EFFICACY OF MULTIMODAL THERAPY IN REDUCING RISKY SEXUAL BEHAVIOUR RELATED TO HIV AND AIDS PREVENTION AMONG MEN WHO HAVE SEX WITH MEN IN NAIROBI, KENYA

by

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APPROVAL

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I declare that this dissertation is my original work and has not been submitted to any other college or university for academic credit.

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# LIST OF ABBREVIATIONS AND ACRONYMS

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<tr>
<td>AIDS</td>
<td>Acquired Immune Deficiency Syndrome</td>
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<tr>
<td>ARV</td>
<td>Anti-Retroviral Therapy</td>
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<tr>
<td>BASIC ID</td>
<td>Behaviour, Affect, Senses, Imagery, Cognition, Interpersonal Relationships, and Drug/Biological considerations</td>
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<tr>
<td>BSS</td>
<td>Behaviour Surveillance Surveys</td>
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<tr>
<td>CBO</td>
<td>Community Based Organization</td>
</tr>
<tr>
<td>CBD</td>
<td>Central Business District</td>
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<tr>
<td>CBT</td>
<td>Cognitive Behaviour Therapy</td>
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<tr>
<td>CDC</td>
<td>Centres for Disease Control</td>
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<tr>
<td>HAART</td>
<td>Highly Active Antiretroviral Therapy</td>
</tr>
<tr>
<td>HBM</td>
<td>Health Belief Model</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immuno Deficiency Virus</td>
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<tr>
<td>HOYMAS</td>
<td>Health Options for Young Men on HIV/AIDS/STIs</td>
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<tr>
<td>MSM</td>
<td>Men who have sex with men</td>
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<tr>
<td>NACC</td>
<td>National AIDS Control Council</td>
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<tr>
<td>NASCOP</td>
<td>National AIDS and STIs Control Programme</td>
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<tr>
<td>MMT</td>
<td>Multimodal Therapy</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organizations</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Science</td>
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<tr>
<td>STI</td>
<td>Sexually Transmitted Infections</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>Joint United Nations Programme on HIV/AIDS</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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ABSTRACT

Men who have sex with men remain at great risk of HIV and AIDS infection. The purpose of this study was to assess the efficacy of multimodal therapy (MMT) in risky sexual behaviour reduction in HIV and AIDS prevention among men who have sex with men (MSM) in Nairobi County, Kenya. A quasi-experimental non-equivalent control-group design with baseline and end line assessments was adapted, targeting a population of 4000 MSM. The sample size was 188: experimental, 94, and the control group, 94. Two sites: HOYMAS (experimental group) and Ishtar (control group), were purposely selected but randomly assigned to the respective groups. For data collection, the Family Health International (FHI, 2000) Behavioural Surveillance Survey (BSS) questionnaire was adapted, and analysis of the data was done using causal-comparative and inferential statistics. The study findings showed that MMT was effective in reducing HIV and AIDS risky sexual behaviour transmission among MSM in Kenya (p<0.0001). Group mean estimates on consistent condom use in the experimental group and that of multiple sexual partners’ was statistically significant at P<0.0001. Further, age, religion, education, and marital status were associated with consistent condom use at p<0.05. Additionally, sexual impulse, MSM social affiliations, and HAART were reported to be the greatest barriers to HIV and AIDS risky behaviour change among the respondents at p=0.022. Finally, respondents already doing something to prevent HIV and AIDS spread were found to be more likely to use a condom consistently and avoid multiple partners (p=0.004). The study recommends the need for HIV and AIDS prevention stakeholders, including the Kenya government, to adapt MMT as a personalized self-help HIV and AIDS transmission prevention strategy for those not infected.
DEDICATION

This dissertation is dedicated to God, the originator and sustainer of life and inspiration; to my husband, Isaac; and our children, Grace, Edwin, Brian, Christopher, their spouses, our grandchildren, and all those to come. I also dedicate it to all the young people globally.
CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction to the Study

In this chapter, the following areas of the study are presented: the background, problem statement, purpose, objectives, research questions, hypothesis, justification, significance, assumptions, limitations and delimitations, scope, and definition of terms considered key in the study.

Globally, human immunodeficiency virus and acquired immune deficiency syndrome (HIV and AIDS) has remained the most challenging health concern. With regard to HIV and AIDS infection, men who have sex with men (MSM) carry a heavier weight, compared to all other population groups. Hessou et al. (2019) observed that in sub-Saharan Africa, the prevalence rates of HIV and AIDS among MSM are high compared to the same in the general population in these countries. Further, in several countries within Africa, sexual relationships within similar gender are considered criminal (Sanders et al., 2013). Because of this, numerous MSM live in fear of being arrested and subsequently imprisoned. As a result, many of them keep their sexual inclination concealed. They do this through isolated lifestyles, as well as keeping away from healthcare facilities and avoiding any enquiry regarding their way of living (Sanders et al., 2013).

Lack of research data in the continent has led to many program planners not considering MSM of importance in regard to HIV and AIDS programs. This has led to them not getting holistic quality healthcare in treatment, counselling, testing, and research participation. Hence, research on their risky behaviour is limited. Despite these challenges, results from the few studies done have indicated an extensive presence of MSM groups all over Africa, with high rates of HIV and AIDS infection,
risky sexual behaviour, and sexual links between heterosexual groups and MSM (Beyrer et al., 2012). Further, safe access to applicable information and resources regarding HIV/AIDS, continues to be a major obstacle to MSM in Africa.

In this region, inadequacy of research relating to prevalence, preventive measures, treatment, as well as MSM’s sexual orientation has played a role in the MSM’s HIV and AIDS challenge. MSM engage in unprotected anal sex which exposes them to HIV and AIDS infection more than other populations. The MMT BASIC ID will address the MSM risky sexual behaviour reduction through exploration, and assessment of their structural inventory profile envisioned in each individual’s BASIC ID. The present study used MMT skills to serve as an intervention for empowering MSM in reducing risky sexual behaviour among this vulnerable group.

1.2 Background to the Study

A report by the Joint United Nations Programme on HIV/AIDS (UNAIDS), United Nations Children’s Fund (UNICEF), and World Health Organization (WHO, 2014) revealed that MSM around the world were particularly more vulnerable to HIV and AIDS infection than other populations. The reason behind this scenario is the MSM’s risky sexual behaviour which involves anal sex (UNAIDS, UNICEF, & WHO, 2014). Studies have also revealed that MSM are more prone to HIV and AIDS infection in sub-Saharan Africa due to stigma and discrimination (Okal et al., 2013).

Recent studies have revealed that Kenya has made progress in dealing with HIV and AIDS among MSM, and pioneering in HIV and AIDS care and prevention. However, as reported by the National AIDS Control Council (NACC, 2014), the effort being made currently is not reaching many MSM who urgently need the services. The report suggests that prevention initiatives need to target these vulnerable groups in their
community centres as part of wider efforts to stem HIV and AIDS especially among MSM (NACC, 2014). Some of the MSM do not know their status, while others experience arrests, physical violence, and discrimination from the law enforcement personnel and a homophobic public.

Despite one’s self-defined orientation, MSM refers to all men who have sex with men. For the MSM, the MSM community is their source of selfhood, as it gives them a sense of identity, belonging, and a space and place to socialize, connect, and support each other in the face of challenges associated with their sexual orientation. Some MSM remain anonymous due to fear of violence, arrest, discrimination, and stigma. This is a challenge to programs that target MSM for research and services necessary in HIV and AIDS prevention (amfAR, 2008).

Behaviour studies on MSM have shown that sex without protection during anal sex is common among the group yet they do not get adequate access to appropriate risk prevention measures (Baral, Logie, Grosso, Wirtz, & Beyrer, 2013). First, some MSM engage in commercial sex with many partners to be able to earn income. Secondly, due to fear of stigma, intolerance, and aggression, numerous MSM keep their sexual inclination underground. This risky sexual behaviour explains why HIV and AIDS prevalence rates continue to rise in a fast manner. The MSM engage in anal sex without protection and more so with numerous sexual partners. In addition, the condom is used incorrectly and inconsistently, owing to the deficiency of correct awareness of HIV and AIDS prevention and treatment. Consequently, the present study acknowledged the need for an intervention to address HIV and AIDS risky sexual behaviour from a psychosocial/behaviour view, to be used alongside the biomedical interventions currently in use. The MMT intervention skills were expected to give MSM competences that would empower them with ability to avoid HIV and
AIDS risky sexual behaviours in order to prevent infection among them, which stands at 19 times more than the general population of reproductive age globally (Geibel, Tun, Tapsoba, & Kellerman, 2010).

In a 2008 survey, Geibel et al. (2008) investigated factors that predicted unprotected anal sex among male sex workers in Mombasa, Kenya, and found out that many MSM also have female sexual partners. This indicates that MSM can serve as a bridge to other populations in regard to HIV and AIDS transmission. Despite awareness of these facts, a deficiency continues to exist in terms of research and interventions targeted at MSM. This is because surveillance data tends to be limited and most of the time underestimates the population of MSM as well as the prevalence of HIV among them (Sharma et al., 2008).

Men who have sex with men are rejected, shunned, and shamed by their families and society because of their sexual orientation and HIV and AIDS infection (Dyk, 2008). The MSM who are HIV infected experience depression and anxiety because of the lack of a cure for AIDS which leads to feelings of self-blame, powerlessness and loss of personal control over their lives. According to Simoni et al. (2011), depression is among the greatest disorders that co-exist with HIV infection which impacts the HIV victims negatively. The high HIV and AIDS prevalence rate among MSM is associated with receptive anal sex practiced without protection, which is the identity of the MSM. Some MSM are involved in transactional anal sex without protection and with numerous partners. They also lack safe social health resources, and do not have adequate access to safe risk prevention measures (Baral et al., 2009).

The MMT BASIC ID assessments, explorations, counselling, coaching and intervention together help the MSM to focus on the source of their risky behaviour and choose strategies that help them to change the behaviour (Lazarus & Lazarus,
MSM will also be involved as the predictors of their mastery of the aversive situations they face. MMT modality skills will empower them to reduce their risky sexual behaviour and control sexual impulse using their internalized self-help plan.

The researcher hoped that as the MSM interact with the MMT modality assessment, they would be able to explore the behaviours they would want to change, as well as the ones they would want to retain. This would help them gain insight into their perceived self-efficacy on perceived risk of HIV and AIDS, as well as their sexual impulse control. MMT would enable them to change their risky sexual behaviour, explore self-awareness and responsible decision-making regarding reduction in unprotected anal sex, correct use of condoms, and a decrease in the number of sexual partners. As part of MMT assessment, MSM looked at the HIV and AIDS threat and perceived risk of living with it, since MMT modality skills address MSM vulnerability to help the participants gain insight into the dangers of risky sexual behaviour.

1.2.1 Multimodal Therapy Intervention Overview

The Joint United Nations Programme on HIV/AIDS and United Nations Population Fund (UNAIDS & UNPFA, 2014) report suggested that a combination of behaviour change approaches alongside biomedical and community integration be used in HIV and AIDS prevention approaches. MMT was developed by Arnold Lazarus between 1976-2008 (Masters & Burish, 1987). It is a comprehensive, systematic, and cognitive theory-based assessment which applies diverse behaviour techniques to a variety of problems with the goal being behaviour change for the purpose of eradicating risky and maladaptive behaviours.
Multimodal therapy BASIC ID modalities form the individual’s self-help plan, assessment, treatment, and intervention that address the psychosocial components in behaviour change based interventions. For the intervention to be effective and thorough, it must include seven separate but interactive modalities, namely b-behaviour, a-affect, s-sensation, i-imagery, c-cognition, i-interpersonal relationships, and d-drugs - with the acronym BASIC ID. The reciprocal reactions among and between the MMT modalities (BASIC ID) make up the heart of human temperament and personality, and point the way to rapid and durable therapeutic tactics and strategies. This makes MMT an effective personalized self-help plan in decision making after the intervention is internalized in an individual’s behaviour components of personality and temperaments (Corey, 2009).

Further, MMT also targets the multiple determinants of the individuals’ behaviour, knowledge, motivation, as well as their interpersonal relationships. In addition, MMT helps the individual to internalize risk avoidance techniques which remain within the individual (Lazarus, 2008). This study found it relevant to point out that this intervention meets the UNAIDS and UNFPA (2014) recommendation on HIV and AIDS intervention research, confirming the choice and timeliness of this intervention that is an assessment, treatment, and an intervention that is internalized by the individual MSM as a self-help prevention plan.

According to Beyrer (2010), the initial HIV and AIDS prevention efforts in MSM in United States of America were led by gay advocacy groups in San Francisco and New York in 1982 and it proved successful. MSM accounted for 52% of 1.2 million adult HIV cases in America in that period and 37% of these were African Americans. Several studies demonstrating the efficacy on HIV and AIDS prevention targeted at this group have been published, some of which are reviewed in this study. A CDC
meta-analysis review of USA international studies on efficacy of structural-level condom distribution and use in HIV and AIDS behaviour change among MSM was conducted between 2008 and 2013. The findings showed that MSM self-reported unprotected anal sex (UAS) reduced by 27% compared to other HIV prevention interventions (Charania et al., 2011). These findings are relevant to this study as they show that risky sexual behaviour that can lead to HIV and AIDS infection among MSM can be reduced when a behaviour based MMT intervention is adopted by MSM, where they are involved as equal partners. The present study was carried out in an MSM run site and involved the MSM as peer trainers in specific groups, since MMT is highly individualized.

With regard to HIV and AIDS infection in Europe, the epidemic has caused suffering, devastation, destruction, and loss of finances as the infection rates keep soaring (Kegeles & Hart, 1998). The MSM continue to be most affected as the rate of infection increases faster among them than in other general populations. The epidemic is dominated by MSM who account for the largest number of transmissions in many regions across Europe, particularly in the United Kingdom and the Netherlands where injecting drug use has been the main mode of transmission. Though HIV and AIDS can be transmitted through many ways, unprotected sex remains the most frequent mode of transmission (Beyrer et al., 2013; Stine, 2009).

A review on the efficacy of structural-level condom distribution interventions in the UK and the Netherlands found behavior interventions to be very effective in reduction of HIV and AIDS sexual risk behavior among priority populations of MSM in the UK (Beyrer et al., 2013). These reviews were conducted among community-level interventions, group- level interventions, and one individual-level intervention. The findings of the reviews showed that many interventions were more efficacious used
together than individually. This information was found valuable to this study as it justified the need for a multimodal intervention approach in the prevention of HIV and AIDS in MSM.

According to UNAIDS (2014), population report on sub-Saharan Africa HIV and AIDS Prevalence and Prevention, two-thirds of global HIV and AIDS population are in this region. Further, Stolley and Glass (2009) indicated that HIV and AIDS prevalence rates in this region remain high among special populations, including MSM who are also hard hit because of stigma and criminalization. Kharsany and Karim (2016) noted that more than 70% of the world HIV infection was in sub-Saharan Africa.

Niang et al. (2003) in a study of 250 MSM in Dakar, Senegal found out that many men were at a greater risk of acquiring HIV and AIDS as a result of unprotected anal sex among themselves. Further, these men had a record of contracting STI symptoms as well as poor knowledge of STI and HIV and AIDS transmission risks. Beyrer et al. (2011) also recommended that MSM interventions need to be sensitive, confidential, and accommodating in order to build trust and avoid stigma, violence, and rejection which are occasioned by the MSM sexual lifestyle. Sub-Saharan Africa and Asia are the worst hit by the global HIV and AIDS pandemic with almost 39 million of the estimated 48 million infected with HIV and AIDS coming from Africa as a result of structural, social and economic roadblocks.

This information pointed to the urgent need for an intervention that is multimodal behaviour based so as to address the issues raised. In view of this background, this research sought to respond to this gap through MMT intervention.
1.2.2 HIV and AIDS Prevalence and Prevention in Kenya

In Kenya, HIV and AIDS has become a tragedy of devastating proportion on all sectors, and particularly on the MSM population. According to the 2012 Kenya AIDS indicator survey, nationally, an estimated 1.2 million persons aged 15-64 years were HIV-infected at the time of the survey in 2012 (National AIDS and STIs Control Programme [NASCOP], 2014a). The overall HIV and AIDS prevalence in Nairobi was 8.8%, and in Mombasa was 18.1%.

A report by Onyango-Ouma, Birungi, and Geibel (2005) titled “understanding the HIV/STI risks and prevention needs of men who have sex with men in Nairobi, Kenya” documented that MSM had no access to treatment centres due to stigma, lack of confidentiality, and fear of criminalization which hampered their seeking for treatments; and that Kenya has a bigger population of MSM than previously assumed. Further, the report recommended that healthcare providers should offer HIV and AIDS prevention services to MSM in confidential, sensitive, individualized, affordable, and non-judgemental ways. This is because the MSM community is a sensitive lot because of the difficult lives they have lived. Thus, they sometimes see stigma where it is not and put up defence which elicits more stigma. The MMT intervention through cognitive restructuring addressed this fear.

Two other studies conducted in Nairobi and Mombasa by Geibel (2012) on HIV and AIDS risk of infection and prevention among MSM reported that several MSM in Kenya were at a greater risk of HIV and AIDS infection. In the Nairobi study, 47% of participants stated that they had multiple male sexual partners within a month, while more than half of commercial male sex workers in Mombasa (74%) stated that they had multiple male partners in a week. In both the Nairobi and Mombasa studies, the
MSM were also reported to have female sexual partners as well as men who were married. This calls for very urgent responses to arrest this situation.

Another study focusing on MSM in Nairobi “used respondent-driven sampling to estimate HIV prevalence at 18% among the total population of MSM in the Nairobi area” (Geibel et al. as cited in Giebel, 2012, p. 290). Moreover, in 2009, the NACC and the Ministry of Health (MOH) documented that HIV and AIDS prevalence was more than twice as high among MSM compared to the general population in Kenya at 9% in Nairobi and 8% in Mombasa (Giebel, 2012). Further, it was revealed that same gender sexual relations were criminalized, stigmatized, and discriminated against and this kept the MSM from treatment seeking for fear of arrest, violence, and harassment. This researcher found it significant to note that the picture portrayed above has not changed much.

The MSM’s behaviour plays an important role in HIV and AIDS transmission, very little of this behaviour is understood and research on this population in Kenya has been limited. However, the prevalence rate keeps rising, with NACC placing it at 18.2% in 2014 (NACC, 2014). Understanding sexual behaviours of populations vulnerable to HIV and AIDS in order to effectively address the transmissions interventions is a critical factor. Behaviour control and change is one way of preventing HIV and AIDS transmission (Masters & Burish, 1987; Pan American Health Organization, 2008; Sanders, Okuku, & Mwangome, 2011). Although biomedical treatments, chemoprophylaxis, Highly Active Antiretroviral Therapy (HAART), and condom availability with microbicides treatments are important although they don’t address MSM vulnerability which is their sexual orientation and the root causes of observed risky behaviours among them in HIV and AIDS transmission.
1.3 Statement of the Problem

According to NASCOP (2014b), Kenya has a large population of MSM who are sex workers, others are people who inject drugs (PWID) and some of these men are sexually involved with women. They have also been found to be low in treatment and testing seeking, use alcohol and risk exposures. Condom use, testing, and treatment seeking have been going down while some of the MSM who had originally adopted safer sex are relapsing to unsafe sex citing drugs’ side effects and cost as their reasons for non-adherence (Pellowski & Kalichman, 2012).

False confidence caused by HAART treatment optimism among some MSM regarding intentional unsafe sex leads to increased sexual risk taking. This has resulted in indiscriminate unsafe sex, including multiple sexual partnerships. Condom bias and fatigue syndrome, a term used to describe the general lethargy among those who are tired of condom use is also spreading fast among MSM. Some feel hopeless and pessimistic about the effectiveness of safer sex and this leads to reduced condom use and increased risky sex among them (Beyrer et al., 2012). As a result, despite availability of chemoprophylaxis, HAART, condoms, biomedical and pharmacological interventions, HIV and AIDS prevalence among MSM in Kenya continues to rise (NACC, 2014).

According to sections 162 to 165 of the Kenya Penal Code, male to male sexual relations is punishable by 21 years jail term (National Council for Law Reporting, 2012). This forces the MSM to conceal their sexual orientation, rendering HIV and AIDS prevention among them a difficult undertaking. MSM rejection by family, colleagues, society, and caregivers lead to their loss of confidence, hope and depression which is a common co-morbidity of HIV and AIDS infection which
negatively impacts individual’s self-care, quality of life, and productivity (Simoni et al., 2011).

This study utilized Multimodal intervention (MMT); a comprehensive, systematic and holistic approach to behaviour change developed by Arnold Lazarus (1998). The intervention addressed each MSM’s risky behaviour vulnerability helping them decide which behaviour to change and which to retain. This helped them explore their specific behaviour risk and vulnerability mainly self-defeating behaviours with the purpose of regaining power over their responses through self-awareness, self-monitoring, and cognitive restructuring so as to facilitate behaviour changes (Masters & Burish, 1987).

1.4 Purpose of the Study

The purpose of this study was to investigate the efficacy of Multimodal Therapy BASIC ID skills in reducing risky sexual behaviour which would lead to HIV and AIDS prevention among MSM in Nairobi, Kenya.

1.5 Objectives of the Study

The broad and specific objectives of this study were as follows:

1.5.1 Broad Objective

The general objective of this study was to evaluate the efficacy of MMT on HIV and AIDS prevention through risky behaviour reduction among MSM in Nairobi Kenya.

1.5.2 Specific Objectives

The specific objectives were as follows:

1. To identify the predictors of HIV and AIDS risky sexual behaviour among MSM in Nairobi, Kenya.
2. To determine the MSM perceptions on MMT BASIC ID modality skills in HIV and AIDS behaviour risk reduction.

3. To establish the relationship between psychosocial and social demographic characteristics of MSM in relation to HIV and AIDS risky sex behaviour reduction among MSM in Nairobi, Kenya.

4. To assess the effectiveness of MMT BASIC ID modality skills on HIV and AIDS risky behaviour reduction among MSM in Nairobi, Kenya.

1.6 Research Questions

This study was guided by the following research questions:

1. What are the predictors of HIV and AIDS risky sexual behaviour among MSM in Nairobi, Kenya?

2. What are determinants of the MSM perceptions on MMT BASIC ID modality skills in HIV and AIDS behaviour risk reduction among MSM?

3. What is the relationship between psychosocial and social demographic characteristics of MSM in relation to HIV and AIDS risky sex behaviour reduction among MSM in Nairobi, Kenya?

4. What is the effectiveness of MMT BASIC ID modalities skills and MSM in reducing HIV and AIDS risky behaviour among MSM in Nairobi, Kenya?

1.7 Study Hypotheses

Below are the hypotheses that were used in this study.

H₀: MMT BASIC ID skills did not significantly reduce HIV and AIDS risky sexual behaviour among participants in the experimental group compared to the control group.
H1 MMT significantly reduced HIV and AIDS risky sexual behaviour among participants in the experimental group compared to the control group.

1.8 Justification for the Study

Data from around the globe show that MSM are a key population in HIV and AIDS transmission in Sub-Saharan Africa; Kenya included (Beyrer et al., 2012). Recent studies have shown a large existence of MSM across Africa, with high rates of transmission and information associated with MSM’s sexual links with heterosexual networks (Smith, Tapsoba, Peshu, Sanders, & Jaffe, 2009). The implication here is that MSM can serve as a transmission bridge to other groups. If this is not appropriately mitigated on time, it might become a disaster of uncontrollable magnitude affecting a wide population (Geibel et al., 2010; NASCOP, 2014b).

This study is in line with the “servant leadership” mission and vision of Daystar University which is faith based and the host for this study. The concept of servant leadership espouses self-giving of self and service to contribute in developing Africa with godly values. This is accomplished through integration of faith and holistic learning for transformation of society in Africa and the world at large. Further, this study is expected to enable participants to achieve moral uprightness, integrity, hard honest work, exemplified in lifestyle, honesty, showing dignity through responsible sexual behavior that is free from risky exposures.

The MMT intervention strategies addressed the risk behaviour in identifying the behaviours’ root cause and what predisposes them including their sexual vulnerabilities. Previous studies have indicated that MMT has been used to promote health, prevent disease, and treat patients with physical illnesses. In view of the foregoing, the present study adopted MMT as an intervention to equip MSM
intrinsically to resist unprotected anal sex, avoid multiple partners, always use protection, and seek treatment so as to reduce risk behaviour - to prevent HIV and AIDS infection. This is the essence of servant leadership as a trust-worthy relationship, a commitment and self-giving of individuals’ status and personal value.

MSM’s sexual behaviour is more than an act of sexual release: it is an identity, a community, and a conceptual framework for thinking about who they are. It is their mark of identification, and to many of them, every sex act is a risky behaviour, because unlike heterosexual acts which are done in privacy, anal sex can happen in the washrooms, parking lots, or in entertainment joints (amfAR, 2008).

This study adopted MMT BASIC ID modality skills as an intervention, a treatment and an internally built self-help plan that addresses the MSM sexual behavior, personality, temperament and vulnerabilities. Discrimination and criminalization of MSM in Sub-Saharan Africa, Kenya included forces MSM to keep away from resources available to them, while evidence of behaviour links between MSM and heterosexual networks continue to increase (Onyango-Ouma et al., 2005).

Multimodal therapy is not just an intervention but it is also a therapy and a treatment package consisting of both behaviour and non-behaviour procedures. This non-behaviour includes pharmacotherapy and self-monitoring among other complimentary techniques that addresses specific issues. MMT has been used in combination with pharmacotherapy for treatment of hypertensive patients’ conduct disorder, stuttering, and alcohol addiction (Corey, 2009; Lazarus, 1998). In addition to pharmacotherapy, there are other treatment modality techniques that have been combined with cognitive behaviour interventions (CBIs) to modify self-statements concerning asthmatic attacks in adults and children and self-monitoring in high sugar foods (Rakos, Grodek, & Mack, as cited in Masters & Burish, 1987).
1.9 Significance of the Study

Through its findings, this study hoped to inform the stakeholders involved in HIV and AIDS prevention policy formulation in relation to the MSM. Policy makers, such as UNAIDS and the National AIDS and STI Control Programme (NASCOP) would benefit from the study findings.

The study further aspired to give to the MSM community an intrinsic, individualized self-help tool that they would apply for prevention, treatment, and health maintenance. This would benefit the MSM as it would equip them with knowledge on how to prevent HIV and AIDS, and they could become peer educators in the prevention of the same. Multimodal therapy modality would address their individual behaviour components of personality, temperament, as well as interpersonal and psychological makeup making them better people. The MSM would likely adopt healthy behaviours from MMT modalities, and consequently possibly be involved as equal partners in the prevention of HIV and AIDS transmissions, where they could play the role of peer educators.

Additionally, the study findings would provide guidance to therapists and medical practitioners on the kind of combinations of intervention modalities that would be more effective and relevant. The researcher further hoped the study would be useful to academic institutions in terms of resource and knowledge acquisition in multimodal intervention in different therapeutic situations.

It is also hoped that the study findings would be applied by institutions in assessments, counselling, and psychotherapy practices. There is a possibility for service providers’ improvement on sensitivity, confidentiality, and attitude towards the MSM after learning MMT modalities skills. The researcher additionally
anticipated that the findings of the study would help improve clinical psychology practice in counselling and psychotherapy, and in teaching in universities. The findings would also be resourceful to universities’ policy makers, and to students in internships and practicums in relevant areas.

It was also the researcher’s hope that the study would contribute to scholarly literature in regard to HIV and AIDS behaviour based interventions; as well as towards improvement of MMT with the aim of making it a self-help prevention and treatment plan for HIV and AIDS vulnerable populations. This is because Multimodal Therapy is a cost effective, technical, and eclectic model of intervention that becomes a part of the individual’s lifestyle if internalized.

1.10 Assumptions of the Study

The assumptions made in this study included the following:

1. The MSM from both Hoymas and Ishtar Centres would utilize or see the need to use Multimodal skills to reduce risk behaviour in order to prevent HIV and AIDS infection.
2. The MSM sampled from both Centres would be representative of the MSM from Nairobi, Kenya.
3. The respondents would answer all the questions correctly and truthfully.
4. The data collection instruments would measure the desired constructs.
5. The MSM and the leadership of the two centres would cooperate with the researcher during the intervention to enable the administration of the intervention.
1.11 Scope of the Study

This study undertook to address HIV and AIDS risky sexual behaviour and MMT intervention among MSM in Nairobi. The target population comprised MSM who attended Hoymas and Ishtar centres in Nairobi County. Selection of these two centres was done to ensure security and safety of the respondents. These centres operate with government accredited documents in order to take advantage of the multi-faceted services, diverse cosmopolitan clientele, and cultural compositions of the site. Additionally, the two centres provided enough space for skills training which was venue-based, ensuring a relaxed atmosphere for the intervention administration. This was a methodological innovation that also ensured hematocrit (HCT) testing and treatment of the respondents.

This study adopted a quasi-experimental, non-equivalent control group design with pre-test and post-test. A sample size of 94 respondents was selected from Hoymas in Pangani, for the treatment group; while another 94 was selected from Ishtar in Nairobi South B, for the control group for comparison. The study undertook 10 intervention sessions twice a week at two hours per session, administered between February and May 2017.

1.12 Limitations and Delimitations of the Study

One limitation was perceived insecurity and lack of safety on the part of the participants. This was in relation to attendance of sessions due to fear of violence, arrest, and hostilities from police and homophobic persons. To mitigate this, the researcher carried out the intervention and data collection within the Hoymas Community Centre to ensure safety and security of the respondents.
Another limitation was that MSM live under fear and distrust which could have hindered openness and concentration in learning. To mitigate this, the researcher worked with a leader and a peer educator from the centre in order to give respondents assurance so that their trust would not be compromised.

The topic of investigation was also a limitation. Sexual behaviour is hard to observe, and therefore, the data depended on self-reporting in both pre-test and post-test results after MMT intervention. As a mitigation measure, the researcher adopted a questionnaire method so that short recall answers were expected instead of long recall ones; and to assure confidentiality in the process of short recall. The use of a self-administered ensured the respondents of confidentiality in the process of responding to the questions. This was another methodological innovation in this study.

1.13 Definition of Terms

Antiretroviral Therapy (ART): According to Stine (2009), ART is a treatment with a drug designed to slow down the development of HIV and prevent it from replicating in the infected person. In this study, ART refers to a biomedical treatment that inhibits or prevents the ability of retroviruses to multiply in the body of an MSM. The antiretroviral therapy recommended in this study is referred to as highly active antiretroviral therapy (Stolley & Glass, 2009).

Bisexual: Refers to “having emotional, romantic, or sexual attractions to both men and women” (American Psychological Association, 2008, p. 1). In this study’s context, a bisexual is a person whose sexual orientation is marked by a desire for sexual activity and a romantic relationship with both men and women.

This study, effectiveness was defined as the measure of success of a treatment for the particular disease or condition being treated, such as HIV and AIDS transmission prevention which is the topic of this study.

Efficacy: Described “as the performance of an intervention under ideal and controlled circumstances” (Revicki & Frank; as cited in Singal et al., 2014, p. 1). In this study, the term referred to the ability of MMT to help MSM avert HIV and AIDS infection among themselves and others by reducing their risky sexual behaviour, which was the desired effect.

Epidemic: Muraah and Kiarie (2001) defined epidemic as a disease outbreak in a region which rises to levels higher than normal. It is an infectious disease that spreads fast through a large population or territory. In this study, epidemic was taken to mean a disease that is associated with a particular geographic region, affecting many persons at once and rapidly affecting populations, such as MSM.

Epidemiology: Refers to “the study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to control of health problems” (Last, 2001, p. 62). In this study, epidemiology was defined as the science that deals with the disease distribution or spread, incidence, and control in a population.

High risk behaviour: Describes behaviour that exposes one to HIV and AIDS infection. In this study, the term describes MSM risky sex acts, such as unprotected sexual activities with anybody, including acquaintances, multiple partners, commercial sex workers, and those who share injection needles when they consume drugs or alcohol.
High risk group: Includes people who inject drugs and their sex partners; commercial sex workers; and people who depend on blood transfusion (haemophiliacs) (Rathus & Boughn, 1994). In this study, the term was used to define people who were more vulnerable to HIV owing to the fact they were involved in behaviour that puts them at higher risk. Such behaviour included MSM who engaged in unprotected anal sex, had sex with multiple partners without using condom, and engaged in drug use.

Men who have sex with men (MSM): Denotes men who have sex with men regardless of their self-defined orientation (amfAR, 2008). In this study, the focus was on behaviour - rather than on cultural, or social self-identification - which gives a clearer picture of HIV prevalence and transmission routes, thus creating an understanding of MSM in relation to HIV and AIDS prevention. The acronym for MSM (men who have sex with men) is used in place of the term ‘homosexuals’ to reduce the stigma mainly associated with same gender sexual activity.

Multimodal: A model that stresses the integrated system approach to human behaviour and diseases whether physical, psychological, socio-cultural, and biological (Masters & Burish, 1987). In the context of this study, multimodal therapy was used to refer to an intervention that would address the MSM’s personality, temperament, and interactions.

Prevalence: The percentage of a population that is affected with a disease at a given time (Stolley & Glass, 2009). In this study, the term was used in reference to how many MSM have HIV and what proportion of this population was affected by HIV and AIDS.
1.14 Summary

In this chapter, the study topic has been introduced, the background of the study provided, the problem statement discussed, and the study purpose given. In addition, the chapter has presented the study’s objectives, research questions, hypotheses, justification, significance, assumptions, scope, limitations and delimitations, and finally, definitions of key terms. The next chapter focuses on the review of literature relevant to the study.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter, both general and empirical literature that is of relevance to this study is presented. Literature review is guided by the present study’s objectives. The chapter also includes discussions on the theoretical and conceptual frameworks applied in the study.

2.2 Theoretical Framework

The theoretical framework that guided this study blends cognitive learning, social, and behaviour theory (CLTT) by Bandura (1977); health belief model (HBM) by Rosenstock, Strecher, and Becker (1994); and MMT theory by Arnold Lazarus (1981). The theoretical framework points to the acquisition and implementation of behaviour from the ecosystem via paying attention and demonstrating. The social cognitive learning theory by Bandura conceptualises that hazardous behaviour happens across phases occasioned by psychosocial-ecological aspects. The theories used in this study blend very well towards explanation on acquisition of behaviour from social settings through observation paying attention to thought process and desiring to try what is observed. Masters, Johnson, and Kolodny (1988) attributed same-sex inclination to learning and therefore argued that one’s sexual orientation, whether homosexual or heterosexual could be directed via various learning encounters. In the view of Simons, Kalichman, and Santrock (1994), the process of learning hazardous sexual conduct is similar to that by which other conduct is learnt. Therefore, it is possible to unlearn behavior by use of behaviour change practices.
2.2.1 Behaviour Theory

Behaviour theory was mainly advanced by Skinner’s (1938) operant conditioning; Pavlov (1927) in classical conditioning; and Bandura’s (1997) social cognition learning theory which is a blend of classical, operant, and his social learning theory. This was developed into behaviourism therapy. Later on, Bandura (1997) included the self-efficacy theory which implies the mastery of a situation and delivery of optimistic results based on supposed capability.

Behaviour and social learning theories underscore that conduct practices that shape individuals’ persona are influenced by ecological encounters and circumstances (Bandura, 1997; Pavlov, 1927; Skinner, 1938). This nurtured a scientific environment for bringing awareness in regard to personality through emphasizing, as well as expediting behaviour observation. In addition, there is the implication that people are able to regulate not only their conduct, but the ecosystem, as well as what they consider essential. The social cognition theory enhances this study’s theoretical framework as it highlights the ecological impacts, as well as the perceptions of the human mind to enlighten on character and temperament.

Bandura’s in his social learning theory states that “people learn from one another, via observation, imitation, and modelling” (Nabavi, 2012, p. 6). The chief notion of this theory is what is termed as “reciprocal determinism which refers to the dynamic and reciprocal interaction of person (individual with a set of learned experiences), environment (external social context), and behaviour (responses to stimuli to achieve goals)” (LaMorte, 2019b, para. 3).

One’s interface with the environment comprises human viewpoints and mental abilities which originate and are shaped by societal factors as well as other systems in
the environment (Bandura, 1989). Another environment to behaviour interfaces “involves a person’s behaviour determining the aspects of their environment and in turn their behaviour modified by that environment” (Briz-Ponce, Juanes-Mendez, & Peñalvo, 2016, p. 351). Additionally, Bandura (1977) opined that individuals are able to regulate their ecosystem.

Behaviour social cognitive learning’ perceptions aid in describing MSM’s risky sexual behaviour and explaining how the same develops. These theories further suggest that “all behaviours can also be unlearned, and replaced by new behaviours; that is, when a behaviour becomes unacceptable, it can be replaced by an acceptable one” provided the persons involved trust that they can handle the behaviour adjustment or self-efficacy (Parkay & Hass as cited in Zhou & Brown, 2015, p. 6).

According to Bandura’s Social Learning Theory, people have been known to learn from each other through observation, modelling, and imitation. This is considered a fundamental interaction between the environment, the person, and the behaviour of other people’s thoughts and actions which is referred to as the reciprocal determinism model as seen in Figure 2.1.
The MMT skills training sessions foster personal conduct transformation through examining an individual using structural profile life history inventory. Behaviour theories’ key premise is that individuals have the capability to self-direct their behaviour transformation (Corey, 2009). The MMT also bases on this premise. Consequently, any successful MSM risky sexual conduct transformation is dependent on the MSM’s confidence that they can modify their own determinants of risky conduct and core learning encounters.

The assumption by the therapist is that since the client has acquired abnormal behaviour, with therapeutic support, it is possible for the same client to change such behaviour by use of appropriate behaviour practices (Lazarus & Lazarus, 2008). This researcher hence considered ‘behaviour theory’ appropriate in directing the present study towards successful MMT skills administration.

Figure 2.1: Reciprocal Determinism Model

Source: Bandura (1977)
Behaviour theory lays emphasis on stringent dependence on empirically tested tenets, ideas, and techniques in order to provide authenticity. Emphasis is also placed on action rather than merely speaking regarding the dilemma at hand; as well as on obtaining understandings. Thus, the theory is beneficial with regard to interventions aimed at behaviour transformation.

For the purpose of helping the MSM accomplish objectives regarding change of sexual behaviour that is considered risky, MMT modality skills begun with an assessment of the life history of the client as well as the structural profile which explored their affect, behaviours, imagery, sensations, cognitions, knowledge and interpersonal relationship. Such helps the individual to determine which behaviours to modify and which ones to keep, following the interface between the determinants (Masters & Burish, 1987).

![Figure 2.2: Social Cognitive Theory Determinant's Interactions](source: Bandura (1986))

There is some commonality between the health belief model by Rosenstock (1974) and the social cognitive learning theory by Bandura (1977) and as both theories equally embody functions of the value of complementary relationships. In the present study, the two theories had a complementary relationship in that: they focused on
either anticipated results and/or perceived gains out of the multimodal intervention on reducing risky sexual conduct among MSM. The goal here was prevention of HIV and AIDS transmission. Both theories apply self-efficacy as an explanatory variable (independent) and the manipulated (dependent) to good effect. Both provide potentially effective interventions towards behaviour transformation for the MSM.

In Bandura’s (1986) observation, people cannot be viewed as ‘mindless robots’ that can be mechanically manipulated by others. According to Kibuthu (2019), human beings reason, think, imagine, expect, plan, dream, interpret, choose, value, compare and contrast. When others try to control them, their beliefs and values make them to resist their control. Bandura (1986) maintained that people are capable of controlling themselves; they defy ‘self-directed agency’ to direct self-conduct. This helps motivate, as well as inspire individuals to own their conduct.

The social cognitive theory puts “social interactions of behaviour in a conceptual framework of its causation, cognitive process and the personal behaviour determinants referred to as reciprocal determinism” (Bandura as cited in Kibuthu, 2019, p. 2332). The MSM are capable of changing their dangerous sexual conduct. They only require skills, inspiration, and encouragement. The social cognitive theory’s triadic reciprocal causation comprises personal, behaviour, and environmental determinants (Bandura, 1989).

In MMT modality skills, the client is guided by the therapist in coming up with goals to be met in the ensuing sessions. These goals are about behaviour transformation as per the multimodal BASIC ID procedures. The therapist is not after unearthing causes of un-revealed problems. Rather, the therapist will be guided by the belief that the client’s abnormal conduct is learned and hence can be changed by use of ‘multimodal’ skills. The aim is for the clients to view their progress as resulting from
their own enhanced skillfulness, as opposed to it being as a result of the role played by the therapist. The role of the therapist thus becomes that of instructing, as well as affirming the client towards this goal (Fawcett, 2009).

Despite the positive attributes of the behaviour and social cognitive learning theories, the two theories are not devoid of shortcomings. Behaviour and social cognitive learning perspectives are labeled reductionist or shallow in explaining the complex concept of personality using few concepts. Some humanistic psychologists accuse behaviour and social cognitive learning perspectives of ignoring the enduring qualities of personality and lacking the creative spontaneous human dimensions of personality.

Behaviorists are also criticized for being too mechanical, therefore missing the rich dimension of human personality and ignoring the role biology and cognition play in personality leading to behaviour change (Simons et al., 1994). It is this researcher’s view that there is no single theoretical perspective that is a panacea to all frameworks. Consequently, different theoretical perspectives are combined to inform different aspects of this study.

Further, same gender sexual relationships are criminalised and as such not publicly acknowledged including in Kenya, as per sections 162 to 165 of the Kenya Penal Code (National Council for Law Reporting, 2012). Addressing MSM risk behaviour in such cultures calls for consideration of the social cultural environment the MSM operate in. The MSM community in particular has limited alternatives in countries that are not accommodating due to their social cultural worldviews. However, MSM can assert themselves by expressing their rights based on the values and beliefs they hold (Baral et al., 2011)
The health belief model (HBM) “is a cognitive model which posits that behaviour is determined by a number of beliefs about threats to an individual’s well-being and the effectiveness and outcomes of particular actions or behaviours” (Morris, Marzano, Dandy, & O’Brien, 2012, p. 6). The HBM asserts that individuals’ understanding of the danger posed by a health risk, coupled with the importance they associate with the intervention have an effect on their health seeking behaviour.

The HBM’s main components include “1. perceived susceptibility 2. perceived severity 3. perceived benefits 4. perceived costs, 5. motivation, and 6. enabling or modifying factors” (Current Nursing, 2012, para. 10). Perceived threat is central to HBM for it relates “to a person’s readiness to take action. It consists of two sets of beliefs about an individual’s perceived susceptibility or vulnerability to a particular threat and the seriousness of the expected consequences that may result from it” (Morris et al., 2012, p. 7). According to Butler (1994), the probability of an action is influenced by the imbalance or balance of a person’s perceived negative or positive forces influencing behaviour.

According to LaMorte (2019a), HBM proposes that an individual’s belief in the seriousness of a personal health risk, in addition to the individual's perception of the strength of the suggested health behaviour will determine the possibility of an individual taking up the said behaviour. In this study the likelihood of benefiting from MMT modalities skills would be influenced by factors that promote behaviour risk, such as unprotected anal sexual activities. The HBM derives from behaviour and psychological theory with two sections of health-related behaviour being the desire to get well if already ill or avoid illness altogether; and the feeling that a specific action will cure illness or prevent it.
The health seeking behaviour of MSM is based on perceived benefits and costs, as well as on enabling and modifying behaviours that compromise their health through risky sexual behaviour exposing them to HIV and AIDS infection. The 1986 health promotion glossary has defined health behaviour as “any activity undertaken by an individual, regardless of actual or perceived health status, for the purpose of promoting, protecting or maintaining health, whether or not such behaviour is objectively effective towards that end” (Nutbeam, 1986, p. 355). In the context of this study, health behaviour is the activity the MSM undertake to avoid risky sexual acts; treatment seeking; using condoms; seeking more knowledge on HIV prevention safer behaviours; self-regulatory issues, such as avoiding sexual and drug related risks; sexual impulse control; and self-efficacy (Rosenstock et al., 1994).

Figure 2.3: The Health Belief Model
Source: Rosenstock et al. (1994)
Self-efficacy is a concept in many theories on behaviour as it directly tries to link whether an individual performs the desired behaviour. Both the BASIC-ID and the health belief models look at the human being as responsible and capable of behaviour change with multimodal therapy. While the BASIC-ID addresses the individual behaviour components, the health belief model addresses the health seeking behaviour the MSM perceive as beneficial. This, in turn, enables the modification of the MSM’s behaviours that compromise their health through risky sexual behaviour (Masters & Burish, 1987). This knowledge guided the present study in articulating the factors that explain the effects of multimodal therapy on reductions in HIV and AIDS related risk behaviour among MSM.

In multimodal modality skills, the clinician explains the BASIC ID modalities and lets the client decide which modality to start with. The clinician becomes the cheer leader as the client explores issues such as severity of HIV and AIDS illness, likelihood of getting infected, benefits of preventing HIV and AIDS, the effectiveness of the new behaviour, and hindrances to taking action. The two theories merge in multimodal therapy and address the personal risk perception and beliefs in severity of HIV and AIDS (Corey, 2012). It was anticipated that this would help the MSM to identify benefits, and barriers to change, hence stimulate potential positive results of change. Despite the impact of HBM in addressing individual’s personal risk, the theory has limitations which include but not limited to these.

The health belief model doesn’t account for the person’s beliefs, attitude or other individual factors that indicate one’s acceptance of healthy behaviour (LaMorte, 2019a). Further, the HBM does not consider behaviours that are habitual and thus may condone behaviours or risky sexual acts such as drinking or smoking. Moreover, the model does not consider behaviours that occur as a result of non-health related
reasons, for example - social acceptability. Another limitation of HBM is that it doesn’t explain how economic or environmental factors promote or prohibit the said action. The HBM model presumes that every person has access to sufficient information on the disease or illness.

Additionally, HBM assumes that there are clues to action which encourage people to act and those actions that are health related should be the main consideration in the decision-making process (LaMorte, 2019a). Previous studies done on preventive health behaviours found that perceived benefits, susceptibility, and barriers, were generally related to the desired health behaviour, while on the other hand perceived severity was not as related to the desired health behaviour (LaMorte, 2019a). The HBM is limited because it does not focus on emotional, sensory, imagery, cultural constraints or the way in which the past influences the present. Though the two theories, namely behaviour and health belief, do not address the complexity, biological processes, confusion, and irrationality of the behaviour of MSM with HIV and AIDS; they nevertheless become more effective when combined into multimodal therapy modalities to make them more relevant, appropriate, and effective.

2.3 General Literature Review

2.3.1 Multimodal Therapy and Behaviour Change

The UNAID gap report 2014 recorded that by the end of 2013, an approximate 35 million persons worldwide would be living with HIV, out of which more than half did not know they were infected (UNAIDS, 2014). In addition, the report indicated that HIV and AIDS was then the world’s leading infectious killer, with 39 million people having died since the first case was diagnosed in 1981, and 3 million people having died in 2013 alone.
Multimodal Therapy is a branch of behaviour therapy which is a comprehensive, systematic, holistic approach to behaviour therapy developed by Arnold Lazarus (Lazarus, 2003). This intervention promotes protective health decision making among individuals who are vulnerable to HIV and AIDS including MSM among others. MMT intervention promotes health by preventing disease and treats patients with physical illness and other problems with a view to reduce the risk of transmitting HIV and AIDS.

MMT targets internal affective states, interactive psychosocial spheres of the community environment, the person’s personality and self-regulation as well as temperament based on social action theory. It consists of 14 sessions, each going for duration of one and a half hours. MMT is grounded on the premise that human personality can be divided into seven major areas of functioning represented by acronym BASIC ID, that is - B-behaviour (safer and Healthy behaviours), A-affective Emotions, S-sensation, I-imagery, C-cognition, I-interpersonal relationships, Stress, coping adjustment and D-drugs for (biological functions, nutrition and exercises) (Lazarus, 2003).

Multimodal therapists provide skills, instructions, information, and reactions to the clients. They challenge self-defeating beliefs and behaviours; and offer constructive feedback, positive reinforcement, and encourage appropriate self-disclosure. The multimodal effectiveness lies in the reciprocal interactions among the seven modalities which comprise the essence of human temperament and personality and point the way to effective therapeutic tactics and strategies (Corey, 2009). The present study applied the BASIC ID modalities to address MSM HIV and AIDS related risk behaviour including, unprotected anal sex; multiple partners; inconsistent and
incorrect condom use; no sexual impulse control; and incorrect HIV and AIDS prevention, HIV testing and treatment seeking.

The therapist uses a range of questions based on MMT BASIC ID to assess the client’s behaviour. Questions such as “What is this individual doing that is resulting in self-defeating actions or maladaptive behaviours?” or perhaps, "What does this client need to stop doing and start doing?” In the same way, to examine the affect of the client, the practitioner may ask: "What affective reactions or emotions are dominant? Is it anger, depression, anxiety, or their combinations. Further, if that is so, to what degree of - rage versus irritation, or profound melancholy versus sadness? “The clinician may ask what leads to these negative emotions. This could be caused by interpersonal conflicts, cognitions, or images. Further, he would want to find out how the person would behave when feeling a certain way.

Other than assessing each modality separately, the clinician could check for reciprocal processes that occur between and among the modalities which refers to the effect of different behaviours on the client's emotions (Lazarus, 2003). When assessing the sensation of the client, the clinician may ask: "Are there any specific sensory complaints (such as - tension, chronic pain, tremors)?" "What positive sensations (for example - visual, auditory, tactile, olfactory, and gustatory delights) does the person report?" or, believing that one must also evaluate interactions among modalities, the practitioner may ask, "What thoughts, feelings, and behaviours are related to these negative sensations?

Assessment of sensation also tries to examine the individual as a sexual and sensual being in treatment interventions; the goal is to enhance or cultivate anticipated erotic pleasure (Lazarus, 2003). To assess the client's imagery, the clinician may ask: "What fantasies and images are predominant and what is this client's self-image?". The
The practitioner can also measure for specific failure or success images that the client holds, and will want to find out whether the client experiences any intrusive or negative images such as flashbacks to traumatic or unhappy experiences.

The practitioner will also want to measure how the client's images are connected to on-going behaviours, cognitions, and affective reactions. Assessing the client's cognitions, the clinician determines the client’s main values, attitudes, beliefs, and opinions while isolating any definite irrational ideas, dysfunctional beliefs, and assesses the client's dominant "should statements" to be able to detect any automatic thoughts that are problematic and undermine the functioning of the client (Lazarus, 2003).

Assessing the interpersonal functioning of the client by identifying significant others in the client's life also reveals the client’s wants, desires, expectations from others, and what he in turn, gives to and do for them. The clinician may ask the client to mention what relationships give him pleasures and arousals and finally assess the client's biological dimension to discover any concerns regarding the biological health consciousness as well as rule out any medical concerns by getting relevant details that relate to weight, diet, sleep, alcohol use, exercise, and drug use (Barlow & Durand, 2005). According to Masters and Burish (1987), a client presenting for treatment may initially use any of the seven modalities as the entry point.

The therapist usually engages the client by focusing on the presenting issues through their modalities as presented in their structural profile and life history inventories and other areas of concern that may be presented. Client validation and affirmation is maintained by not deflecting the emphasis too soon onto other matters but staying with the client until they have exhausted their issues. Once rapport has been established, however, it is usually easy to shift to more significant problems.
Whenever feasible, multimodal therapists use empirically supported treatment methods, make therapeutic alliance, and build rapport between MSM and therapist. This is the soil that enables the techniques to take root between the two when an effective alliance is formed.

2.3.2 MSM HIV and AIDS Vulnerability and Prevention in sub-Saharan Africa

According to amFAR (2008), studies targeting MSM vulnerability in selected developing countries, including Botswana, Namibia, Kenya, Malawi, Zimbabwe, Nigeria, and South Africa as well as non-sub-Sahara regions such as Mumbai and Jamaica, sought to explore HIV and AIDS prevention and stigma among MSM. The studies addressed the issues of targeting interventions to the vulnerable populations in these countries. The said studies explored condom use behaviour among MSM and other HIV and AIDS populations, vulnerability, sexual needs, sexual risk taking, relevant available information on access to HIV prevention, protection, treatment and care across these countries.

Findings from the Botswana, Namibia, Kenya, and Senegal studies were that while male to male sexual behaviour has been recognized as a primary risk factor for HIV and AIDS infection, research targeting these and other less developed countries has been limited owing to the high degree of stigma and discrimination (amfAR, 2008). Men who have sex with men in sub-Saharan Africa, particularly in Kenya are hard hit by HIV and AIDS. Results from previous studies showed that there was a widespread existence of MSM groups across Africa, as well as high rates of HIV infection and risk behaviour (Geibel et al., 2010). Further, the study reported evidence of behaviour linking heterosexual networks to MSM.
Despite this knowledge, most African MSM have no safe access to relevant HIV and AIDS information and services. Besides, study respondents can identify their issues beyond the health realm, to include among others: education and information towards responsible living and ownership of their orientation lifestyle responsibilities as MSM (Geibel et al., 2010).

Herbst et al. (2007) conducted a systematic analysis of the efficacy of HIV behaviour risk management strategies for adult MSM at the personal, group and community levels. As per the findings, individual, group, and community level behaviour interventions were able to lessen the likelihoods of engagement in anal intercourse that was unprotected from 27% to 43%, and raise the likelihood of condom use for the group-level approach to 81%; and group and community-level interventions were cost effective (Herbst et al., 2007).

Based on the findings of Herbst et al. (2007) study, it was recommended that future interventions include multimodal-multifaceted appropriate interventions that focus on sexual risk behaviour, consistent condom use, as well as multiple sexual partner reduction, and working within community based structures to reduce the gravity of discrimination and stigma.

Studies have also reported some bisexual concurrences of both genders and recommended that any intervention should target bisexual concurrency in these developing countries (Johnson et al., 2007). This recommendation is supported by Thairu (2007) who suggested that community participation and capacity building in HIV and AIDS transmission prevention among MSM be adopted if the HIV and AIDS war is to be won. Thairu reiterated that HIV and AIDS pandemic is an infectious disease and like other infectious diseases, it will only be eliminated if community-based interventions are integrated with other paradigms.
The present study found it necessary to adapt the recommendations from these studies with a view to enriching the research process. Hence, the study was carried out in MSM community centres, namely HOYMAS and ISHTAR which are run by MSM, some of whom are HIV and AIDS positive. These centres operate with government accredited documents in order to take advantage of the multifaceted services, diverse cosmopolitan clientele, and cultural compositions of the site. As such, the MMT modalities were used to assess MSM HIV and AIDS behaviour risk using MMT structural profiles and life history inventory for the individual’s behaviour assessment before and after the MMT BASIC ID intervention skills.

The literature thus reviewed confirmed the need for a multimodal intervention that involves MSM in their community centre. The BASIC ID modalities correspond with the exclusion and inclusion criteria in sexual risk behaviour change. With regard to behaviour Change and HIV and AIDS Prevention among MSM, their risk and vulnerability must be addressed using the multimodal therapy intervention which addresses one’s risks and vulnerability. This is important as it prepares the MSM’s mind for risky sexual acts cessation before any other steps are looked into.

The MMT BASIC ID intervention is an assessment of a person’s personality and temperament. It is based on social action theory B, which stands for behaviour, which in this context has both overt and covert connotation. Overt behaviours include acts, habits and reactions that are not observable and measurable. Behaviour modality in multimodal assessment provides clinicians with a window through which the MSM lifestyle can be viewed. The assessment starts with asking MSM how sexually active he is, what he wants to change, what he would like to stop doing and what specific barriers stop him from achieving what he wants. The information gained forms individualized goals for behaviour change (Masters & Burish, 1987).
Garrett (2011) argued that human beings are biochemical and neurophysiological entities, who behave (act and react) overtly or covertly. Garrett added that human beings are emotional beings who experience affective responses such as sense of olfactory, tactile, visual, gustatory, and auditory stimuli. They also imagine and conjure up sounds and sights as well as other events in their mind's eye. They also think as they hold opinions, beliefs, values, and attitudes. Finally, they interact as they tolerate, enjoy, and suffer from various relationships. These lead people to respond in a certain way depending on our values and beliefs. In the process of responding they may promote behaviours that expose one to risky behaviour depending on their vulnerability.

Geibel et al. (2010) conducted a study targeting MSM vulnerability in Senegal and Kenya and reported that risky sex with other men with concurrent sexual partners of each gender is very high, showing that any HIV prevention undertaking among MSM should target bisexual concurrency. Other recommendations from these studies include using combinations of multimodal behaviour based approaches that employ a variety of strategies, including support groups geared towards peer education. The purpose is to create awareness on likelihood of MSM risky sexual behaviour such as unprotected anal sex, multiple concurrent partnerships, correct condom use, and HIV and AIDS testing and treatment seeking. This information was deemed relevant to the present study as it informs the intervention presentation and the research assistants’ recruitment.

2.3.3 Effect of Emotions on Behaviour Change in HIV Prevention among MSM
Emotions are patterns of action elicited by an external event and a feeling state, accompanied by a physiological response. Affect on the other hand are conscious, subjective aspects of an emotion that accompany an action at a given time.

Source: Lazarus and Lazarus (2008)

Emotion enriches human lives and also motivates behaviour for example negative affect like anger intensifies defensive behaviour such as fear which accelerates flight, while arousal encourages either pleasure feeling depending on the behaviour that produced it. Emotions add emphasis to experiences as they are processed in the brain making them more memorable thereby aiding future decision making. Hence people are likely to repeat behaviour that gives pleasure and joy and avoid the pain ones. Decision making is a factor of both affect and cognition and hence people determine judgments about risk behaviour change. Consequently, cognition or reason without emotion is inadequate for making decisions on risky behaviour change in MSM HIV and AIDS transmission (Anderson, 2012). The multimodal intervention modalities BASIC ID behaviour components are individually explored until the person is
comfortable with their ability to make sound judgments and decision making (Masters & Burish, 1987).

2.3.4 Sensation and Behaviour Change in HIV and AIDS Prevention among MSM

According to Barlow and Durand (2005), sensation is the immediate response to stimulation of the sensory receptors and the transduction of environmental or internal events into neural response. Sensation has to do with the basic senses of touch, taste, smell, sight, and hearing. In MMT, the clinician seeks to specify the contextual environmental stimuli associated with each response and in the context of this study, the MSM’s sexual risky behaviour is the key issue. During the assessment, the clinician will wish to interact with the client on the role of visual, auditory, olfactory, tactile, and erotic sensations on their sexual behaviour.

Thus, what people see, hear, smell, touch, and taste, has a role in their sexual behaviour. Masters and Burish (1987) suggested that individuals are the best predictors of their ability to master potentially aversive situations because all behaviour is learned, and it can also be unlearned. Further, McLeod, Harrison, and McCormack (2012) added that though behaviour is learned, prior learning experiences provide individuals with a sense of ability and confidence to cope and handle whatever situation. Past studies focusing on multimodal BASIC ID modalities have shown that the intervention can be used to empower the client to handle any issues they face in their workplace, including decision making in management issues; ambiguity in value clarification; and changing decisional balance for corporate managers.

Multimodal also addresses risk behaviours on substance addiction. Further, self-monitoring; contingency contracting; and treatment adherence through skills training,
family support, and self-efficacy in tobacco dependency have also been documented as being efficacious (Bandura, 1991; Lazarus, 1998).

2.3.5 Imagery and Behaviour Change in HIV and AIDS Prevention among MSM

Lazarus and Lazarus (2008) maintained that imagery is how people picture themselves in fantasies, memories, and dreams. It is the visual images that a person holds. Poor self-image is a negative imagery that is informed by past events - real or imagined, and is the basis for possible future problems. Imagery can be bothersome or encouraging; shameful or affirming. Whatever they are, their influence on behaviour is either negative or positive. Research conducted in the United States of America on independent learning (as in school study groups) suggested that if learning occurs in interactive contexts, the lessons are retained and can be retrieved or activated when the need arises. After the MSM have gone through the multimodal assessment and skills training in interactive contexts they may highly habitually activate, retrieve, or incorporate pertinent skills, understanding, and principles relating to risky sex when faced with actual life risky situations.

2.3.6 Cognition and Behaviour Change in HIV and AIDS Prevention among MSM

Stolley and Glass (2009) opined that understanding the sexual behaviour of a group vulnerable to HIV and AIDS is an important component of the battle against the HIV and AIDS pandemic. Multimodal BASIC ID modalities address the human behaviour component, including personality and temperament, thus empowering the MSM to take control of their risky behaviour lifestyle. Cognition involves mental processes of knowledge, understanding behaviour, solving problems; and encompasses language, imaginations, perceptions, and planning. The MMT helps MSM alter risky decision-making patterns through the multimodal modalities assessment questions that the clinician adopts (Lazarus & Lazarus, 2008).
According to Garrett (2011), affects and emotional changes facilitate risky behaviour and also mediate responsible decision making. Further, in reference to neuroscience, Garrett stated that motivation and incentives set in motion factors that initiate, sustain, and direct behaviour, such as achievement, sexual desire, and significance. The human body maintains a condition of homeostasis where body systems are in balance. In behaviour change, especially in risky sexual behaviours, this is critical. Nevertheless, any depletion of necessary elements results in an arousal condition that impels the individual to strive to satisfy, for example - in sexual arousal, the individual seeks sexual gratification or sensation seeking.

Further, Garrett (2011) held that sensation seeking in MSM results in interplay of internal conditions of hormonal levels depletion, with external conditions dictated by visual imagery, scents, odour, body shapes, and phonemes (airborne chemicals released by males that have strong behaviour effects on others of the same species). In the same way, sexual risky behaviour among MSM is a form of motivation involving sexual arousal that craves to be satiated by other MSM.

The individualized MMT modality assessment in cognition changes helps MSM challenge themselves, others, or situations and this leads to reduction in risky sex behaviour. Interactions between the modalities enable MSM to change their belief system and perceived efficacy gained from observational learning. The MSM cognitive self-awareness enhances persuasive techniques, thereby increasing self-efficacy: something critical to effective behaviour change as it involves new skills of negotiating safer sex.

2.4 Empirical Literature Review

Empirical literature was discussed in line with the objectives of the study.
2.4.1 Predictors of Risky Sexual Behaviour among MSM

Ascertainment of the prevalence of hazardous sexual behaviour among MSM is quite beneficial when it comes to the future planning and implementation of intervention measures. Rotheram-Borus, Desmond, Comulada, Arnold, and Johnson (2009) in the Healthy Living Project investigated the dynamics behind the impact of cognitive behaviour mediations on the prevention of transmission of HIV and AIDS within the MSM community. Of the 1910 HIV positive MSM in the study, 616 believed to be vulnerable were randomly chosen and taken through a CBI that comprised 15 sessions and was administered individually. The results showed a general decrease in risk of transmission of HIV and AIDS among MSM, an indication of the efficacy of CBI is in abating the risk of HIV and AIDS transmission in MSM. There was also the implication that cognitive behaviour treatment is effective in forecasting change in regard to risky behaviour.

In Cameroon, Park et al. (2013) investigated the prevalence of HIV and AIDS as well as the issues related to HIV spread in MSM. Two hundred and seventy-two respondents from Douala and 239 from Yaounde who were 18 years old and above were recruited for the study. The study determined that the prevalence of HIV was high, and the use of condoms was low and erratic. The study found a number of HIV and AIDS predictors among the MSM, among them were irregular use of condoms, low use of condom lubricants, greater physiological risks, unprotected anal intercourse (UAI), having multiple sexual partners (male); having more female sexual partners, use of drugs, peer education levels; network tendencies, and transactional sex.

The researchers suggested MMT-based mediations that would focus on apprehensions regarding the pandemic such as privacy and caring service delivery (Park et al., 2013).
The successful engagement of the MSM calls for MMT mediations that are responsive when it comes to anxieties regarding privacy; and that help tackle the community psychosocial and individual level complexities, as well as challenges around related policies (Beyrer et al., 2012). This was considered important to this study as it guides choice and motivation.

2.4.2 Perceptions of MSM on MMT BASIC ID Skills in Risky Behaviour Reduction.

In sub-Saharan Africa, Kenya included, sexual behaviour is culturally defined and therefore it is not discussed openly. This leads to a rise in HIV and AIDS infection among MSM and partners, including commercial sex workers. This occurs due to fear of disclosure leading to criminalization and stigma associated with same gender sexual activity (Beyrer, 2008). The MMT intervention on HIV and AIDS addresses prevention while empowering MSM to deal with depression and anxiety that comes from loss of personal control and self-blame (Dyk, 2008). This was pertinent to the present study for it guided the integration of cognitive restructuring with MMT modality skills to confront the MSM cultural beliefs.

A study conducted by Smith et al. (2009) on MSM existence and HIV and AIDS prevalence in sub-Saharan Africa reported widespread existence of MSM groups across Africa, and high rates of HIV infection, HIV risk behaviour, and evidence of behaviour links between MSM and heterosexual networks. These studies clearly demonstrated that the prevalence of HIV and AIDS among MSM in Kenya was three times more than the general population, yet little research has been done with regard to interventions for this group. Same gender sex is illegal in Kenya and carries a term of up to 21 years. This results in MSM hiding to avoid arrest and as a result, keeps them from seeking treatments. Others do not know they are infected and hence they continue infecting their counter parts.
Research by Sharma et al. (2008) indicated that the risk behaviour among the vulnerable groups in Kenya is influenced by policy matters; structural and individual factors, including criminalization of male to male sex; stigma; discrimination; and rejection. Further, the study also revealed that the sub-Saharan Africa nations, Kenya being one of them focus their attention on HIV and AIDS infection among the general populace, while paying little attention to MSM as a high-risk group. The NACC (2009) has identified MSM as most vulnerable to HIV and AIDS citing funding requirements as the main hindrance to further research in prevention.

As per the findings of a study conducted in Togo and Senegal among MSM on sexually transmitted infections including HIV and AIDS, combining behaviour, biomedical, and structural interventions is important by providing services targeting prevention of HIV infection as well as regular HCT (Koumagnanou, Kassegne, & Dodzro, 2011). This would ensure that those living with HIV and AIDS are effectively engaged in the continuum of HIV and AIDS care (Koumagnanou et al., 2011). Further, the intervention environment should be confidential and friendly with no perceived stigma, shame, and discrimination so that MSM healthcare settings are safe for the MSM to receive care and protect themselves together with their partners.

Studies on HIV prevalence among African MSM in Mombasa have shown evidence of sex links between MSM and heterosexual networks in Kenya particularly in Mombasa, Nairobi, and Kisumu (Sanders et al., 2007; Sanders et al., 2013). The prevalence among young MSM was considerably higher than among adult men in the general population. These are the first HIV incidences to be reported in MSM in Mombasa and most of these individuals were sex workers. HIV incidence in these men was higher for those practicing insertive anal sex than for receptive for both insertive and receptive sex.
Although inadequacies and inconsistencies in the study sample sizes, sampling methods, and HIV-testing were reported and protocols prohibit robust conclusions, these are practical difficulties in engagement with hidden and highly stigmatized populations such as MSM. Important conclusions from behaviour studies of African MSM are that unprotected anal sex is commonplace; knowledge and access to appropriate risk prevention measures are inadequate; and in some contexts, many MSM engage in commercial sex despite the lack of safe social and health resources.

2.4.3 Relationship between Psychosocial and Socio-Demographic Characteristics and Sexual Risky Behaviour Reduction among MSM.

Over three decades since the onset of HIV and AIDS pandemic, men who have sex with men continue to be vulnerable to social exclusion and stigmatization. Globally, it continues to be necessary to target MSM when it comes to HIV prevention services, especially in sub-Saharan Africa where MSM continue to be at high risk for HIV infection (Smith et al., 2009). In regard to HIV research in sub-Saharan Africa, same-sex behaviour has been overlooked (Smith et al., 2009).

In 2012, a pilot HIV-prevention initiative that was community-based was launched in Cape Town for the purpose of providing information and other resources; boosting the use of condoms; and providing HIV testing services in five townships in Cape Town (Batist, Brown, Scheibe, Baral, & Bekker, 2013). The purpose was to reach MSM in Cape Town and other neighbouring towns. A total of 98 MSM took part, and the group gatherings and social undertakings turned out to be feasible approaches in regard to dissemination of HIV-prevention information and supplies such as condoms and water-based lubricants (Batist et al., 2013).
HIV prevention approaches that are community-based have been utilized in reaching MSM, as well as other alienated populaces in various contexts. Such services make use of peer education and reliable social space facilitation to deliver HIV awareness, as well as tackle stigma and risks associated with infection, while promoting HIV testing and care. A study by Singh et al. (2012) utilized similar strategies in Malindi, Nanyuki, and Rachuonyo (Kenya), disseminating HIV-prevention information, in addition to providing counselling and testing services. This study utilized this approach as the MMT intervention was administered in centres managed by the MSM.

The theory of social learning implies that learning occurs when the subject observes and imitates behaviour in social collaborations. The environment then reinforces the said behaviour. Accordingly, MSM psychosocial connections and socio-demographic attributes contribute significantly to the growth of risky sexual behaviour among MSM and therefore can as well play a significant role in modifying the behaviour. Rolling out the intervention within their setting, as well as involving their role models who have managed to make it through stigma and prejudice and achieve their goals will in turn increase the MSM’s self-esteem and motivate them to achieve their aspirations as well.

Modelling related research has shown that people are more motivated to imitate behaviour they have observed in people they hold in high regard. In this regard, this study deliberately administered the MMT intervention to not only the members of the two centres (HOYMAS and Ishtar), but also to the management of the centres in order to promote the mentor-mentee rapport between the MSM and their leaders.

Singh et al. (2012) conducted a voluntary counseling and testing (VCT) in Rachuonyo, Nanyuki, and Malindi, in Kenya. This was a site-based study on HIV and
AIDS prevention. The study planned to accomplish the following aims: Assess the acceptability of VCT services for the general population, men who have sex with men (MSM), and injecting drug users (IDUs) within the context of a venue-based approach; (2) Determine if there were differences between the experimental or treatment and the control groups agreeing to participate either as those receiving MMT intervention and the comparison group who agreed to be the comparative group by not being taught how to avoid risky unprotected sex. The study came to the conclusion that in reaching high risk and vulnerable, as well socially and culturally excluded peoples, venue-based interventions are highly effective.

It is essential to recognize that psychological factors, including hopelessness, depression, low self-esteem, and fear are key in MSM’s HIV and AIDS risky behaviour change, owing to the anxiety over intolerance and stigma. Additionally, social-demographic factors, amongst them age, family background, level of education, and economic status can be obstacles in an already marginalized group of people in matters regarding MSM seeking treatment, being assertive, having self-efficacy, as well as being able to negotiate for protection measures when it comes to sex. This study came to the conclusion to successfully equip the MSM community, it is necessary for all stakeholders in HIV and AIDS prevention to tackle the challenges that obstruct prevention.

Statistics available in Kenya with regard to the social-demographic characteristics or sexual behaviour of MSM is limited hence failing to sufficiently inform targeted interventions. This study utilized information from the Kenya national aids survey which was the first of its kind in the country to get the necessary MSM population (NASCOP, 2014a). The resources highlighted above gave insight into population
groups hitherto closed to study and services, thus guiding the scope and site for this current study.

2.4.4 Efficacy of MMT Skills on HIV and AIDS Prevention among MSM

Research statistics relating to MMT, as well as to behaviour transformation, have existed since the 1970s as Bandura came up with the social cognitive theory and the reciprocal determinism (Simons et al., 1994). Past research has established the efficacy of multimodal therapy interventions in changing people’s behaviour. The present study cantered on Bandura's SCLT, which postulates that “people learn from one another, via observation, imitation, and modelling” (Nabavi, 2012, p. 6). The SCLT comprises attention, memory, and motivation in virtual contexts.

When MSM are aroused sexually, they may habitually activate, retrieve, or incorporate pertinent skills, understanding, and principles relating to risky sex when faced with actual life risky situations. Bandura (1991) contended that when in possession of earlier learning experiences, people can outstandingly predict the manner in which they can take control of a possibly complicated challenges (Bandura, 1991). The MMT makes use of various procedures originating from diverse models, as per need, with the choice of procedure depending on the clients MMT modality assessment results called the individual structural profile inventory (Masters & Burish, 1987).

Moreover, in a study by Brauer, Horlick, Nelson, Farquhar, and Agras (1979), the impacts of MMT procedures on hypertension were assessed. The study had a randomly identified sample of 29 patients, suffering from elevated blood pressure. The respondents were placed in three groups, “matched with respect to mean blood pressure levels and were randomly assigned to one of three groups: (1) therapist-conducted relaxation therapy, (2) relaxation therapy conducted primarily by home use
of audio tapes, and (3) nonspecific psychotherapy” (p. 23). Blood pressure was checked at the baseline and after a period of ten weeks, and according to the study findings, all the groups demonstrated decrease in blood pressure, as a result of the intervention (Brauer et al., 1979).

The MSM’s change of sexual conduct will frequently entail coming up with alternate patterns of behaviour. Yet, sexual conduct options may be unachievable in certain circumstances, resulting in placing the MSM in a position where they resort to sexual release avenues that make them prone to HIV and AIDS infection (Masters & Burish, 1987). Thus, getting to understand the determinants of behaviour modification for the MSM, plays a key role with regard to HIV and AIDS prevention.

Data on the global scale has indicated that MSM are at a higher risk of HIV and AIDS infection, in comparison to other populations. Tackling HIV and AIDS among the MSM calls for an applicable blend of approaches aimed at both preventing and treating. This would help in addressing complicated factors related to HIV and AIDS among MSM. In an assessment of the likelihood of transmission of HIV and AIDS among 1918 MSM in four cities in USA, they established that 59% of the respondents engaged in anal sex without protection and with numerous partners, who were majorly HIV positive (Beyrer, Motimedi, Sulivan, & Trapence 2012). Further, that 15.6% of them had sex without protection with partners who were HIV positive or whose status was unclear. The study indicated the likelihood of 79.7% fresh infections in those who had engaged in sex with the respondents. Based on these findings, the need for thorough, affordable prevention programs is evident.

The interventions for behaviour transformation applied in MMT such as aversion treatments, feedback, self-monitoring, and contingency management are geared towards boosting of health, in addition to disease prevention. Through tackling risky
sexual behaviours, these interventions aim to reduce HIV and AIDS transmission risk (IBBS, 2012). Through MMT intervention this study hopes to reduce the number of unprotected anal sex and sexual partners through enhancing treatment seeking avoidance of multiple sexual partners and achieving consistent and correct use of condom among the MSM.

2.5 Conceptual Framework

The conceptual framework for this study, shown in Figure 2.5, was based on a blend of social cognitive behaviour theory by Bandura (1977), the HBM by Rosenstock et al. (1994), and the MMT BASIC ID by Lazarus and Lazarus (2008).
**Figure 2.5: Conceptual Framework**

Source: Researcher (2020)

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**MMT Skills**
- Behaviour
- Affects or feelings
- Sensations,
- Imagery (imaginations)
- Cognition
- Drugs or biomedical treatment

**COUNFOUNDERS**
- MSM community and identity.
- Interpersonal networks.
- Social associations.

**INDEPENDENT VARIABLES**

**MEDIATING VARIABLES**
- Educational level
- Personality
- Age
- Drugs of abuse
- Economic status

**DEPENDENT VARIABLES**
- Reduction in Risky Sexual Behavior
  - Multiple partners avoidance.
  - Consistent condom use with water-based lubricants.
  - Self-efficacy, and assertiveness.
  - Correct beliefs, attitudes, and knowledge of HIV and AIDS prevention.
  - Sexual impulse control.
2.6 Discussion

Multimodal therapy BASIC ID is a behaviour based behaviour change intervention that operates within technical eclecticism model and puts the clients’ needs as the top priority in the intervention process. This study drew its independent variables from the MMT modalities BASIC ID which are behaviour, affect or emotions, sensation, imagery, cognition, and interpersonal relationship.

The main aim of MMT skills in this study was to significantly reduce or eliminate HIV and AIDS related risky sexual behaviour in MSM by improving adaptive skills for sexual impulse control; protected anal sex; regular, correct, and consistent condom use; regular testing and treatment seeking for STIs; and multiple partner avoidance. This reduction was achieved through psychosocial competencies learned from a combination of individualized multimodal based acronym (BASIC ID) modality skills: B-stands for behaviour, A-for affects or feelings, S-for sensations, I-for imagery (imaginations) C-for cognition, and D- for drugs or biomedical treatment. This is a personalized self-help plan for risky behaviour change using these modalities.

The Independent variable in this study was the Multimodal BASIC ID modality skills, which is the intervention. The dependent variables comprised the commonly used MSM global outcome behaviour change indicators that prevent HIV transmission among MSM. These behaviours include correct and consistent use of condoms, avoidance of multiple sexual partners, sexual impulse control, correct knowledge about HIV and AIDS transmission and treatment seeking. The MMT intervention facilitates new skills and procedural self-help opportunities for self-monitoring with cognitive and affective responses in risky situations (Corey, 2009).
The mediating or intervening variables mediate the effects of the independent variable on the dependent variable. They include educational level, personality, age, drugs, and alcohol exposure. Confounding variables are the variables that can lead to changes in the independent variable other than the influence of the independent variable. In this study, confounders included MSM community and identity interpersonal networks and other social associations.

2.7 Summary

In this chapter, a review of selected general and empirical literature related to and significant to this study has been presented. The objectives of the study led the literature review. The theoretical and conceptual frameworks that guided the study have also been presented. The chapter has also provided a discussion on MMT as it relates to both the theoretical and conceptual frameworks. The next chapter delves into the research methodology that was used in this study.
CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction
This chapter discusses the research methodology that was used in the study. The features of the research process highlighted are the research design, the study site, and the study target population. These determined the sample size and sampling techniques, the research instruments, data collection procedures, pretesting of the research instruments, data analysis plan, and the ethical aspects this study considered.

3.2 Research Design
A Quasi-experimental; non-equivalent control group design was the design of choice for this study. It comprised of experimental and non-equivalent control group with baseline assessment and endline assessment for both study groups. Creswell (2009) and Leedy (2010) described the non-equivalent control group as a control group that appears similar to the experimental group yet is pointedly different in regard to the factors associated with the group.
Quantitative approaches were applied to measure and describe the MMT modalities skills’ effect on the reduction of risky sexual behaviour among MSM. The researcher administered a baseline assessment before the MMT intervention administration, followed by midline assessment after five weeks and finally follows up assessment
After one month (10 weeks after baseline assessment). This enabled the researcher to assess, determine, predict, and explain the effect of MMT on MSM risky sexual behaviour.

Source: Researcher (2020)

Key:
T=Treatment group; T1=Pretest; T2=posttest ; X= Treatment
C= non-equivalent Control group; CT1= pretest; CT2= post-test.

Treatment (T) Control (C)

(T+T1+X) CT2-CT1

(T1+X)

T2 - (T +T1+X) CT2-CT1

(CT2-CT) - (T2-(T1+X) = Change /effectiveness

Figure 3.1: Research Design Flow Chart
3.3 Study Site

The study was conducted at Hoymas and Ishtar centres respectively in Nairobi. Hoymas is a community-based organization (CBO) working with young MSM affected and infected with HIV and AIDS. Both Hoymas and Ishtar membership comprised of young men who have sex with men: equipping them with economic empowerment skills, offering HCT services, soliciting for University education funding for them, advocating for protection against stigma and discrimination. The centres also provide HIV and AIDS preventive materials, as well as general information on education towards responsible living as members of the larger community.

Additionally, the centres provide the members information on practical knowledge of human rights and other forms of challenges that affect them. They also provide a place they can call a home away from home as well as a peer group where they can confide their issues with others. The site also gives the members identity, security, a sense of community, and a sense of belonging (NASCOP, 2014a).

The sites were selected because of the large and diverse population of MSM, high level of privacy, and confidentiality practiced by personnel. They were also easily accessible, had facilities and services, as well as information relevant for this study. The Ishtar site in South B was convenient for non-equivalent comparative control group because of its location and distance from Pangani. This ensured that there was no data contamination, thereby ensuring both internal and external validity.

3.4 Target Population

Kombo and Tromp (2011) have defined population as a group of individuals, objects or items from which samples are taken. On the other hand, a target population is an
entire group of people or elements that share something in common and from where samples are taken for measurements. The study was conducted in Nairobi with a target population of about 4000 MSM members (Hoymas Centre 2000 and Ishtar membership 2000). Hoymas in Pangani was assigned the treatment (experimental) group while Ishtar in South B was assigned the non-equivalent control group for comparison.

The minimum requirements for membership into the two groups include being a male who engages in male to male sex, resides in Nairobi, and uses NASCOP, LVCT and Fhi_360 offices for their medical services among other needs. It was a requirement that one must have engaged in unprotected sex with a male partner regardless of HIV sero-status in both Hoymas and Ishtar centres. The age limit for registering with both Hoymas and Ishtar was 18-47 year while minimum education level was form four. This was part of requirements for joining the two groups and the reasons given for this were that at 18 years and above in Kenya, one is legally considered an adult who can make decisions for themselves and at 47 years one is also considered capable to make reasonable decisions about their life.

Further, between 18 and 47 years of age some of these MSM earn their living by receiving money in exchange for sexual services either regularly or occasionally. Above 18 years Sex work is consensual sex between adults but 18 years and below it is considered exploitation and therefore not defined as sex work (United Nations, 2009). The study included all respondents who were able to communicate adequately in English with the others.
3.5 Sample Size

A sample is a portion or a subgroup of a large population which is expected to be representative of a larger population (Babbie, 2010). According to Kothari (2012), the sample size of a study should consider the power of the study, level of significance, anticipated effect size as well as event rate in expected standard deviation. The sample size below was calculated on the basis of Cassagrande formula. The significant level of 0.05, confidence level of 95% and the power with the lowest level was 90%. This is the same formula applied in calculating sample sizes in the FHI (2000) Behaviour Surveillance Surveys (BSS). They provide important information about behaviors of people living with HIV and AIDS (FHI, 2000).

 Behaviour Surveillance Survey (BSS) conducts several cross-sectional surveys among people whose behaviour may help explain how HIV is spread which will help determine what can be done to prevent its spread in a given country or region. The defining characteristic of BSS is consistency over time. They have been shown over several years to make important and useful contributions to informing global national responses to HIV in different countries, Kenya included. These studies provide reliable methods for keeping track of behaviors that may be considered risky leading to transmission of HIV (FHI, 2000).

The required sample size for a given sub-population is given by the Cassagrande formula below.

\[
Z_{1-\alpha} \sqrt{2P (1-P)} + Z_{1-\beta} \sqrt{P1 (1-P1) + P2(1-P2)}\]

\[
n = \frac{D}{(P2-P1)^2}
\]

Where:
n = the minimum required sample size

α = Type I error (0.05)

β = Type II error (0.10)

D = design effect;

P1 = the estimated proportion of specific risky sex behaviour (unprotected anal sex, incorrect condom use, multiple sex partners, STIs testing and treatment, knowledge, attitudes and beliefs about HIV treatment and transmission) among MSM in Nairobi that did not receive the MMT skills intervention (45%).

P2 = the estimated proportion of the specific risky sex behaviour among MSM in Nairobi that received the multimodal therapy skills intervention (31%) target proportion at some future date, so that (P2 - P1) is the change expected.

(P1 - P2) = The proportion effect size (14%)

P = (P1 + P2)/2;

Z_{1-\alpha} = the z-score corresponding to desired level of significance at 95% (1.96)

Z_{1-\beta} = the z-score corresponding to the desired level of 90% power (1.28)

Standard values of Z_{1-\alpha} and Z_{1-\beta} are provided in Tables.

Expected decrease in the proportion of MSM who had unprotected sex = 5%

Levels of significance of = 95%

Desired power = 90%

P1 = 0.10 and P2 = 0.05

Z-score values of Z_{1-\alpha} = 1.282 (corresponding to 90% significance level)

Z_{1-\beta} = 0.53 (corresponding to 90% power):

n = 2 \left[1.282 \sqrt{2 \times (0.175)(0.825) + 0.53} \sqrt{(0.1)(0.9) + (0.2)(0.75)}\right]^2/(0.20 - 0.10)^2

= 2 \left[(0.688 + 0.2809)^2/0.0225\right] = 85 \text{ MSM}.
The study added 10% to the sample size of 85 to cater for attrition so that the final sample in this study was 94 (85+9) MSM. This calculated sample size of 94 was doubled so that both treatment and non-equivalent control group had the same number of respondents making a total of 188.

3.6 Sampling Techniques

The two centres: Hoymas in Pangani, and Ishtar in South B were purposively selected for the study to represent all MSM centers in Nairobi County in Kenya. Simple random sampling was used to allocate the two groups into the experimental and control group. Simple random assignment was done through tossing a coin where head was treatment group, which was picked by Hoymas, while the tail was control that went to Ishtar centre. The two sites are far apart hence the researcher could control diffusion and eliminate data contamination between the control and the treatment groups.

In selecting the members who would take part in the study from the large target group who met the inclusion criteria, the researcher obtained lists of all members of the two organizations from the centres’ leadership for sampling purposes. Using the centres membership lists, the researcher divided each centre population by 100 which was close to half the study population then proceeded to select every tenth number after the last. This is simple random assignment technique which is unbiased and it helped mitigate some of the internal validity issues in that it ensured everyone in the population had an opportunity to be part of the study (Babbie, 2010).

3.6.1 Inclusion and Exclusion Criteria

Inclusion criteria into the study was based on the criteria used for MSM who had met the Hoymas criteria which was: 18 years of age and above, had anal sex with other
men, had no neuropsychological impairment or psychosis, not currently involved in another behaviour intervention study related to HIV and AIDS, and have agreed to sign informed consent form and MMT clinical interview. These were some of the key requirements for registering in Hoymas as a member of the community and therefore verification was by the Centre’s leadership.

Those excluded from this study sample included: those below 18 years old and those above 47, any female, transgender or bisexual, those who could not communicate in English, anyone suffering from neuropsychological impairment or psychosis or was involved in another behaviour intervention study related to HIV and AIDS or not willing to sign informed consent form. This basis of selection was informed by the two sites membership requirements.

3.7 Data Collection Instruments

This study adopted the Family Health International (FHI, 2000) Behaviour Surveillance Survey (BSS) questionnaire that was administered in both baseline and endline to the respondents. The tool was chosen on the basis of its validity and reliability from previous behaviour change based assessments. The Behaviour Surveillance Survey is a global standardized behaviour change tool used by FHI in global behaviour surveillance surveys for HIV and AIDS behaviour assessments.

Behaviour surveillance surveys provide guidelines on behaviours among vulnerable populations who may be difficult to reach through common surveys, but who may be at high risk for contracting or passing on HIV and AIDS. They include female partners, sex workers and their clients, men who have sex with men and injecting drug users (FHI, 2000).
The tool used in this study was used in a study conducted among long distance truck drivers in Zambia; the country was highly affected by HIV and AIDS in 2006. The study assessed the effects of prevention programs that were in place by assessing the king of risky behaviour engaged in by long distance track drivers. The study involved drivers who were available at the study sites and aged 18 years and above. Some were invited in groups to the study sites. Participants after giving informed consent were administered BSS questionnaire.

Findings of the study showed that a large number of truck drivers were using drugs such as dagga (FHI, 2000). Respondents who were sexually active were 99% and had their first sexual intercourse at the age of 17.3 years. From those interviewed, respondents who reported having sex outside marriage with a consistent female partner were 34.9% while 21% reported having had one commercial sex partner. On the other hand, 6% reported having sex with a random or non commercial sex worker at least a year before the study. Study findings showed that there was a reduction in the number of truck drivers who had sex with with one sex partner who was not regular from 78.3% to 31.8% as well as those who had sex with with two or more sex partners who were not regular from 20.9% to 4.4% by 2006.

3.8 Data Collection Procedures

Data collection procedure began after all the relevant approvals were sought from Daystar University School of Humanities and Social Sciences, Daystar University Ethics Review Board, NACOSTI as well as approvals from the management of the two centers. Further, pre-testing of the questionnaire was done with a group of 15 MSM peer educators from Hoymas. The purpose was to ensure that the instrument asked the questions it was meant to ask, that the language was understood, and that the time allocated for administration of the instrument was appropriate.
The researcher met with all the selected respondents as a group in different days in both Hoymas and Ishtar centres and explained the study purposes and objectives, exclusions and inclusion, the researcher also explained to the respondents the study expectations and their (respondents) role in the study process and the ethical implications to the respondents before they signed the informed consent form. The researcher administered the same assessment at baseline to both experimental and control groups the same day but at different times, that is - Hoymas in the morning and Ishtar in the afternoon.

The researcher recruited four assistants to assist in the research process of the study. These were recruited from Hoymas for confidentiality purposes and in line with the Centres for Disease Control and Prevention (2015) recommendation that as much as possible, any interventions in MSM should involve MSM as peer educators, and as equal partners for more effectiveness in the research process. The researcher took the research assistants through the programme goals, objectives, training materials, skills, and ethical requirements. The staff at Hoymas was later taken through the MMT training skills, research questions, objectives, and the instruments administration including the questionnaires items, to help them be more effective in their service in the centre in future.

Multimodal therapy was administered in 10 sessions: two sessions every week with each taking two hours - one hour for skills presentation and the other for interaction. There was also homework given to individuals, as well as to groups with the programmes running for five weeks - each week covering one modality. Data was collected in three phases, namely baseline which was administered in the first week before the intervention, and endline which was administered on the fifth week after the MMT intervention and follow-up which was administered after one month of
completion of the intervention. The questionnaire adapted from FHI (2000) was administered at all three timelines.

3.9 Pretesting

Before the actual data collection, the data collection instrument was pretested. This was done at the beginning of February, 2017, and the purpose was to ensure that the instrument asked the questions it was meant to, that the language used was understood, and that the time allocated for administration of the instrument was appropriate. The questionnaire was administered to 15 MSM peer educators in both Hoymas and Ishtar organizations respectively. After the pre-test, the instrument was adjusted accordingly, to ensure the effectiveness of the research.

3.9.1 Validity and Reliability of the Instruments

Validity refers to correctness, meaningfulness, and usefulness of specific inferences that researchers make based on the data collected (Fraenkel, Wallen, & Huyn, 2011). On the other hand, Polit and Beck (2008) defined validity as the question of whether there is evidence to support the assertion that the instruments are really measuring the concepts they purport to measure. Mcleod et al. (2012) explained validity as the capacity of a measure to accurately capture or reflect some characteristics of objective reality. Creswell (2009) clarified that reliability is a criterion for evaluating the quality of a measuring procedure that is the consistency and stability of a measure. Creswell further emphasized that a measure is said to be reliable if it measures and produces identical results when repeatedly used to measure the same subject under the same conditions.

This researcher sought guidance and consultation from her supervisors from the School of Human and Social Sciences Daystar University on the adaptation of MSM
HIV and AIDS behaviour surveillance survey for Family Health International questionnaire (FHI, 2000). This is a global tool which was subjected to rigorous global experts’ scrutiny and has been used in different countries and regions. The supervisors who are experts in research assisted in polishing up the data collection instrument to ensure that it had validity.

3.10 Data Analysis Plan

This study generated quantitative data designed to show the efficacy of MMT on behaviour change towards the prevention of transmission of HIV and AIDS among MSM in Nairobi, Kenya. All the copies of the questionnaire were systematically organized according to the respondents’ identities and categorized in accordance to whether or not the threshold was met. The raw data from baseline and endline assessment were coded according to variable categories, cleaned, and collated as soon as they were generated, and then entered into a prepared database in the Statistical Package for the Social Sciences (SPSS) version 21 for analysis.

The researcher took up the responsibility of collecting and checking for completeness and consistency of the questionnaire, in readiness for coding, cleaning, and storage, in readiness for analysis and reporting of the generated data. The raw data was systematically organized to facilitate analysis.

All the copies of the questionnaire and other hard copy materials were stored in marked secure bags and kept away from intruders. This data was keyed into the computer by a research assistant who has a lot of experience in data entry and had signed a confidentiality form. The data was purposely keyed in twice (double entry) for cross checking, in order to minimise coding and entry errors. Data from the
questionnaire was tabulated and analysed using inferential and descriptive statistics, mainly frequency and percentages.

Comparability of description of the treatment on the experimental and non-equivalent control group was performed on the pre-treatment variables. Analysis of variance was used to analyse the differences between pre-treatment and post-treatment measures from the treatment and the non-equivalent control group design to find out if the MMT intervention had a significant effect on MSM HIV and AIDS behaviour change. The differences in the baseline distributions and the degree of association between them were also ascertained. Chi square and correlation statistics were used in analysing data from the questionnaire to show relationship in the variables.

Hypothesis testing was done to check if MSM had significantly reduced risky sexual behaviour through consistent use of condoms and reduction of multiple sexual partners. Generated analysis was saved in soft and hard copies, after which the results were discussed, presented for defence, published, and then shared with stakeholders, including Daystar University academic division; Ministry of Education, Kenya; and Hoymas. The results shall be presented in various forums and published in peer reviewed journals.
Table 3.1: Data Management Plan

<table>
<thead>
<tr>
<th>Item</th>
<th>Period</th>
<th>Source of Data</th>
<th>Statistical Measure</th>
<th>Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline (before MMT)</td>
<td>Time zero</td>
<td>MMT Structural profile &amp; inventory Family Health International HIV and AIDS behaviour surveillance survey questionnaire (fhi_2000) (both groups)</td>
<td>Frequencies mean Percentage Standard deviation Correlation, Pearson’s chi-square Logistic regression analysis Test for independence</td>
<td>Tables Graphs Charts</td>
</tr>
<tr>
<td>Multimodal Therapy</td>
<td>5 weeks</td>
<td>MMT BASIC ID modalities expanded structural profile inventory</td>
<td>Mean Frequency Percentage Pearson’s chi-square test Standard deviation Logistic regression Correlation</td>
<td>Graphs Tables Charts</td>
</tr>
<tr>
<td>Endline</td>
<td>After five weeks</td>
<td>Family Health International fhi HIV and AIDS behaviour surveillance survey questionnaire (FHI, 2000) (both groups)</td>
<td>Percentage Mean Frequency Pearson’s chi-square test Standard deviation Logistic regression</td>
<td>Graph, Tables, Charts</td>
</tr>
<tr>
<td>Followup</td>
<td>After 4 weeks</td>
<td>Family Health International fhi HIV and AIDS behaviour surveillance survey questionnaire (FHI, 2000) (both groups)</td>
<td>Chi-square test Frequency Percentage Mean Standard deviation Regression analysis</td>
<td>Graph, Tables, Charts</td>
</tr>
</tbody>
</table>

Source: Author (2020)

Table 3.1 presents a tabular representation of this study’s data management plan. This began with data collection at baseline assessment for both groups before MMT
intervention. The FHI (2000) HIV and AIDS behaviour surveillance survey questionnaire was administered to both (experimental and control) groups at the beginning of the intervention. After that the experimental group, members; Hoymas Centre in Pangani, was started on the Multimodal intervention and continued uninterrupted for 5 weeks.

3.11 Ethical Considerations

Mugenda and Mugenda (2003) observed that a research undertaking requires a clear understanding and adherence to what is permissible and not permissible in various ethical issues. If ethical issues are not followed, legal suits may follow, or the research findings may be nullified. This is echoed by the American Psychological Association (2010) code of ethics for psychologists in its emphasis on the importance of adherence to ethics at all times. This study observed research ethics in various ways as discussed below.

The research proposal was presented to the School of Human and Social Sciences, Daystar University for approval. The researcher also sought permission from the Hoymas Centre’s board of trustees, as well as the Centre's administration, in order to carry out the MMT training and administer the questionnaire to the Centre's clients. Further approvals were sought from the Ministry of Education, Kenya; and the National Commission for Science, Technology and Innovation (NACOSTI).

Confidentiality and anonymity was ensured as the respondents’ records only had codes but not the respondents’ names. In addition, the research assistants were required to take the oath of confidentiality, with emphasis being put on the need to keep the respondents’ information confidential for the purpose of the latter’s safety and security, and for guarding the centre against exposure to homophobic groups. The
research procedure was clearly explained, including the requirement to protect any information pertaining to the running of the centres, and the ethical handling of the respondents’ information, including referral places and voluntary participation.

The details of the research were explained to the respondents and an informed consent contract was availed to each of them to voluntarily sign as an indication of their consent to participate in the research. This was done before the commencement of the research. The researcher provided respondents with information on the research purpose, its expected duration, and the procedures to be followed. This was done before the respondents signed the informed consent forms.

The researcher identified and trained four research assistants, two from each of the two centres: Hoymas and Ishtar. The research assistants were trained before the start of the intervention and during the training. Areas covered included the purpose of the study, ethical issues put in place to ensure privacy, safety and security. They were taken through the ethics code, with an emphasis on the importance of ethical principles both during the intervention period and after. The emphasis was crucial considering that research assistants were required to keep high level of confidentiality since they handled personal and organizational information. This was necessary given that they interacted with a vulnerable group which was culturally and structurally excluded. It was no secret that MSM were criminalised, threatened and therefore required much security and understanding even among themselves.

3.12 Summary

This chapter has presented the research methodology that the study adopted. This study was a quasi-experimental; non-equivalent control group design with a baseline and endline assessment on both the experimental and control groups. The MMT
intervention was administered to the experimental group only. Data analysis started with descriptive statistics which provides background information of the respondents’ social demographic information and established the background equivalence of the study groups. The next chapter presents the findings of the study.
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the findings on efficacy of multimodal therapy on HIV and AIDS prevention through risky behaviour reduction among MSM in Nairobi County, Kenya. Study findings are presented for the two study groups; experimental and control groups to allow for comparison between the two study groups both at baseline and endline assessment. Findings are presented in tables and figures to capture the various responses by the study respondents.

4.2 Socio-Demographic Characteristics of Respondents at Baseline

The study sought to establish the socio-demographic characteristics of respondents at baseline. They were asked to indicate the level of education attained, religious affiliation, and if they are currently married or ever been married to a woman.

Table 4.1: Socio-Demographic Characteristics of Respondents by Study Groups at Baseline

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Control Group n=94 %</th>
<th>Experimental n=94 %</th>
<th>$\chi^2$ statistic</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>8 (8.51%)</td>
<td>5 (5.31%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>47 (50%)</td>
<td>55 (58.5%)</td>
<td>1.66</td>
<td>0.044</td>
</tr>
<tr>
<td>College</td>
<td>39 (41.5%)</td>
<td>34 (36.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muslim</td>
<td>8 (8.51%)</td>
<td>9 (9.90%)</td>
<td>2.91</td>
<td>0.041</td>
</tr>
<tr>
<td>Christian</td>
<td>84 (89.3%)</td>
<td>81 (86.2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>2 (1.0%)</td>
<td>4 (4.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married to a woman</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23 (24.6%)</td>
<td>20 (21%)</td>
<td>2.00</td>
<td>1.00</td>
</tr>
<tr>
<td>No</td>
<td>71 (75.4%)</td>
<td>74 (79%)</td>
<td>416</td>
<td>0.49</td>
</tr>
</tbody>
</table>

Table 4.1 presents the Socio-Demographic Characteristics by Study Groups at baseline. Respondents who had secondary education were 55 (58.5%) in the experimental group and 47 (50%) in the control group. Respondents with college
education were 34 (36.2%) in the experimental group while the control group had 39 (41.5%). There were very few respondents who had primary school level education. These were mature men who did not go beyond primary school but they were part of the population. They indicated their ages at the recruitment but not their education level and therefore they were discovered after they had been recruited. They proved to be more resourceful and committed than some mature ones such that they were recruited to join the peer educators despite their education level. This indicated that most respondents were educated, hence, their reasoning capacity was sufficient to understand MMT intervention.

Respondents who were Christians were 84 (89.3%) in the control group and 81 (86.2%) in the experimental group. This indicated that in terms of religious affiliation, Christians were the majority in both groups. With regard to marriage to a woman, 23 (24.6%) respondents in the control group were married to women while 20 (21.1%) from experimental group reported to have been married to a woman. These scores showed that the two MSM groups equally had men married to women in the same range. This is means that this population is a bridge to HIV and AIDS transmission among other populations including women who may be in heterosexual relationships with them as well as MSM.

Respondents were required to give their socio-demographic characteristics in terms of their age in years, and age of discovery of sexual orientation.
Table 4.2 presents the MSM socio-demographic characteristics of age and age of discovery of sexual orientation by study group. Findings revealed that respondents age ranged between 18 and 47 years, with only two aged above 40 years from the control group while the rest were in experimental group. These rest were approximately within the same age range of adolescence and young adults. The age of majority at the discovery of sexual orientation was between 14.1 for control group years and 16.9 years with a mean age of 16.2 for the experimental group. This demonstrates that the study had more adolescents than adult respondents who were almost equally distributed in ages except two who were ages 46 and 47 years respectively. A high number of respondents who were in early adolescence and a few who were in late adulthood at the discovery of orientation are an advantage in this study. This is because the MSM in each category will influence their peers to adopt MMT intervention in HIV transmission reduction.

4.3 Perceived Predictors of HIV and AIDS Risky Sexual Behaviour among MSM

The first objective of this study sought to identify the predictors of HIV and AIDS risky sexual behaviour among MSM in Nairobi County, Kenya. To achieve this, respondents were asked to respond to several statements intended to reveal their perceived barriers to MSM’s HIV and AIDS risky behaviour change. These statements were related to respondents’ consistent condom use and number of sexual partners.
Table 4.3: Demographic Characteristics as Predictors for Risky Sexual Behaviour

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control Group</th>
<th>Experimental Group</th>
<th>χ²</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>n=94</td>
<td>n=94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 years and less</td>
<td>86 (91%)</td>
<td>92 (97%)</td>
<td>0.572</td>
<td>0.02.*</td>
</tr>
<tr>
<td>25-35 years</td>
<td>55 (58.5%)</td>
<td>57 (60%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 years and above</td>
<td>34 (36.2%)</td>
<td>39 (41.5%)</td>
<td>4.077</td>
<td>0.021*</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christian</td>
<td>81 (86.2%)</td>
<td>84 (89.3%)</td>
<td>0.002**</td>
<td>0.001**</td>
</tr>
<tr>
<td>Muslim</td>
<td>4 (4.3%)</td>
<td>2 (1.0%)</td>
<td>2.899</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>20 (21%)</td>
<td>23 (24.6%)</td>
<td>0.012*</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>74 (79%)</td>
<td>71 (75.4%)</td>
<td>0.020*</td>
<td></td>
</tr>
<tr>
<td>Higher ed</td>
<td>68 (72%)</td>
<td>73 (38.6%)</td>
<td>0.856</td>
<td></td>
</tr>
<tr>
<td>Married to woman</td>
<td>51 (54%)</td>
<td>65 (69%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual partners’</td>
<td>13 (13%)</td>
<td>71/94 (75.5%)</td>
<td>0.002*</td>
<td></td>
</tr>
<tr>
<td>reduction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use condom consistent</td>
<td>45 (48%)</td>
<td>75/94 (80%)</td>
<td>1.54</td>
<td>0.002*</td>
</tr>
</tbody>
</table>

Table 4.3 presents the univariate analysis of socio-demographic characteristics as predictors of HIV and AIDS risky sexual behaviour among MSM. Findings indicated that Christians in experimental group scored 84 (89.3%) while those in the control group scored 81 (86.2%). Respondents in secondary school level scored 71 (75.4%) in the experimental group while there were 74 (79%) in the control group. Those aged below 25 years were 86 (91%) among the control group whereas those aged between 25-35 years who used condoms consistently were 75 (80%) from experimental group compared to those in control group with 45 (48%).

The analysis showed that despite the presence of HCTS, free ARVS, and HAARTS; the HIV and AIDS infections still ravages the vulnerable populations, such as the MSM in Kenya. Vulnerability to risky sexual behaviour is made more complex by social exclusion and criminalization among other issues. Further these populations are not only vulnerable to HIV and AIDS but they also transmit the HIV and AIDS to the rest of the general population serving as HIV and AIDS bridge to both males and females among the general population. This is demonstrated by the control group scores which were low and mostly less than a half of key indicators shown as seen by
51 (54%) who were married to women, 13 (13%) had multiple sexual partners and only 45 (48%) consistently and correctly used condoms.

Table 4.4: Social-Demographic Characteristic as HIV and AIDS Risky Sexual Behaviour Change Barriers

<table>
<thead>
<tr>
<th>Variables</th>
<th>Experimental N</th>
<th>%</th>
<th>Control group N</th>
<th>%</th>
<th>( \chi^2 ) statistics</th>
<th>P&lt;Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual impulse</td>
<td>56/88</td>
<td>63.6%</td>
<td>32/88</td>
<td>36.4%</td>
<td>9.656</td>
<td>0.022*</td>
</tr>
<tr>
<td>HAART availability Education Primary</td>
<td>63/88</td>
<td>71.5%</td>
<td>7/13</td>
<td>53.8%</td>
<td>0.0143</td>
<td>0.002**</td>
</tr>
<tr>
<td>Secondary College</td>
<td>166/188</td>
<td>87.8%</td>
<td>6/13</td>
<td>46.2%</td>
<td>1.662</td>
<td>0.0436</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christian</td>
<td>(68/166)</td>
<td>41.0%</td>
<td>30/40</td>
<td>77.1%</td>
<td>2.889</td>
<td>0.023*</td>
</tr>
<tr>
<td>Muslim</td>
<td>7/17</td>
<td>1.2%</td>
<td>10/17</td>
<td>58.8%</td>
<td>0.856</td>
<td>0.050</td>
</tr>
<tr>
<td>Multiple partners reduction</td>
<td>13/94</td>
<td>6.9%</td>
<td>45/94</td>
<td>48%</td>
<td>1.327</td>
<td>0.0450</td>
</tr>
<tr>
<td>Been married to a woman</td>
<td>51/94</td>
<td>44%</td>
<td>75/94</td>
<td>80%</td>
<td>4.077</td>
<td>0.013*</td>
</tr>
<tr>
<td>Consistently use condom</td>
<td>55/94</td>
<td>62.4%</td>
<td>43/94</td>
<td>45%</td>
<td>8.163</td>
<td>0.004*</td>
</tr>
</tbody>
</table>

Table 4.4 presents the analysis of MSM socio-demographic characteristics perceived as the greatest barriers to HIV and AIDS risky sexual behaviour change among MSM. Findings of the study revealed that respondents who had achieved secondary school and college education in the experimental group scored 87.8% while those of primary school level scored 57.4% compared to respondents in the control group who scored 32.9% and 46.2% respectively. Experimental group had Christians who scored 41.0% while control group Christians scored 77.1% (P<0.023). These are vital aspects since HAART availability in the experimental group was at 71.5% and primary school education at 57.4%. HAART availability or unavailability and education level were perceived as greatest barriers to HIV and AIDS risky behaviour change among MSM.

Christians associate condom use with promiscuous life, emphasizing sexual purity and self-control in matters of sexual impulse. Therefore, it is not a surprise that the
Christians were linked with low consistent condom use and reduced sexual partners. The findings revealed that MSM’s sexual impulse was 63.6% in the experimental group and 36.4% in the control group. Hence, sexual impulse contributed to social affiliations and peer group acceptance scores which were 63.6%. These were also perceived as barriers to HIV and AIDS risky behaviour change. This is a contradiction and a surprise given that Christians are known to be intolerant to MSM lifestyle orientation.

HAART is hailed as the saviour from HIV and AIDS infection and regarded as the hope of HIV and AIDS risky behaviour reduction. This could be as a result of false security from the wrong assumptions that HAART cures and protects MSM from infection with HIV and AIDS. Social affiliations and peer group acceptance are also perceived as barriers to risky behaviour change since anal sex with another man is part of the requirement for membership in MSM organizations. These are known to influence behaviours and values of Men who have sex with men (MSM) towards risky sexual behaviour.

Condom use is known to be very low among all groups engaging in high-risk sexual behaviour including anal, oral, vaginal and sex with partners of unknown HIV status. This finding is an indication that the MMT intervention opened the respondents to the idea of risky sexual behaviour change through MMT intervention. At endline assessment, respondents in the experimental group were certain that risky behaviour changes were capable of reducing their risk to HIV and AIDS infection. The denotation here is that the intervention was effective as it positively contributed towards awareness of ways of reducing risky sexual acts by consistent condom use, and reducing sexual partners.
Table 4.5: Key Socio-Demographic Correlation Coefficient among MSM

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Years</th>
<th>Educ</th>
<th>Churc</th>
<th>Sxhlt</th>
<th>Alcoh</th>
<th>Drugs</th>
<th>Ij rg</th>
<th>Or sex</th>
<th>partn</th>
<th>NC</th>
<th>Ctc use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years</td>
<td>1</td>
<td>.048</td>
<td>.130</td>
<td>.067</td>
<td>.037</td>
<td>-.095</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Church</td>
<td>-.057</td>
<td>.017</td>
<td>.061</td>
<td>.037</td>
<td>.066</td>
<td>.043**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual health</td>
<td>-.136</td>
<td>.017</td>
<td>.061</td>
<td>.037</td>
<td>.066</td>
<td>.043**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>-.035</td>
<td>.012</td>
<td>.037</td>
<td>.066</td>
<td>.043**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drugs</td>
<td>-.039</td>
<td>.061</td>
<td>.037</td>
<td>.066</td>
<td>.043**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inject drgs</td>
<td>-.120</td>
<td>.066</td>
<td>.037</td>
<td>.066</td>
<td>.043**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral sex</td>
<td>-.119</td>
<td>.071</td>
<td>.031</td>
<td>.066</td>
<td>.043**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No partn</td>
<td>.274*</td>
<td>.073</td>
<td>.068</td>
<td>.018</td>
<td>.072</td>
<td>.031</td>
<td>.283**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NC</td>
<td>-.085*</td>
<td>.186*</td>
<td>.029</td>
<td>.029</td>
<td>.219*</td>
<td>.029</td>
<td>.264**</td>
<td>.074</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ctc use</td>
<td>-.092</td>
<td>.147</td>
<td>.176*</td>
<td>.007</td>
<td>.168</td>
<td>.069</td>
<td>.139</td>
<td>.130</td>
<td>.36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.5 presents the summary of the key socio-demographic correlation coefficient distribution among MSM in Nairobi, Kenya. The findings showed a statistically significant correlation between oral sex and alcohol use, and also between alcohol use and drug use (p<.01, 0.043**). Increase in alcohol use resulted in other substances being used as well as an increase in unprotected sex with multiple sexual partners (p<.01, -0.249). This is because alcohol lowers inhibition, loses impulse control and clouds the sense of judgement.

The effects are demonstrated in use respondents of drugs at p<.01, -0.256 leading to oral sex (p<.001, 0.283) with multiple partners (p<.001, 0.264) and without consistent condom use (p<.01, -0.36). Using condom consistently led to protection and being involved in the Church (p<.001, -0.176). Further, increasing the use of condoms consistently led to reduced multiple partners (p<.01, -0.36).

Table 4.6: Univariate Analysis of Socio-Demographic Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Year of birth</td>
<td>1966–1999</td>
<td>5.612</td>
</tr>
<tr>
<td>Age in years</td>
<td>18–47</td>
<td>25.71</td>
</tr>
<tr>
<td>Age of orientation discovery</td>
<td>2–30</td>
<td>15.77</td>
</tr>
<tr>
<td>Sexual partners (one month)</td>
<td>0-15</td>
<td>2.95</td>
</tr>
</tbody>
</table>
Table 4.6 presents the univariate analysis of socio-demographic characteristics among the respondents. The age distribution of the respondents ranged between 18 and 47 years, meaning that they (respondents) were born between 1966 and 1999. However, the age at sexual orientation discovery ranged between 2 and 30 years. The number of sexual partners in the last month as at the time of the study ranged between 0 to 15. This is a large number of sexual partners which should be a cause of worry for everyone.

Respondents who reported trying their best to reduce HIV and AIDS transmission were more likely to take personal responsibility to seek out help. They affirmed that they were more likely to avoid sexual impulse and use more than one method of reducing risky sexual behaviour. They were also more likely to use condoms consistently and correctly in HIV and AIDS prevention.
Table 4.7: Bivariate Analysis of Psychosocial-Demographic Characteristics and Consistent Condom Use among MSM

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experimental</th>
<th>Control</th>
<th>Chi-square</th>
<th>P*-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants</td>
<td>N=94 %</td>
<td>N=94 %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 years or less</td>
<td>56/92 60.9%</td>
<td>36/92 39.1%</td>
<td>0.572</td>
<td>0.751</td>
</tr>
<tr>
<td>25-35 years</td>
<td>52/85 61.2%</td>
<td>33/85 38.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35 years and above</td>
<td>6/12 50.0%</td>
<td>6/12 50.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>8 8.51%</td>
<td>5 5.31%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>47 50%</td>
<td>55 58.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>39 1.5%</td>
<td>34 36.2%</td>
<td>1.662</td>
<td>0.0436</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christian</td>
<td>84 89.3%</td>
<td>81 86.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muslim</td>
<td>8 8.51%</td>
<td>9 9.6%</td>
<td>2.913</td>
<td>0.0405</td>
</tr>
<tr>
<td>None</td>
<td>1 1.0%</td>
<td>4 4.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>1 1.0%</td>
<td>0 0.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever married</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>20 21.2%</td>
<td>20/94 21.2%</td>
<td>2.000</td>
<td>1.000</td>
</tr>
<tr>
<td>No</td>
<td>84 89%</td>
<td>81/94 86%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Risky behaviour change starts with you</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>14/21 66.7%</td>
<td>7/21 33.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>15/16 93.8%</td>
<td>1/16 6.2%</td>
<td>8.163</td>
<td>0.004*</td>
</tr>
<tr>
<td>Barriers to behaviour change</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual impulse-acceptance</td>
<td>56/88 63.6%</td>
<td>32/88 36.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HAART availability</td>
<td>68/88 71.5%</td>
<td>20/88 28.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All of the above</td>
<td>26/34 76.5%</td>
<td>8/34 23.5%</td>
<td>9.656</td>
<td>0.022*</td>
</tr>
<tr>
<td>Frequency of condom use in the last one month?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very often</td>
<td>48/91 52.7%</td>
<td>43/91 47.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A good deal</td>
<td>28/47 59.6%</td>
<td>47 40.4%</td>
<td>19.846</td>
<td>0.001**</td>
</tr>
<tr>
<td>Don’t know</td>
<td>27/34 79.4%</td>
<td>7/34 20.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussed HIV/AIDS with commercial sex partners</td>
<td>57/101 56.4%</td>
<td>44/101 43.6%</td>
<td>10.535</td>
<td>0.001*</td>
</tr>
<tr>
<td>No</td>
<td>47/61 77.0%</td>
<td>14/61 23.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussed HIV/AIDS with non-paying partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>28/37 75.7%</td>
<td>9/37 24.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>86/152 56.6%</td>
<td>66/152 43.4%</td>
<td></td>
<td>0.033</td>
</tr>
<tr>
<td>Had genital discharge during the past 2 months?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>98/153 64.1%</td>
<td>55/153 35.9%</td>
<td></td>
<td>0.030</td>
</tr>
<tr>
<td>Yes</td>
<td>16/36 44.4%</td>
<td>20/36 55.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trouble letting partner know he wants safer sex only</td>
<td>79/119 66.4%</td>
<td>40/119 33.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>35/70 50.0%</td>
<td>35/70 50.0%</td>
<td></td>
<td>4.944</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can avoid situations that I consider sexually risky</td>
<td>12/14 85.7%</td>
<td>62/148 41.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>102/175 58.3%</td>
<td>2/14 14.3%</td>
<td>4.074</td>
<td>0.044</td>
</tr>
</tbody>
</table>
Table 4.7 presents the bivariate analysis for psychosocial-socio-demographic characteristics. With respect to age and consistent condom use, findings revealed that 60.9% of respondents who were below 25 years in age, from the experimental group, used condoms consistently while 39.1% from the control group used condoms consistently. Of those with secondary school education 57.4% from the experimental group used condoms consistently while 42.7% from the control group used condoms consistently. Similarly, of those who were above 25 and below 35 years, 61.2% from the experimental group used condoms consistently while 38.8% from the control group used them consistently. Of those who were associated with marriage to women, 62.3% reported not to have used condoms consistently while 37.7% from the control group used condoms consistently.

The scores in the experimental group demonstrated that some of the respondents did not use condoms consistently while a large number was also from the control group. This suggests that condom use alone is not enough to reduce risky sexual behaviour.

With regard to high risky behaviour change, starting with the individual participant, 59.5% respondents from the experimental group agreed, while 41.9% from control group disagreed. On avoiding sexual arousal trigger to reduces risky behaviour, 59.5% from the experimental group agreed to comply while 40.5% from the control group said no.
Table 4.8 presents the bivariate analysis of psychosocial characteristics and consistent condom use among MSM. Participants who stated that they had done their best to reduce chances of transmitting or getting infected with HIV and AIDS also indicated a higher rate of consistent condom use ($p=0.004$). Similarly, those who had their sexual impulse in control also demonstrated consistent condom use alongside MSM social associations and networks ($p=0.022$). There was a significant correlation between consistent condom use and psychosocial demographics variables. These findings showed that the intervention helped respondents to take personal responsibility for changing their sexual behaviour. It also indicated that the
The intervention was effective in influencing risk reduction and hence helping respondents identify their biggest obstacles in their efforts to decrease risky sexual behaviour.

With regard to change in individual risky behaviour, from the experimental group, 59.5% agreed while 65.4% from the control group disagreed (P=0.050). Concerning eliminating sexual behaviour triggers to lower risky acts or modifying sexual triggers setting, 60.6% from the experimental group agreed, while 34% from the control group disagreed (P=0.015). With regard to the respondents’ perceived greatest barriers to HIV and AIDS risky sexual behaviour change, 57.2% from experimental group cited their social affiliations while 71.5% from control cited HAART availability and peer group acceptance. Some respondents (76.5%) mentioned all of the above reasons (P=0.004). This indicated that the intervention was successful in influencing the respondents to pinpoint their vulnerable risky sexual behaviour and acted responsibly by avoiding unprotected sexual acts. These findings also indicated that the intervention informed the respondents’ decision to take responsibility for their sexual behaviour.

In relation to narrowing sexual relationships to reduce risky sexual behaviour, 61.5% from the experimental group responded affirmatively while 38.5% from the control group were negative (P=0.456). Further, regarding getting an accountability partner, 62.7% from the experimental group assented while 37.3% from the control group did not agree. On exercise of impulse control, 60.5% from the experimental group said yes while 39.5% from the control group said no. In relation to having done ones best to reduce chances of transmitting or getting infected with HIV and AIDS, 57.2% from the experimental group agreed while 42.8% from the control group said no (P=0.004).
Pertaining to sexual impulse control, 63.6% from the experimental group responded affirmatively while 36.4% from the control group disagreed (P<0.022). This showed that MMT intervention was efficacious in reducing risky sexual behaviour.

Logistic regression analysis was utilized to uncover the efficacy of MMT intervention in relation to particular behaviour outcome indicators, namely consistent condom use and multiple sexual partners’ reduction.

Table 4.9: Logistic Regression Analysis for Consistent use of Condoms and Multiple Sex Partners

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experimental</th>
<th>Control</th>
<th>*p value</th>
<th>OR 95%</th>
<th>*p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced HIV/AIDS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>15/16</td>
<td>1/16</td>
<td>8.16</td>
<td>0.004</td>
<td>1.00</td>
</tr>
<tr>
<td>Yes</td>
<td>99/173</td>
<td>74/173</td>
<td></td>
<td>0.089</td>
<td>0.02</td>
</tr>
<tr>
<td>Barriers to risky behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social affiliation</td>
<td>56/88</td>
<td>32/88</td>
<td>9.656</td>
<td>0.022</td>
<td>0.727</td>
</tr>
<tr>
<td>HAART</td>
<td>63/88</td>
<td>24/42</td>
<td>1.697</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>All of above</td>
<td>26/34</td>
<td>8/34</td>
<td>0.392</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Last month used condom?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very often</td>
<td>27/34</td>
<td>7/34</td>
<td>9.846</td>
<td>0.001</td>
<td>0.069</td>
</tr>
<tr>
<td>A good deal reducing HIV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>transmission</td>
<td>13/14</td>
<td>1/14</td>
<td>9.846</td>
<td>0.001</td>
<td>0.232</td>
</tr>
<tr>
<td>Non-paying partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>47/61</td>
<td>14/61</td>
<td>10.54</td>
<td>0.001</td>
<td>1.0</td>
</tr>
<tr>
<td>Yes</td>
<td>67/128</td>
<td>61/128</td>
<td>0.327</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Genital STI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>79/119</td>
<td>40/119</td>
<td>4.944</td>
<td>0.026</td>
<td>10</td>
</tr>
<tr>
<td>Yes</td>
<td>35/70</td>
<td>35/70</td>
<td>0.506</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Anal discharge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>28/37</td>
<td>9/37</td>
<td>4.534</td>
<td>0.033</td>
<td>1.0</td>
</tr>
<tr>
<td>Yes</td>
<td>86/152</td>
<td>66/152</td>
<td>0.419</td>
<td>0.04</td>
<td></td>
</tr>
<tr>
<td>Reducing HIV transmission</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>98/153</td>
<td>55/153</td>
<td>4.681</td>
<td>0.030</td>
<td>1.0</td>
</tr>
<tr>
<td>Yes</td>
<td>16/36</td>
<td>20/36</td>
<td>2.227</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Safer sex only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>106/168</td>
<td>62/168</td>
<td>4.874</td>
<td>0.027</td>
<td>1.0</td>
</tr>
<tr>
<td>Yes</td>
<td>8/21</td>
<td>13/21</td>
<td>0.360</td>
<td>0.03</td>
<td></td>
</tr>
</tbody>
</table>
Table 4.9 presents the logistic regression analysis showing MSM psychosocial characteristics in relation to their consistent condom use and multiple sex partners. In regard to doing one’s best in avoiding transmitting or getting infected with HIV and AIDS, 57.2% of the respondents from the experimental group reported having tried to avoid transmitting HIV and AIDS. They reported to have been using condoms consistently and avoided multiple sexual partners. In the experimental group, 42.8% said yes while 93.8% in the control group said no (8.163, p<0.004). Concerning sexual impulse control and social affiliation as greatest barriers to sexual risky behaviour change, 63.6% from the experimental group cited social affiliations while 36.4% mentioned sexual impulse control (9.656, p=0.022).

On consistent condom use, 92.9% of respondents from the experimental group rated as good deal while 40.4% from the control group rated not much (P<0.022). In respect to discussing with partners about reducing HIV and AIDS transmission through consistent condom use, 77% answered yes while 53.2% said no (P<001) (p<0.002) respectively. Moreover, in relation to discussing HIV and AIDS with any non-paying partner, those who answered affirmatively comprised 56.6% from the experimental group while 43.4% were from the control group (P<0.033). With regard to letting a sex partner know you want only safe sex, 66.4% answered yes while 33.6% answered no (P<0.026 and 0.027) respectively.

Consistent condom use and multiple sexual partner reduction were the key outcome indicators used to measure behaviour change among the respondents in this study. These are also used as key outcome measures in numerous behaviour surveillance surveys globally. On doing ones best to reduce the probability of transmitting or contracting HIV and AIDS, 57.2% of respondents from the experimental group reported yes while 42.8% from the control group responded with a yes (p=0.021). On
multiple sexual partners and consistent condom use, seventy nine point 4 percent of respondents reported very often compared to 20.6% who reported having confidence in their sex partners (p=0.012).

With regard to ever having HIV and AIDS non-paying partners, respondents who reported no were 75.7% while those who reported yes were 24.3% (p=0.037). In regard to anal discharge, 63.1% from the experimental group reported no while 36.9% stated yes (p=0.032). Respondents who reported having trouble to let their sexual partners know that they wanted to have safe sex were 33.6% while 66.4% reported they did not have any trouble (p=0.027). These findings showed that MMT intervention had a large influence on reduction of unprotected sexual acts with consistent condom use and decrease in multiple sexual partners as a result of respondents’ responsible decision making regarding sexual matters. Moreover, most of the respondents expressed the desire and willingness to reduce risky sexual acts (0.044).

When asked whether one had done their best to reduce chances of transmitting or getting infected with HIV and AIDS, respondents who gave an affirmation 57.2% (p=0.021). They also indicated that they were using condoms more consistently. This implied that adopting one way of reducing HIV and AIDS transmission would lead to adopting more ways. Therefore, it can be deduced that the MMT intervention motivated respondents to do more to reduce risky sexual behaviour and hence can be associated with consistent condom use and reduction in multiple sex partners.

Table 4.10: Correlation between Age of Discovery and Consistent Condom Use in the Experimental and Control Groups

<table>
<thead>
<tr>
<th></th>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistent condom use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orientation Age of discovery</td>
<td></td>
<td>-0.164</td>
</tr>
<tr>
<td>Use of Condom Exp—Pre</td>
<td>Spearman’s rank correlation</td>
<td>1</td>
</tr>
</tbody>
</table>

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Table 4.10 presents the correlation between MSM’s age and their consistent use of condoms, based on Spearman’s rank correlation sig. (2-tailed). These results showed a positive correlation in regard to the age of respondents when they discovered their sexual orientation and their consistent use of condoms. This was statistically significant at p=0.024. Further, this results implied that the MMT intervention was effective as it led to an increase in consistent use of condoms and a reduction in sexual partners as well as reduction in risky sexual behaviour which would in turn result in reduction of HIV and AIDS transmission. With regard to age, a low association was observed in relation to the age of respondents and their consistent use of condoms (r=0.024). This implied a statistically significant positive correlation between these two variables at p=0.024. However, a low positive linear association was noted between the two variables (r=0.164). This was not significant statistically at p=0.164.

Table 4.11: Correlation between Age in Years and Number of Sexual Partners

<table>
<thead>
<tr>
<th>Experimental group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years</td>
<td>No. of partners</td>
</tr>
<tr>
<td>Age</td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>Spearman’s rank correlation</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>188</td>
</tr>
<tr>
<td>Partners Number</td>
<td>Sig. (2-tailed)</td>
</tr>
<tr>
<td>Spearman’s rank correlation</td>
<td>0.043</td>
</tr>
</tbody>
</table>
Table 4.11 presents the bivariate correlation between respondents’ age and number of sexual partners. Spearman’s correlation coefficient indicated a low correlation between the respondents’ age and the number of sexual partners at $r=0.043$. This indicated that these two variables had a positive correlation though not significant statistically at $P=0.055$. Also, a low positive linear correlation that was not statistically significant was observed between the two variables at $r=0.043$ ($p=0.055$). These results denote that there was no positive correlation between the two variables.

### Table 4.12: Correlation between Multiple Partners and Consistent Condom Use

<table>
<thead>
<tr>
<th>Experimental group</th>
<th>Control group</th>
<th>Consistent condom use</th>
<th>No. of partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistent use of pre post</td>
<td></td>
<td>Spearman’s rank correlation $r=1$</td>
<td>Consistent use of pre post</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sig. (2-tailed) $p=0.0801$</td>
<td>No. of partners $r=-0.019$</td>
</tr>
<tr>
<td>Consistent condom use</td>
<td>No. of partners $r=188$</td>
<td>188</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>Spearman’s rank correlation $r=-0.019$</td>
<td>0.0801</td>
<td></td>
</tr>
<tr>
<td>Number of partners pre post</td>
<td></td>
<td>Sig. (2-tailed) $p=0.0801$</td>
<td>Consistent condom use $r=1$</td>
</tr>
<tr>
<td></td>
<td>No. of partners $r=188$</td>
<td>188</td>
<td>188</td>
</tr>
</tbody>
</table>

Table 4:12 presents the correlation between multiple partners and consistent use of condoms. Spearman’s rank correlation coefficient revealed a low positive linear relationship between the number of partners and the consistent use of condoms at $r=-0.019$. However, this was not significant statistically at $p=0.0801$. Majority of respondents in this study reported that they had not used condoms consistently. Only after the multimodal intervention did the respondents in the experimental group start using condoms consistently. Further, these results denote a positive correlation between the respondents’ number of partners and the consistent use of condoms in the experimental group ($r=0.024$) but not in the control group at $r=-0.019$. However, this was not significant statistically at $p=0.0801$. Majority of respondents in the control...
group reported not to have used condoms consistently. The results also revealed that respondents’ age and number of sexual partners were not positively correlated and also not statistically significant (p=0.055).

4.4 MSM Perceptions on MMT BASIC ID Intervention

The second objective sought to determine MSM’s perceptions on MMT BASIC ID modality skills towards the reduction of HIV and AIDS risky behaviour. Five factors were presented to the respondents: MMT skills efficacy in addressing sexual risky behaviour, challenges in implementing MMT skills, difficulties perceived in applying MMT skills, behaviour changes expected with use of MMT skills, and MMT influence on MSM’s Sexual impulse. The outcome is as presented in Table 4.13.

Table 4.13: MSM’s Perceptions on MMT BASIC ID Intervention

<table>
<thead>
<tr>
<th>Q1After MMT BASICID SKILLS</th>
<th>Experiment N= 94</th>
<th>Control N=94</th>
</tr>
</thead>
<tbody>
<tr>
<td>What will you do with it?</td>
<td>Frequency %</td>
<td>Frequency %</td>
</tr>
<tr>
<td>Inform Community members</td>
<td>48 51.1%</td>
<td>1/16 6.2%</td>
</tr>
<tr>
<td>Interact with others</td>
<td>55 58.3%</td>
<td>39 41.5%</td>
</tr>
<tr>
<td>Condom protects from HIV</td>
<td>30/60 50.0%</td>
<td>32/94 34%</td>
</tr>
<tr>
<td>Perceive rating of MMT</td>
<td>94 100%</td>
<td>8/34 23.5%</td>
</tr>
<tr>
<td>Being in touch learnt in influencing others</td>
<td>94 100%</td>
<td>7/34 20.6%</td>
</tr>
<tr>
<td>1</td>
<td>72 76.6%</td>
<td>14/61 24.3%</td>
</tr>
<tr>
<td>2</td>
<td>21 22.3%</td>
<td>9/37 24.3%</td>
</tr>
<tr>
<td>3</td>
<td>15 16.0%</td>
<td>16/36 24.3%</td>
</tr>
<tr>
<td>Use MMT to face challenges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>38/88 24.3%</td>
<td>24/42 57.1%</td>
</tr>
<tr>
<td>2</td>
<td>36/88 43.4%</td>
<td>74/173 42.8%</td>
</tr>
<tr>
<td>3</td>
<td>11 35.9%</td>
<td>1/16 6.2%</td>
</tr>
<tr>
<td>To empower others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>79/188 36.9%</td>
<td>8/34 23.5%</td>
</tr>
<tr>
<td>2</td>
<td>15/21. 61.9%</td>
<td>7/34 20.6%</td>
</tr>
<tr>
<td>MMT is Not an ALL cure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>18/53 33.6%</td>
<td>1/14 7.1%</td>
</tr>
<tr>
<td>2</td>
<td>9.6% 61/128</td>
<td>66/152 43.4%</td>
</tr>
<tr>
<td>3</td>
<td>2/9 2.1%</td>
<td>14/61 23.0%</td>
</tr>
</tbody>
</table>
Table 4.13 presents MSM perceptions on MMT in HIV and AIDS behaviour risk reduction. Regarding being personally susceptible to HIV and AIDS even after MMT intervention had ended, 48 (51.1%) respondents from the experimental group answered yes. On interaction with fellow MSM on risk reduction through both consistent condom use and multiple sex partners’ reduction, 39 (41.5%) respondents felt the skills had helped them reduce unprotected sex while 58.3% felt that condom use was giving them security to engage in multiple sex acts for commercial purposes.

Concerning sharing their new acquired knowledge on BASIC ID skills on HIV and AIDS prevention, all the 94 (100%) respondents reported that they were ready to share their new knowledge with other MSM through their informal interactions.

In relation to multimodal BASIC ID with respect to influencing their peers with their view of unprotected sex, 72 (76.6%) respondents rated the MMT Intervention as Very effective while 21 (22.3%) rated it as effective. In relation to challenges in adopting BASIC ID modality skills, 38 (40.4%) responded very true while 36 (38.3%) responded as true. Regarding empowering others as they translate their perception of BASIC ID, 79 (84.0%) respondents gave very true as their response while 15 (16%) indicated true. Finally, pertaining to perceiving BASIC ID as not an all cure/panacea, 53/90 (56.4%) responded very true while 30/94 (31.9%) replied that was true.

These findings indicated that the MMT BASIC ID intervention had an impact on reducing risky sexual behaviour not only among MSM who received the skills but also on the social networks and partners of these MSM. These findings have revealed that MMT is indeed effective in the reduction of risky behaviour. MMT intervention had a big influence on the experimental group after the modality skills training. This is seen in the fact that majority of the respondents from the experimental group (86%) indicated that MSM was very effective in helping them get in touch with their sexual...
impulse while 100% reported having been empowered enough to be able to influence their peers and empower them to empower others. This demonstrates the ripple effect of the intervention if adopted.

4.5 Relationship between Psychosocial and Social Demographic Characteristics of MSM in Relation to HIV and AIDS Risky Sex Behaviour Reduction.

The third objective of this study sought to establish the role of MSM psychosocial and socio-demographic characteristics in HIV and AIDS risky sexual behaviour reduction among MSM in Nairobi County, Kenya. Respondents were asked to respond to several statements intended to describe their psychosocial and social demographic variables in relation to their attempt to reduce HIV and AIDS risky sexual behaviour. A logistic regression analysis was done alongside Spearman rank bivariate correlation coefficient to show the specific outcome behaviour indicators for this study. The indicators were consistent condom use and avoidance of multiple sexual partners.
Table 4.14: Psychosocial and Socio-Demographic Influence on HIV and AIDS Risky Behaviour

<table>
<thead>
<tr>
<th>Variable</th>
<th>Experimental group</th>
<th>Control group</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Done my best to stop HIV/AIDS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>15/16</td>
<td>93.8%</td>
<td>1/16</td>
</tr>
<tr>
<td>Yes</td>
<td>99/173</td>
<td>57.2%</td>
<td>74/173</td>
</tr>
<tr>
<td>Perceived barriers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MSM Sexual impulse &amp; Social affiliation</td>
<td>56/88</td>
<td>63.6%</td>
<td>32/88</td>
</tr>
<tr>
<td>HAART availability</td>
<td>63/88</td>
<td>71.5%</td>
<td>24/42</td>
</tr>
<tr>
<td>All of the above</td>
<td>26/34</td>
<td>76.5%</td>
<td>8/34</td>
</tr>
<tr>
<td>Used condom w/paying partner last month</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very often</td>
<td>27/34</td>
<td>79.4%</td>
<td>7/34</td>
</tr>
<tr>
<td>A good deal</td>
<td>13/14</td>
<td>92.9%</td>
<td>1/14</td>
</tr>
<tr>
<td>Discussed HIV/AIDS transmission reduction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>47/61</td>
<td>77.0%</td>
<td>14/61</td>
</tr>
<tr>
<td>Yes</td>
<td>67/128</td>
<td>52.3%</td>
<td>61/128</td>
</tr>
<tr>
<td>Discussed HIV/AIDS with nonpaying partners</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>28/37</td>
<td>75.7%</td>
<td>9/37</td>
</tr>
<tr>
<td>Yes</td>
<td>86/152</td>
<td>56.6%</td>
<td>66/152</td>
</tr>
<tr>
<td>Had genital discharge?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>98/153</td>
<td>64.1%</td>
<td>55/153</td>
</tr>
<tr>
<td>Yes</td>
<td>16/36</td>
<td>44.4%</td>
<td>20/36</td>
</tr>
<tr>
<td>Had anal discharge?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>106/168</td>
<td>63%</td>
<td>62/168</td>
</tr>
<tr>
<td>Yes</td>
<td>8/24</td>
<td>38.1%</td>
<td>1321</td>
</tr>
<tr>
<td>Demand safer sex only?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>79/119</td>
<td>66.4%</td>
<td>40/119</td>
</tr>
<tr>
<td>Yes</td>
<td>35/70</td>
<td>50.0%</td>
<td>35/70</td>
</tr>
<tr>
<td>Sexual risk avoidance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>12/14</td>
<td>85.7%</td>
<td>2/14</td>
</tr>
<tr>
<td>Yes</td>
<td>102/175</td>
<td>58.3%</td>
<td>73/175</td>
</tr>
</tbody>
</table>

*p-value generated using Pearson’s $\chi^2$ tests for independence

Table 4.14 presents a Logistic Regression on Psychosocial, Socio-Demographic influence on HIV and AIDS Risky Behaviour among MSM. The findings indicated that doing ones’ best to prevent HIV and AIDS transmission had an association with consistent condom use. Respondents who reported that they had done their best to reduce their chances of getting or transmitting HIV were more likely to have used
condoms consistently (p=0.021). The study also analysed psychosocial factors that could be associated with consistent condom use and multiple sexual partners’ reduction were analysed on the basis of whether they did their best to reduce chances of transmitting or contracting HIV and AIDS, 57.2% of respondents from the experimental group agreed while 42.8% from control group disagreed. This was statistically significant at p=0.021. Regarding greatest barriers to HIV risky behaviour change, 71.5% of respondents from the experimental group cited HAART while 32.4% cited social affiliations and group acceptance.

Concerning multiple sexual partners and consistent condom use, 79.4% from the experimental group reported very often as opposed to 20.6% who cited lack of trust in their partners at a statistical significance of (p=0.12). Furthermore, in relation to ever discussing HIV and AIDS transmission with non-paying partner, 66.6% from the experimental group affirmed while 33.4% reported never.

With regard to measures of behaviour responses to HIV and AIDS such as ever having had genital discharge, 75.7% of respondents said no while 24.3% said yes at a statistical significance of p=0.037. In regard to anal discharge, 64.1% said no while 35.9% said yes at a statistical significance of p=0.032. Pertaining to whether respondents had a challenge in regard to informing their sex partner that they only wanted safe sex, 66.4% from the experimental group disagreed while 33.6% from the control group said yes (P=0.027). With regard to avoiding sexually risky situations, 58.3% respondents from the experimental group said yes but 41.7% from the control group said no (p=0.061). Lastly, on being able to avoid situations that were sexually risky, 58.3% of respondents from the experimental group agreed while 41.7% said no. However, the difference was not statistically significant at p=0.061.
The above findings suggested that MMT intervention influenced reduction in risky sexual behaviour in the experimental group. It can be argued that the intervention helped the respondents to make decisions that were responsible, consequently reducing the transmission of HIV and AIDS and thereby showing effectiveness of the MMT intervention.

The findings from this objective indicated that doing ones’ best to prevent HIV and AIDS transmission had an association with both ‘consistent condom use’ and multiple sexual partners avoidance. The findings also showed the efficacy of multimodal intervention in influencing responsible sexual decision making among the experimental group respondents which led to reduced risky behaviours related to HIV and AIDS transmission among them.

4.6 Effectiveness of MMT Intervention on HIV and AIDS Risky Behavior Reduction among MSM

The fourth objective of this study sought to determine the effectiveness of MMT BASIC ID intervention in the prevention of HIV and AIDS via reduction of risky sexual behaviour among MSM in Nairobi. Respondents were presented with a number of statements which were aimed at eliciting information related to their risky sexual behaviour in regard of consistent use of condoms as well as having multiple anal sex partners. Respondents were asked whether they had used a condom with all their sexual partners in the last one month, whether they or their partner used a condom the last time they had any form of sex, How many partners they had oral/anal sex with in the last one month and whether they used condoms consistently. They were also asked whether they had sex with commercial partner in the last one month and whether they had unprotected sex with a woman in the last one month. The rating responses were “Yes” “No” “Not sure “to condom use, “number” and “types” of their sexual partners.
Below is a summarized group mean for the difference in differences between experimental and control groups’ baseline and endline assessment.

**Table 4.15: Distribution of Consistent Condom Use among MSM Over the Study Period in the Experimental and Control Group**

<table>
<thead>
<tr>
<th>Time</th>
<th>Mean</th>
<th>SD</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>0.4574</td>
<td>0.50086</td>
<td>p=0.754</td>
</tr>
<tr>
<td>Endline</td>
<td>0.4362</td>
<td>0.49857</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>0.4362</td>
<td>0.49857</td>
<td>p&lt;0.0001**</td>
</tr>
<tr>
<td>Endline</td>
<td>0.7128</td>
<td>0.45490</td>
<td></td>
</tr>
</tbody>
</table>

**p-values statistically significant**

Table 4.15 presents the summarized distribution of mean estimates. At baseline assessment, the mean estimates and the standard deviation of condom use for consistent condom use were as follows: The mean for the control group was 0.4574 (±0.50086 SD) while the mean for the experimental group was 0.4362 (±0.49857 SD).

At endline assessment, the mean estimates and the standard deviation of condom use for the control group was 0.4362 (±0.49857 SD) while for the experimental group it was 0.7128 (±0.45490 SD). On the basis of group mean estimates and standard deviation after the intervention, a substantial difference was noted between baseline and endline assessment. Consistent condom use was seen in for the experimental group at P<0.0001 while the control group remained relatively constant at P=0.754 which was not statistically significant.

These findings demonstrate that MMT intervention was efficacious as it contributed to a rise in consistent condom use in the experimental group as observed at endline assessment (p<0.0001). The implication is that the intervention influenced the increase in consistent condom use through exploring and recognizing one’s sexual arousal triggers; evaluating one’s emotions, sensations, and imagery one at a time while building on positive choices, and as a consequence, reducing the risk of HIV.
and AIDS transmission. These are the contents taught in MMT BASIC ID modality skills and therefore confirm that the intervention was successful in reducing risky sexual behaviours related to contracting HIV and AIDS among MSM in Nairobi, Kenya.

This study findings revealed an average balance of consistent condom use among the control group with a baseline score of 0.4574 (±0.50068 SD) and an endline score of 0.4362 (±0.49857 SD). The fact that the control group did not experience the intervention does not mean that they were ignorant about condom use. Lacking sexual impulse control and assuming that HAART could prevent or cure HIV and AIDS. This is an indication that the MMT intervention played a big role towards raising consistent condom use among the experimental group compared to the control group.

4.6.1 Descriptive Analysis of Consistent Condom Use among the Study Groups.

It is important to know whether the respondents used condoms consistently in oral and anal sex, with paying or non-paying partners, or with a man or a woman. This was because these are multiple ways of HIV and AIDS transmission among MSM. This means that they serve as a bridge to HIV and AIDS transmission between men and women. The key advantage to MMT is that it was designed to address a wide range of each individual’s needs through the multimodal BASIC ID modality skills. This explains the efficacy of MMT in unveiling the association between consistent condom use and the risky sexual reduction behaviours among MSM in this study.
Table 4.16: Descriptive Analysis of Consistent Condom Use at Baseline and Endline Assessment among Respondents in the Experimental and Control Groups

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom use: Baseline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>0.4574</td>
<td>0.50086</td>
<td>94</td>
</tr>
<tr>
<td>Experimental</td>
<td>0.4362</td>
<td>0.49857</td>
<td>94</td>
</tr>
<tr>
<td>Total</td>
<td>0.4468</td>
<td>0.49849</td>
<td>188</td>
</tr>
<tr>
<td>Condom use: Endline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>0.4362</td>
<td>0.49857</td>
<td>94</td>
</tr>
<tr>
<td>Experimental</td>
<td>0.7128</td>
<td>0.45490</td>
<td>94</td>
</tr>
<tr>
<td>Total</td>
<td>0.5745</td>
<td>0.49574</td>
<td>188</td>
</tr>
</tbody>
</table>

Table 4.16 presents the descriptive analysis of consistent condom use for both groups in regard to oral sex, anal sex, paying partners, non-paying partners, and sex with women. The findings of the descriptive analysis on consistent condom use showed overall effectiveness in consistent condom use among MSM in the experimental group. Consistent condom use scores for the experimental group at baseline were 0.4362 (±0.49857 SD) while that of the control group was 0.4574 (±50086 SD). The total for baseline assessment was 0.4468 (±0.49849 SD). The mean for endline assessment was 0.5745 (±0.49574 SD).

These results suggested that MMT intervention influenced increase in consistent condom use among the experimental group. The control group did not have the benefit of MMT intervention to learn and internalize ways to control their risky sexual triggers which the experimental group learnt. This explains how MMT intervention was efficacious leading to increase in consistent condom use among the experimental group and reducing the risk of HIV and AIDS transmission.
Figure 4.1 demonstrated the trend in measurements for consistent condom use over the study period. In terms of mean proportions, consistent use of condoms at baseline and endline for the control group indicated a constant trend over the study period at 0.4574 (±0.50086 SD) at baseline to a mean of 0.4362 (± 0.49857 SD) at endline. This was not statistically significant at p=0.754. In the experimental group, the mean consistent condom use increased from 0.4362 (± 0.49857 SD) at baseline to a mean of 0.7128 (±0.49 SD) at endline indicating a statistically significant difference (p<0.003).

These results denoted that MMT intervention contributed to a rise in consistent condom use in the experimental group. The increase can be attributed to the knowledge gained from MMT modality skills. It can therefore be interpreted that the intervention was efficacious in preventing the risk of transmission of HIV and AIDS through unprotected sex. It can also be deduced that the MMT skills helped the
respondents in the experimental group to make choices aligned with consistent condom use as part of their lives.

4.6.2 Frequency of Consistent Condom Use

Consistent condom use was defined as regularly, correctly inserted and consistently used condom for all sex encounters with all partners whether commercial, non-commercial, oral, anal or vaginal sex acts. The mean estimates of frequency of consistent condom use for control and experimental groups at baseline and endline are presented in Table 4.17.

Table 4.17: The Mean Estimates Comparison of Frequency of Consistent Condom Use for the Control and Experimental Groups

<table>
<thead>
<tr>
<th>Condom Use</th>
<th>1 = Very much</th>
<th>2 = A good</th>
<th>3 = Not much</th>
<th>4 = Not at all</th>
<th>5 = Don’t know</th>
<th>Mean ± SD</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Base</td>
<td>43</td>
<td>27</td>
<td>21</td>
<td>4</td>
<td>0</td>
<td>1.85</td>
<td>0.012</td>
</tr>
<tr>
<td>Control End</td>
<td>15</td>
<td>9</td>
<td>61</td>
<td>8</td>
<td>1</td>
<td>2.69</td>
<td></td>
</tr>
<tr>
<td>Experimental Base</td>
<td>48</td>
<td>20</td>
<td>13</td>
<td>10</td>
<td>3</td>
<td>1.94</td>
<td>0.001</td>
</tr>
<tr>
<td>Experimental End</td>
<td>65</td>
<td>19</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>1.54</td>
<td></td>
</tr>
<tr>
<td>Anal paying partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Base</td>
<td>38</td>
<td>21</td>
<td>12</td>
<td>2</td>
<td>22</td>
<td>2.46</td>
<td>0.080</td>
</tr>
<tr>
<td>Control End</td>
<td>12</td>
<td>7</td>
<td>65</td>
<td>9</td>
<td>1</td>
<td>2.79</td>
<td></td>
</tr>
<tr>
<td>Experimental Base</td>
<td>50</td>
<td>17</td>
<td>15</td>
<td>5</td>
<td>7</td>
<td>1.96</td>
<td>0.026</td>
</tr>
<tr>
<td>Experimental End</td>
<td>49</td>
<td>13</td>
<td>3</td>
<td>30</td>
<td></td>
<td>2.46</td>
<td></td>
</tr>
<tr>
<td>Anal non-pay partner</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Base</td>
<td>48</td>
<td>25</td>
<td>14</td>
<td>3</td>
<td>5</td>
<td>1.86</td>
<td>0.010</td>
</tr>
<tr>
<td>Control End</td>
<td>18</td>
<td>3</td>
<td>69</td>
<td>4</td>
<td>0</td>
<td>2.63</td>
<td></td>
</tr>
<tr>
<td>Experimental Base</td>
<td>54</td>
<td>20</td>
<td>13</td>
<td>6</td>
<td>1</td>
<td>1.72</td>
<td>0.001</td>
</tr>
<tr>
<td>Experimental End</td>
<td>71</td>
<td>17</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>1.38</td>
<td></td>
</tr>
<tr>
<td>with woman</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control Base</td>
<td>27</td>
<td>11</td>
<td>12</td>
<td>7</td>
<td>38</td>
<td>3.19</td>
<td>0.001</td>
</tr>
<tr>
<td>Control End</td>
<td>3</td>
<td>2</td>
<td>35</td>
<td>18</td>
<td>36</td>
<td>3.87</td>
<td></td>
</tr>
<tr>
<td>Experimental Base</td>
<td>27</td>
<td>13</td>
<td>13</td>
<td>23</td>
<td>18</td>
<td>2.91</td>
<td>0.001</td>
</tr>
<tr>
<td>Experimental End</td>
<td>18</td>
<td>11</td>
<td>2</td>
<td>6</td>
<td>58</td>
<td>3.79</td>
<td></td>
</tr>
</tbody>
</table>

Base - Stands for the Baseline assessment; and End stands for the endline assessment.

Table 4.17 presents the mean estimates of frequency of consistent condom use for control and experimental groups. MSM social affiliations and network expose them to risk and vulnerability which are beyond their control. HIV and AIDS prevention among this group requires access to income, quality treatment and security to be able
to protect oneself. However, these services are not affordable to many MSM. A person can become susceptible to contracting HIV when they lack adequate skills or knowledge to protect themselves against infection. Further, someone who engages in cultural practices that encourage risky behaviours as well as get into situations that make it difficult for them to reduce risky behavior or impossible is prone to contracting HIV.

For MSM and other key populations, many of the factors that cause vulnerability are beyond their control. This means that any intervention that does not address respondents’ risk and vulnerability which are beyond their control is not helpful. Therefore, HIV prevention among these populations require not only reducing their risk and vulnerabilities but increase condom use and access to biomedical treatments for STIs. Interventions also need to address psychosocial, cultural; structural, economic and other factors that also affect risk vulnerability.

The findings of the mean estimates of frequency of consistent condom use for control and experimental groups show that the frequency of consistent condom uses among the experimental group were higher than the control group. With regard to the mean estimates of frequency of consistent condom use for both experimental and control groups, the scores showed an overall increase in the frequency of consistent condom use among MSM in experimental group.

The consistent condom use scores for experimental and control groups were all statistically significant. However, the experimental groups scores were higher. The mean estimates of frequency of consistent condom use for control and experimental groups were as follows: Oral sex for the control group at baseline and endline were 1.85 (±0.91) and 2.69 (±0.88) at p< 0.0012. Experimental group scores were 1.94 (±1.17) and 1.54 (±1) at p<0.001 for baseline and endline respectively. Further, the
mean estimates and frequency of consistent condom use for both control and experimental groups’ namely anal, oral and as well as with paying or non-partner: control group at baseline was 2.46 (±1.58) and at endline it was 2.79 (±0.83) at p<0.080 respectively. Experimental group scores were 1.96 (±1.26) at p=0.026 respectively. Scores for anal non-paying partners in the control group was 2.46 (±1.79) while the experimental group scored 1.86(±1.12). There was a statistically significant difference between the scores for the experimental and control groups at p<0.026.

On the basis of group mean estimates for frequency of condom use anal sex non-paying partner, the control group at endline was 2.63 (±0.84) at p<0.010 while that of the experimental group was 1.72 (±1) and 1.38 (±0.8) at baseline and endline respectively (p<0.001). This indicated that the experimental group used condoms more frequently than the control group as demonstrated by the mean, standard deviation and p-value. Further, the group mean estimates of consistent condom use for sex with a woman were as follows; the control group at baseline was 3.19 (±1.71) while at endline it was 3.87 (±1.06) at p< 0.010. The experimental group mean at baseline was 2.91 (±1.52) but it changed to 3.79(±1.67) at endline (p<0.001). These findings demonstrated that MMT intervention was efficacious as it contributed to a rise in frequency of consistent condom use in the experimental group.

These findings suggested that the intervention was effective in risky sexual behaviour reduction through reduction of multiple sexual partners, consistent condom use and control of sexual impulse. These strategies would lead to reduced probability of being infected with HIV as well as reduced chances of transmitting it.

| Table 4.18: Paired T-Test for Consistent Condom Use at Baseline and Endline |
|-------------------------------|-------------------|
| Mean (SD)                     | P-value           |
| Baseline                      | Endline           |

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Table 4.18 presents paired sample t-test which sought to establish statistical significance in the paired mean difference scores between baseline and endline for the control and experimental groups. In terms of mean proportions, the consistent use of condoms at baseline and endline for the control group indicated a constant trend over the study period. The scores were 0.2128 (± 0.6554 SD) at midline to a mean of 0.4362 (±0.49857 SD) at endline. This was not statistically significant at p=0.754. However in the experimental group, the mean consistent condom use increased from 0.27660 (±0.66242 SD) to 0.4362 (±0.49857 SD) at baseline to a mean of 0.7128 (±0.494 SD) at endline with p<0.0001. This suggests that the MMT intervention led to increased condom use in the experimental group.

4.6.3 Effect Size of MMT Treatment

Effect sizes differences were calculated for condom use by subtracting the baseline scores of each group from the respective endline score and then subtracting the control group results from the experimental results. The effect sizes for condom use between baseline and endline assessment in the control and experimental groups are presented in Table 4.19 below.
Table 4.19: Effect Sizes for Condom Use at Baseline and Endline

<table>
<thead>
<tr>
<th>Condom use for</th>
<th>Mean ± SD</th>
<th>Cohen's d Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Sex</td>
<td>1.85 ± 0.91, 2.69 ± 0.88</td>
<td>0.94</td>
</tr>
<tr>
<td>Anal sex for paying partner</td>
<td>1.96 ± 1.26, 2.79 ± 0.83</td>
<td>0.32</td>
</tr>
<tr>
<td>Anal sex for non-paying partner</td>
<td>1.86 ± 1.12, 2.63 ± 0.84</td>
<td>0.78</td>
</tr>
<tr>
<td>Condom use for sex with a woman</td>
<td>3.19 ± 1.71, 3.87 ± 1.06</td>
<td>0.48</td>
</tr>
<tr>
<td>Condom use for Oral Sex</td>
<td>1.94 ± 1.17, 1.54 ± 1</td>
<td>0.38</td>
</tr>
<tr>
<td>Condom use for in anal sex for paying partner</td>
<td>46 ± 1.58, 2.46 ± 1.79</td>
<td>0.26</td>
</tr>
<tr>
<td>Condom use for in anal sex for non-paying partner</td>
<td>1.72 ± 1, 1.38 ± 0.8</td>
<td>0.37</td>
</tr>
<tr>
<td>Condom use for sex with a woman</td>
<td>2.91 ± 1.52, 3.79 ± 1.67</td>
<td>0.55</td>
</tr>
</tbody>
</table>

Table 4.19 presents the study findings which show practical and clinical significance for meaningful changes for respondents in terms of consistent condom use, multiple partner reduction and risky sex reduction. Effect sizes tell how large or how small the effect is by measuring the size of association or the difference. The experimental group’s Cohen's d Effect size for oral sex was 0.94, anal sex was 0.32, for paying and non-paying partner was 0.78 and for a woman was 0.48 in that order. The control group effect sizes were as follows: Condom use for oral sex was 0.38, for anal sex for paying partners was 0.26, Condom use for anal sex for non-paying partner was 0.37 while condom use for sex with a woman was 0.55.

According to Cohen, there are small effect size (d=0.2), medium effect size (0.5) and large effect size (0.8). According to Cohen, a small effect size can have a real effect even if it can only be seen through careful study. A medium effect is visible and one can see and interact with it while a large effect size is glaringly obvious. In most studies in Psychology, the average mean effect size is considered to be d = 0.4.
However, 30% of studies found effects below 0.2 while 17% found effect sizes greater than 0.8.

Study findings showed that condom use for oral sex for the experimental group was 0.94 which was a very high effect size. Anal sex with paying partner was 0.32 which was medium size while condom use in anal sex for non-paying partner was 0.78 a high effect size. Condom use for sex with a woman was 0.48 which was medium. The scores for the control group were: Condom use for Oral Sex was 0.38 (medium), while condom use for anal sex for paying partner was 0.26 (small). On the other hand, condom use for anal sex for non-paying partner was 0.37 which is considered medium while condom use for sex with a woman was 0.55 (large). The findings in this study show that the effect size between experimental and control group was large $d = -0.390; 95\% \text{ CI: } -0.483 – -0.396$). These results suggested that MMT was effective in increasing consistent condom use and thereby reducing any form of unprotected sex.

Table 4.20: Summary of Effect Sizes for Condom Use for Baseline, Endline and at Followup in the Experimental and Control Groups

<table>
<thead>
<tr>
<th>Experimental and Control</th>
<th>Pre-post-test (n=94)</th>
<th>95%CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condom use</td>
<td>Effect sizes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.390</td>
<td>-0.483–0.396</td>
</tr>
</tbody>
</table>

Table 4.20 presents the summary of effect sizes for condom use for baseline and endline assessment. The effect size value for condom use was found to be $d = -0.390; 95\% \text{ CI: } -0.483 – -0.396$ which was a large effect size. The above results point out that even though the two groups used condoms, the experimental group’s use of the same was more frequent and consistent, with a medium effect of $d = 0.483$.

4.6.4 Mean Outcome Differences in Condom Use

The study sought to establish the paired sample T-test mean outcome differences in condom use. Results are presented in Table 4.21.
Table 4.21: Paired Sample T-test Mean Outcome Differences in Condom Use

<table>
<thead>
<tr>
<th>Difference in Differences</th>
<th>Mean difference scores (SD)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (n=94)</td>
<td>0.02128(0.65548)</td>
<td>p=0.754</td>
</tr>
<tr>
<td>Experimental (n=94)</td>
<td>0.27660(0.66242)</td>
<td>p&lt;0.001</td>
</tr>
</tbody>
</table>

Table 4.21 presents paired sample T-test mean outcome differences in distribution of consistent condom use at baseline and endline. For the control group, the study findings showed that the mean difference scores between baseline and endline was 0.02128 (±0.65548 SD) which was not statistically significant at p=0.754. For the experimental group, the mean difference scores were 0.27660 (±0.66242 SD) which statistically significant at p<0.0001. These results signify that the MMT intervention led to an increase in consistent condom use resulting in a reduction in the risk of contracting HIV and AIDS. This means that as far as MMT efficacy is concerned it can be inferred that the intervention was effective in lowering the risk of contracting HIV and AIDS in the experimental group, in contrast to the control group.

The study also sought to establish the DID estimator. Results are presented in Table 4.22 below.

Table 4.22: DID Estimates in Increasing Consistent Condom Use at Endline Assessment

<table>
<thead>
<tr>
<th>Experiment and Control</th>
<th><strong>(1)</strong> Difference-in Differences Estimates (Group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline - Endline</td>
<td>0.494 (p &lt; 0.003**)</td>
</tr>
</tbody>
</table>

* statistically significant

Table 4.22 presents the difference in difference estimates in increasing consistent condom use at endline. DID was calculated by deducting total baseline results-total endline result for the groups which gives the difference in difference score of 0.0494 at p=0.003. This is based on the premise that changes in consistent condom use in one group over time depend on changes in the other group if the intervention was not implemented. These results showed an increase in consistent condom use over the two
time periods in the experimental group depicting an increase in consistent condom use after MMT intervention. The denotation here is that the intervention was effective as it contributed to an increase in frequency of consistent condom use, as well as reduction of unprotected sex with multiple partners.

The study sought to establish the mean outcome difference for consistent condom use after the intervention. Results are presented in Table 4.23 below.

<table>
<thead>
<tr>
<th></th>
<th>Mean difference scores (SD)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (n=94)</td>
<td>0.02128 (0.65548)</td>
<td>p =0.754</td>
</tr>
<tr>
<td>Experimental (n=94)</td>
<td>0.27660 (0.66242)</td>
<td>p &lt; 0.001</td>
</tr>
</tbody>
</table>

Table 4.23 presents the paired t-test mean outcome differences in consistent condom use. Paired sample t-test was used to establish whether there was a statistical significant difference in the paired mean scores at baseline and endline. In the control group, the study showed that the mean difference score between baseline and endline was 0.02128 (+ 0.65548 SD). However, this score was not statistically significant (p=0.754). For the experimental group, the mean difference scores between baseline and endline assessment was 0.27660 (+ 0.66242 SD) and this was statistically significant (p<0.0001). These results signify that MMT intervention led to an increase in consistent condom use resulting in a reduction in the risk of behavior that could lead to getting infected with HIV. It can subsequently be inferred that the intervention was effective in reducing the risk of contracting HIV and AIDS in the experimental group compared to the control group.

4.6.5 Mean Estimates of Sexual Partners for the Control and Experimental Groups.

The study sought to establish the numbers and types partners respondents had sex with, whether commercial, male or female, non-commercial or other non-regular
partners in the last month. The higher the number of sexual partners one had, the higher the chances they had of getting infected with HIV and AIDS virus. In this study, sample paired T-test was used to measure the statistical significance in the paired mean difference scores as seen in Table 4.24 below.

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Time</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (n=94)</td>
<td>Baseline</td>
<td>2.71</td>
<td>2.924</td>
<td>( P = 0.861 )</td>
</tr>
<tr>
<td></td>
<td>Endline</td>
<td>5.09</td>
<td>3.528</td>
<td></td>
</tr>
<tr>
<td>Experimental (n=94)</td>
<td>Baseline</td>
<td>2.97</td>
<td>2.499</td>
<td>( P &lt;0.001 )</td>
</tr>
<tr>
<td></td>
<td>Baseline</td>
<td>2.89</td>
<td>3.036</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.24 presents the mean scores for both control and experimental groups in relation to sexual partners. The mean difference scores for control group were 2.71 (+2.924) and 5.09 (+3.528 SD), \( p<0.001 \); for the experimental group, the mean difference scores were 2.97 (+2.499 SD) and 2.89 (+3.036 SD), \( p=0.861 \), hence not statistically significant. The group mean scores for sexual partners showed a significant difference between the experimental group at \( p<0.001 \) and the control group at \( p=0.861 \). This implied that the intervention influenced reduction in the number of sexual partners.

Further, a graphical profile plot was done to show the impact of the interventions on the mean as seen in Figure 4.2.
Figure 4.2: Sexual Partners’ Profile Plot

Figure 4.2 reveals a sharp rise in the number of sexual partners in the control group while the experimental group had a significant decrease in the same. These findings demonstrate that the MMT skills intervention was effective in sexual partners’ reduction. In the control group, a steady rise was noted in the mean number of sexual partners from 2.72 (+2.924 SD) at baseline to 5.09 (+3.528 SD) at endline. The experimental group had a relatively significant decline with a mean of 2.97 (+2.499 SD) at baseline and 2.89 (+3.036 SD) at endline.

<table>
<thead>
<tr>
<th>Grouping</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexual partners–Baseline</td>
<td>Control</td>
<td>2.72</td>
<td>2.924</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>2.97</td>
<td>2.499</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2.84</td>
<td>2.716</td>
</tr>
<tr>
<td>Sexual partners–Endline</td>
<td>Control</td>
<td>5.09</td>
<td>3.528</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>2.79</td>
<td>2.936</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3.99</td>
<td>3.461</td>
</tr>
</tbody>
</table>
Table 4.25 presents the descriptive analysis of number of sexual partners at baseline and endline among the control and experimental groups. At baseline, the control group sexual partners mean was 2.72 (+2.924 SD) compared to experimental group sexual partner’s mean which was 2.97 (+2.499 SD). Total mean and Standard deviation for sexual partners in both groups at baseline was 2.84 (+2.716 SD). Similarly at endline; control group sexual partners’ mean and standard deviation was 5.09 (+3.528 SD) while for the experimental group mean and standard deviation at endline was 2.79 (+2.936 SD) respectively. The total mean and standard deviation for both study groups was 3.99 (+3.461 SD) respectively.

This study suggests that Multimodal intervention informed the reduction in risky sexual acts as a result of avoidance of multiple sexual partners and consistent condom use as advocated in MMT intervention.

Table 4.26: DID Estimates in Relation to Number of Sexual Partners

<table>
<thead>
<tr>
<th></th>
<th>Estimates of control and experimental groups in sexual partners reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>**(1) Pre-post-test</td>
<td>Difference in Differences Estimates (Group*Post-treatment)</td>
</tr>
<tr>
<td>Experimental group</td>
<td>(2.71 + 2.924SD) and (5.09 + 3.528SD - 0.643 (p &lt; 0.0001).</td>
</tr>
<tr>
<td>Control group</td>
<td>(-0.665; 95% CI: -0.191 – -0.140) (p=0.861)</td>
</tr>
</tbody>
</table>

*p-value generated using Pearson’s $\chi^2$ tests for independence

Table 4.26 presents the DID estimates of control and experimental groups at both at pre-test and post-test. The Difference in difference (DID) estimate were as follows: the experimental group -0.643 (p<0.0001) against the control group (-0665; 95% CI:-0.191-0.140) (p=0.861). The DID showed a declining trend in experimental and control group in sexual partners over the two-time periods in the two groups depicting a decrease in the number of sexual partners in both groups. However, the experimental group had higher decrease (p<0.0001) compared to the control group p=0.861. This is statistically significant and demonstrates the effectiveness of the
MMT intervention in lowering multiple sexual partners, reducing risky sexual behaviour; leading to a decline in HIV and AIDS transmission.

**Table 4.27: Sexual Partners Mean Scores at Baseline and Endline**

<table>
<thead>
<tr>
<th></th>
<th>Mean scores (SD)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Endline</td>
<td></td>
</tr>
<tr>
<td>Control (n=94)</td>
<td>2.71 (2.924)</td>
<td>5.09 (3.528)</td>
<td></td>
</tr>
<tr>
<td>Experimental (n=94)</td>
<td>2.97 (2.499)</td>
<td>2.89 (3.036)</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.27 presents the descriptive analysis of number of sexual partners at baseline and endline. Difference in Difference (DID) showed a declining trend in sexual partners indicating that multimodal intervention was effective leading to a reduction in multiple sexual partners and thus reducing risk of getting infected or infecting others with HIV and AIDS.

At baseline, the experimental group’s sexual partner mean score was 2.97 (+2.499 SD) while control group’s score was 2.71 (+2.924 SD). At endline experimental group scores were 2.89(+ 3.036 SD) while the control group’s score was 5.09 (+3.528 SD).

The Cohen’s d effect size value for sexual partners was \( d=0.665 \): 95% CI -0.191—0.140; this was a statistically significant effect size. This was a large effect size proving the efficacy of MMT intervention that led to sexual partners’ number decline.

4.6.5 Effect Sizes for Sexual Partners from Baseline to Endline

Table 4.28 below presents the effect sizes of respondents sexual partners from baseline to endline.

**Table 4.28: Effect Sizes for Sexual Partners from Baseline to Endline**

<table>
<thead>
<tr>
<th></th>
<th>Effect Sizes</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Control (n=94)</td>
<td>Experimental (n=94)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.71 (2.924)</td>
<td>2.97 (2.499)</td>
<td>2.89 (3.036)</td>
</tr>
<tr>
<td>Sexual partners</td>
<td>-0.665</td>
<td>95% CI</td>
<td>-0.191—0.140</td>
</tr>
</tbody>
</table>
Table 4.28 presents the effect sizes for sexual partners from baseline, endline. Cohen d effect size for sexual partners was calculated as mean at baseline minus mean at endline. The effect size was compared and it showed a statistically significant effect size. The Cohen $d$ effect size value for sexual partners was $d = -0.665$; 95% CI: -0.191 – -0.140 which was also a large effect size. These results indicated that the intervention influenced the reduction in the number of sexual partners among the experimental group at $p<0.0001$ in the experimental group while the control group showed an increase in the number of sexual partners at $p=0.861$. These findings demonstrate the efficacy of the MMT intervention in reducing sexual partners.

The DID results showed a reduction in number of sexual partners in the two-time periods in the two groups. Over all experimental group which had a higher decrease in multiple sexual partners ($p<0.0001$) against $p=0.861$ of the control group showed that the results were statistically significant. This showed the effectiveness of MMT in reducing the number of multiple sexual partners in the experimental group and thereby reducing risky sex behaviour which ultimately translated into reduced HIV and AIDS transmission.

4.7 Post Intervention Follow-up Assessment

A follow-up assessment was done one month after the intervention. The purpose was to assess the sustainability of the MMT BASIC ID modality skills on risky behaviour change among the MSM. This was done for the two groups. For the experimental group, the purpose was to ascertain sustenance of the skills learnt in the intervention. Although the control group was not exposed to the intervention, the follow-up assessment was also done for comparative purposes based on the baseline and endline assessment scores. The focus was on HIV and AIDS transmission risky acts during the previous 30 days. Data was analyzed using Pearson’s Chi square as presented in
Table 4.28 gives the final assessment data on the analysis of the scores on consistent condom use and multiple sexual partners.

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th></th>
<th>Experimental</th>
<th></th>
<th>Chi sq.</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had unprotected sex in the last 30 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. No</td>
<td>17</td>
<td>60.7%</td>
<td>89</td>
<td>94%</td>
<td>1.511</td>
<td>0.029*</td>
</tr>
<tr>
<td>Yes</td>
<td>53</td>
<td>46.1%</td>
<td>5</td>
<td>6.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Sex partners protected?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>54/94</td>
<td>47.9%</td>
<td>87/94</td>
<td>92.6%</td>
<td>1.009</td>
<td>0.0204*</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>66.7%</td>
<td>4</td>
<td>33.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>60.0%</td>
<td>2</td>
<td>40.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sex partners unprotected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>53</td>
<td>46.1%</td>
<td>86</td>
<td>92.4%</td>
<td>2.585</td>
<td>0.026*</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>66.7%</td>
<td>4</td>
<td>33.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>66.7%</td>
<td>2</td>
<td>33.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Male sex HIV positive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>52</td>
<td>40.0%</td>
<td>91</td>
<td>96.8%</td>
<td>3.114</td>
<td>0.050</td>
</tr>
<tr>
<td>1</td>
<td>81</td>
<td>47.1%</td>
<td>1</td>
<td>25.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>66.7%</td>
<td>1</td>
<td>33.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Your sex HIV negative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>70</td>
<td>48.6%</td>
<td>74</td>
<td>78.7%</td>
<td>1.167</td>
<td>0.039</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>53.8%</td>
<td>6</td>
<td>46.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>50.0%</td>
<td>10</td>
<td>50.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Your sex never</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>77</td>
<td>48.1%</td>
<td>62</td>
<td>65.9%</td>
<td>3.728</td>
<td>0.038</td>
</tr>
<tr>
<td>1</td>
<td>14</td>
<td>53.8%</td>
<td>12</td>
<td>46.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>50.0%</td>
<td>10</td>
<td>50.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Lived with partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>54</td>
<td>50.0%</td>
<td>54</td>
<td>57.4%</td>
<td>1.009</td>
<td>0.0604</td>
</tr>
<tr>
<td>Yes</td>
<td>40</td>
<td>50.0%</td>
<td>40</td>
<td>50.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Long term partners</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>52</td>
<td>50.0%</td>
<td>12</td>
<td>0.000</td>
<td>0.001*</td>
<td></td>
</tr>
</tbody>
</table>
Table 4.29: presents analysis of Scores on the 30 days follow-up after the MMT intervention. The respondents were asked whether they had unprotected sex in the previous 30 days, 89 (94%) of the experimental group respondents indicated no while 53 (46.1%) of the control group respondents indicated yes. There was a statistically significant difference between the two groups at p=0.029. On whether respondents had unprotected sex with multiple sexual partners, 87 (92%) from the experimental group and 54 (57%) from the control group said no. The difference was statistically significant at p=0.0204. In relation to whether they had engaged in unprotected male sex with HIV positive long-term partners, 91 (52.9%) from the experimental group said no, while 52 (40.0%) the control group answered yes. The difference was statistically significant at p=0.050.

Respondents were asked whether they had long-term sex partners, 82 (84%) from the experimental group said yes while 12 (16%) from the control said no. The difference was statistically significant at p=0.001. With regard to whether they had anal sex with more than one partner and used a condom, 91 (51%) from the experimental group answered yes while 7 (48.9%) from the control said no. The difference was statistically significant at p=0.019. Concerning whether they had unprotected sex with anonymous paying partners, 89 (53.4%) from the experimental group answered no
while 5 (33.3%) said no. The difference was not statistically significant at p=0.46. Regarding the number of times condoms were used with anonymous paying partners 91 (51.1%) from the experimental group answered yes while all respondents in the control group answered all the times. The difference was statistically significant at p=0.019.

4.8 Summary of Key Findings

The study findings have been presented, analysed and interpreted in the foregoing. The study has brought to the fore several important key findings as follows:

1. The socio demographic characteristics which were found to be predictors of HIV and AIDS risky sexual behaviour among MSM in Nairobi were age, religion, education, and marital status (p<0.05; 0.02).

2. Young adults aged 25-35 (48.7%), Christians (87.8%), and respondents with secondary education (54.7%) were found to be more involved in unprotected sex at p>0.05. However, married respondents were found to have a higher likelihood of consistent use of the condom at p<0.001.

3. In regard to the perceptions of the MSM in relation to MMT BASIC ID modality skills in the reduction of HIV and AIDS behaviour risk, 94 (100%) rated the intervention as effective, 94 (100%) found it to be in touch with their sexual impulse and managing themselves, 84% indicated that they felt empowered to realize their potential, and 79% reported they felt empowered to influence others in HIV and AIDS prevention.

4. Sexual impulse, MSM social affiliations, and HAART were reported to be the greatest barriers to HIV and AIDS risky behaviour change among the respondents at p=0.022.
5. Respondents who were found to be already doing something to prevent HIV and AIDS spread were more likely to use a condom consistently and avoid multiple partners (p=0.004) compared to those who were not.

6. Regarding consistent condom use, the rate of increase in scores were higher in the experimental group at \( p<0.001 \) compared to the control group whose scores were not statistically different at \( p=0.754 \). One can conclude that MMT modality skills were effective in enhancing consistent use of condoms among respondents.

7. With regard to sexual partners’ group’s mean estimates, there was no statistically significant difference between baseline and endline assessment at \( p=0.861 \) for the control group. However, there was a statistically significant difference in the scores of the respondents in the experimental group at \( p<0.001 \).

8. The study findings also revealed that MMT BASIC ID modality skills was associated with reduction of sexual partners among the experimental group at \( p<0.0001 \).

9. MMT skills intervention was found to be effective in the prevention of HIV and AIDS among MSM at the follow-up assessment as it led to preventing unprotected sex through the consistent use of condoms and lowering the quantity of sex partners. The implication is that the MMT BASIC ID modality skills intervention is efficacious in reducing HIV and AIDS transmission risky behaviours.

4.9 Summary

The aim of this study was to assess the efficacy of MMT in HIV and AIDS transmission through reduction of risky behaviour. This chapter has focused on presentation, analysis, and interpretation of the data obtained from the study respondents. This has been done in line with the objectives of the study. The findings
have demonstrated that Multimodal Therapy, as an intervention, was effective in reduction of HIV and AIDS risky behaviour through consistent condom use and avoidance of multiple partners. The next chapter will discuss the key findings in relation with findings of previous research.
5.1 Introduction

This chapter discusses the key findings of the study in line with the study objectives. The chapter also presents the study recommendations, areas of further study, limitations of the study and conclusions. The main aim of the study was to establish the efficacy of the multimodal therapy in HIV and AIDS risky sexual behaviour reduction among Men who have sex with men in Nairobi County, Kenya. MMT was administered only to the experimental group while control group was not.

5.2 Discussions

This study was grounded on the social cognitive and learning theory (Bandura, 1977) and the health belief model (Rosenstock et al., 1994). The theoretical framework points to the acquisition and implementation of behaviour from the ecosystem via paying attention and demonstrating; these behavior can be unlearned. The social cognitive learning theory by Bandura conceptualises that hazardous behaviour happens across phases occasioned by psychosocial-ecological aspects.

The HBM proposes that the belief that a person has in the seriousness of a personal health risk, in addition to the person’s perception of the potency of the recommended health behaviour will predict the possibility of the person taking up the said behaviour (LaMotte, 2019a). The social cognition theory enhances this study’s theoretical framework as it highlights the ecological impacts, as well as the perceptions of the human mind to enlighten on character and temperament addressed by the multimodal intervention. The theories were appropriate for this study since MSM behaviour is influenced by many systems.
5.2.1 Predictors of HIV and AIDS Risky Sexual Behaviour

The first objective sought to identify the socio demographic characteristics that would predict risky behaviours that would lead to HIV and AIDS infection. The logistic regression analysis revealed that respondents (57%) who were deliberately trying to reduce chances of getting infected or transmitting HIV and AIDS were also highly likely to use condoms in a consistent manner and have few sexual partners (P=0.021). This indicated that the respondents were their own biggest obstacles in relation to changing their HIV and AIDS risky behaviour.

With regard to what the respondents perceived as their greatest barrier to risky sexual behaviour change, 63.6% of the respondents indicated sexual impulse and social affiliations; 43% indicated peer group acceptance; and 50% mentioned sexual impulse and social affiliations. HAART availability was identified as the greatest perceived barrier at 71.5%. This could be because the MMT intervention addresses the MSM psychosocial-sexual issues from the grassroots, thereby unearthing these issues. These were assessed because reducing risky behaviour is evident when one changes their sexual practices and believes they can control their sexual impulses.

The study revealed a decrease in HIV and AIDS transmission acts in the experimental group at the follow up, 30 days after completion of the intervention, compared to the control group (P=0.007). The findings also revealed that there was reduced unprotected sex and indication of fewer paying and non-paying partners in the experimental group compared to the control group.

This underscores the effectiveness of MMT BASIC ID intervention to the respondents with regard to HIV acquisition, and also affirms the value of health seeking which was part of this study’s emphasis among others. This concurs with a study conducted
by Koumagnanou et al. (2011) who undertook a venue based study on HIV and AIDS prevention among in Togo and Senegal. Koumagnanou and his team suggested that HIV and AIDS transmission in their study was compounded by MSM fear of criminalization, social exclusion and unfriendly health providers. Further, according to the researchers there was no confidentiality around the intervention environment. Discrimination, perceived stigma and shaming forced the MSM to withdraw from treatment seeking from the designated health providers. This forced those living with HIV to keep to themselves without engaging the health providers. This denied the MSM HCT services among others that they desperately needed. Soon there was an upsurge of HIV and AIDS infections and other STIs in Togo and Senegal due to the perception of stigma, discrimination and shaming.

In the study, Koumagnanou et al. (2011) introduced a venue-based combined intervention of behaviour, biomedical and structural interventions. The findings showed that this was important to ensure that MSM received consistent HCT and prevention programs in a safe, caring and confidential environment. The intervention administrators ensured that respondents with HIV and AIDS were engaged in the continuum of HIV and AIDS care with safe settings to receive care and protection for themselves and their partners.

Through Multimodal Intervention, this study modeled Koumagnanou et al. (2011) combined intervention of behaviour, biomedical and structural interventions that led to risky behaviour change in a venue based setting that ensured safety. The intervention was conducted at Hoymas MSM centre in Nairobi, Kenya between beginning of February and end of May 2017. This ensured safety and security of the respondents and also provided a relaxed atmosphere that favoured freedom of
association and expression. Safety and security is key in MSM because of their vulnerability to social exclusion and harm.

Security and safety to MSM is key in reaching them for HIV and AIDS prevention among themselves and the other communities with whom they relate with. Social inclusion is another aspect that is very important in the MSM risk reduction intervention. These aspects assure them of emotional stability, security and safety and freedom from social exclusion and stigmatization.

Regarding education, Christian faith and age were socio-demographic predictors of risky behavior that could lead to HIV and AIDS infection among the MSM. This was because 54.7% of the respondents had secondary school education level, 87.8% subscribed to the Christian faith, and 48.7% were 25 years old and below. These findings surprised the researcher given that the Christian faith is openly opposed to homosexuality (MSM). The Bible does not say much about Homosexuality. However, the brief it says clearly shows disapproval. It is more of condemnation than approval.

The Bible in the book of Leviticus 18: 22 (The New International Version) and Leviticus 20: 13, several detestable activities are listed and one of them is homosexuality. Others in this list are sexual relations between close relatives, offering children as sacrifice, sexual relations with animals and others. Chapter. 18 verse 22 says “Do not practice Homosexuality. It is a detestable sin”. Verse 13 states that “The penalty for Homosexual is death to both parties”. Romans 1:26-27 in the New Testament is more explicit about homosexuality and whenever homosexuality is mentioned in either Old or New Testament, it is mentioned negatively.

In reference to the above scriptures, Martos, Wilson, and Meyer (2017) explain that homosexuality came to be associated with the HIV and AIDS epidemic. Further, even without the Judeo-Christo rules in Leviticus, homosexuals are among the greatest
victims of homosexuality. Homosexual orientation has made this population be vulnerable to numerous sexual related diseases with HIV and AIDS as key among them. They are regarded as odd people in many societies particularly in Sub-Saharan Africa. Many live in poverty and fear of attack. The homosexual community are socially excluded from non-homosexuals, criminalised in many countries and despised. This forces them to keep to themselves, and as they do that, they continue with their sex among themselves.

According to Martos et al. (2017), many of the homosexuals are extremely unhappy as demonstrated by the few times they go to the streets and challenge the government to come to their aid. They further explain that the homosexual orientation tends to cloud every area of their lives although individuals are affected in uniquely different ways. The homosexual orientation influences MSM in the following areas among others: the individual’s lifestyle, self-concept, interpersonal and family relationships as well as the relationship they have with GOD. Moreover, many of the homosexuals live in a communal kind of set up called Communes. In reference to definition of MSM and MSM Populations, the publication states that MSM are identified by their homosexual community affiliation, space, sexual desire and behaviour.

These inform the MSM conceptual framework which represents their points of connection, hence, no matter how MSM identify themselves, sex between them brings them together. Further, the publication reports that MSM speak the language of sexual behaviour and desire for and between them. The MSM do understand those desires, and the dynamics that underpin them. Thus, identity, space, community and sexual desire are key points of connection between MSM’s. As a result, membership of MSM to affiliation organizations are key predictors of risky sexual behaviour not only among themselves but also among other populations they interact with. The challenge
is that they are low in health seeking and condom use while they engage in anal sex among themselves and sometimes with others in the general population that they relate with.

According to Willis (2002), unprotected anal sex is riskier than other sexual acts because of the thin lining of the anal wall that tears during sexual acts and exposes the MSM to HIV and AIDS viruses’ transmission. According to Wilton (2014), anal lining and rectal fluids carry the greatest risk because of tears in the thin rectal lining. The membership of MSM affiliation organization is therefore a key predictor of risky sexual behavior as they demand one to have had anal sex as part of membership requirements. Thus, getting their organizations to adopt MMT was a breakthrough in regard to the reduction in the transmission of HIV and AIDS as they realized their mistake. The MMT intervention entails the affect, which includes sexual impulse control, correction of irrational beliefs, knowing one’s triggers, avoiding loss of emotional control and taking charge of their drives as well as all their five common senses mainly personality and temperament (Corey, 2009).

This resonates with Morin et al. (2007) who conducted research to reduce the risk of transmission of HIV and AIDS among people living with HIV in Los Angeles, California, San Francisco, and New York. This was a randomized controlled study in a private community-based organization setting. The study findings demonstrated fewer HIV transmission acts in the experimental group at P< 0.001 compared to the control group which had P=0.007 at three months follow-up. These findings were the same with the current study despite the interventions and the venues being different. The present study demonstrated reduced unprotected sex in the experimental group as a result of consistent use of condoms and avoidance of multiple sexual partners’ contrary to the control group.
In relation to discussing HIV and AIDS and other STIs with non-paying partners and paying partners as predictors of risky sexual behaviour in the current Multimodal intervention; those who answered affirmatively comprised of 56.6% from the experimental group and 43.4% from the control group. This study takes cognizance of the fact that these respondents are commercial sex workers and therefore reducing paying partners’ means reduced income. Therefore, this study recommends that MSM be empowered with alternative ways of earning income that does not depend on sex sale. Further, in the experimental group, 56.6% of respondents answered yes to having discussed HIV and AIDS with their paying and non-paying partners while only 43.4% in the control group responded with a yes. This is low considering that this is a reduction in the respondents’ source of livelihood making these findings significant.

The logistic regression revealed that doing the best to reduce HIV transmission through consistent condom use was likely to lead to reduction in sexual partners which translates to less income. Therefore, consistent condom use becomes the only way out. This opportunity was cited by participants as the key predictor of risky sexual behaviour and also as a key barrier to risky sexual behaviour change.

With regard to risky sexual behaviour change starting with the individual respondent and avoiding sexual arousal triggers to risky behaviour, the experimental and control groups achieved 59.5% and 40.5% respectively at baseline assessment. Although social affiliation and networks were shown to be key predictors of risky behaviour, it also played a crucial psychological role in the MSM as a socially excluded group. This is especially so in their social and emotional support while giving them a sense of belonging (amfAR, 2008).

According to amfAR (2008), people with strong social relations were more likely to change behaviors that would be considered health threatening than those with no or
weaker social relations. MSM have strong ties, of necessity, to help them cope with social exclusion from the general population. Living in private settings in the community-based organizations becomes a key predictor to risky behaviour acts because such settings meet their basic needs of identity, space, community sex, and behaviour. These social norms are suggestive that healthy behaviour in the community and values within the network are lacking, thus, exposing the MSM to more risk of contracting HIV and AIDS.

On whether they discussed HIV and AIDS with commercial partners, 52.3% of the respondents from the experimental group responded affirmatively while 47.7% (P<0.002) from the control group responded with a no. These findings demonstrated that MMT influenced reduction of risky sexual behaviours which translates into reduced HIV transmission possibilities in the experimental group compared to respondents in the control group. There was a small margin between the two groups. Nonetheless, social networks and affiliations are defined in terms of social contact and between the two respondent groups and their cooperate impact on behaviour change.

With Regards to expressing preference for safer sex only, 66.4% of the experimental group respondents responded positively, while 33.6% from control group responded positively (P<0.026). This showed that the intervention was efficacious leading to risky behaviour reduction among respondents in the experimental group. On whether they were able to avoid sexually risky situations, 56.3% of the respondents from the experimental group agreed against 41.7% from the control group (P< 0.044). This was suggestive of how important social affiliations and networks are to the MSM, and seems to take the place of a home that has parents who represent safety, security, identity, and belonging. These findings are consistent with amfAR’s (2008)
suggestion that the MSM community affiliations represent parental figures to them. Further, Singh et al. (2012) suggested that in reaching people considered high risk, vulnerable, as well as stigmatized people (MSM. Included), venue-based mediations are highly effective.

With regards to respondents’ background characteristics, Pearson’s rank correlation coefficient showed a low negative correlation between age and both consistent use of condoms and multiple partners at r=0.164. Although this is not statistically significant, the p value shows clinical significance. This demonstrated that the age of the respondents at the time they discovered their sexual orientation had an effect on risky behaviour in both consistent use of condoms and multiple sex partners, hence, a predictor of HIV risky behaviour (p=0.024).

On multiple sexual partners scores, a constant ascent was noted in the mean number of partners from baseline and endline assessment in the control group: from 2.7 (+2.924 SD) to a mean of 5.09 (+3.528 SD). A downturn in the same was recorded in the experimental group at P<0.0001. This suggests that MMT skills were effective in reducing the number of sexual partners.

A statistically significant difference was found between baseline and endline scores in sexual partners in both the control (0.861) and experimental (0.0001) groups. This showed a big decrease in number of sexual partners. Such a result may be attributable to the MMT intervention mode of delivery that includes one-on-one therapy, assessment, as well as group sessions skills training, and discussions. This was so despite the fact that many respondents in the experimental group earned their living through sex sale or were MSM’s. This also showed a decrease in multiple sexual partners in the experimental group while the control group scores were slightly elevated.
The unusual reporting of both control and experimental groups posting decreased scores could be attributed to optimistic biased self-reporting often observed in personal risk assessment. This is where the respondent consciously reports what he or she wants to be believed rather than the reality. In some cases, having multiple sexual partners would appear degrading and as such may be presented to please the researcher particularly if the respondents were looking for favors from the researcher. This is common with personal risk issues and suggests that the sense of personal risk has many antecedents (Rotheram-Borus et al., 2009).

The study revealed that the mean difference score between baseline and endline in the control group was 0.074 (±4.104 SD) (P=0.861) compared to the experimental group which was -2.374 (3.239) (P<0.0001). The respondent’s score on sexual partners was d=0.665; 95% CI -0.191 - 0.140. This was a great effect size showing that the intervention (MMT) contributed to a downturn in the number of sexual partners P<0.0001 for the experimental group whilst an increase was seen in the control group (P=0.861).

These results point out that the MMT intervention encouraged MSM to use condoms consistently and also to reduce the number of sexual partners in order to prevent HIV and AIDS transmission. Consequently, it was an affirmation of the MMT intervention’s effectiveness in the prevention of HIV and AIDS via reduction of risky sexual behaviour. Similarly, Rotheram-Borus et al. (2009) study found that respondents in the experimental group reported fewer HIV and AIDS transmission risks acts compared to the control group.

The above findings reveal a positive correlation in the participants’ sexual partners number and consistent use of condoms. The study also noted consistent condom use followed by a decline in sexual partners after the MMT intervention. A low linear
relationship was found between numbers of sexual partners and consistent use of condoms ($r=0.019$) although this was not significant statistically ($p=0.801$). Furthermore, the study observed an association between consistent use of condoms and a decrease in many partners as predictors of sexual behaviour related to HIV and AIDS prevention. Further, age, religion, education, and marriage to women were identified as predictors of risky sexual behaviour. Another finding was that MSM were more vulnerable to HIV and AIDS infection compared to other populations because of the culture of having many sexual partners and untreated sexually transmitted infections.

With regard to age as a predictor of risky sexual behaviour, the respondents’ age in years was between 18 and 49 years with a mean of 25.71 ($\pm 5.392$ SD) and a variance of 20.078. The age at discovery of their orientation ranged between 2-30 years, with a mean of 15.77 ($\pm 4.099$ SD) and variance of 16.804. The number of sexual partners among the population in the previous month ranged between 0.15, a mean of 2.95 ($\pm 2.538$ SD) and a variance of 6.442. Thus, age was a predictor of risky sexual behaviour.

These findings resonate with those of a research on HIV and AIDS prevention carried out among MSM in Mombasa by Sanders et al. (2013). The research showed that prevalence was considerably higher among the very young men than among adult men in the general population. Among these MSM were male (children) sex workers who were already infected with HIV and AIDS before their 17th birthday, as a result of practicing unprotected anal sex to earn a living (Sanders et al., 2013). It is evident from these discussions that anal sex is rampant among young boys and this has an adverse effect on the boy child. This would mean that the boy child was highly vulnerable to HIV and AIDS infection and would in turn go on to infect fellow female
girlfriends because it was not expected that such young boys could be infected at such a young age.

Therefore, this study’s results suggest that the key predictors of HIV and AIDS risky behaviour include age, sexual orientation, membership in the MSM organization, and the belief in HAART’s ability to cure and prevent HIV and AIDS infection (P<0.001). The study has also identified poverty and sexual impulse as key predictors to risky sexual behaviours and also the greatest barriers to the risky sexual behaviour change (P=0.022) (Rotheram-Borus et al., 2009). In that study, the Bolus team examined the factors that explained the effects of cognitive behaviour intervention on HIV and AIDS transmission prevention among MSM in the USA. The study looked at the dynamics explaining the effects of CBI on the prevention of transmission of HIV and AIDS.

In the present study, bivariate analysis showed that psychosocial characteristics had an influence on consistent condom use and reduction of multiple sexual partners. Those who were doing all they could in order to decrease possibilities of spreading or getting infected with HIV and AIDS in one area were shown to also use the other prevention methods. Hence, those who reported using the condom consistently were also shown to keep only one partner (P=0.004).

These findings emphasize the importance of psychosocial variables in MSM’s sexual decision making, as well as in their emotional behaviour moderation. These were covered in depth during MMT intervention administration. In this regard, the above findings agree with those of a venue-based intervention study which was based on cognitive behaviour (Smith et al., 2009).
5.2.2 MSM Perception of MMT Intervention

The second objective of this study sought to find out the perceptions of the MSM with regard to MMT BASIC ID modality skills in the reduction of HIV and AIDS risk behaviour. This was assessed using the following five factors: MMT skills efficacy in addressing sexual risky behaviour, challenges in implementing MMT skills, difficulties perceived in applying MMT skills, behaviour changes expected with use of MMT skills, and MMT influence on MSM’s Sexual impulse. These factors were presented to the experimental group respondents after they had received the MMT intervention after a period of 10 weeks. The experimental group respondents’ rating of the MMT BASIC ID skills was as follows: 100% rated it as excellent in reducing the risk of contracting or transmitting HIV and AIDS through behaviour change; 100% rated it as excellent in helping them get in touch with their risky sexual behaviour through BASIC ID modality skills; 76.6% rated it as exceptional for influencing others; and 84.0% applauded it for empowering others to influence their peers on benefits of risky sexual behaviour change.

The implication here is that the respondents in the experimental group were certain that behaviour changes can reduce their risk of getting infected with HIV and AIDS. Knowledge gained from the MMT BASIC ID skills on HIV and AIDS risky sexual behaviour reduction and belief in the efficacy of the MMT modality fosters preventive risk behaviour changes in MSM. This in turn empowered them in their sexual decision making. As such, MMT BASIC ID intervention if personalized would reduce sexual risky behaviour through conscious sexual decision making. Nevertheless, 40.4% of the respondents found it a challenge to adopt the multimodal intervention if their peers had not gone through the same. This is consistent with Masters and Burish (1987) view that the final decision to change risky behaviour rests with the client.
In this study, the MMT modality skills intervention guided the respondents in the behaviour to either change or retain their behavior after interacting with their determinants. Moreover, Bandura (1989) declares that humans aren’t without mind so that they can be controlled like robots. Rather, they think, reason, plan, dream, evaluate and value. In this respect, the respondents suggested that the programme should be taught as it is to all their peers. The majority (84.4%) of the respondents were certain that behaviour change resulting from MMT intervention would enable them to empower other MSM as they apply the intervention in their daily decision making. Moreover, the health belief model of Rosenstock et al. (1994) posit that behaviour change is determined by an individual’s beliefs about threats in his/her well-being and the belief in the effectiveness of the expected outcome. The Health belief model explains that health seeking behaviour is influenced by one’s perception of the threat paused by a health challenge and the value associated with action aimed at reducing the challenge.

In this study, 76.6% of the respondents rated MMT highly as very effective in influencing their changed view of unprotected sex. This demonstrates the efficacy of MMT intervention in reducing risky sexual behaviour beyond the study participants. The explanation for this would be that MMT intervention entails the correction of the following: irrational beliefs, deviant behaviour, misplaced affections, aroused emotional feelings, neuro-biochemical arousals, and other sensations. The flexibility of MMT BASIC ID intervention allows the MSM to adopt a specific modality which is appropriate for a given situation for each individual personalized regime. Further, by this researcher collaborating with the venue peer educators from the beginning of the intervention; it was possible to tailor the intervention to the specific groups such as the MSM’s in the venue.
This study also addressed specific MSM’s personality through the seven modalities envisaged. These are affect, behaviour, imagery, sensation, cognition, interpersonal relationships, and drug/biological, abbreviated as BASIC ID. This explains the efficacy of MMT intervention in meeting the needs of each MSM as demonstrated by Masters and Burish (1987). The program incorporated behaviour procedures such as relaxation training, self-control techniques, and social reinforcement within the context of each individual participant’s specific context.

5.2.3 Relationship between Psychosocial and Social-Demographic Characteristics of MSM in HIV and Aids Risky Sexual Behaviour Reduction

The third objective of this study sought to establish the relationship between the psychosocial and social demographic characteristics of MSM. An association was found between psychosocial factors and consistent condom use. This is seen in the fact that respondents who performed their best to lessen their likelihood of getting infected or spreading HIV were more likely to have used condoms in a consistent manner (P<0.004).

Potential barriers to sexual risky behaviour change were assessed through: difficulty with sexual impulse control (63.6%, p<0.022), MSM’s social affiliations and peer group acceptance (42.9%, p<0.022), HAART’s availability (57.1% p<0.022). These concepts were included because reduction in risky behavior depends on change of sexual patterns and perceived effort in applying suggested changes. Most participants raised a concern about controlling sexual impulse as a barrier to risk behaviour change during the intervention administration. This was reported to be the main reason for unprotected anal sex in this population. Social affiliations and peer group acceptance were also perceived as big potential barriers to behaviour change because of absence of social control structures within the organization.
The reason behind HAART being reported as a potential barrier to adoption of safer sexual practices could be from the false belief that biomedical technology will cure or prevent HIV and AIDS infection. HBM, which formed the conceptual framework for this study, posits that individuals’ understanding of the danger posed by a health risk, coupled with the importance they associate with the intervention have an effect on their health seeking behaviour. Therefore, it is reasonable to associate perceived risk of HIV and AIDS with influencing the adoption of MMT by the experimental group. The experimental group associated their perceived risk of getting infected with prevention, and hence adopted MMT intervention so as to avoid infection. Regardless, this was not the same with the control group who had not been exposed to the MMT intervention. Their endline risky sexual behaviour scores remained the same as the baseline and the responses to some questions pointed to a deterioration in sexual risk responses. On whether the respondents or their partners had used condoms consistently in the last month, the logistic regression showed that only 32% (0.608; 95% CI: 0.298-1.240 P=0.171) of respondents from the experimental group, and 16% (0.232; 95% CI:0.092-0.587 P=0.690) from the control responded in the affirmative. On the other hand, a modest positive effect of perceived risk was observed when avoidance of situations considered sexually risky was used as the multiple partners’ outcome (0.223; 95% CI: 0.051-1.072, p<0.041).

The respondents were generally certain that changes in behaviour can lessen their risk of HIV and AIDS: the highest possible scores ranged between 60-63%. However, regarding the probability of spreading or getting HIV and AIDS in comparison to other MSM, 56% of the respondents answered very likely (p=0.072). This would imply that the sense of personal risk may have many determinants, including between individual’s variability among other factors unique to venue-based intervention.
Moreover, adoption of preventive health behaviours consistently related to certain demographic characteristics, such as education and income was not replicated in the present study. This is contrary to expectations that perceived risk of HIV would lead to adoption of risky behaviour changes. This suggests that the sense of perceived personal risk has a variety of moderating factors shown through self-reporting in this study.

The dynamics of MSM related HIV and AIDS transmission is complex due to the stigma associated with the MSM lifestyle. This is despite the progress made in defining the social and behaviour determinants of a vulnerable community with individual risks among this group. This is particularly so in relation to their social exclusion and the insecurity that goes with it. The preceding notwithstanding, this study found that the MMT intervention was effective in influencing reduction in sexual behaviours that are risky through increasing levels of consistent use of condoms and lessening the number of sexual partners, as was observed in the experimental group; while these outcomes remained constant in the control group (p<0.004).

The MMT BASIC ID intervention is a fusion of both behavioral and cognitive therapeutic interventions. The behavioral aspects focused on overt behaviors while the cognitive aspects focused on mental facets and internal processes; making it possible to utilize both internal and external factors of treatment simultaneously. This demonstrates that the sense of personal risk has a variety of moderating factors, as was shown through self-reporting in this study. The final assessment data was collected 30 days (one month) after the intervention. The purpose was to assess the efficacy, as well as the retention of the intervention after cessation of the intervention. The outcomes measured at follow-up time were based on the MSM sexual behavior
with HIV-positive partners, HIV-negative partners, as well as partners with unknown HIV status during the previous 30 days. These outcomes were in percentages and measured consistent condom use and the number of multiple sex partners’ reduction.

Three questions were asked in this follow-up, whether one had unprotected anal sex, engagement with known or unknown sero-status partner and alcohol and drug use during sex acts in the last 30 days. Chi square test was used in the final data analysis of the follow-up. The assumption was that any unprotected sex with any number of partners with known or unknown status without condom use was defined as unprotected sex as a HIV transmission risk act. The results from the follow-up demonstrated the MMT was effective in enhancing consistent use of condoms, as well as lowering the number of sexual partners among MSM.

The assessments were at baseline, endline, and follow-up. The latter was done 30 days (one month) after the intervention. The key intervention effects assessed included consistent condom use in every sex act with any partner and decline in the quantity of sexual partners over the previous 30 days.

Significant findings from 30 days after the intervention and post-testing included the following: The experimental group reported fewer HIV and AIDS transmission risk acts; more consistent use of condoms and avoidance of multiple sexual partners. Findings showed that 93% of respondents from the experimental group used the condom consistently compared to the control group (60.7%). Similarly, the experimental group reported fewer risk sexual acts through multiple sex partners avoidance (52%), compared to the control group which was at 47% (p=0.0404). Regarding number of unprotected anal sex with HIV-positive long-term partners, 52.9% respondents from the experimental group answered no while 40.0% of the control group answered yes (p=0.050). Further, regarding having long-term sex
partners, 82 (84%) respondents from the experimental group responded with a yes while 12 (16%) from the control group said no (p=0.0001); on having anal sex with more than one partner with a condom, 91 (51%) respondents from the experimental group answered yes while 7 (48.9%) from the control said no (p=0.019). Concerning unprotected sex with anonymous paying partners, 89 (53.4%) respondents from the experimental group answered no while for the control 5 (33.3%) said no (p=0.046). Finally, in relation to the number of times condoms were used with anonymous paying partners, 91 (51.1%) respondents from the experimental group answered yes for use of condoms all the times (p=0.019). These findings are in agreement with Charania et al. (2011) and Rotheram-Borus et al. (2009).

5.2.4 Efficacy of Multimodal MMT BASIC ID Intervention

The last objective of this study sought to examine the effectiveness of MMT BASIC ID modality skills towards the reduction of HIV and AIDS risky behaviour among respondents. The key outcome measures of the study were consistent condom use and multiple sexual partners. Consistent condom use was defined in terms of consistent and correct use of condom for every sexual act (anal, oral, or vaginal act), with every partner. Correct and consistent condom use was a challenge in matters of either observation or measuring. However, it was one of the key topics addressed in the intervention training. This involved demonstration of wearing a condom correctly using dummy plastic male sex organs using Wilton (2014) instructions on correct and consistent condom use. Walton is the coordinator of the Biomedical Science of HIV Prevention Project at Canadian Aids Treatment Information Exchange (CATIE). Emphasis was also placed on MSM to always carry an unused condom with lubricant just in case it might be needed. Sexual matters are very private and personal and this study had to be content with self-reports and pen and paper questionnaire response.
This was one of the limitations of this study but mitigations of self-report gave this study the privacy and sensitivity, as well as the discrete nature of matters of sexual activities needed. Consistent Condom use scores were rated in terms of mean estimates for both groups: experimental and control. The trend in measurement for condom use through a time period (for mean proportion on consistent condom use at baseline and endline.

While there is no tool for measuring consistent and correct use of condoms or the sexual partners respondents had due to the private nature of sexual activities. Analysis was done comparing baseline and endline score based on self-reports. In this study, the effect sizes revealed no change in the use of condoms among respondents in the control group at baseline and endline while the experimental group showed an increase in use of condoms. Based on group’s mean, the experimental group showed an increase in use of condoms at a mean of 0.4362 (p<0.001, ±0.49857 SD) to a mean of 0.7128 (0.45490 SD) while the control group remained relatively constant at 0.4362 (SD: 0.49857, p=0.754) to 0.4574 ( ±0.50086 SD).

This is a big rise in consistent use of condoms in the intervention group while a decline in the same is seen in the control group; hence revealing the effectiveness of the MMT intervention in raising the levels of consistent use of the condom, and also in lessening the quantity of multiple sexual partners among respondents who undertook the intervention. This study assessed the effectiveness of MMT intervention in reducing HIV and AIDS risky sexual behaviour among MSM within the context of a venue-based setting. This provided evidence that vulnerable populations with risky sexual behaviours, stigmatized, and suffering social exclusion can be reached with HIV and AIDS prevention intervention.
The present study revealed that MMT intervention was effective in influencing the rise in consistent condom use, as well as in reducing the number of sexual partners. This could be explained by the fact that MMT intervention addresses a person’s personality and temperament as a package. According to Garrett (2011), changes in individuals’ sexual behaviour requires more comprehensive changes within their lives, including understanding their overall behaviour constellation. The MMT Intervention addresses a person’s personality and temperament as a package.

At follow up, 10 weeks, there was a sharp rise in consistent condom use in the experimental group and a decline in the same in the control group. This demonstrated the effectiveness of MMT intervention at endline assessment in the experimental group (p<0.001). With respect to multiple sexual partners scores, the following was observed: between baseline and endline, there was a constant increase in the mean number of partners in the control group from 2.7 (2.924 SD) to 5.09 (3.528 SD); and a fall in the same in the experimental group (P<0.001). Again this was a clear demonstration of the efficacy of MMT in risky sexual behaviour reduction.

The present study findings have confirmed that in reaching high risk and vulnerable, as well as stigmatized peoples, venue-based mediations are highly effective. The study also ascertained the effectiveness of MMT intervention in reducing risky sexual behaviour associated with HIV and AIDS transmission, if given in a safe and secure setting. This finding resonates with The NACC (2014) recommendation on the need for MSM venue-based prevention intervention, which is multimodal based as shown in relevant literature reviewed in this study. NASCOP (2014a) placed the prevalence rate of HIV and AIDS among MSM in Nairobi, Kenya at 18.2%, and also reported that condom use among the same population was very low. This confirms that MMT
intervention is efficacious in reducing risky sexual behaviour translating into HIV and AIDS transmission reduction among the MSM.

These findings are comparable to healthy living project research on HIV and AIDS risky behaviour reduction conducted at four sites in the United States of America: Los Angeles, Milwaukee, New York, and San Francisco (Rotheram-Borus et al., 2009). The main objective of the Rotheram Bolus’ study was to examine the effect of a 15 session individually delivered cognitive behaviour intervention on diverse samples of People Living with HIV at risk of transmission to others. The study was a two group randomized controlled trial.

The 936 PLH from the four sites were considered to be at risk for transmission after screenings were randomized into the trial. A significant difference was noted in mean risky acts that could lead to transmission between the intervention and the control group (p<0.001 and P=007) after 5 months. This demonstrated the efficacy of cognitive behaviour intervention in HIV transmission prevention among PLH who report transmission risk behaviour.

In yet another study by Rotheram-Borus et al. (2009) on the effect of Cognitive Behaviour Intervention on HIV and AIDS transmission prevention among MSM. The sample size was 1910 HIV positive MSM with 616 respondents considered to be at risk. In the study, MSM had a mean of 8 partners in the last three months on average before the intervention. Regarding the experimental group, a reduction to 2 partners (p<0.001) was observed. An overall reduction in risky behavior that could lead to HIV and AIDS infection among MSM was noted showing that cognitive behaviour was effective.

The MMT intervention like cognitive behaviour intervention helped the participants to develop their own ways of organizing their lifestyle. Through understanding their
personality or temperaments, they are able to relate safe and unsafe behaviour in their decision making so they control themselves. It is also enhanced by negotiating skills that are also learnt in MMT, as well as assertiveness skills that empower them to demand for only safe sex. This is demonstrated in the present study where the DID estimator showed a declining trend in sexual partners (P<0.001) implying that the MMT intervention had contributed to multiple partners’ reduction in the experimental group, while the control group remained constant (p<0.861).

The effect size finding is determined by ordinary level squares: a statistical mean used for estimating comparative results in baseline and endline outcome differences in relation to two groups under study. Regarding the experimental group in this study, the DID showed a decreasing trend in sexual partners, depicting a decline in multiple sexual partners (P<0.001) while the control group score was just slightly elevated (P<0.05) which indicated multimodal BASIC ID intervention effectiveness in reducing the number of sexual partners. Cohen recommended effect sizes are d=0.2: 'small' effect size, d=0.5: 'medium' effect size, and d=0.8: 'large' effect size. This means that if two groups' means don’t differ by 0.2 standard deviations or more, the difference is trivial, even if it is statistically significant (McLeod, 2019).

These findings revealed that the mean difference score between baseline and endline was 0.074 (4.104) (P=0.861) in control group compared to the experimental group which was 2.374 (3.239) (P<0.0001). Cohen d value for sexual partners was d=0.665:95% CI-0.191-0.140. This meant that MMT intervention was effective (P<0.0001) in reducing sexual partners in the experimental group while the control group experienced an increase in sexual partners (P<0.861). Thus, the deduction that MMT intervention influenced MSM to use condoms consistently and to reduce the number of sexual partners to prevent HIV and AIDS transmission was correct. The
study further revealed the effectiveness of the intervention not only in raising the levels of consistent use of condoms but also in decreasing the numbers of multiple sexual partners.

These findings were similar to a HIV and AIDS prevention venue-based study in Malindi, Nanyuki, and Rachuonyo (Kenya) by Singh et al. (2012). The aims of the study was to establish how acceptable VCT was for MSM, general population, and people who inject drugs. The results showed that MSM who accepted VCT were 97%, while the general population ranged from 48% in Nanyuki to 60% in Malindi.

Further, Rachuonyo was found to have many programs that sought to prevent HIV infection except promotion of condom use and mobile VCT which was very common in Malindi. Educational talks (50%) and health education led by peers (38%) were commonly used as prevention activities in Rachuonyo. Similarly, educational talks (20%) and promotion of use of condoms (24%) were commonly used in Nanyuki (Singh et al., 2012). Poverty was found to be one of the major factors that led to MSM in Malindi (Sing et al., 2012). Conducting the study at the PLACE, as was done at HOYMAS center in Nairobi, made it safe and secure for everyone.

MMT intervention, like the place method, promotes protective health decision making, including sexual decisions as it targets the interactive psychosocial domain with one’s personality, one’s internal affective states, and self-regulation. This leads to healthy sexual decisions which cannot be made on the spur of the moment. When MMT becomes internalized as a self-help strategy, it leads to responsible decision making, taking responsibility for their health including treatment seeking, and ordering their sexual behaviour towards healthy living. This was consistent with the reviewed literature and the theoretical frameworks which stated that learned behaviours can also be unlearned (Corey, 2009; Lazarus, 2008).
5.3 Conclusion

The first objective of this study sought to discover the MSM Perceived predictors of HIV and AIDS risky behaviours in the study groups. The following were cited as key predictors: Sexual orientation, MSM organization membership, confidence in the capability of HAART to inhibit HIV and AIDS infection, poverty, sexual impulse, social affiliation, and peer group acceptance. These were reported as the greatest barriers to risky sexual behaviour change. The experimental group had a bigger effect \( (p<0.001) \) than the control group \( (P=0.022) \). Therefore, MMT addressed the individuals’ personality and temperament, causing the individuals to be in control of their sexual decision making. This meant that the intervention addressed not just the target indicators but other related issues as well.

MMT addressed a wide range of other issues in the lives of the MSM respondents. Based on these results, it can be concluded that the current study will add to the growing body of knowledge on MSM in future. Over all, experimental group which had a higher decrease in multiple sexual partners \( (p<0.0001) \), against the control group \( (p=0.861) \) showed that the results were statistically significant. This demonstrated the effectiveness of MMT intervention in reducing the number of multiple sexual partners in the experimental group, and thereby reducing risky sex behaviour which ultimately translated into reduced HIV and AIDS transmission. The elevated sexual partner’s scores among the control group in this study highlighted that MSM are a priority group for HIV and AIDS transmission prevention using multimodal therapy intervention.

The intervention was effective in influencing reduction in risky sexual behaviour through raising the levels of consistent use of condoms and lessening the number of sexual partners in the experimental group, while these outcomes remained constant in
the control group (p<0.004). Difficulty with sexual impulse control was raised severally in the intervention administration as the main reason for unprotected anal sex in this population. Social affiliations and peer group acceptance were also perceived as potential barriers to behaviour change because of absence of social control structures within the organization. Another reported potential barrier to adoption of safer sexual practices was HAART.

The second objective of this study sought to discover the MSM perception on MMT Intervention in HIV and AIDS risky behaviours in the study groups. Study findings indicated that a reduction in one behaviour was an indicator of reduction in others risky behaviors. Hence, applying one method of preventing HIV and AIDS transmission leads to following through with others, resulting in eliminating sexual transmission risk behaviours all together.

The experimental group respondents’ rating of the MMT BASIC ID skills was as follows: 100% rated it as excellent in reducing the risk of contracting or transmitting HIV and AIDS through behaviour change; 100% rated it as excellent in helping them get in touch with their risky sexual behaviour through BASIC ID modality skills, 76.6% rated it as exceptional for influencing others, while 84.0% applauded it for empowering others to influence their peers on benefits of risky sexual behaviour change.

The MMT is a combination intervention package of both behaviour and non-behaviour, including addictions and stress related problems. Knowledge gained from MMT BASIC ID skills on HIV and AIDS risk sexual behaviour reduction, and belief in the efficacy of MMT modality fosters preventive risk behaviour changes in MSM. This in turn empowers them in their sexual decision making and therefore MMT BASIC ID intervention, if personalized, will reduce sexual risky behaviour through
conscious sexual decision making. This implied that MMT influenced risky sexual behaviour change leading to consistent use of condoms and reduction in number of sexual partners, not only among the sample but also among their peers.

The MMT BASIC ID intervention is a fusion of both behavioral and cognitive therapeutic interventions. The behavioral aspect focused on overt behaviors while the cognitive aspect focused on mental facets and internal processes, making it possible to utilize both internal and external factors of treatment simultaneously. This makes MMT intervention effective in addressing specific MSM personality and temperaments through the seven modalities, namely behaviour, affect, sensation, imagery, cognition, interpersonal relationships, drug and any biological issues.

Significant findings from the follow-up which was done 30 days after cessation of the intervention included the following: the experimental group reported fewer HIV and AIDS transmission risk acts and avoidance of multiple sexual partners. This proves that MMT is efficacious in informing the respondents’ perceptions since it enabled them to see their choices in the light of their sexual risk avoidance.

A large percentage of the respondents (93%) from the experimental group used condoms consistently, compared to the control group (60.7%); the experimental group reported fewer risky sexual acts through multiple sex partners avoidance (52%), compared to the control group which was at 47% (p=0.0404); regarding number of unprotected anal sex with HIV-positive long-term partners, 52.9% experimental group answered no while 40.0% of the control group answered yes (p=0.0500); with regard to having long-term sex partners, 82 (84%) from the experimental group said yes while 12 (16%) from the control group said no (p=0.0001).
These findings suggest that MMT BASIC ID influenced the reductions in risky behaviour in the experimental group and as such affirmed the efficacy of the intervention. MMT BASIC ID intervention is grounded on Bandura’s social and cognitive learning theory which posits that all behavioral is learned and it can also be unlearned. MMT intervention targets behavioral, emotions, arousal triggers, as well as beliefs and thoughts; thus, informing the individual’s sexual health decision making. This explains the intervention’s retention in the experimental group across the baseline, endline and the follow-up assessment findings as compared to the control group across the same assessments but without intervention.

The third objective of this study sought to establish the influence of MSM psychosocial and socio-demographic characteristics in HIV and AIDS risky sexual behaviour reduction, among MSM in Nairobi County, Kenya. On whether they did their best to reduce chances of transmitting or contracting HIV and AID, 57.2% from the experimental group agreed, while 42.8% from control group disagreed (p=0.021). Regarding greatest barriers to HIV risky behavioral change, 71.5% from the experimental group cited HAART while 32.4% cited social affiliations and group acceptance. Concerning multiple sexual partners and consistent condom use, 79.4% from the experimental group reported very often as opposed to 20.6% who cited lack of trust in their partners (p=0.12). Furthermore, in relation to ever discussing HIV and AIDS transmission with non-paying partner, 66.6% from the experimental group affirmed while 33.4% reported never.

The findings from this objective indicated that doing ones’ best to prevent HIV and AIDS transmission had an association with both consistent condom use and multiple sexual partners avoidance. These findings also indicated that doing ones’ best to prevent HIV and AIDS transmission had an association with consistent condom use.
Respondents who perceived that they had done their best to reduce chances of transmitting or getting infected with HIV were more likely to have consistently used the condom ($p=0.021$).

With regard to measures of behavioral responses to HIV and AIDS such as ever having had genital discharge; $75.7\%$ said no, while $24.3\%$ said yes ($p=0.037$); in regard to anal discharge $64.1\%$ said no, while $35.9\%$ said yes ($p=0.032$). Pertaining to whether they had a challenge in regard to informing their sex partner to know that they only wanted safe sex, $66.4\%$ from the experimental group disagreed, while $33.6\%$ from the control group said yes ($P=0.027$). With regard to avoiding sexually risky situations, $58.3\%$ from the experimental group said yes, while $41.7\%$ from the control group said no ($p=0.061$). Lastly, on being able to avoid situations that were sexually risky, $58.3\%$ from the experimental group agreed while $41.7\%$ said no ($p=0.061$).

Further these findings suggest that the MMT intervention influenced reduction in risky sexual behaviour in the experimental group. It can be argued that the intervention helped the respondents to make sexual decisions that were responsible, consequently reducing the transmission of HIV and AIDS and thereby showing effectiveness of the MMT intervention in HIV transmission risk reduction.

The fourth objective of this study showed that there was increase in consistent condom use and a reduction in multiple sexual partners among the experimental group. The result indicated that the intervention influenced increase in condom use and the reduction in the number of sexual partners among the experimental group while the control group showed an increase in the number of sexual partners. These findings demonstrate the efficacy of the MMT intervention in reducing sexual partners in the experimental group.
The MMT BASIC ID intervention is grounded on Bandura’s social and cognitive learning theory which posits that all behavioral is learned, and it can also be unlearned. The MMT intervention targets individual’s behavioral and emotions, arousal triggers, as well as beliefs and thoughts; thus, informing the individual’s sexual health decision making. This explained the intervention’s retention in the experimental group across the baseline, endline, and the follow-up assessment findings as compared to the control group across the same assessments but without intervention.

The MMT was effective not only in consistent condom use but also in reducing sexual partners (P<0.001) in the experimental group. On the other hand, a rise in sexual partners (P-0.861) was noted in the control group and reduction in consistent use of condoms (0.754). Hence, the study found MMT effective in the prevention of HIV and AIDS through risky sexual behaviour reduction.

In the experimental group, there was a significant percentage drop in risky sex acts resulting from consistent condom use and multiple sex partners’ avoidance. This research suggested that MSM’s awareness of possible alternative to ARV and the side effects associated with it created willingness and hope to try MMT intervention to escape the HIV and AIDS infection. This was evident from the beginning to the end of the MMT training sessions where the turnout was 100%. The DID results indicated a declining trend in sexual partners over the pre-test and post-test time period in the two groups, thus depicting a decrease in the number of sexual partners.

The findings also showed the efficacy of multimodal intervention in influencing responsible sexual decision making among the experimental group respondents, which led to reduced HIV and AIDS transmission risky behaviors among them. This
study helped clarify the psychosocial mechanisms that influence risky behavioral change.

5.4 Recommendations

The following recommendations are made emanating from the findings of the study:

1. Future interventions for this group could be structured in a way that addresses both young and adult MSM needs for education and information towards HIV and AIDS risky sexual behaviour reduction.

2. The Kenya National Aids and Control Council could start MSM programmes at selected HIV counselling and testing centres as well as in sports and recreation centres. Also, the HIV and AIDS prevention stakeholders, including the government need to adapt MMT as a personalized self-help transmission prevention strategy for those not infected.

3. Faith based organizations are encouraged to get involved in recommendations in this study as they are best placed to use MMT modality skills. This is especially so since 89.3% and 86.2% of the respondents from experimental and control group respectively indicated they were Christians while others were from other religious denominations.

4. Additionally, a large percentage of the respondents reported having sex with women. The MMT intervention can be evaluated with a view to recommending it as an intervention of choice in risky behaviour related challenges that MSM and their subgroups undergo based on social exclusions. This would be necessary for all non-MSM associates, including female sexual partners - considering that 20% of MSM respondents in this study indicated that they had both female and male sexual partners.
5. MSM live in abject poverty and need assistance with funding to start income generating projects to support themselves so as to avoid sex work that exposes them to HIV and AIDS.

6. The Kenya government through relevant ministries could put up centres in various institutions and social places where HIV and AIDS needs can be addressed using MMT intervention programme for behaviour change.

7. MMT intervention is recommended for schools and colleges as a preventive and empowerment tool for youth education and information towards responsible adulthood. Further, every school, college, and counselling institution needs to develop an MMT therapy curriculum for counsellors. Further, schools and colleges can be required to engage counselors who are MMT proficient to effectively help the youth deal with sexual decision making and stress issues.

8. The intervention is further recommended for community-based call centres and for youth support programmes that give youth life skills to keep them from selling sex.

9. There is need for churches and other social institutions to be involved in offering youth MMT skills in order to help the youth master self-control and make informed sexual related decisions. Churches need to adopt MMT for their youth programmes, since the intervention is non-threatening, and it is a multi-level intervention that can be adopted by all.

10. The Ministry of Education and the Ministry of Health can jointly develop a curriculum based on MMT to be aired, just like the following programs: “Enda na wakati”, Ushikwapo, “Shikamana”, and “Sugar”, that have been aired in the past.

5.5 Limitations of the Study

This study had some limitations which included the following:
1. One major limitation in this study was the reliance on self-reports of sexual risky behaviour, which is open to recall bias and socially desirable responding. To minimise this bias, the researcher developed a pen-and-paper questionnaire response while using short-term recall period at the same time.

2. The study had a limitation of combining behaviour and biomedical interventions.

3. This study was also limited to Nairobi County, and as such limiting generalizability to rural areas.

5.6 Recommendations for Further Research

The researcher recommends the following as possible areas for further research:

1. This study can be replicated at different levels so that it can benefit a wider scope of MSM and their subgroups at various social and educational levels.

2. A long-term longitudinal study can be carried out with different age groups to reveal the psychosocial predictors of reported risky sexual behaviour.

3. A study can be done with a focus on identifying specific preventive strategies of HIV transmission prevention that would be more efficacious among other vulnerable groups.

4. A psychological based research can be undertaken to ascertain whether MSM orientation is nature or nurture based with the aim of clearing the misunderstood sexual orientation of this group. Freud’s psychosexual and psychosocial stages of development and their role in MSM lifestyle would be a useful resource for such a study.

5. A longer follow-up study can be done to ascertain the long-term retention of the MMT intervention. For instance - 3, 6, 8, or 10 months follow-up would be ideal for this study.
6. A Study can be conducted on how media and entertainment can be used to sell MMT to young people - particularly to the young men in schools and colleges, sports people, and young professionals.

7. The study was urban venue-based and focused. A similar study can be done in a rural setting to assess if this can affect the respondents’ responses.

8. The researcher could not measure the respondents’ social-economic status. A study can be done to measure the same.
REFERENCES


HEALTH OPTIONS FOR YOUNG MEN ON HIV/AIDS/STIs
P.O BOX 16855-0200 NAIROBI, KENYA

Email: hoymas4@yahoo.com Cell Number:+254714781000
Website: www.hoymaskenya.org

9th February, 2017

Rosemary Wangui Kibuthu,
Daystar University
P.O Box 44400-00100

RE: AUTHORIZATION TO CONDUCT RESEARCH

Following your application for authority to carry out research entitled “Efficacy of Multimodal therapy in HIV and AIDS prevention among men who have sex with men (MSM) in Nairobi, Kenya.

I am pleased to inform you that you have been authorized to undertake research in HOYMAS.

We look forward to receive your findings and recommendations once you are done with your research.

Yours Faithfully,

John Mathenge
Executive Director
Appendix B: Ethical Approval

Daystar University Ethics Review Board

Our Ref. DU-ERB/ERB/31/2017/0001

Date: 31-01-2017

Rosemary Wangui Kibuthu

Dear Rosemary,

RE: EFFICACY OF MULTIMODAL THERAPY IN HIV AND AIDS PREVENTION AMONG MEN WHO HAVE SEX WITH MEN (MSM) IN NAIROBI, KENYA

Reference is made to your request dated 6-12-2016 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 approval granted. In line with the research projects policy, you will be required to submit a copy of the final research findings to the Board for records.

Before proceeding to the next stage, ensure the following attached comments are addressed to the satisfaction of your supervisor. Note that it's an offence to proceed without addressing the concerns of ERB.

This approval is valid for a year from 31-1-2017

This approval does not exempt you from obtaining a research permit from the National Commission for Science, Technology and Innovation (NACOSTI).

Yours sincerely,

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

...and let thy down and the daystar arise in thy heart.
2 Peter 1:19 KJV
Appendix C: Research Permit

NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION

Telephone: +254-20-3131471,
2241349, 3110571, 2219430
Fax: +254-20-318245, 318249
Email: dq@nacost1.go.ke
Website: www.nacost1.go.ke
when replying please quote

Ref. No. NACOSTI/P/17/46685/15659

9th February, 2017

Rosemary Wangui Kibuthu
Daystar University
P.O Box 44400-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on “Efficacy of multi modal therapy in HIV and AIDS prevention among men who have sex with men (msm) in Nairobi, Kenya,” I am pleased to inform you that you have been authorized to undertake research in Nairobi County for the period ending 9th February, 2018.

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

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

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.

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Appendix D: NACOSTI ID

THIS IS TO CERTIFY THAT:

MS. ROSEMARY WANGUI KIBUITHI

OF DAYSTAR UNIVERSITY, 33755-600

NGARA, has been permitted to conduct

research in Nairobi County.

On the topic: EFFICACY OF MULT

MODAL THERAPY IN HIV AND AIDS

PREVENTION AMONG MEN WHO HAVE

SEX WITH MEN (MSM) IN NAIROBI,

KENYA.

For the period ending

9th February, 2018.

Signature

Applicant

Director General

National Commission for Science, Technology & Innovation

Permit No. NACOSTI/P/17/4665/15659

Date Of Issue: 9th February, 2017

Fee Received: Ksh 2,000
Appendix E: Ministry of Education Approval

MINISTRY OF EDUCATION
State Department of Basic Education

Telegram: "SCHOOLING", Nairobi
Tel: 0202455699
Fax: 2244831 Nairobi
Email: rce.nairobi@gmail.com
ced.nairobi@gmail.com

When replying please quote

Republic of Kenya

REF: RCE/NRB/1/14/(28) 14th February 2017

Rosemary Wangui Kibuthu
Daystar University
P. O. Box 44400-00100
Nairobi

RE: RESEARCH AUTHORIZATION

We are in receipt of a letter from the National Commission for Science, Technology and Innovation regarding research authorization in Nairobi County.

This office has no objection and authority is hereby granted for a period ending 9th February 2018 as indicated in the request letter.

NAIROBI

MAINA NG'ORI
FOR: REGIONAL COORDINATOR OF EDUCATION
NAIROBI

C.C

Director General/CEO
National Commission for Science, Technology and Innovation
Nairobi

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Appendix F: Research Questionnaire

Thank you for agreeing to participate in this research. My name is Rosemary Kibuthu, a PhD candidate in Clinical Psychology at Daystar University. I am carrying out this study as part of data collection for my DISSERTATION and also as a contribution to the search for HIV and AIDS prevention intervention among the vulnerable populations.

Instructions: Kindly Tick where appropriate

Section one: Demographic information

1. When where you born and how old are you now? Year [ ] Age [ ] years
2. What is the highest level of school have you completed?
   - Primary [ ]
   - Secondary [ ]
   - Higher education /College [ ]
3. What do you do for a living?
4. Where do you call your home?
5. Who do you live with?
6. How old were you when you discovered your orientation?
7. How did you end up in this organization?
8. What is your religious affiliation?
   - Christian [ ]
   - Muslim [ ]
   - Hindu [ ]
   - Others [ ]
   - None [ ]

HIV transmission risk exposure information

MSM are among many groups that have been hit hard by HIV and AIDS epidemic.

9. Bearing in mind that it is peoples’ behaviour and not the groups to which they belong that determine their risk of being infected with HIV and AIDS:
   a. What would you like to change in your sexual risk behaviours?
   b. What emotions/affects expose you to risky acts that you would like to change?
   c. What sensations expose you to sexual arousal risk that you would like to change?
d. What (imagery) bothersome vivid imaginations, pictures, memories, dreams, and fantasies that expose you to risky sex would you like to change?

e. What thoughts/Cognitions, self-talk or self confidence that expose you to risky sex would you like to change?

f. What relationships expose you to risky sex and how would you change them?

g. Do you have any concerns about your sexual health?

The statements below describe the degree to which you agree you are exposed to HIV infection.

7. Kindly respond to the statements below?

Personal HIV risky behaviour change starts with you. Yes [ ] No [ ]

Removing sexual arousal trigger behaviours is helps lowers risk acts. Yes [ ] No [ ]

Modifying sensuous settings/changing environment prevents risky acts. Yes [ ] No[ ]

Narrowing relationships that expose one to HIV minimises risk acts. Yes [ ] No [ ]

Getting an accountable partner for reinforcement reduces risk acts. Yes [ ] No [ ]

Exercise impulse control will prevent risk acts. Yes [ ] No [ ]

10. During the last 4 weeks, how often have you had alcoholic drinks?

<table>
<thead>
<tr>
<th>Very much</th>
<th>A good deal</th>
<th>Not much</th>
<th>Not at all</th>
<th>Don’t know</th>
</tr>
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</tbody>
</table>

11. Some people have tried various types of drugs. Which of these have you tried?

<table>
<thead>
<tr>
<th>Alcohol</th>
<th>Cigarettes</th>
<th>Amphetamines</th>
<th>Cocaine</th>
<th>None at all</th>
</tr>
</thead>
<tbody>
<tr>
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</table>
12. Some people have tried injecting drug using a syringe. Have you injected drugs in the last one month?  Yes [  ] No [  ]

**Section two: Marriage and partnerships**

1. Have you ever been married to a woman?  Yes [  ] No [  ]

2. Are you currently married or living with a female sexual partner? Yes [  ] No [  ]

3. In the past one month, have you had any sexual contact with another man; that is, have you done any of the following?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral sex</td>
<td>Anal sex</td>
<td>You touched the penis of another man for sexual arousal.</td>
<td>Another man touched your penis for sexual arousal.</td>
</tr>
</tbody>
</table>

**Section three: Sexual history – Number and types of partners**

1. In the past one month, have you had oral sex with a man, that is where a man has put his penis in your mouth and you have put yours in his mouth? Yes [  ] No [  ]

2. How many partners did you have sex with in the last one month?

3. The last time you had oral sex did you or your partner use a condom? Yes [  ] No [  ]

4. How often did you or your partner use condom during the last 4 months?

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<tr>
<th>Very much</th>
<th>A good deal</th>
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<th>Not at all</th>
<th>Don’t know</th>
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</table>
5. Did you ejaculate in another man’s mouth or did your partner ejaculate in your mouth? Yes [   ] No [   ]

Section four: Sexual history – Commercial partners

1. Did you have anal sex with a commercial partner the last one month?
   Yes [   ] No [   ]

2. How many times did you have anal sex with your last most recent commercial partner during the last 30 days?
   Less than 0 times [   ]
   5-10 times [   ]
   10-15 times [   ]
   15-20 times [   ]
   More than 20 times [   ]

3. The last time you had anal sex with your commercial partner, was a condom used?
   Yes [   ] No [   ] If not, why did you not use a condom?
   ____________________________________________

4. How many times did you use a condom with all your commercial partners during the last one month?

<table>
<thead>
<tr>
<th>Very much</th>
<th>A good deal</th>
<th>Not much</th>
<th>Not at all</th>
<th>Don’t know</th>
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</tbody>
</table>

5. Have you ever discussed HIV/AIDS or STDs with any of your commercial partners?
   Yes [   ] No [   ]
Section five: Sexual history - Other non-regular partners

1. Did you have anal sex with other partners in the last one month? Yes [ ] No [ ]

2. How many times did you have anal sex with your last non-paying partner in the last 30 days? Less than 5 times [ ]
   5 -10 times [ ]
   10-15 times [ ]
   15-20 times [ ]
   More than 20 times [ ]

   Was a condom used? Yes [ ] No [ ]

   If no, why did you not use a condom? __________________________________________

3. How many times did you use a condom with all your partners during the last one month?

<table>
<thead>
<tr>
<th>Very much</th>
<th>A good deal</th>
<th>Not much</th>
<th>Not at all</th>
<th>Don’t know</th>
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</tbody>
</table>

4. Have you ever discussed HIV/AIDS or STDs with any of your non-paying partners?

   Yes [ ]   No [ ]
Section 6: Sexual history – Sex with females

1. Have you ever had sexual intercourses with women? Yes [   ] No [   ]

2. How many women did you have sex with during the last 4 months?

   Less than 5 [   ]

   5 -10 [   ]

   10-15 [   ]

   More than 20 [   ]

3. Did you use a condom with your last female partner? Yes [   ] No [   ]

4. How many times did you use a condom with all your female partners?

<table>
<thead>
<tr>
<th>Very much</th>
<th>A good deal</th>
<th>Not much</th>
<th>Not at all</th>
<th>Don’t know</th>
</tr>
</thead>
</table>

Section 7: Male condom – Lubricants

1. Have you ever used lubricants? Yes [   ] No [   ]

2. If yes, how much often have you used lubricants in the past 6 months?

<table>
<thead>
<tr>
<th>Very much</th>
<th>A good deal</th>
<th>Not much</th>
<th>Not at all</th>
<th>Don’t know</th>
</tr>
</thead>
</table>

3. If no, why did you not use lubricants?

4. Do you know any place or person where you can obtain lubricants? Yes [   ] No [   ]
5. Which lubricants do you commonly use? ________________________

Section eight: STDs

1. Have you ever heard of diseases that can be transmitted through sexual intercourse?
   Yes [ ] No [ ]

2. Can you describe any symptoms of STDs on women?
   ____________________________________________________________

Can you describe any symptoms of STDs on men?
   ____________________________________________________________

3. Have you had a genital discharge during the past 2 months? Yes [ ] No [ ]

4. Have you had an anal ulcer or sore during the last 2 months? Yes [ ] No [ ]

5. Have you had an anal discharge during the last 2 months? Yes [ ] No [ ]

Section nine: Knowledge, opinion, and attitudes towards HIV/AIDS

1. Most MSM I meet only engage in safer sex practices. Yes [ ] No [ ]

2. I have trouble letting a sex partner know that I want to have safer sex only.
   Yes [ ] No [ ]

3. My friends think it is important to use condom. Yes [ ] No [ ]

4. I can choose safer sex with a man I have sex with regularly.
   Yes [ ] No [ ]

5. I am able to avoid behaviour that may put me at a risk of HIV infection.
   Yes [ ] No [ ]

6. I find it difficult to have sex with a man I have very strong sexual feelings for.
   Yes [ ] No [ ]

7. I find it difficult to have safer sex when high or drunk. Yes [ ] No [ ]

8. I am less concerned about having anal sex without a condom now that new
   anti HIV combination treatments are available. Yes [ ] No [ ]
9. Someone can talk me out of safer sex by persuading me they are HIV-negative. Yes [  ] No [  ]

10. If I ever did something risky, I am confident that I would go back to having safer sex right away. Yes [  ] No [  ]

11. I can avoid situations that I consider sexually risky. Yes [  ] No [  ]

12. I am confident that I can have safer sex even if my partner doesn’t want. Yes [  ] No [  ]

13. I can choose safer sex with a man I have never had sex with before. Yes [  ] No [  ].

14. I never lose sight of what I consider safer sex, no matter what I am feeling. Yes [  ] No [  ]

15. I find it difficult telling a sex partner not to do something I think is risky. Yes [  ] No [  ]

16. My friends use condoms I feel confident that I will never slip from safer sex. Yes [  ] No [  ]

17. I don’t want to know the result, but have you ever had a HIV test? Yes [  ] No [  ]

18. If yes to the above question, did you voluntarily undergo the HIV test or were you required to have it?

________________________________________________________________________

19. Please, do not tell me the result, but did you find out the result of your test? Yes [  ] No [  ]

20. When did you have your most recent HIV test?

________________________________________________________________________
### THE MULTIMODAL THERAPY (BASIC-ID) INTERVENTION PROGRAMME

<table>
<thead>
<tr>
<th>Time/Week</th>
<th>Session</th>
<th>Material to be covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>Orientation</td>
<td>General introduction to the programme, Informed consent signing, administration of the pre-test questionnaire and overview of the forthcoming sessions</td>
</tr>
<tr>
<td>Session 2</td>
<td>HIV/AIDS infection</td>
<td>Common knowledge, attitudes, beliefs and practices Transmission routes, vulnerable routes and prevention</td>
</tr>
<tr>
<td>Session 3</td>
<td>BASIC ID Modalities</td>
<td>Foundations, Meanings, Assessment and Implication</td>
</tr>
<tr>
<td>Session 4</td>
<td>BEHAVIOUR</td>
<td>Observable and hidden behaviour, actions, reactions and overreactions, coping strategies, what I do and what I avoid doing</td>
</tr>
<tr>
<td>Session 5</td>
<td>BEHAVIOUR CHANGE</td>
<td>- What would you like to start doing/stop doing? Some people are more &quot;doers&quot; for instance, than others, so they might start with changing their behaviour.</td>
</tr>
<tr>
<td>Session 6</td>
<td>Techniques</td>
<td>CBT, Behaviour rehearsal, Exposure programme Modelling, Reinforcement programmes Self-monitoring and recording, Shame attacking Empty chair, Fixed role therapy</td>
</tr>
<tr>
<td>Category</td>
<td>Techniques</td>
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</tr>
<tr>
<td>Psychodrama</td>
<td>Response prevention/cost</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stimulus control, Paradoxical intention</td>
<td></td>
</tr>
<tr>
<td>Affect</td>
<td>Emotions, feelings, depressed, sad, guilt, feelings, bio, feedback e.g. GSR, bio dots, Hypnosis</td>
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<tr>
<td></td>
<td>Relaxation training, Threshold training</td>
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<tr>
<td></td>
<td>Meditation, Momentary relaxation</td>
<td></td>
</tr>
<tr>
<td>Sensation</td>
<td>Sensate focus training, Relaxation response massage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>See, hear, taste, smell, touch, pain, tension, sexuality</td>
<td></td>
</tr>
<tr>
<td>Imagery</td>
<td>Thinking pictures, self-image, fantasies, memories, imaginations and think in pictures, imagery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coping imagery, Time projection imager, Anti-future shock imagery, Mastery imagery, Positive imagery, Thought stopping imagery, Aversive imagery, Associated imagery</td>
<td></td>
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<tr>
<td>Cognition</td>
<td>Cognitive rehearsal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thoughts attitudes beliefs values opinions thinking styles thinking biases and knowledge. Disputing irrational beliefs, Problem solving. Challenging faulty inferences, Constructive self-talk, Thought stopping</td>
<td></td>
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<tr>
<td></td>
<td>Assertion training, Contingency contracting</td>
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<tr>
<td></td>
<td>Fixed role therapy, Communication training</td>
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<tr>
<td></td>
<td>Friendship/intimacy training, Social skills training.</td>
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<tr>
<td></td>
<td>Role play, Graded sexual approaches</td>
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<tr>
<td></td>
<td>Paradoxical intention</td>
<td></td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Lifestyle changes, Stop smoking programmes</td>
<td></td>
</tr>
<tr>
<td>relationships</td>
<td>Diet, Weight control, Exercise, Medication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Referral to specialists</td>
<td></td>
</tr>
<tr>
<td>Drugs/Biomedical issues</td>
<td></td>
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</tbody>
</table>

Expanded Structural Profile

Name………………………………………………. Date……………………

Seven dimensions of Personality

1. BEHAVIOUR

Behaviours are our actions, reactions and conduct. Behaviour is how we act in various situations or under certain conditions. Examples of behaviours include: sleeping, eating, playing tennis, crying, walking, yelling, watching television, reading, riding a bicycle etc. Thus, just about anything we do can be considered behaviour. Some people may be described as “doers” – they are action-oriented; they like to keep busy, get things done, take on various projects. On the scale below, circle the number that best reflects to what degree you are a doer.

In the space below, try to make a note of, and at least one specific behaviour that you would like to do less of, and also specific behaviour you would like to do more of.

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“Affect” is the psychological term for feelings, moods and emotions. Some affects are positive (such as joy), while others can be called negative (such as depression). Other examples of affects include happiness, annoyance, contentment, anxiety, jealousy, anger, excitement, guilt, and shame. Some people are very emotional but may or may not openly express emotions. How emotional are you? How deeply do you feel things? How passionate are you?

In the space below, try to make a note of at least one emotion you would like to feel less of, and at least one emotion you would like to experience more often.

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3 SENSATIONS

“Sensation” refers to the five basic human senses: sight, sound, smell, touch, and taste. In addition, the sensation dimension involves elements of sensuality and sexuality. Sometimes sensory experience is pleasant (for example, the smell of a fresh rose or the taste of apple pie) while at other times sensations can be unpleasant (for example, the pain of a stiff neck or a tension headache, or the smell of rotten eggs).

Very little  Moderately  Very much

Very little  Moderately  Very much. Doing…..Action….. Behaviour B

2. Feelings….Mood….Emotions…. Affect A
3. Sensing…. (sight, sound, touch etc.) Sensation S
4. Imagining….Fantasy….Visualising… Imagery I
5. Thinking…..Interpreting….Self-talk... Cognition C
6. Social….Relating….. Interpersonal
7. Biological….Physical….Health…. Drugs/Health D.

Some people attach a lot of value to sensory experiences, such as sex, art, food, music, and other sensory pleasures. Some people focus on their sensations and pay
much attention to pleasant and unpleasant inner experiences (such as inner calm and relaxation, or minor aches, pains and discomfort). How “tuned in” to your sensations are you?

Below, make a note of some sensations you would like to experience less of and more of:

☐ I would like to experience less:
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4 IMAGERY

“Imagery” refers to people’s ability to form mental pictures or representations of actual or imagined things, events and situations. When we fantasize, daydream, or just see pictures in our mind’s eye, we are engaging in mental imagery.

How much fantasy or daydreaming do you engage in? How much and how clearly do you think in pictures or see things projected onto the screen of your imagination? (This is separate from thinking or planning). How much are you into imagery?

Make a note below of at least one thing, event or situation you would like to imagine less of and at least one thing you would like to imagine more.

☐ I would like to imagine less:
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5 COGNITION

“Cognition” is thinking, or the mental process by which information is obtained. Reasoning, knowledge, and thought are all aspects of cognition. Often, people’s thinking takes the form of private “self-talk”. Self-talk is the tendency we all have to silently talk to ourselves and to tell ourselves things in the privacy of our own thoughts. Sometimes, our self-talk or cognitions make us feel good about ourselves. For example, when we tell ourselves things like “That was a really good job I did” or “I’m really an okay person”, we tend to feel good. At other times however, our
cognitions can make us feel unhappy with ourselves. For instance, when we tell ourselves things like “I’ll never be able to get the hang of this” or “I must really be a worthless person”, we tend to react with unpleasant feelings.

Some people may be described as “thinkers” or “planners” – they are very analytical and reflective and tend to think things through. How much do you “talk to yourself”? To what extent are you thinker or a planner?

Below, try to make a note of some cognition you would like to have less often and some thoughts you would like to have more often.

☐ I would like to think less of:

☐ I would like to think more of:

Very little of moderately of Very much

Very little Moderately Very much

Very little moderately Very much

6 INTERPERSONAL RELATIONSHIPS

Most of us live in richly social environments in which we are constantly interacting with other people across a variety of situations. Not surprisingly, some of our personal interactions are pleasant (for example, making love or playing a friendly game of cards) while others are not so pleasant (for example, fighting or arguing).

This is your self-rating as a social being. How important are other people to you? How important are close friendships to you? How important is the desire for intimacy, the tendency to gravitate. Towards people? The opposite of this is being a “loner”. To what extent are you a “people person”? Below, try to note some interpersonal or social activities you would like to decrease and others you would like to increase.

☐ I would like to decrease:
When you come right down to it, we are basically biological, biochemical creatures governed by the activities of our body and brain chemistry. Many of the things we do (that is, many of our behaviours) impact on our biology and hence influence how we think, act and feel. Included in this aspect of our human personality are such things as our general eating and exercise habits, how much alcohol we drink, whether or not we smoke or take drugs, whether or not we should lose some weight or get more regular sleep etc.

Are you healthy and health-conscious? Do you avoid bad habits like smoking, too much alcohol or caffeine, overeating etc? Do you exercise regularly, get enough sleep, limit junk food, and generally take care of your body?

Below, note some things concerning biological factors that you would like to decrease and something relating to biology you would like to increase. □ I would like to decrease: □ I would like to increase.

Lazarus lists the modalities in the acronym BASIC I.D.

- B  Behaviour
- A  Affect (emotions)
- S  Sensation (touch, smell, sight, hearing, taste)
- I  Imagery (thinking in pictures, self-image)
- C  Cognition (thinking in words, beliefs, attitudes, opinions, thinking styles)
- I  Interpersonal (how we relate to others)
- D  Drugs & biology (medications, substances, diet, exercise, general health,
MMT SELF HELP TREATMENT PLAN

[Diagram with nodes and arrows indicating relationships between Cognition, Emotion, Imagery, Biochemical / Neurophysiological, Sensation, Interpersonal, and Behaviour.]
Appendix H: Multimodal Therapy Intervention Manual Per Session

WEEK 1: SESSION 1& 2

INTRODUCTION

Our intervention is MMT (Basic ID) skills. Our behaviours are influenced by our thoughts and our thoughts influence our feelings and that determines our actions. Our thoughts determine our actions (behaviour) and our behaviours will determine whether we will engage in risk sex or not depending on what we know about the risk sex engagement. We will have seven sessions of learning on how to change our risk Behaviour. We will look at how basic ID will influence our risk behaviour. We will look at how our thoughts influence our emotions and how our emotions lead us to engage in risky sexual behaviour. This is because our thoughts affect our feelings and our feelings determine how we behave.

GOALS of this intervention are:

   a) To reduce HIV and AIDS transmission risky sexual behaviour
   b) To help reduce unprotected sex through consistent condom use.
   c) To help reduce multiple partners
   d) Seeking treatment and testing regularly.
   e) To ensure adherence to treatment

The intervention goals

The Primary goal of this intervention is to master skills that will help to abstain from HIV risky sexual behaviour and maintain the same.

In order to develop these skills the participants will identify HIV risky sexual Behaviours and situations that may increase the likelihood of renewed risky sex engaging including exposures to images that cause desire arousal. These high-risk situations include gay porn sites, pubs and other MSM precipitants of drinking and
drug use places that are external to the individual as well as internal events such as emotions, cognitions and stress among other triggers.

The programme will also help the participants to identify high risk relapse triggers to help them develop skills to cope with them. The participants will learn basic elements for common high risk problem areas and the techniques to counter them. The participant will be helped to develop their own individualized problem solving through role playing, simulations and homework exercises to help them apply the new skills to address their own particular needs.

Participant role

The Multimodal Therapy intervention for sexual risk behaviour change requires the active participation by the participant as well as taking responsibility to learn self-control skills to avoid future risky sexual behaviour.

Through active participation in the MMT programme where new skills and cognitive strategies are required, an individual maladaptive behaviour is replaced with healthy ones regulated by cognitive processes involving self-awareness and responsible planning. Each participant will get a chance to build their actual behaviour change skills during role plays and constructive receive feedback using person-centered problems rather than memorizing materials. MMT involves participant’s active participation, modeling, coaching, and practice with positive, corrective feedback, to modify their self-efficacy expectations and create long lasting behaviour change.

The researcher/Trainer Role

MMT addresses individual’s knowledge of their personality through the 7 modalities envisaged in BASIC ID. Knowledge is not simply about our understanding of HIV as a disease, but our personal belief as to how susceptible we are to infection as individuals. This is called a perceived risk. MMT is not designed to encourage you to
not to use other HIV prevention interventions, neither is it designed to encourage you to have sex whether safe, unsafe or both! Rather it is designed to provide you with facts so that you can add an internalized intervention to the array you already have to help you make your own informed choices.

WEEK ONE SESSION 3

Arnold Lazarus was a Behaviour Therapist (he coined the term), who developed what became Multimodal Therapy (MMT) as he built on the premise that we are basically biological beings who experience emotions, think, imagine, smell & touch, and relate to others as well as act, which at that time, Behaviour Therapy had limited itself to. Lazarus lists the modalities in the acronym BASIC I.D.

- **B** behaviour
- **A** affect (emotions)
- **S** Sensation (touch, smell, sight, hearing, taste)
- **I** Imagery (thinking in pictures, self-image)
- **C** Cognition (thinking in words, beliefs, attitudes, opinions, thinking styles)
- **I** Interpersonal (how we relate to others)
- **D** Drugs & biology (medications, substances, diet, exercise, general health, sleep)

Assessment Process Modality Behaviour Questions to Ask

<table>
<thead>
<tr>
<th>Behaviour</th>
<th>Overt behaviour; acts, habits, and observable reactions-observable and</th>
<th>What would you like to change? How active are you? What would you like to start doing? What would you like to stop doing? What are some of your main strengths? What specific behaviours keep you from getting what you</th>
</tr>
</thead>
</table>

185
<table>
<thead>
<tr>
<th>Affect</th>
<th>Measurable want?</th>
<th>Want emotions do you experience most often? What makes you laugh/crie? What arouses you sexually? What makes you sad, glad, mad, scared, and ashamed? What emotions are problematic for you?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensation</td>
<td>Basic senses of touch, taste, smell, sight, and hearing.</td>
<td>Do you suffer from unpleasant sensations e.g. Pains, aches, dizziness? What do you particularly dislike or like in the way of seeing, smelling, hearing, touching and tasting.</td>
</tr>
<tr>
<td>Imagery</td>
<td>How we picture ourselves, including memories, dreams and fantasies</td>
<td>What are bothersome recurring dreams and vivid memories? Do you have vivid imaginations? How do you feel about your body</td>
</tr>
<tr>
<td>Cognition</td>
<td>Insight, ideas, beliefs opinions, values, attitude, self-talk and judgements</td>
<td>What are some ways in which you meet your emotional, social, sexual and intellectual needs? How do your thoughts affect your emotions? What are the values and beliefs you most cherish? What are some negative things you say to yourself? What are some of</td>
</tr>
</tbody>
</table>
your central faulty beliefs? What are the main should, musts, and oughts’ in your life? How do they get in the way of effective living?

<table>
<thead>
<tr>
<th>Interpersonal relationship</th>
<th>Interactions with other people</th>
<th>How much of a social being are you? To what degree do you desire sex/intimacy with others? What do you expect from the significant people in your life? What do they expect from you? Are there any relationships with others that you would like to change? If so what kind of changes do you want?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug/biology</td>
<td>Drugs and nutritional habits and exercise patterns.</td>
<td>Are you healthy and health conscious? Do you have any concerns about your health? Do you take any prescribed drugs? Are you living risky sexually?</td>
</tr>
</tbody>
</table>

**WEEK 2: SESSION 1**

**Seven dimensions of Personality**

**1. BEHAVIOUR**

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Below, check some of the things concerning biological factors that you would like to decrease and something relating to biology you would like to increase. ☐ I would like to decrease: ☐ I would like to increase:

WEEK 2: SESSION 1

GOAL SETTING:

Why are we here? Why are you here? What are your expectations? How will it be after here?

Respondents to use their answers to set their personal goals for the intervention

WEEK 2: SESSION 2:

RISK BEHAVIOUR TRIGGERS

Identifying personal risky behaviours

1. Assist the MSM in identifying at least three triggers which may lead them to risky behaviour(s)

Interpersonal relationships

People Sensations

Places & Drugs

Substance Use Emotions

- Moods/Feelings
- Music
• Social networks

2. Assist the MSM in problem-solving reducing risk for at least three identified triggers. Problem-solving steps include:

1. Identify the trigger
2. Determine the goal
3. Brainstorm alternative solutions
4. Evaluate those solutions
5. Choose the most appropriate and best solution
6. Develop an action plan
7. Act

Assist the MSM in identifying a clear, realistic, and measurable goal related to the identified triggers. A goal should be:

• Realistic—can reasonably expect to be completed between sessions
• Clear – The MSM understands exactly what steps must be taken to complete the goal
• Not too easy and not too hard—goals should be challenging, but not impossible or too global
• Have a clear end point – the MSM should know when a goal has been completed
• Review Life Project, celebrating any progress

WEEK 3: SESSION 1: SEXUAL RISK BEHAVIOUR INFLUENCES

Identify how sexual risk behaviour influences the Client’s sexual life. Suggested topic areas for discussion:

• Relationship(s)
• Role of sexual activity, or lack of sexual activity, in his or her life
• Sexual risk taking
• Cultural influences on sexual activity
• Gender expectations for sexual activity identify how drug-related risk behaviour influences the Client’s life
• Drug sharing networks (environment, social) • Drug of choice (injecting/non-injecting, heroin/cocaine) and decisions for choice
• Drug sharing relationships (cultural and/or gender issues)
• Physical (being "sick") and/or emotional impact of drug use
• Influence on risk-taking decisions (treatment issues, structural issues [i.e., societal norms, imprisonment, dope-dating)

SESSION 2: MSM attitudes and beliefs regarding transmission and risky Behaviour

Identification of personal risky Behaviours:

• General risky Behaviours
• Personal sexual/drug activities including fantasies
• Impact of drug, alcohol and social networks on sexual behaviour

Continuum of individual risky behaviour:

Start by asking MSM to identify where on the continuum of risk they are.

• Anal sex without a condom (even with withdrawal)
• Oral sex, stopping before ejaculation (cum or pre-cum)
• Fantasies
• Mutual masturbation ("outer course")

Discuss how activities rated as riskier could be made less risky and rate the adjusted activities as well. When the Risk Continuum has been completed, the facilitator asks the Client to draw a vertical line indicating his/her personal risk limit goal.

• One of the more risky personal activities can be used for the Trigger Identification process
WEEK 4: SESSION 1: PROBLEM SOLVING

Like in the previous session, assist the MSM in problem-solving reducing risk for at least three identified triggers. Problem-solving steps include:

8. Identify the trigger
9. Determine the goal
10. Brainstorm alternative solutions
11. Evaluate those solutions
12. Choose the most appropriate and best solution
13. Develop an action plan
14. Act

Summary

Assist the MSM in identifying a clear, realistic, and measurable goal related to the identified triggers. A goal should be:

• Realistic—can reasonably expect to be completed between sessions
• Clear – The MSM understands exactly what steps must be taken to complete the goal
• Not too easy and not too hard—goals should be challenging, but not impossible or too global
• Have a clear end point – the MSM should know when a goal has been completed
• Review Life Project, celebrating any progress.

WEEK 4 SESSION 2

Review of the MSM personal risky Behaviours and identified problem solving triggers to this behaviour.

WEEK 5: SESSION 1: COMMON STIs AND TREATMENT
• Activity: Common STDs and Treatment session

• Assess Client’s knowledge of STDs

• Common types (e.g., chlamydia, gonorrhea, genital warts, etc.)

• Difference in cause (bacterial, viral, parasitic) and treatment

• Prevention. Symptoms: Known as the "silent epidemic;" discharge from their sexual organs; sensations while urinating. Women—lower abdominal pain, pain during intercourse, bleeding between menstrual cycles. Men—burning and itching around the opening of the penis and swelling in the testicles

Treatment: Antibiotics

GONORRHEA (a.k.a. "the clap, "dose," or "drip")

Symptoms: Men—pain at the tip of the penis, pain and burning during urination, thick, yellow, cloudy discharge. Women—mild vaginal itching and burning, thick yellow-green discharge, burning on urination, severe lower abdominal pain

Treatment: Antibiotics

SYPHILIS

Symptoms: Painless sore(s) around the genital area that and go unnoticed. If untreated, the disease will progress, causing many complications and in some instances, death.

Treatment: Antibiotics

CHANCROID

Symptoms: Pus-filled bump around the genital area (painful for men, not always painful for women). Painful lymph glands in the groin

Treatment: Antibiotics

GENITAL WARTS
Symptoms: Small lumps on the genital area
Treatment: Removed by using cream, freezing, or burning

GENITAL/ORAL HERPES

Symptoms: Blister like sores on the penis, vulva, near the anus, on the thigh or buttocks, and around the genital area
Treatment: No cure; medication to help keep virus in check

HEPATITIS B

Symptoms: Flu-like symptoms (aches, pains, nausea, vomiting). Whites of the eyes turn yellow. Pain in the abdomen
Treatment: Preventive vaccine available, no cure or treatment once infected

HIV Symptoms: Cold or flu-like symptoms (aches, fever, weight loss, sleeplessness, nausea, thrush, fatigue, swollen glands, diarrhoea, pneumonia)
Treatment: No cure, medication available to enhance the immune system

CRABS (a.k.a. lice, "the cooties")

Symptoms: Parasite that lives on and bites the skin causing itching and sometimes a rash or bluish spots
Treatment: A chemical solution

SCABIES

Symptoms: A tiny mite that burrows beneath the skin, causing a rash around the thighs, armpits, or waist
Treatment: Medicated cream

TRICHOMONIASIS

Symptoms: There are often no symptoms. Women—bubbly, pale green or gray vaginal discharge with unpleasant odor. Vaginal itching, burning, or redness.
Men—discharge from the penis and burning with urination
Treatment: Antibiotics

WEEK 5 SESSION 2
Negotiating safer sex practices with partners

- MSM will successfully demonstrate (through in-session role-plays) increased skill in negotiating safer sex practices with all sexual partners
- MSM will successfully demonstrate (through in-session role-plays) increased skill in negotiating safer needle practices
- MSM will successfully identify and incorporate three key components of assertive communication in negotiating safer behaviours

**Skills-Building .................................20 minutes**

- Assess Client’s ability to communicate assertively
- Engage Client in a role-play to enhance their assertive communication skills
- Assist Client to apply assertive communication skills to negotiation of condom use/safer sex practices
- (IDUs and partners of IDUs)

Assist Client to apply assertive communication skills to negotiation of safer needle practices

**Problem-Solving .................................35 minutes**

- Client identifies and problem-solves trigger(s) related to barriers to negotiating safer sex and/or needle practices

**Wrap-Up .................................15 minutes**

- Skill practice
- Client sets goal related to negotiating safer sex and/or needle practices
- Review Client’s Life Project

**Summary**

- Identify how increased assertive negotiation of safer sex and/or needle practices may impact Client’s life. Suggested topic areas for discussion:
• Relationship(s)
• Assertive communication and sexual/needle risk-taking
• Sexual risk-taking
• Cultural influences on assertive negotiation
• Gender expectations for assertive negotiation

WEEK 6: SESSION 1: COMPONENTS OF ASSERTIVE COMMUNICATION

• Discuss three key components of assertive communication
• Use "I" statements
• Say what you want respectfully
• Say why it’s important
• Assess Client’s current ability to communicate assertively through role plays

• Engage Client in a role-play to practice assertive communication skills. Begin with non-sexual examples (i.e., partner taking out garbage, sharing household chores, deciding on television shows, sending food back in a restaurant, asking for service at a store, etc.)

• Continue role-play exercise with sexual and/or drug related role-plays appropriate to Client’s life context.

RESPECTFULLY SAY WHY IT’ IS IMPORTANT THREE COMPONENTS OF ASSERTIVE COMMUNICATION

USE “I” STATEMENTS SAY WHAT YOU WANT RESPECTFULLY

WEEK 6 SESSION 2: ROLE PLAYING FOR RISKY BEHAVIOUR

SEXUAL CONTENT—CURRENTLY SEXUALLY ACTIVE

You have continuously fought with your partner about his/her stand against using condoms. He feels that because you are both HIV-positive it’s okay to have unprotected sex. The last time you tried to negotiate with him, he became very angry.
He has shown some violent tendencies in the past. How do you assertively convince him/her to try safer sex?

• Both you and your partner tested HIV-positive three years ago, and have been on combination medication therapy for six months. When you received your test results, you made a commitment to each other to always practice safer sex.

Recent lab work shows both viral load levels to be undetectable. Your partner suggests having unprotected sex as a celebration. How do you convince him/her to maintain your commitment to safer sex?

• You have a casual partner who knows your HIV status. It’s the end of the month, and this partner often helps you out with a few dollars until you get your check. When you go to talk with that person, he/she is high and will give you money only if you have unprotected sex.

How would you handle this situation? What would you say?

WEEK 7 SESSION 1

SEXUAL CONTENT CURRENTLY SEXUALLY ACTIVE

• You have continuously fought with your partner about his/her stand against using condoms. He feels that because you are both HIV-positive it’s okay to have unprotected sex. The last time you tried to negotiate with him, he became very angry. He has shown some violent tendencies in the past. How do you assertively convince him/her to try safer sex?

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How would you handle this situation? What would you say?

CURRENTLY NOT SEXUALLY ACTIVE

• Your boyfriend of three months is pressuring you to have sex. Since being on combination therapy you are feeling much better about your health and body image. You find yourself thinking about how nice intimacy would be again. How do you suggest using condoms or another safer sex practice?

• Your mother is dating again. How would you discuss safer sex practices with her?

• You are very close to your 16-year-old niece/nephew, although you have not told him/her your HIV status. You have a feeling that your sister will never sit down with him/her to talk about sex. Your sister has given you permission to talk with him/her.

What would you say to him/her?

• You find a condom in your brother’s jeans while doing the wash. How would you talk with him about your discovery?

• You have just met someone wonderful. The relationship has been non-sexual up to this point, but you would like it to progress into something more. He/She is aware of your HIV status, but you have never discussed the possibility of a sexual relationship.

What do you say?
WEEK 7 SESSION 2  DRUG-RELATED SCENARIOS

• You have been out and having a good time at the bar. You’ve had a lot to drink. It is getting close to closing and someone invites you to his or her place to keep the party going. They bring out some "coke" at their apartment, and keep saying you should "just kick back and relax." How would you stay safer?

• You’ve been trying to find a job all day. You haven’t been very successful and decide to stop at one of your favorite hangouts to cheer yourself up. You run into a person that you haven’t seen for a while. This person used to be a part of your trusted circle of friends that shared needles and works. (S)he tells you about some good drugs at a sharing party. You don’t have clean works with you. How would you bring up the subject of safer needle practices?

• Your partner is an IDU who is embarrassed about using the needle exchange program. His drug use is very secretive, and he is afraid his reputation will be ruined if someone recognizes him. You’re concerned that he has gone back to sharing needles or getting needles wherever he can. How would you convince him to use safer needle practices?

Assist MSM in identifying at least one trigger related to barriers to negotiating safer sex and/or needle practices

• People
• Places
• Substances
• Moods/Feelings

Assist MSM in problem-solving risk reduction for at least one identified trigger. Problem-solving steps include:

1. Identify the trigger
2. Determine the goal

3. Brainstorm alternative solutions

4. Evaluate those solutions

5. Choose the most appropriate and best solution

6. Develop an action plan

7. Act

**WEEK 8: SESSION 1: DECISION MAKING DISCLOSURE**

**Goals**

- MSM will increase decision-making skills surrounding disclosure decisions
- MSM will identify personal and environmental factors related to disclosure decision
- Assessed Client’s current ability to communicate assertively
- Engaged Client in role play to enhance his/her assertive communication skills
- Applied assertive communication skills to negotiation of condom use, safer sex practices, and/or safer needle practices
- Set goal related to negotiating safer sex and/or safer needle practices; recorded it on Goal Card for Client and on Goal Recording Sheet for File

**Check-In/Life Context ...............20 minutes**

- Review past week’s life events
- Discuss progress of goal and Life Project.
- Preview Session 4 content
- Discuss session content as it relates to the MSM’s life context

**Skills-Building .........................20 minutes**

- Discuss MSM’s attitudes and beliefs surrounding disclosure
• Engage Client in a dialogue about past disclosure decisions and experiences (if any)

• Assess Client’s decision-making skills and self-efficacy surrounding disclosure

**Problem-Solving ......................35 minutes**

• Client identifies and problem-solves

trigger(s) that impact his/her decision-making process

**Wrap-Up .................................15 minutes**

• Client sets goal related to disclosure or the decision-making process

• Review respondents Life Project

**WEEK 8 SESSION 2**

**Goals**

MSM will identify information sources regarding health and treatment

MSM will identify factors that influence adherence to a medical regimen

MSM will identify health and treatment areas about which he or she would like more information or understanding

MSM will identify triggers that have the greatest impact on his or her medical regime

Session ....................90 minutes

• **Check-In/Life Context...............30 minutes**

• Review last three months’ life events

• Discuss progress of goal and Life Project

• Preview Module 3 and Session 1 content

• Discuss session content as it relates to the Client’s life context

• **Skills-Building......................20 minutes**

• Discuss Client’s knowledge of medical/health status

• respondents identify factors that influence his/her ability to adhere to a medical regimen
• respondent identifies questions/topics about health/treatment he would like to know more about

• Problem-Solving...........................25 minutes

• respondent problem-solves factors that may negatively influence his/her ability to adhere to a medical regimen

• respondent problem-solves ways to get answers to health-related questions through various information sources

• Wrap-Up.........................................15 minutes

WEEK 9 SESSION 1: PERSONAL HEALTH PLAN

• Assist respondent to develop a plan to increase/maintain adherence to a medical regimen

• respondent sets goal related to increasing/ maintaining medical regimen adherence

• Review Client’s Life Project

• Identify how adhering to a medical regimen influences the respondents life.

Suggested topic areas for discussion:

• Relationship(s) (i.e., significant other[s], children, extended family, friends, co-workers, etc.)

• Self-esteem and body image

• Disclosure issues

• Stress and coping

• Substance use/abuse

• Risk behaviours

• Cultural influences on access and use of conventional medical systems

• Cultural influences on access and use of complementary medical systems

• Gender expectations for maintaining a medical regimen
WEEK 9 SESSION 2 THE PERSONAL HEALTH PLANS FOR ADHERING TO MEDICAL REGIMEN

Assist Client in identifying his/her medical regimen (see Activity: My Personal Health Plan, of this session). Topics to cover include:

CURRENT HEALTH STATUS:

ASSIST CLIENT IN IDENTIFYING THEIR PERSONAL HEALTH PLANS FOR HIV AND AIDS PREVENTION

• Has diagnosis changed since WEEK 1? (If yes, when?)
• Current CD4 count
• Current viral load
• Any opportunistic infections since Module 1?
• Other factors?

his/her ability to adhere to a medical regimen (e.g. medications, medical appointments, personal health plan, etc.)

• People/Relationship(s) (i.e., significant other[s], family, friend, health care providers, co-workers, case managers, etc.)
• Places (i.e., home, work, shelter, health care facility, social event, travel, etc.)
• Substances (i.e., alcohol, recreational drugs, nicotine, etc.)
• Food (i.e., meal schedules, preparation, fluids, snacks, etc.)
• Moods/Feelings (i.e., feeling down, anger, joy, celebration, etc.)

WEEK 10 SESSION 1 OUR ABC OF OUR HEALTH PLANS

Ask the Client to identify questions or topics about health or treatment that they would like to know more about. Topics will vary for each person, depending on his or her current knowledge or information-gathering skills.
Examples of the types of questions Clients may identify include, but are not limited to:

• How often should Client get medical checkups?

• What are the newest treatment options?

• What is the best time to start or switch treatments?

• Understanding what laboratory results mean (including viral load tests)

• How closely does Client have to stick to medication schedule for treatment to work well?

WEEK 10 SESSION 2

STRESS AND OUR POSSIBLE MALADAPTIVE COPING STRATEGIES

High Risk Sexual Behaviour
Risky Relationships
Daydreaming
Lying
Raging
Drinking,
Drugging,
Gambling &
Eating
(Too Much or Too Little)
Violence
(Hurting Yourself or Other People)
Excessive Caregiving (to parents and friends)
Excessive shopping
Excessive Sleeping
Excessive exercising
Procrastination or Avoidance
Isolation via Computer, Television or reading
Aggressive or Defiant Behaviour
Destruction of Property

Skills used for Coping

What is it that works for you?

What works for me

What does not Work for me
FREEDOM Steps

Focus: SOS( slow Down, Orient, Self-Check)

Recognize Triggers

Emotion: One Main Feeling

Evaluate: One Main Thought

Define One Main Personal Goal

Observe & Recognize Options: Build on Positive Choices You’re Already Making

Make a contribution: Make the World a Better Place for everyone

PERSONAL THERMOMETER

Ways to Focus and Self-Soothe

With my taste bud
- Have a good meal
- Have a favorite soothing drink (hot chocolate, iced tea)
- Treat yourself a dessert
- Try a new ice cream flavor
- Have a piece of your favorite candy

With my sense of touch
- Pet an animal
- Take a bubble bath
- Put clean sheets on your bed
- Massage your feet
- Put a lotion on
- Sit in a comfortable chair/sofa in your house
- Brush your hair

With my Nose
- Use your favorite lotion/perfumes
- Bake cookies, cake or bread
- Smell different flowers
- Be mindful of the smell of nature
- Be mindful of the smell of nature
How to Self Sooth and like it

Help Me Focus and Self-Soothe

No Distress  Most Distressed

ABC OF MAKING POSITIVE CONTRIBUTION TO OTHERS?

Personal  Distress Right now

In the Space below write a letter to yourself that you can read to help you remember to use your focusing skills to calm down during times of extreme stress

With My Vision
- Buy a beautiful flower
- Make one space in a room pretty
- Look at nature around you
- Watch the stars or the sunset
- Look at a picture or a poster that you like
- Take a walk in the park or in the neighbourhood

With my Ears
- Listen to soothing music
- Pay attention to the sound of nature(waves, birds, rain, wind
- Sing along to your favourite songs
- Hum or Whistle to your favorite tune
- Learn to Play an instrument
- Call a friend.
Appendix I: Researcher’s Resume

Rosemary Wangui Kibuthu

EDUCATION

2020  Daystar University -PhD Candidate Clinical Psychology

2000  Daystar University Master of Arts  MA Communication

2008  Daystar University Master of Arts MA Counseling Psychology

1994  Messiah College Bachelor of Arts- Business Education with English

1977  Egerton College Kenya Diploma-Agriculture and Home Economics

EMPLOYMENT

1977-1994  Teachers Service Commission  High School Teacher

1995-2014  University Administration, Management and teaching
Appendix J: Plagiarism Report

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