionally, the lack of significant difference between the two groups may point to the revelation that smaller health facilities have better interpersonal communication with their clients who may be fewer than larger referral hospitals. The finding may also highlight the need for interpersonal communication skills training amongst the mentor mothers.

Chichirez and Purcărea (2018) reiterated the significance of efficient communication within the healthcare system which builds trust between a health provider and patient. The authors identified interpersonal communication skills such as kindness, openness, attention, and responding to requests, boosts performance and leads to an increase in prestige of the medical unit and interests of the patients. Scholars such as Matusitz, Breen, Zhang, and Seblega (2013) identified interpersonal communication skills as mandatory for all health care workers. Further noting that interpersonal communication curriculums should focus on theories of human needs,

respect of dignity, confidentiality, and effective verbal and non-verbal communication.

A possible explanation of the regression in interpersonal communication scores at pre-intervention and post intervention could be social desirability. While filling the pre-intervention questionnaires participants may have been ticking the right boxes. At the time of the post-intervention questionnaire, the HIV-positive pregnant women, who had participated in the FGD may have been more ready to speak honestly about their interpersonal communication competencies. The lack of significance between the experimental and control group could highlight similar interpersonal communication competencies in both groups.

#### Mutual Understanding

The fifth hypothesis (H5) tested mutual understanding between HIV-positive pregnant women and mentor mothers or clinicians. Like the results of interpersonal communication, participants at both study sites scored higher at pre-intervention and pre-natal stages than at post-intervention and post-natal stages (15.9 to 13.3 and 16 to 13.3 respectively). The difference in mutual understanding between the pre-intervention and post-intervention scores at the experimental site was found to be significant (sig.0.00). While the difference in mutual understanding between the pre-natal and post-natal scores at the control site was found to be insignificant (sig.0.07), no significant differences in mutual understanding were found between the post-intervention and pre-natal groups (sig. 0.48). The null hypothesis is therefore accepted. There were no significant differences in mutual understanding between mothers who received support through the mentor mother program and their counterparts who did not have access to such support.

This finding is contrary to scholars, who determined that mutual understanding was a significant factor within interpersonal relationships and built strong feelings of accomplishment and effectiveness as well as trust and adherence to medical treatment (Gordon, 1983; Hantho et al., 2002; McCann & Baker, 2001; Quinlan & Robertson, 2010). It was also the assertion of this study that mutual understanding mediates the success of PMTCT of HIV through the mentor mother network. Participants within the experimental group should have scored significantly higher than those in the control group.

A possible explanation for the lack of significance between the experimental and control group could be that since Kandege Health Centre has less clients, the health care workers spend more time with the HIV-positive pregnant women ensuring mutual understanding of concepts is achieved.

#### Compliance, Identification, and Internalization

The sixth hypothesis (H6) assessed the processes of influence (compliance, identification, and internalization) at both sites. Participants at both study sites scored better at pre-intervention and pre-natal stages than at post-intervention and post-natal stages (9.56 to 7.82 and 10 to 9.06 respectively). The difference in compliance, identification and internalization within the experimental and control sites were found to be insignificant (sig. 0.12 and sig. 0.31 respectively). No significant differences in compliance, identification and internalization were found between the post-intervention and post-natal groups (sig. 0.21). The null hypothesis is therefore accepted. There were no significant differences in compliance, identification and internalization between mothers who receive support through the mentor mother program and their counterparts who do not have access to such support.

Compliance, identification, and internalization of information plays a role in the interpersonal relationship between the Mentor Mother and the HIV-positive pregnant women and a behaviour change towards PMTCT of HIV. HIV-positive pregnant women who are compliant would only follow the PMTCT cascade while under the surveillance of the influencing agent, the mentor mother. HIV-positive pregnant women who identify with the mentor mothers will only adhere to the PMTCT cascade in positions of salience. HIV-positive pregnant women who internalize the communication between themselves and the mentor mothers are more likely to adhere to the PMTCT cascade.

Research Question 1: What Challenges do HIV-positive Women Face as they Adhere to the Preventing Mother-to-Child Transmission of HIV Cascade?

Focus group discussions among HBCTRH participants aimed to support RQ1, by identifying challenges HIV-positive pregnant women face when adhering to the PMTCT cascade. The following themes emerged from the FGDS: HIV is a curse, negative feelings about HIV status, fear of disclosure, other diseases are worse than HIV, and importance of self-encouragement.

The FGDS centred around living a healthy life as a HIV-positive pregnant women and how to deal with feelings. Through interactions between the mentor mothers and their clients, the following themes were highlighted: HIV is a curse, negative feelings about HIV status, fear of disclosure, other diseases are worse than HIV, and importance of self-encouragement.

HIV as a Curse

Studies by Bogart et al. (2011) and Sano et al. (2016) concurred with similar misconceptions and myths related to HIV. Bogart et al. (2011) found that participants in South Africa who subscribed to the notion that 'witchcraft plays a role in HIV

transmission,' had fewer positive attitudes about use of condoms and their role in preventing HIV transmission. Other participants of the study who subscribed to the belief that 'vitamins and fresh fruits and vegetables can cure AIDS,' were associated with lower intentions to use condoms. Sano et al. (2016) found that household wealth quintiles, education, religion, and urban-rural residence was significantly associated with endorsing misconceptions about HIV transmission. The authors recommended the need for increased knowledge about HIV/AIDS misconceptions, which aid in developing culturally appropriate HIV-prevention interventions that address such beliefs. These interventions include peer groups such as the FGD led by the mentor mother, where women can discuss and refute cultural myths and misconceptions.

#### Negative Feelings about HIV Status

Feelings such as fear, suicidal thoughts, and anxiety are common with individuals testing positive for HIV, which is why counselling is important before and after taking a HIV test (GoK, MoH, 2014). As a result of realising their status, HIV-positive pregnant women may face stigma, guilt, lack of knowledge, denial, stress, lack of access to ARVs, lack of resources, and physical abuse which makes it even more challenging to accept their condition and adherence to treatment (Gaillard et al., 2002; Kohler et al., 2014; Paintsil & Andiman, 2009; Van't Hoog et al., 2005). A CBI, through FGDs, provides a forum where women can discuss their feelings and learn from each other on how to deal with the challenges they face and increase the uptake of PMTCT services (Futterman et al., 2010; Kohler et al., 2014).

#### Fear of Disclosure

Scholars agreed that disclosure of HIV status supports risk reduction and facilitates access to prevention and care services (Atuyambe et al., 2014; Dessalegn et al., 2019; O'Connel, Reed, & Serovich, 2014). However, disclosure of one's status

can be difficult, inhibited by the fear of negative repercussions (Atuyambe et al., 2014; Sowell, Seals, Phillips, & Julious, 2003). Many of the FGD participants shared their fears of disclosing their status to others. These fears included abuse, death, rejection, and stigma.

Sowell et al. (2003) identified specific criteria that women use for deciding to whom to disclose. This criterion was based on one of three factors: their relationship to the individual (family member, health care provider, and sexual partner), the value of their relationship (tolerant versus refusing), and the perceived ability of the other person to keep the information confidential. FGD participants added another criterion to this list which included age, especially when it came to disclosure to children. Some participants agreed that children should be told of their mothers' HIV status, while others disagreed.

#### Other diseases are worse than HIV

We may not be able to compare other diseases to HIV as each has its own symptoms and drawbacks. For example, HIV has no cure yet, however people have been known to live with the disease for years (Katz & Maughan-Brown, 2017; Sankaranantham, 2019). Whereas some cancers can be treated especially if diagnosed early, others cannot and often result in death (Whitaker, 2020). Corona is a relatively new disease whose vaccine has just been rolled out (Stewart, Connelly, & Robinson, 2021). Corona also affects different people distinctively; some end up in the ICU or even result in death, while other patients can manage the symptoms at home (Stewart et al., 2021). It therefore may not be possible to compare HIV to other diseases such as Covid-19.

#### Importance of Self-encouragement

The coping strategies of participants correspond to studies that found most of the HIV infected individuals they studied adopted emotion-focused strategies through cognitive reframing and acceptance of their HIV status, while one-third adopted problem-focused coping and sought health care, scientific information, and social support (Kohli, Sane, Ghate, & Paranjape, 2014). As argued by Ruggerone (2016), the clothes as well as any make up one wears, could contribute in producing positive feelings about oneself.

Considering HIV as a curse, having negative feelings about one's HIV status, and having a fear to disclose one's status can lead to self-stigma. Self-stigma occurs when people accept negative ideas and stereotypes about persons living with HIV and relate them to themselves (CDC, 2021). Additionally, self-stigma undesirably affects one's quality of life, devotion to treatment, and access to services (France et al., 2019). Through the interpersonal connections between a mentor mother and HIV-positive pregnant women, the client can share their knowledge, misconceptions, fears, and challenges of adhering to the PMTCT cascade. The mentor mothers are therefore able to better support, encourage, and correct misconceptions because of their interpersonal communication.

Research Question 2: What Perception do mentor mothers have of the Programme That They are Involved in to Prevent Mother-To-Child Transmission of HIV?

The following themes emerged from the interviews with the mentor mothers: use of medication for PMTCT, effects of COVID-19, challenges to behaviour change, importance of male involvement, desire for self-improvement, and gratification and continuity.

From the findings, mentor mothers perceive the mentor Mother Programme to be important, however it does have its challenges and has room for improvement.

Wanga et al. (2019) and McColl (2012) agreed that mentor mothers support adherence to antiretroviral treatment, which is key to PMTCT. Furthermore, mentor mothers assist in introducing pregnant women with HIV to ART during pregnancy, keeping them on treatment up to delivery, and after breastfeeding (Larson et al., 2018). Mentor mothers understand their significance in ensuring their clients follow the PMTCT cascade by ensuring that they are taking their medications and that their medications are stored safely.

Other instances where ARVs were emphasized related to disclosure of one's status to their partner to ensure support for ARVs adherence as well as a strong deterrent of MTCT of HIV. PMTCT interventions include HIV testing, antiretroviral treatment, and prophylaxis for mothers and babies (during pregnancy, labour, delivery, and breastfeeding), and safe infant feeding (McColl, 2012). It is no wonder the mentor mothers focus on the importance of ARVs adherence among their clients. This theme also holds a major place in the Mentor Mother training manual (GoK, MoH, 2012c).

Male involvement is the inclusion of a HIV-positive pregnant woman's partner in the PMTCT process. This involves disclosing of one's HIV status as well as provision of support to adhere to the antiretroviral treatment. Male involvement is also considered important to support HIV-positive pregnant women to stay on treatment and prevention of further transmission of the virus through the use of condoms during sexual intercourse (Amano & Musa, 2016). From the interviews, the mentor mothers are aware of this process and attempt to assist in the disclosure of their client's HIV status and additional support needed at home. More still needs to be done for male partners to understand their significance within the PMTCT process.

Male involvement is also considered a key factor in preventing MTCT of HIV as women who have support from their partners are more likely to attend clinic visits, deliver in health centres, and adhere to ART (Adane, Assefa, Mengistie, & Demis, 2020). Supporting male involvement in PMTCT is encouraged in the KMMP (GoK, MoH, 2012c).

HIV-positive pregnant women face myriad of challenges including stigma, domestic abuse, fear, and even a lack of knowledge of how HIV spreads. This study's findings also revealed the misconceptions surrounding HIV and ARVs that affect communities such as use of traditional medicine to cure HIV and HIV considered a curse rather than a disease brought about by individual decisions. These findings are supported by studies which have shown some communities in Africa have long believed that HIV is an evil brought about by witchery and can only be cured by traditional medicine (Bogart et al., 2011; Gaillard et al., 2002; Kohler et al., 2014; Paintsil & Andiman, 2009; Van't Hoog et al., 2005). Researchers such as Bepe et al. (2011) and Mncengeli, Manimbulu, and Panjasaram (2016) found that the use of traditional medicine in conjunction with antiretroviral therapy does not drastically raise the quality of life in association to antiretroviral drug use only, in fact, the mixture can cause adverse effects worsening the condition of the person.

The mentor mothers also highlighted the challenges of changing behaviour as they work with HIV+ pregnant women. This is in support of research by Nuwagaba-Biribonwoha et al. (2007) who noted PMTCT behaviour challenges such as unwillingness of women to be tested for HIV, lack of disclosure of one's HIV status and challenges with infant feeding among HIV-positive mothers.

Self-improvement is key to growth and improvement, the fact that the mentor mothers would like additional training speaks of their desire to better assist their

clients and enhance their personal development. Takeuchi (2017) noted the significance of incessant training and development of employees to assist organizations and workers in attaining various objectives, such as increasing drive, sense of security, worker participation, and general capabilities necessary to perform their work. Although Sam-Agudu et al.'s (2018) research did not mention training as one of the improvements within the mentor mothers that they interviewed.

### 5.3 Conclusion

The first objective of this study was to identify differences in knowledge, attitudes, practices, mutual understanding and the processes of influence between mothers who receive support through the mentor mother program in Homa Bay County Kenya, and their counterparts who do not have access to such support. The study found significant differences in knowledge between the two groups. Post-natal participants had significantly greater knowledge than post-intervention participants. This significance can be attributed to the additional information post-natal participants receive while breastfeeding and experience during their clinic visits beyond pregnancy. No significant differences between the experimental and control group were found in attitudes, PMTCT practices, interpersonal communication, mutual understanding, and compliance, identification, and internalization.

The second objective was to determine the challenges HIV-positive pregnant women face towards the adherence to the PMCTC cascade in Homa Bay, Kenya. The following themes emerged from the FGDS: HIV is a curse, negative feelings about HIV status, fear of disclosure, other diseases are worse than HIV, and importance of self-encouragement. Although the FGDS enabled the mentor mothers to identify and address negative attitudes and myths regarding HIV, HIV stigma still remains as a major barrier to PMTCT success.

The third objective of this study was to establish the perceptions of mentor mothers on the prevention of mother-to-child programme in Homa Bay, Kenya. The following themes emerged from the Mentor Mother interviews regarding their perception of the programme: use of medication for PMTCT, effects of COVID-19, challenges to behaviour change, importance of male involvement, desire for self-improvement, and gratification and continuity. The mentor mothers enjoy their work and consider it significant, they desire for additional training to increase their knowledge on PMTCT and better assist their clients.

This study sought to determine the effectiveness of interpersonal communication on adherence to the PMCTC cascade in Homa Bay and Kisumu counties, Kenya. The study through a mixed method approach, found that interpersonal communication was effective in increasing PMTCT knowledge and improving attitudes among HIV-positive pregnant women. Mentor mothers however require interpersonal communication skills.

#### 5.4 Study Implications

##### Theoretical implications

Previous research has looked at both the tenets of the convergence theory and social influence theory separately. This research used variables from both these theories and showed their significance to interpersonal communication. This combination of variables provided a wider perspective of interpersonal communication. Kelman's processes of influence included compliance, identification, and internalization (Kelman, 1958). Internalization is described as the highest form of influence, where an individual's values are aligned to that of another. This study found participants who scored higher in internalization (pre-intervention and prenatal participants), also scored higher in mutual understanding. This correlation further

reveals the significance of mutual understanding to internalization within interpersonal communication contexts.

This study found the convergence theory can be applied not only in interpersonal communication but also in group communication as witnessed in the FGDs. As the moderator asked questions, the HIV-positive pregnant women asked for clarification, provided examples and agreed when mutual understanding had been achieved. Furthermore, although the convergence model (Kincaid & Schramm, 1975) provides a neat visualization of how mutual understanding is achieved in a cyclical manner (fig. 4), the cyclical nature can be riddled with interruption. Participant A may not necessarily have to wait for participant B to finish before speaking or asking a question.

#### Practical implications

This study contributes to the literature on interpersonal communication as useful consideration for targeted social change within society. Intervention participants who participated in the CBI FGDs and had access to a mentor mother had greater PMTCT knowledge and improved attitudes towards people living with HIV. Greater PMTCT knowledge and attitudes could also assist communities in Homa Bay and Kisumu by reducing HIV stigma.

The Mentor Mother relationship with their clients, HIV-positive pregnant women, has previously been studied from a clinical perspective. This research dissected their interpersonal communication and examined its effect on behaviour change. Aspects such as mutual understanding, compliance, identification and internalization were studied in comparison to their counterparts without access to a mentor mother. Although no significant differences were seen, the study has

contributed to literature scrutinizing the mentor mother communication with the HIV-positive pregnant woman.

Furthermore, the lack of significant differences of interpersonal communication between the groups points to the need for interpersonal communication skills training to be added on to the mentor mother training schedule. These skills would enable the mentor mothers to better engage with their clients and support them at the points of need.

This study's findings showed that although mentor mothers enjoy their work, they desire and require continuous training to better support HIV-positive pregnant women. The MoH should consider ways to ensure mentor mothers are consistently trained in order for them in turn to better support their clients and better understand PMTCT. Furthermore, MoH should consider introducing CBIs within FGDs to allow HIV-positive pregnant women to share their experiences and clarify any thoughts regarding PMTCT. This study found that this process of clarification led to higher knowledge in post-intervention participants than pre-intervention participants.

The study also found HIV stigma to be a major challenge in the fight for PMTCT. MoH should consider campaigns to address HIV stigma in communities to allow HIV-positive pregnant women to freely access PMTCT services including ANC clinics, prenatal testing, access to ARVs, infant feeding counselling and postpartum mother-exposed infant pair clinics. Furthermore, HIV-positive pregnant women should be taught about safe sexual practices and condom negotiation to protect themselves and their unborn babies.

### 5.5 Study Limitations

Although this study presented unique findings, it had the following limitations:

All participants were HIV-positive women, however, the control group site (Kandeg Health Centre) is a much smaller facility compared to the experimental site (HBCTRH). The researcher was therefore only able to reach a few participants at the control site. Furthermore, at the time of the study, Kandeg Health Centre only had two HIV-positive pregnant women under their care. The researcher therefore chose to use the 2 women for the baseline survey and 16 postnatal women at the facility in the post survey. Participation by the post-natal HIV-positive pregnant women provided interesting insights concerning the variables under study, which could be further researched by other scholars.

Additionally, although only 11 HIV-positive pregnant women participated in the intervention through FGDs, the two FGDs met once a month for three months. The depth of the information they discussed cannot be underscored and assisted the researcher in providing possible explanations for trends seen in the qualitative data.

Due to COVID-19 restrictions in Kenya, the researcher was unable to conduct face-to-face interviews with the mentor mothers. Telephone interviews were therefore scheduled. Although face-to-face interviews would have provided the benefit of viewing non-verbal cues, the interviewer relied on vocal cues such as tone, pauses, rate, and laughter of voice to assist with additional questioning during the interview.

## 5.6 Recommendations

- a) Introduction of programmes to address societal and self-stigma which has been identified as a challenge to PMTCT.
- b) Interpersonal communication skills training for mentor mothers, who regularly interact with HIV-positive pregnant women as part of their work.
- c) Regular PMTCT training and retraining for mentor mothers, in order to stay up to date with PMTCT updates.

d) Introduction of focus group discussions as part of the PMTCT programme, which will allow HIV-positive pregnant women to openly share their experiences among women they meet with regularly.

### 5.7 Recommendations for Further Research

A number of important recommendations are proposed from this study. As one research site was a referral hospital and the other a health centre, use of similar sites to represent the control and experimental group, would be ideal for future studies. This could also increase the number of participants at both sites.

Future researchers should follow the HIV-positive pregnant women with access to mentor mothers and those without access to the mentorship throughout their pregnancy and after delivery. This longitudinal study would allow the researcher to know if PMTCT was achieved in the participants.

As this study revealed self-stigma to be a barrier to PMTCT, future studies should focus on how to deal with this issue among HIV-positive pregnant women and the societies in which they live in.

More research is also needed to identify the role of clinicians in PMTCT, where mentor mothers do not exist. Small health facilities with limited clients may provide better information and have better interpersonal skills than overwhelmed large health centres with access to mentor mothers.

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## APPENDICES

## Appendix A: Questionnaire Consent Form

I, \_\_\_\_\_ (participant's name), understand that I am being asked to participate in a survey/questionnaire activity that forms part of Evonne Mwangale Kiptinness's required PhD coursework at Daystar University, Nairobi, Kenya. It is my understanding that this survey/questionnaire has been designed to gather information about the Prevention of Mother-to-Child Transmission of HIV and my communication with the Mentor Mother/Clinician.

I have been given some general information about this project and the types of questions I can expect to answer. I understand that the survey/questionnaire will be conducted in person and that it will take approximately 15 minutes of my time to complete.

I understand that my participation in this project is completely voluntary and that I am free to decline to participate, without consequence, at any time prior to or at any point during the activity. I understand that any information I provide will be kept confidential, used only for the purposes of this research work, and will not be used in any way that can identify me. All survey/questionnaire responses will be kept in a secured environment.

I also understand that there are no risks involved in participating in this activity, beyond those risks experienced in everyday life.

I have read the information above. By signing below and returning this form, I am consenting to participate in this survey/questionnaire project as designed by Evonne Mwangale Kiptinness.

Participant name (please print): \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Tel: \_\_\_\_\_

Please keep a copy of this consent form for your records. If you have other questions concerning your participation in this project, please contact me at:

**Student name:** Evonne Mwangale Kiptinness

Telephone number: 0753796003

email address:

emwangale@daystar.ac.ke

Thank you for agreeing to participate in this research.

DAYSTAR UNIVERSITY

**ANDIKO MAR YIE CHIWO NONRO**

An \_\_\_\_\_ (Nyingi) ang'eyo ni ikwaya mondo abed jakanyono e wi golo paro ne nonro ma itimo kod **Evonne Mwangale Kiptinness** mayudo tiegruok mamalo e mbalariany ma Daystar, Nairobi Kenya. Ayango malong'o ni nonro ni itimo mar golo paro e wi gengo landruok kute mag ayaki kowuok kuom Mine ma yach ne nyathindo manitie e ich kaachiel kod tudruok mar minegi gi johochochoyiedhi kata jochiw thieth.

Asebedo gi ng'eyo matut kuom nonro ni, koda ka penjo ma inyalo dwar duoko margi kuoma. Bende ibiro time kod weg-gi hie e thuolo madirom dakika 15 kende to orumo. Oseketa e ler ni achiwora e bedo e nonro ni gi pacha owuon ma onge achune moro amora e duoko penjo gi, bende an thuolo mar chungo dhi mbele kod bedo e timo nonro ni samora amora ma onge obadho. Ang'eyo bende ni duoko moro amora ma achiwo ne nonro ni biro bedo maling'ling' ma itiyogo e timo nonro mar somoni kendo ok bi ti kode e yo moro amora manyalo nyiso kata miyo fwenyo ng'at ma an. Duoko duto mag nonro ni ibiro kan kama owinjore kendo ma onge rochruok moro amora. Asengeyo bende ni onge obadho moko mopogore gi matindotindo mag kit ngima dhano ma pile ka pile.

Asesomo mondiki malo gi kendo winjo duto ma dwarore. E keto koka e andikono nyiso ni ayie bedo e timo nonro mar somoni kaka ochan kendo olos kod **Evonne Mwangale Kiptinness**.

Nyinga

---

Koka/Signature

---

Tarik \_\_\_\_\_

Namba Simu

---

Ka in gi penjo moro amora e wi bedo e nonroni, ywana tol e namba simu mar  
075379600.

**Nying Japuonjre:** Evonne Mwangale Kiptinness.

Email address: [emwangale@daystar.ac.ke](mailto:emwangale@daystar.ac.ke)

Erokamano kuom yie bedo e nonro ni

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## Appendix B: Focus Group Discussion Consent Form

In addition to filling out the study questionnaire, I, \_\_\_\_\_  
(participant's name), understand that I am being asked to participate in a Focus Group Discussion that forms part of Evonne Mwangale Kiptinness's required PhD coursework at Daystar University, Nairobi, Kenya.

I agree to participate in the Focus Group on the Prevention of Mother-To-Child Transmission of HIV.

- I understand that the Focus Group will be led by a Mentor Mother who will be assisted by the researcher/her research assistants.
- I am aware that the focus group will be for 3 sessions, 1 session each month and each session lasting for about an hour.
- I am aware that tea and snacks will be provided for participants of this sessions
- I understand the purpose of the research work is to study the communication between myself and the mentor mother in relation to the prevention of mother to child transmission of HIV.
- I am aware that the topics to be discussed in the focus group include (Living a healthy life Dealing with feelings, Preventing Transmission of HIV and raising a newborn)
- I am aware that I will remain anonymous throughout the research reporting and that I have the right to leave the focus group at any point.
- I am fully aware that data collected will be stored securely and safely by the researcher.
- I am fully aware that I am not obliged to answer any question, but that I do so at my own free will.

- I agree to have the focus group recorded (voice recorded) so it can be transcribed after the focus group is held.

Participant name (please print): \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Tel: \_\_\_\_\_

Please keep a copy of this consent form for your records. If you have other questions concerning your participation in this project, please contact me at:

**Student name:** Evonne Mwangale Kiptinness

Telephone number: 0753796003 email address:

emwangale@daystar.ac.ke

Thank you for agreeing to participate in this research.

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## Appendix C: Interview Consent Form

I, \_\_\_\_\_ (participant's name), understand that I am being asked to participate in an interview as part of Evonne Mwangale Kiptinness's required PhD coursework at Daystar University, Nairobi, Kenya.

I agree to participate in the interview on my perception of the Mentor Mother Programme. Furthermore:

- I am aware that the interview will last for about half an hour.
- I am aware that I will remain anonymous throughout the research reporting and that I have the right to leave the Interview at any point.
- I am fully aware that data collected will be stored securely and safely by the researcher.
- I am fully aware that I am not obliged to answer any question, but that I do so at my own free will.
- I agree to have the interview recorded (voice recorded) so it can be transcribed after the interview is held.

Participant name (please print): \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Tel: \_\_\_\_\_

Please keep a copy of this consent form for your records. If you have other questions concerning your participation in this project, please contact me at:

**Student name:** Evonne Mwangale Kiptinness

Telephone number: 0753796003                      email address:

emwangale@daystar.ac.ke

Thank you for agreeing to participate in this research.

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## Appendix D: Questionnaire (Homa Bay County Teaching and Referral Hospital)

Date:

Health Facility Name:

Name of research assistant:

Questionnaire No:

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1. Age

- a) 18 – 20
- b) 21 – 25
- c) 26 – 30
- d) 35 – and above

2. What is your highest level of education that you completed?

- a) No schooling
- b) Primary
- c) Secondary
- d) College or University
- e) Other

(Specify) \_\_\_\_\_

3. What is your occupation?

- a) No employment
- b) Farmer
- c) Odd jobs
- d) Student
- e) Other  (Specify) \_\_\_\_\_

## 4. Marital status

- a) Single
- b) Married
- c) Widowed
- d) Other  (Specify) \_\_\_\_\_

5. Number of children you currently have \_\_\_\_\_

6. Expected month of delivery \_\_\_\_\_

7. Number of Antenatal Care visits attended so far \_\_\_\_\_

## Sources of HIV information and communication

8. Where do you receive your information on the prevention of mother-to-child transmission of HIV? (Tick all that apply)

Television

Internet

School teacher

Newspapers/magazines

Radio

Family member

Mentor Mother

Health professional/Clinic

Other

(Specify) \_\_\_\_\_

\_\_\_\_\_

The following are some statements about the knowledge, attitudes and practices of prevention of mother-to-child transmission of HIV. For each statement tick the column that best reflects your response.

<b>9. Knowledge of PMTCT of HIV</b>	<b>Yes</b>	<b>No</b>	<b>Not Sure</b>
a) HIV infection can be transmitted from a mother to her unborn child			
b) All babies born to HIV infected mothers will acquire the HIV Virus			
c) Babies can acquire the infection from breastfeeding by an infected mother			
d) Unprotected sexual intercourse and Blood transmission are risk factors for Mother to Child Transmission of HIV in Pregnancy			
e) HIV can be transmitted through sharing a toothbrush with an HIV infected person			
f) Special drugs are available to prevent Mother to Child Transmission of HIV			
<b>10. Attitude Towards HIV</b>			
a) People with HIV are poor			
b) People with HIV are weak			
c) I do not want to associate with other HIV-positive people			
d) People with HIV are ordinary people			
e) People with HIV should stay at home or in hospital			

	Yes	No	Not sure
f) If a family member contracts HIV they should move out of the house			
<b>11. PMTCT Practices</b>			
g) I have been tested for HIV			
h) I take my ARVs daily			
i) I attend my clinic visits without fail			
j) I plan on delivering my baby in a health facility			
k) After delivery, I intend to make sure my baby is tested for HIV			

**12. The following are some statements on mutual understanding in relation to the prevention of mother-to-child transmission of HIV. For each statement tick the column that best reflects your response.**

<b>Mutual understanding</b>	Yes	No	Not sure
a) The Mentor Mother speaks to me in my mother tongue			
b) I understand the language the Mentor Mother speaks to me			
c) Sometimes the Mentor Mother uses words I do not understand			

d) I understand what the Mentor Mother requires me to do			
e) I trust the Mentor Mother			
f) I can contact the Mentor Mother outside our scheduled sessions			
g) I can express my ideas and thoughts to the Mentor Mother			
h) The Mentor Mother is knowledgeable about HIV/AIDS issues			
i) I regularly meet with my Mentor Mother			
j) The conversations I have with my Mentor Mother are mainly HIV/AIDS related			
k) I feel supported by the Mentor Mother to achieve my goals			
l) The Mentor Mother and I have a close relationship			
m) The Mentor Mother has a positive attitude towards me			
l) The Mentor Mother respects me			
m) I able to sort out any problems I have with my Mentor Mother			
n) The Mentor Mother understands my experience as an HIV+ pregnant woman			
o) The Mentor Mother is open with me			

**13. The following are some statements about Compliance, Identification and Internalization in relation to the prevention of mother-to-child transmission of HIV. For each statement tick the column that best reflects your response.**

	<b>Strongly Dis agree</b>	<b>Dis agree</b>	<b>Disagree Some what</b>	<b>Neither Agree or Dis agree</b>	<b>Agree Some what</b>	<b>Agree</b>	<b>Strongly agree</b>
a) How hard I work to follow what the mentor mothers tell me is directly linked to preventing mother-to-child transmission of HIV.							
b) I feel a sense of "ownership" of the Mentor Mother							

<p>sessions rather than being just a patient</p>							
<p>c) I find that my values and the Mentor Mother's values are very similar</p>							
<p>d) I tell other HIV- positive women I know, about the great services offered by mentor mothers</p>							
<p>e) I would be proud to tell others that I attend Mentor</p>							

Mother							
f) if the values of the mentor mothers were different I would not be as committed to attending the sessions							
g) In the presence of the Mentor Mother, I sometimes have to act in ways that are not completely consistent with my true values							
h) My attachment							

<p>to the mentor mothers is primarily based on the similarity of my values and those represented by the mentor mothers</p>							
	<p><b>Strongly Dis agree</b></p>	<p><b>Dis agree</b></p>	<p><b>Disagree Some what</b></p>	<p><b>Neither Agree or Disagree</b></p>	<p><b>Agree Some what</b></p>	<p><b>Agree</b></p>	<p><b>Strongly agree</b></p>
<p>i) My private views about mentor mothers are different than those I express publicly</p>							
<p>j) Since attending the Mentor</p>							

<p>Mother program, my personal values and those of the mentor mothers have become more similar</p>							
<p>k) The mentor mothers have achieved worthwhile accomplish ments in my community</p>							
<p>l) The reason I prefer the mentor mothers is because of what they stand for, their values</p>							

m) Unless I'm rewarded for it in some way, I see no reason to spend extra effort on doing what the mentor mothers what me to do							
n) What the mentor mothers stand for is important to me							

**14. Below are some statements about how people interact with others. For each statement tick the response that best reflects your communication with others.**

<b>Interpersonal communication</b>	<b>Almost Never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Always</b>
a) My friends can tell when I am happy or Sad					

b) My conversations are one-sided					
c) I allow Friends to see who I am					
d) I accomplish my communication goals					
e) I can put myself in others shoes					
f) My friends truly believe that I care about them					
g) My communication is usually disruptive not evaluative					
h) My conversations are characterized by smooth shifts from one topic to the next					
i) I am comfortable in social situations					
j) When I have been wronged I confront the person who wronged me					

Appendix E: Questionnaire (Kandege Health Centre)

Date:

Health Facility Name:

Name of research assistant:

Questionnaire No:

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15. Age

- e) 18 – 20
- f) 21 – 25
- g) 26 – 30
- h) 35 – and above

16. What is your highest level of education that you completed?

- f) No schooling
- g) Primary
- h) Secondary
- i) College or University
- j) Other

(Specify) \_\_\_\_\_

17. What is your occupation?

- f) No employment
- g) Farmer
- h) Odd jobs
- i) Student
- j) Other  (Specify) \_\_\_\_\_

18. Marital status

- e) Single
- f) Married
- g) Widowed

h) Other  (Specify) \_\_\_\_\_

19. Number of children you currently have \_\_\_\_\_

20. Expected month of delivery \_\_\_\_\_

21. Number of Antenatal Care visits attended so far \_\_\_\_\_

Sources of HIV information and communication

22. Where do you receive your information on the prevention of mother-to-child transmission of HIV? (Tick all that apply)

Television

Internet

School teacher

Newspapers/magazines

Radio

Family member

Mentor Mother

Health professional/Clinic

Other

(Specify) \_\_\_\_\_

\_\_\_\_\_

The following are some statements about the knowledge, attitudes and practices of prevention of mother-to-child transmission of HIV. For each statement tick the column that best reflects your response.

23. Knowledge of PMTCT of HIV	Yes	No	Not Sure
g) HIV infection can be transmitted from a mother to her unborn child			

h) All babies born to HIV infected mothers will acquire the HIV Virus			
i) Babies can acquire the infection from breastfeeding by an infected mother			
j) Unprotected sexual intercourse and Blood transmission are risk factors for Mother to Child Transmission of HIV in Pregnancy			
k) HIV can be transmitted through sharing a toothbrush with an HIV infected person			
l) Special drugs are available to prevent Mother to Child Transmission of HIV			
<b>24. Attitude Towards HIV</b>			
p) People with HIV are poor			
q) People with HIV are weak			
r) I do not want to associate with other HIV-positive people			
s) People with HIV are ordinary people			
t) People with HIV should stay at home or in hospital			
	<b>Yes</b>	<b>No</b>	<b>Not sure</b>
u) If a family member contracts HIV they should move out of the house			
<b>25. PMTCT Practices</b>			
v) I have been tested for HIV			

w) I take my ARVs daily			
x) I attend my clinic visits without fail			
y) I plan on delivering my baby in a health facility			
z) After delivery, I intend to make sure my baby is tested for HIV			

**26. The following are some statements on mutual understanding in relation to the prevention of mother-to-child transmission of HIV. For each statement tick the column that best reflects your response.**

<b>Mutual understanding</b>	<b>Yes</b>	<b>No</b>	<b>Not sure</b>
n) The Clinician speaks to me in my mother tongue			
o) I understand the language the Clinician speaks to me			
p) Sometimes the Clinician uses words I do not understand			
q) I understand what the Clinician requires me to do			
r) I trust the Clinician			
s) I can contact the Clinician outside our scheduled sessions			
t) I can express my ideas and thoughts to the Clinician			
u) The Clinician is knowledgeable about HIV/AIDS issues			
v) I regularly meet with my Clinician			
w) The conversations I have with my Clinician are mainly HIV/AIDS related			

x) I feel supported by the Clinician to achieve my goals			
y) The Clinician and I have a close relationship			
z) The Clinician has a positive attitude towards me			
aa) The Clinician respects me			
bb) I able to sort out any problems I have with my Clinician			
cc) The clinician understands my experience as an HIV+ pregnant woman			
dd) The Clinician is open with me			

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Daystar		Strongly Disagree	Disagree	Disagree Somewhat	Neither Agree or Disagree	Agree Somewhat	Agree	Strongly Agree
	o) How hard I work to follow what the clinicians tell me is directly linked to preventing mother-to-child transmission of HIV.							
	p) I feel a sense of "ownership" of the clinic visits rather than being just a patient							
	q) I find that my values and the clinicians values are very similar							
	r) I tell other HIV-positive women I know, about the great services offered by clinicians							
	s) I would be proud to tell others that I attend clinic sessions							
	t) if the values of the clinicians were different I would not be as committed to attending the clinical visits							
	u) In the presence of the clinician, I sometimes have to act in ways that are not completely consistent with my true values							

v) My attachment to the clinicians is primarily based on the similarity of my values and those represented by the clinicians							
	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Disagree Somewhat</b>	<b>Neither Agree or Disagree</b>	<b>Agree Somewhat</b>	<b>Agree</b>	<b>Strongly agree</b>
w) My private views about the clinicians are different than those I express publicly							
x) Since attending the clinic visits, my personal values and those of the clinicians have become more similar							
y) The clinicians have achieved worthwhile accomplishments in my community							
z) The reason I prefer the clinicians is because of what they stand for, their values							
aa) Unless I'm rewarded for it in some way, I see no reason to							

spend extra effort on doing what the clinician what me to do							
bb) What the clinicians stand for is important to me							

**27. The following are some statements about Compliance, Identification and Internalization in relation to the prevention of mother-to-child transmission of HIV. For each statement tick the column that best reflects your response.**

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Disagree Somewhat</b>	<b>Neither Agree or Disagree</b>	<b>Agree Somewhat</b>	<b>Agree</b>	<b>Strongly agree</b>
a) How hard I work to follow what the clinicians tell me is directly linked to preventing mother-to-child transmission of HIV.							
b) I feel a sense of "ownership" of the clinic visits rather than being just a patient							

<p>c) I find that my values and the clinicians values are very similar</p>							
<p>d) I tell other HIV positive women I know, about the great services offered by clinicians</p>							
<p>e) I would be proud to tell others that I attend clinic sessions</p>							
<p>f) if the values of the clinicians were different I would not be as committed to attending the clinical visits</p>							
<p>g) In the presence of the clinician, I sometimes have to act in ways that</p>							

are not completely consistent with my true values							
h) My attachment to the clinicians is primarily based on the similarity of my values and those represented by the clinicians							
	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Disagree Somewhat</b>	<b>Neither Agree or Disagree</b>	<b>Agree Somewhat</b>	<b>Agree</b>	<b>Strongly agree</b>
i) My private views about the clinicians are different than those I express publicly							
j) Since attending							

<p>the clinic visits, my personal values and those of the clinicians have become more similar</p>							
<p>k) The clinicians have achieved worthwhile accomplishments in my community</p>							
<p>l) The reason I prefer the clinicians is because of what they stand for, their values</p>							
<p>m) Unless I'm rewarded for it in some way, I see no reason to spend extra effort on doing what the clinician what me to do</p>							

n) What the clinicians stand for is important to me							
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**28. Below are some statements about how people interact with others. For each statement tick the response that best reflects your communication with others.**

<b>Interpersonal communication</b>	<b>Almost Never</b>	<b>Seldom</b>	<b>Sometimes</b>	<b>Often</b>	<b>Always</b>
k) My friends can tell when I am happy or Sad					
l) My conversations are one-sided					
m) I allow Friends to see who I am					
n) I accomplish my communication goals					
o) I can put myself in others shoes					
p) My friends truly believe that I care about them					
q) My communication is usually disruptive not evaluative					
r) My conversations are characterized by					

smooth shifts from one topic to the next					
s) I am comfortable in social situations					
t) When I have been wronged I confront the person who wronged me					

Thank you!

DAYSTAR UNIVERSITY

**NONRO**

Tarik \_\_\_\_\_

—

Nying od

thieth \_\_\_\_\_

Nying Jakony Chiwo

Nonro \_\_\_\_\_

Namba Oboke Mar Chiwo

Nonro. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 1. Higa

- a) 18-20
- b) 21-25
- c) 26-30
- d) 35 ka dhi nyime

## 2. Sombi

- a) Onge Ranging
- b) Primary
- c) Secondary
- d) College
- e) Mamoko

## 3. Tiji

- a) Aonge tich
- b) Japur
- c) Tige moko
- d) Pod asomo
- e) Mamoko

#### 4. Keny

- a) Poko kenda
- b) An e kenya
- c) Chi liel
- d) Mamoko

5. Kwan mar nyithindo ma ingo \_\_\_\_\_

6. Dwe mari mar nyuol \_\_\_\_\_

7. Kwan mar ndalo ma isedhi e od thieth \_\_\_\_\_

#### **Migepe machiwo ngeyo kod weche mag tuo mar ayaki**

8. En kanye ma iyude ngeyo kuom geng'o landruok tuo mar Ayaki kowuok kuom miyo mayach ne nyathine mapok onyuol? (Gweth duto ma ingeyo)

- Wang' Jowi - *Television*
- Mbui
- Japuonj Skul
- Andiko Mag Gazet
- Nyakalondo
- Achiel Kuom Anyuonda
- Jahocho
- Jalony/Jathieth

Mamoko (Yang

Maler)\_\_\_\_\_

Magi gin moko kuom weche kaluwore gi ng'eyo, paro kod timbe e geng'o landruok mar Ayaki kowuok kuom miyo mayach ne nyathine ma pok onyuol. Kuom wach moro amora ket kido kuom ngeyo gi lony mari e kaka diduok penjogi.

<b>9. Ng'eyo kuom Geng'o landruok mar Ayaki kowuok kuom miyo mayach ne nyathine.</b>	<b>ADIERI</b>	<b>OOYO</b>	<b>AONGE NG'EYO</b>
m) Ayaki nyalo landore kowuok kuom miyo ne nyathi ma pok onyuolo			
n) Nyithindo duto monyuol kod mine man gi kute Ayaki gamo kutego.			
o) Nyithindo nyalo gamo tuo e chag thuno sama gidhoth			
p) Riwrwok e achiel kod medo remo gin achiel kuom obadho mamalo e landruok kute mag Ayaki kowuok kuom miyo mayach ne nyathi mapok onyuolo			
q) Kute Ayaki landore koluwo lawo kata tiyogi gir rudho lak gin gat man gi kute go.			
r) Nitiere yedhe moyiedhi manyalo konyo geng'o landruok mag kute Ayaki kowuok kuom miyo mayach ne nyathi man e ich.			
<b>10. Paro Kuom Kute Ayaki</b>			

ee) Joma nig kute Ayaki odhier			
ff) Joma nig kute Ayaki yomyom			
gg) Ok adwar tudruok moro amora gi joma nig kute mag Ayaki			
hh) Joma nig kute Ayaki gin Ji ajiya			
ii) Joma nig kute Ayaki onego bed e dala kata e od thieth			

	ADIER	OOYO	AONGE NG'EYO
jj) Ka achiel kuom jo ot ogamo kute mag Ayaki to onego gidar giwuogi e ot.			
<b>11. Timbe mag engo Landruok kute Ayaki e kind Mine mayach ne nyithindo mapod nitie e ich</b>			
kk) Osepima ne kute mag Ayaki			
ll) Amuonyo yedhe mag kweyo kwiri mag kute pile			
mm) Alimo od thieth maonge goyo ndalo			
nn) Aparo mar nyuolo nyathina e ka rod thieth			
oo) Bang' nyuol/konyruok achano mondo nyathina oyud pim mar kute mag Ayaki.			

12. Magi gin moko kuom weche kaluwore gi ng'eyo, paro kod timbe e geng'o landruok mar Ayaki kowuok kuom miyo mayach ne nyathine ma pok onyuol. Kuom wach moro amora ket kido kuom ngeyo gi lony mari e kaka diduok penjogi.

<b>Winjruok</b>	<b>ADIER</b>	<b>OOYO</b>	<b>AONGE NG'EYO</b>
aa) Jahoch/Jalony/Jathieth kata jathieth wuoyo koda gi dholuo			
bb) Awinjo dhok ma jahocho/jathieth/jalony wuoyo go koda.			
cc) Seche moko jahocho/jathieth/jalony tiyo kod dhok/weche moko ma ok winjrena.			
dd) Awinjo gima jalony/jahocho/jathieth dwaro ni mondo atim.			
ee) An gi yie kuom jahocho/jathieth/jalony			
ff) Anyalo tudora kod jahocho/jalony/jathieth e seche moko mopogore kod saa mar timo limbe e kar od thieth			
gg) Anyalo golo kata wacho pacha ne jahocho/jalony/jathiech mara.			
hh) Jahocho/jathieth/jalong ni kod ng'eyo matuk e weche mag kute Ayaki			
ii) Aromo kod jahocho/jalony/jathieth mokayo kaka nyalore			
jj) Twak kod mbaka ma abedogo gi jalony/jahocho gin mana ma otudore gi weche mag kute Ayaki kende			
kk) Awinjo ka ajiwora kokalo kuom jahocho/jalony e wuodha mar chopo lek mara.			
ll) Wan kod tudruok machiegni gi jahocho/jalony mara.			
mm) Jahocho/jalony niggi paro maber kuoma			
pp) Jahocha/jalony omiya luor ma korka kora			

qq) An e okang' ma anyalo loso chandruok madibed e kinda kod jahochona/ jalony mara.			
rr) Jahochona/Jalonyna winjo ngeyo mara matut ma asebedogo kaka miyo mayach to nigi kute Ayaki			
ss) Jhochona/Jalonyna ni thuolo koda.			

**13. Magi gin weche moko kuom yango, fwenyo kod adieri ma iye kaluwore gi geng'o landruok kute mag Ayaki e kind mine ma yach ne nyithindni man e ich. Ne wach moro amora, ket kido manyiso yie mari kaluwore gi kaka iwinjo tiend wehegi.**

	Ok Ayiego Ahinya	Ok Ayiego	Anyako Tamora Yie Godo	Ok ayie bende Ok Atamora	Anyalo Yie Godo	Ayie	Ayiego Ahinya
o) Kinda ma aketo e luwo gigo ma jalony/jahochona wachona otudore go geng'o landruok kute mag Ayaki e kind nyathi mapok onyuok kod miyo mayach.							
p) Awinjo ka amako							

matek saa limbe gi jahoco/jalony ma ok ni en lime awende.							
q) Ayudo ka nengona kod nengo mar jalony/jahocho mara chalre.							
r) Anyiso mine mamoko man kod kute Ayaki ber mag hocho ma ayudo kuom jahochona/jalonyna.							
s) Abiro wacho gi sunga kaka abedo kod kinde kata thuolo gi jahochona/jalonyna ne jomamoko							
t) Dine bed ni nengo ma jalony/jahocho omiya opogore gi paro mara dine ok achiwora dhie puonjruok kata od							

thieth.							
u) Seche moko ka an gi jahocho/jalony kido mopogore gi dwaro maga							
v) Tudruokna gi jalony/ jahocho oyiengore kuom nengo ma maga koda mage bende							
w) Paro mara ma iye aling'ling' kuom jalony/jahocho opogore g imago matiyogo e galamoro.							
x) Nyaka ne achak yudo puonj kuom jalony/jahocho e ka rod thieth pacha kod mar jahocho/jalony osebedo machalre.							
y) Jahocho/Jaloch							

osegoyo okang' maber e tije e aluora mara.							
z) Gima omiyo ayiegi jalony/jahocho en nigichung kod nengo adieri margi.							
aa) Ka ok omiya mich moro, ok ane tiende medo timo kinda e timo gik ma jalony/jahocho puonja mondo atim.							
bb) Chuny mar jahocho/jalony nigi nengo kuoma ahinya.							

**14. Mandiki piny kanyogi gin yore moko kaka watudore gi oganda wa. Ne wach moro amora ket kido manyiso tudruok mari maberie mogik gi ogandawa**

<b>Tudruok Wach Ki in.</b>	<b>Chiegni</b>	<b>Matin</b>	<b>Sechemoko</b>	<b>Mogoyo</b>	<b>Seche</b>
	<b>Onge</b>			<b>okang'</b>	<b>Te</b>

u) Osiepega nyalo nyiso ka akuyo kata amor.					
v) Mbekni ma agoyo gin nyakon chiel					
w) Ayiene osiepena mondo onge ng'at ma an.					
x) Atemo mondo achop dwaro mara mag tudruok.					
y) Aketora e winjo pek jomoko					
z) Osiepega oyie adieri ni ageno gi					
aa) Wuoyona en ga makwedo to ok ma pimo.					
bb) Wehega mol mos kuom wach ka wach ma apimo					
cc) An thuolo kuonde ma riwo oganda					
dd) Ka ng'ato okadhona to apenje koda chir.					

**Erokamano**

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## Appendix F: Interview Guide - mentor mothers

1. How did you know about mentor mothers?
2. Why did you choose to become a mentor Mother?
3. How long have you been a mentor Mother?
4. How do you train to become a mentor Mother?
5. Do you like your job? Why or why not?
6. Do you think the Mentor Mother Programme is a good programme?
7. Would you recommend other HIV-positive women to become mentor mothers? Why or why not?
8. What do you think could improve the Mentor Mother Programme?
9. Do you think the Mentor Mother Programme could benefit from Cognitive Behavioural Interventions in Focus Groups? Why or why not?
10. In your opinion what is your best memory of being a mentor mother?
11. In your opinion what is your worst memory of being a mentor mother?
12. Is there anything else you would like to say about the Mentor Mother Programme?
13. Are there any questions you would like to ask me?

## Appendix G: Translators Guide - Dholuo and Kiswahili

- Brief translator on the research, socio-demographic characteristics of target population, mode of administration of the survey instrument, and where the survey will be administered;
- Brief translator on the possible reading level they should be targeting in the translation, noting the language should reflect language usage by speakers from Homa Bay County and Kisumu County.
- Translator assesses the survey instrument before translation to identify items that difficult to translate.
- Translation into target-languages by a professional translator who is a native speaker of the target language.
- Review of translation by bilingual reviewers
- Resolve discrepancies
- After the pre-test, translator meets with researcher to discuss any problem items
- During the translation process, if translators identify terms or concepts that are difficult to translate because they do not have the same or similar meaning in the target language as they do in English a discussion will follow on the goal or intent of the English-language item.



## Appendix H: Focus Group Discussion Guide

## SESSION 1

**Introduction:**

## 1. Welcome

Mentor Mother introduces herself and the Kenya Mentor Mother Program, roles and responsibilities of the programme as well as the desired outcomes. The researcher introduces herself and that she is also the note taker and controls the voice recorder. The researcher then introduces the Focus Group and sends the Sign-In Sheet around the group.

*The researcher will then review the following:*

- Who she is and objectives of the Focus Group Discussions
- What will be done with the information
- Why we asked the participants to participate

## 2. Explanation of the process

Ask the group if anyone has participated in a focus group before. Explain that focus groups are being used more and more often in health and human services research.

*About focus groups*

- We learn from you (positive and negative)
- Not trying to achieve consensus, we're gathering information
- In this project, we are doing both questionnaires and focus group discussions.

The reason for using both of these tools is that we can get more in-depth information from a smaller group of people in focus groups. This allows us to

understand the context behind the answers given in the written survey and helps us explore topics in more detail than we can do in a written survey.

### *Logistics*

- Focus group will last about one hour
- Feel free to move around
- Where is the bathroom? Exit?
- Snacks to be provided after the session
- There will be 3 focus group discussions of this nature that both the mentor mother and researcher would like all participants to attend.

### 3. Ground Rules

Ask the group to suggest some ground rules. After they brainstorm some, make sure the following are on the list.

### 4. Turn on Tape Recorder

5. Ask the group if there are any questions before we get started and address those questions.

### 6. Introductions

- Go around the circle: each participant states their name and how many months pregnant they are.

7. Icebreaker exercise – Each participant goes around the room greeting and shaking hands with everybody

*Discussion begins, make sure to give people time to think before answering the questions and don't move too quickly. Use the probes to make sure that all issues are addressed but move on when you feel you are starting to hear repetitive information.*

*Living a healthy life*

1. Let's start the discussion by talking about HIV. What is HIV?
2. What are some of the myths and misconceptions about HIV? (**paired conversation** – participants pair up with the person on their right and discusses the question. Answers will be shared to the group)
3. How is HIV transmitted? (**Role Play** – participants based on the misconceptions act out how HIV cannot be passed on e.g. shaking hands, sitting in one another's chairs, holding someone else's handbag...)
4. How is HIV Prevented? (**brainstorming**)
5. What are some opportunistic infections and HIV related illnesses that we could get as a result of having HIV?
6. How can we prevent these illnesses?
7. Why is it important to get tested for HIV?
8. What is the process of HIV testing?
9. What does an HIV-positive test mean?
10. How did you feel when you found out that you were HIV-positive?
11. What are antiretrovirals?
12. Why is it important especially for pregnant women like us to take our antiretrovirals?
13. What else can we do to Prevent Mother-to-child transmission of HIV to our unborn babies?

Goal Setting: Take measures to prevent opportunistic infections and HIV related illnesses

Next meeting date and time:

Closing and Refreshments:

## SESSION 2

Welcome and Review

Mentor Mother and researcher provides a brief welcome to the third session and recap of the previous session. Participants briefly say their names. The ground rules set in the previous session are reviewed. The objectives of the session are noted.

Ice Breaker exercise:

*Dealing with feelings: part 1*

1. Is it important to tell your partner about your status? Why or why not?  
(brainstorming)
2. For those who have told their partners about their status, was it difficult? How did you do it? (paired conversation)
3. What are some ways we could share our status with our partners? (role play)
4. Who else can we tell about our HIV status?
5. Why is it important to share your HIV status with people you trust?
6. What are some of our fears of sharing our status with our partners or loved ones?
7. How can we overcome these fears?
8. Have you experienced violence as a result of your disclosure of your HIV status?  
How did you deal with the situation?

Goal Setting: Consider sharing your HIV status with your partner and people that you trust

Next meeting date and time:

Closing and Refreshments:

### SESSION 3

Welcome and Review

Mentor Mother and researcher provides a brief welcome to the fourth session and recap of the previous session. Participants briefly say their names. The ground rules set in the previous session are reviewed. The objectives of the session are noted.

Ice Breaker exercise:

*Dealing with feelings: part 2*

1. What have you heard other people saying about people who have HIV?  
(brainstorming)
2. What do you feel about these things you have heard?
3. Do you think this is who you are?
4. What challenges do you think people with HIV face? (paired discussion)
5. How can we overcome these challenges?
6. What do we do when we feel negative emotions about ourselves? (Role play)

Goal Setting: Focus on the positive things about yourself and your life

#### **Conclusions:**

That concludes our 3 session focus groups. Thank you so much for coming and sharing your thoughts and opinions with us. What did you think of the sessions? How can we improve them? Any questions or anything to share?

We have a questionnaire that we would like you to fill out.

Closing and Refreshments

**Materials and supplies for focus groups**

- Sign-in sheet
- Consent forms
- Post intervention questionnaire
- Focus Group Discussion Guide for Facilitator
- 1 recording device
- Batteries for recording device
- Permanent marker for marking tapes with FGD name, facility, and date
- Notebook for note-taking
- Refreshments

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## Appendix I: Research Approval from Homa Bay County

## MINISTRY OF HEALTH

Telegrams: "MOH" Homa Bay  
Telephone: 21039  
When replying please quote



OFFICE OF THE DIRECTOR  
HOMA BAY COUNTY,  
P.O. BOX 52,  
HOMABAY.

REF:MOH/RA/VOL.IV/18

21<sup>st</sup> April 2020

MS. Evonne Mwangale  
Daystar University

**RE: AUTHORITY TO CONDUCT RESEARCH**

Your request to collect data on your research title, "*The effectiveness of interpersonal communication on the prevention of mother to child transmission of HIV: A Quasi experimental approach in Homa Bay County*" has been granted for the period ending 28<sup>th</sup> March 2021

You will be required to adhere to the hospital's norms and regulations, and involve both the County Health Management Team and hospital's staff during the research period. Kindly communicate your findings to the CHMT at the end of the research period.

Wish you all the best in your research.

Dr. Gordon Okomo  
County Director for Health Services  
**HOMABAY COUNTY**



## Appendix J: Research Approval from Kisumu County

**REPUBLIC OF KENYA**  
**COUNTY GOVERNMENT OF KISUMU**

Telegrams: "PRO (MED)"  
Tel: 254-057-2020105  
Fax: 254-057-2023176  
E-mail: [kisumucdh@gmail.com](mailto:kisumucdh@gmail.com)



Director Planning, Policy and M & E  
P.O. Box 721 – 40100,  
Kisumu.

**DEPARTMENT OF HEALTH & SANITATION**

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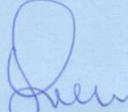
**Our Ref:** GN 134 VOL. I (12) **Date:** 11<sup>th</sup> May, 2020

---

**RE: EVONNE MWANGALE KIPTENNES (5-139)**

Following your request to carry out data collection for your PHD research at Muhoroni Sub-County Hospital, I am pleased to inform you that your request has been considered and approved.

The purpose of this letter is, therefore, to inform you that you can proceed with data collection from the date of this letter.

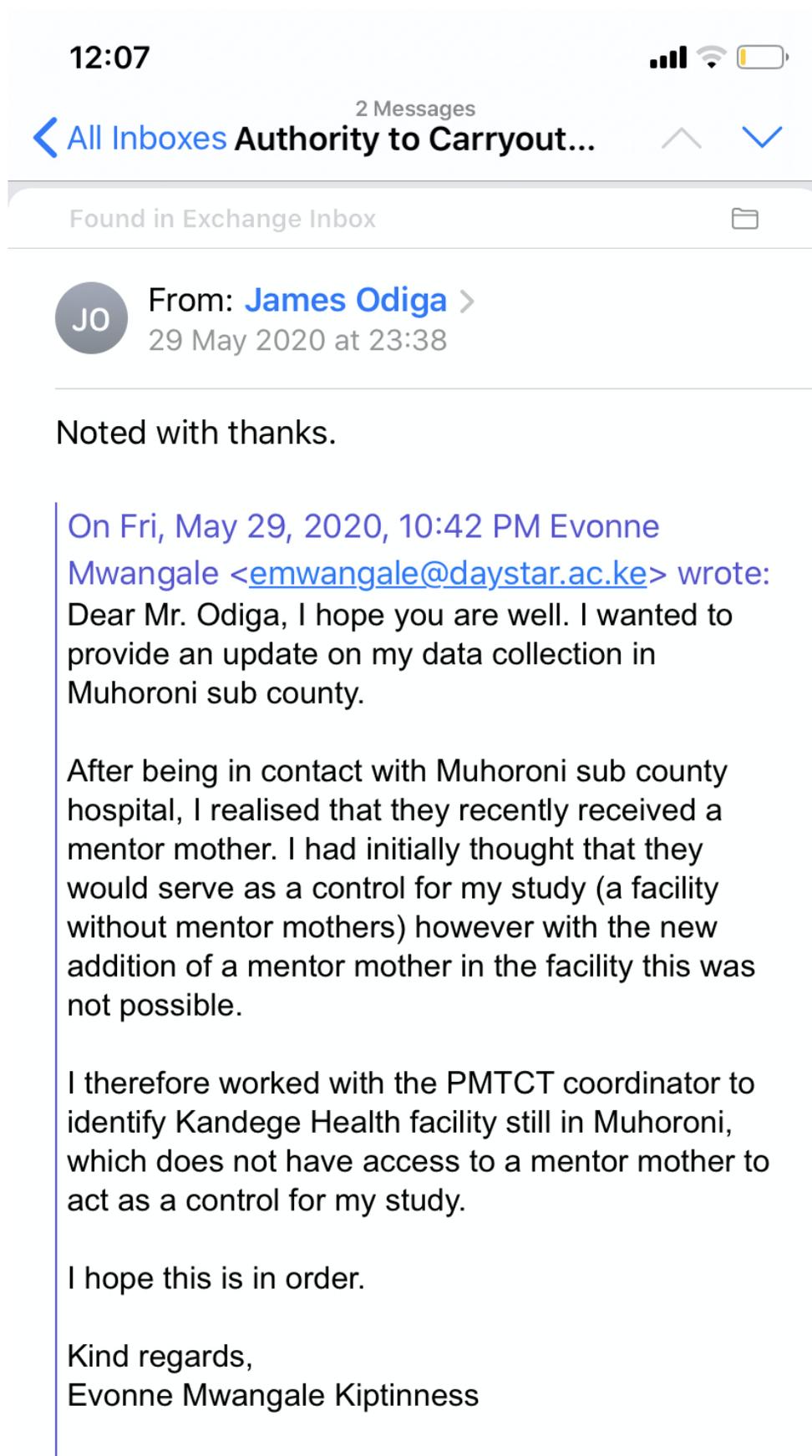


James Odiga (Mr.)  
Director Planning, Policy and M & E  
Kisumu County

CC Chief Officer – Planning, Strategy, Policy, Partnership and General Administration

---

*From the office of Director Planning, Policy and M & E*



## Appendix K: Ethical Clearance

**VERDICT – APPROVAL WITH COMMENTS**  
Daystar University Ethics Review Board



Our Ref: DU-ERB/11/03/2020/000408

Date: 11<sup>th</sup> March 2020

To: Evonne Mwangale Kiptinness

Dear Evonne,

**RE: THE EFFECTIVENESS OF INTERPERSONAL COMMUNICATION ON THE PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV: A QUASI EXPERIMENTAL APPROACH IN HOMA BAY KENYA**

Reference is made to your ERB application reference no. 180220-01 dated 18<sup>th</sup> February 2020 in which you requested for ethical approval of your proposal by Daystar University Ethics Review Board.

We are pleased to inform you that ethical review has been done and the verdict is to revise to the satisfaction of your Supervisors and Head of Department before proceeding to the next stage. As guidance, ensure that the attached comments are addressed. Please be advised that it is an offence to proceed to collect data without addressing the concerns of Ethics Review board. Your application approval number is **DU-ERB-000408**. The approval period for the research is between **11<sup>th</sup> March 2020 to 10<sup>th</sup> March 2021** after which the ethical approval lapses. Should you wish to continue with the research after the lapse you will be required to apply for an extension from DU-ERB at half the review charges.

This approval is subject to compliance with the following requirements;

- Only approved documents including (informed consents, study instruments, MTA) will be used.
- All changes including (amendments, deviations, and violations) are submitted for review and approval by Daystar University Ethics Review Board.
- Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to Daystar University Ethics Review Board within 72 hours of notification.
- Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to Daystar University Ethics Review Board within 72 hours.
- Clearance for export of biological specimens must be obtained from relevant institutions.
- 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.
- Submission of a signed one page executive summary report and a closure report within 90 days upon completion of the study to Daystar University Ethics Review Board via email [duerb@daystar.ac.ke].

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and other clearances needed.

Yours sincerely,

 12/03/2020

Mrs. Purity Kiambi,  
Secretary, Daystar University Ethics Review Board

Encl. Review Report

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P.O. Box 44400 Tel: (020) 2723002/3/4 Fax: (020) 2728338, Nairobi or P.O. Box 436, Tel: (045) 22601/2/3 Fax: (045) 22420 Athi River  
E-mail: daystar@maf.or.ke Website: www.daystaruniversity.net

Appendix L: Research Permit by NACOSTI

  
**REPUBLIC OF KENYA**

  
**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY & INNOVATION**

Ref No: **283942** Date of Issue: **28/March/2020**

**RESEARCH LICENSE**



**This is to Certify that Ms.. Evonne Mwangale of Daystar University, has been licensed to conduct research in Homabay, Kisumu on the topic: The effectiveness of interpersonal communication on the prevention of mother to child transmission of HIV: A Quasi experimental approach in Homa Bay Kenya for the period ending : 28/March/2021.**

License No: **NACOSTI/P/20/4507**

**283942**  
Applicant Identification Number

  
Director General  
**NATIONAL COMMISSION FOR  
SCIENCE, TECHNOLOGY &  
INNOVATION**

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Scan the QR Code using QR scanner application.**

## Appendix M: Plagiarism Report

## Evonne Mwangale dissertation - 24th October 2021 (1)

## ORIGINALITY REPORT

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