

**PREVALENCE AND DETERMINANTS OF SEXUAL RISK TAKING BEHAVIOR  
IN FEMALE SEX WORKERS ON HAART: A CASE STUDY AT THE SEX  
WORKERS OUTREACH PROGRAM AT THE CITY AND MAJENGO CLINICS,  
NAIROBI**

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REQUIREMENTS FOR THE DEGREE OF MASTERS OF PUBLIC HEALTH,  
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**DECLARATION**

I, Makobu Kimani, hereby declare that this dissertation is my original work and to the best of my knowledge has not been presented for award for a degree in any institution.

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## **DEDICATION**

This dissertation is dedicated to my Wife Salome and daughter Neema. All the many days away collecting data and long nights writing were well worth it.

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## LIST OF ABBREVIATIONS

<b>AIDS:</b>	Acquired immune deficiency syndrome
<b>ART:</b>	Anti-retroviral therapy
<b>ARVs:</b>	Anti-retroviral
<b>CD4:</b>	Cluster of differentiation line number 4
<b>CSW:</b>	Commercial sex worker
<b>FDGs:</b>	Focus group discussion
<b>FSW:</b>	Female sex worker
<b>HAART:</b>	Highly active anti-retroviral therapy
<b>HIV:</b>	Human immune-deficiency virus
<b>MARPs:</b>	Most at risk populations
<b>MoH:</b>	Ministry of Health
<b>MSM:</b>	Men who have sex with men
<b>OIs:</b>	Opportunistic infections
<b>PEPFAR:</b>	Presidents Emergency program For AIDS Relief
<b>PLHIV:</b>	Persons living with HIV
<b>SPSS:</b>	Software package for statistical analysis
<b>SWOP:</b>	Sex workers outreach program

## **DEFINITIONS OF TERMS**

### **Risk taking behaviour**

Risk-taking refers to the tendency to engage in behaviour that have the potential to be harmful or dangerous, yet at the same time provide the opportunity for some kind of outcome that can be perceived as positive. Driving fast or engaging in substance use would be examples of risk-taking behaviour. They may bring about positive feelings in-the-moment. However, they can also put you at risk for serious harm, such as an accident.

For purposes of this study, risk taking behaviour will be restricted to sexual risk taking behaviour. Sexual risk taking behaviour refers to any activity that is of a sexual nature that an individual engages in that has documented adverse effect on either their physical or mental wellbeing.

Risky sexual behaviour was put into categories of increasing risk. The categories are discussed in detail as shown below.

### **Multiple sexual partners**

By virtue of the nature of sex work, those that practice it will often have a multitude of sexual partners whose sexual background they do not know. The sex worker is thus exposed to any and all infections that each of her partners may have and even those of the partners of their sexual liaisons. Multiple sexual partners/activities also mean that there may be inadequate lubrication in the vagina thus increased risk of ulceration and infections.

### **Unprotected oral sex**

Oral sex is the insertion of the genitalia into the oral cavity of the recipient. The risk of infection with either STIs or HIV/AIDS is increased if there is ulceration on either the genitalia or in the oral cavity of the recipient. If the recipient of the oral activity has oral-pharyngeal gonorrhoea, she could transmit the infection to the male client.

### **Unprotected vaginal sex**

This is the most common route of heterosexual intercourse. The risk of infection is higher to the female rather than to the male due to a multiplicity of reasons among them anatomy. Ulceration is also more likely in the female genitalia than the male. The physical state of the genitalia can also be determined by the mental state of the woman. If her mind is not in the mood for sexual activity she may not have adequate lubrication and the resulting dryness increases the risk of ulceration and thus infection.

### **Unprotected sexual intercourse during menses**

Due to the influence of hormones on the epithelium of the vaginal tract, around the time of menstruation, sexual activity at this time may carry with it an increased risk of tears to the vaginal wall.

### **Unprotected anal sex**

This is the most risky type of sexual activity. The epithelium around the rectum is extremely thin and tears very easily. There also isn't any lubrication and thus if the recipient of anal sex does not use some artificial form of lubrication, the risk of developing tears is very high.

## **ABSTRACT**

### **Background**

According to the Kenya modes of transmission study, sex workers and their clients are key drivers of new HIV infections. (Lawrence Gelmon, 2009). The main purpose of the study was to determine the prevalence and determinants to risk taking behaviour in HIV positive female sex workers in the SWOP clinics. It was carried out in two of the largest SWOP clinics, Majengo and city centre. The clinics in Nairobi provide comprehensive medical and behavioural change interventions to self-identified sex workers. Sex workers and their clients are key drivers of new HIV infections in Kenya and thus the study desired to look at the sexual risk taking action of HIV positive female sex workers and the drivers behind such behaviour

### **Methods**

The study design adopted was cross sectional with both qualitative and quantitative arms. The overall study objective was to determine the prevalence and determents of sexual risk taking behaviour in HIV positive female sex workers

The target population was 6340 HIV positive female sex workers enrolled at the two clinics as at January 2013. Participants were identified from the patient register at the clinic and sequentially called up and offered the opportunity to participate in the study until sample size was reached. Sample size was calculated as 393 participants. To cater for non-response and loss to follow up the sample size was beefed up by 10% making the final sample size 431 participants. Data was collected by use of a structured questionnaire administered to the respondents by the investigator.

Three focus group discussions were conducted. The investigator moderated the discussions, which were tape recorded. Quantitative data was analysed using SPSS version 21. Descriptive and analytic statistics were conducted.

Qualitative data was transcribed, summarized by identified themes. Selected verbatim quotes were used to supplement quantitative findings.

### **Results**

A total of 431 individuals were interviewed. Of these, 339 were on HAART while 92 were on cotrimoxazole (septrin) prophylaxis only. It was established that most of the participants may engage in unprotected sexual activity on demand of the client provided he was ready to pay extra for the activity. Condom use was generally high at 62% of all respondents. A majority (73%) were in active sex work at the time of the study.

During cross tabulation analysis, applying both Fishers exact test and Chi square test, those on HAART were found to be more likely to engage in risky sexual behaviour as compared to their counterparts who were not on HAART. This was shown in the areas of condom use ( $X^2= 4.73$ ,  $p=0.05$ ) and unprotected anal sex ( $p=0.0332$ ).

### **Conclusion and Recommendations**

The women expressed an increased chance of engaging in unprotected sexual activity if they were aware of the partners HIV positive status. Risk taking profile of an individual was not affected by her being on HAART or not and being on HAART does not increase the potential for risky sexual activity. The choice to or not to use the condom culminated from a 'combination of decisions' by the sex worker influenced by demands from the potential client. Contraceptive prevalence was quite high with over 90% of all the respondents reporting being on some method of family planning. The choice of a method was however influenced by the availability of the particular method, perceived added advantages like ease of use, fewer side effects and any effects on the menstrual cycle. The younger respondents reported enthusiasm to procure abortion in the event of unwanted pregnancy occurring, while the more mature group of respondents who often expressed encountering difficulties when trying to get pregnant often associated this with past termination of pregnancies.

The study recommends upgrading health education in seminars, road shows and other venues such as adult education. The clinics should always make contraceptives available to the sex workers and involve regular client in the discussions on risk reduction. A framework can be formulated to enable the sex workers negotiate for safer sex practices with their clients to reduce episodes of engaging in risky sex.



## **CHAPTER 1: INTRODUCTION**

### **1.1 Background of the study**

On 27th August 2010, the citizenry of The Republic of Kenya promulgated a new constitution. The new constitutional dispensation while making a raft of changes to the life and liberties that Kenyans enjoy, maintained the illegal status of sex work. It is therefore illegal to live off and gain from the proceeds of prostitution. Prostitution itself however is not strictly speaking illegal as captured in Section 154, cap 6 of the laws of Kenya. (Penal code, 2010).

The law however does not affect the fact that sex work still continues to thrive in all major Kenyan cities and towns, with the coastal strip having earned notoriety for a thriving underground sex tourism trade. Here international tourists have almost unrestricted access to all manner of sex activities in exchange for money. Child prostitution is a big problem in the coast areas driven mainly by grinding poverty in the area. (Kenya National Bureau of Statistics (KNBS) and ICF Macro, 2010). Nationally the number of Kenyans living in absolute poverty is currently estimated at about 45% of the total population (World Bank, 2010).

Other than the coast strip, the next biggest area for sex work is the capital city Nairobi, with an estimated population of 3.138 million residents. (UNFPA, 2013)

Administratively, Nairobi is divided into six districts, namely Westlands, Langata, Kamukunji, Makadara, Starehe, Embakasi, Dagoretti and Njiru. Each of these districts have recently been reclassified as sub-counties in the new devolved Government structure of Kenya. Each sub-county is administered by a sub-county commissioner. (Nairobi, 2013)

Despite the fact that sex work is technically illegal in Kenya, Nairobi has a booming underground sex trade that runs at all hours of the day. A census of sex workers in 2009

revealed there were about seven thousand (7,000) female sex workers in downtown Nairobi on any given night (Kimani, 2009). This number includes only female sex workers in the central business district also known as downtown. This does not cater for sex workers outside the CBD and also a large and growing number of male sex workers and transgender individuals engaged in transactional sex. This implies that actual number of sex workers is much higher and thus the impact of sex work on the general public health is highly underestimated. A study to estimate the number of sex workers in Kenya put the figure at an estimated 103,298. (Odek 2014)

In order to have a better understanding of the nature of sex work, this has been categorized by the location where the individuals ply their trade (NAS COP, 2012)

The classification includes:

1.1.1. Street based

1.1.2. Bar based

1.1.3. Brothel or sex den

1.1.4. Home based sex workers

1.1.5. Escort and call girl service

1.1.6. Strip club based

1.1.7. Massage parlour based

### **1.1.1 Street based**

This is the typical impression of a sex worker. S/he is pictured working on the streets, trying to attract the attention of potential clients for her services. Such sex workers target a mix of both high end and lower social economic status clients. They may offer service for a short period for a little money or an agreed longer period for much more money. They often change the street they work from and generally work for themselves. They do not have a person to whom they must submit a portion of their earnings in exchange for either security or a place to live. They are often the most vulnerable members of the sex trade as they are frequently arrested during raids on the street by either police or council officials. Due to the societal stigma attached to sex work they mainly come out after dark when normal activities have stopped on the streets.

### **1.1.2 Bar based**

They are found in pubs, nightclubs, bars and public areas in high end hotels. They may sometime be members of the staff of these establishments. They target potential customers either by engaging them in conversation or angling for a chance to get invited to join the client at his table. They do not often come out openly as engaging in sex work, but rather provide friendly companionship to lone men or groups of men partaking of their drinks in the bar or club. The exchange of money for sex only comes out later once rapport has been established and a common understanding between the two has been reached.

They tend to attract higher end clientele with more spending ability and thus theirs is not direct sex work. They are often in the establishment with the permission, or at least knowledge of the management and may have to pay some form of protection fee to continue operating in the place unhindered. They do not change venue often and can be somewhat of regulars there. In some lower end premises they sometimes are involved in some low-level of criminal activity like spiking drinks of bar patrons with sedatives, in order to steal from them.

Such activity is done with the full knowledge of the establishments' management and they must pay a certain protection fee.

### **1.1.3 Brothel or sex den**

This is based in low end lodgings located in seedier parts of the city. They are also known as brothels. They make no pretences' as to the nature of business going on the establishment. The sex workers hire a room in the lodging on a daily basis and entertain clients there for a short period in exchange for money. They operate both during the day and night and the sex workers activities are well known to both the management and the patrons of the establishments. The amount paid per coital activity is very low and thus the sex workers require higher volume of clients to make sensible amounts of money. The coital activities thus tend to be very brief and very business-like in the way they are conducted. Sometimes the sex workers work in cahoots with either other sex workers or the establishments' security to steal from clients during the activity.

The sex workers have an authority figure, in the form of a senior sex worker who may or may not still be active in sex work, but from whom they receive permission to operate in the sex den or brothel and need to pay some form of loyalty fee to continue operating from the venue. She may remove an errant sex worker from the brothel temporality or permanently. She tends to be an opinion leader in the facility and a community gate keeper. Disputes between sex workers are resolved by and through the said authority figure.

#### **1.1.4 Home based sex workers**

This type of sex work as the name suggest is carried out of the sex workers place of residence. Some sex workers will rent a room close to where they live and will entertain their clientele from the venue. The clientele may be regular patrons who know of the services available. Services may also be rendered to passers-by as the places of business are located along busy paths in informal settlement areas around the city. Other sex workers may actually operate out of their actual homes. The sex work is timed to coincide with time when family members are away from the house e.g. in school or younger children taken to day care centres. Due to the low investment into the venture, the sex workers charge a very low fee for service and need a higher turnover of clients to make money.

Due to being in an area where they are known this type of sex work tends to be safer for the sex worker and she is able to negotiate or demand for safer sex practices. The sex worker is also safer from both local authorities and the police as she in her house. The clientele who patronize this serves also tend to be generally of lower social economic standing and have less money to spend on sex. This also contributes to the low fee charged per coital activity. Each coital activity tends to be very short no more than ten minutes and thus the activity is conducted in a very business-like manner. This type of sex work is very dependent upon casual labourer's income.

#### **1.1.5 Escort and call girl service**

This is a very high end and discreet activity. The sex workers involved in this type of work often live double lives. They tend to be in formal employment or are students in colleges and universities around the city. Those who are in formal employment, desire to supplement their income in order to enjoy a standard of living that their income alone cannot support.

They provide escort services to men of higher standing in society during evening cocktail meetings in expensive hotels or on business trips. Their main purpose in to provide the men

with company in exchange for a good time, drinks, accommodation in five star hotels and use of hotels facilities like the spa or gymnasium. The man will give them money at the end of the period of engagement. The women involved in this activity may advertise via social media or through word of mouth within their networks. They often do not consider themselves as sex workers and will often object strongly to any insinuation of the same. They are very selective about the clientele they serve and will not have a very high turnover of men. They may even be in steady relationships with men in their social level and thus the need for the absolute discretion in their undertakings.

The men they serve also tend to be of high standing in the society and thus they demand for high level of confidentiality. There may be a middle man or agency that organizes for the two to meet and charges a commission from both parties. Large amounts of money are exchanged and it is generally very well paying for the women involved. Due to the calibre of men involved and the amounts of money being exchanged, the women do not have much power in negotiating for safer sex practice and it depends on the relationship she has with the client.

#### **1.1.6 Strip club based**

Strip clubs are a relatively new concept in the Kenyan sex trade scene. They however have been in western economies for a very long time. They are also referred to as gentlemen's clubs. Here, girls will engage in pole dancing as entertainment for patrons having alcoholic drinks in the club. As the night wears on the women will gradually strip the layers of clothing they are wearing until such a point they end up either partially or totally nude.

The dancing also gradually becomes more sexual and explicit in nature. For a fee, patrons may enter a separate and private area in the club and pay the girls to engage in sexual activity. The amounts of money paid vary depending on the type of sexual activity to be done, use of protection and location of the said club. Girls in clubs located in exclusive

neighbourhoods charge more than those in downtown clubs. The women in this clubs do not strictly consider themselves as sex workers but rather as dancers.

### **1.1.7 Massage parlour based**

Massage parlours are often located in exclusive neighbourhoods in the city. They are often marketed as providing massage services to clients who patronize them. They are however often just fronts and the ladies who purport to be masseurs will upon agreement with the client engage in sexual activity in exchange for money. The activity is done with the full knowledge of the management of the facility.

The facility makes money from the entry fee charged to the men as they enter the massage parlour and also form a pre-agreed amount that the masseur pays to the establishment for use of the facility. Such sex work is very secretive and the clientele served is often high-end, high net worth individuals with significant amount of money to spend. Amounts of money exchanged are consequently very high and the women may not have the option to negotiate for safer sex practices.

## **1.2 Problem statement**

One of the current strategies to manage the HIV pandemic is to '*close the tap*'. This refers to reducing or even altogether stopping occurrence of new infections (HPTN071, 2013). Thus, if female sex workers already on HAART are involved in high risk sexual practices that expose them to re-infections or infect their clients, it is unlikely that new infections will be kept to a minimum.

The UNAIDS strategy for 2011-2015 is "getting to the zero's. The zeros include zero new infections, zero stigma and zero new AIDS related deaths. This ambitious sounding theme can be achieved if all those infected know their status and make efforts not to engage in risky sexual behaviour. Thus it is important to understand if being on HAART influences the risk taking behaviour of sex workers (UNAIDS, 2011). Part of the current UNAIDS strategy for

2014-2020 is for 90% of all to know their HIV status. (UNAIDS, 2014). Sex workers are included in this figure.

Sex workers and in particular female sex workers are major drivers of new of HIV infections. It has been established that they and their regular partners were responsible for about 14% of all new HIV infections in Kenya. (Lawrence Gelmon, 2009) According to available literature, sex workers and their clients contribute to a substantial number of new HIV infections (14.1%) (Kenya Modes of Transmission study, 2009). It is however not clear how much of this new infections are contributed by risk taking behaviour of HIV positive female sex workers. It would be expected that sex workers who already know their HIV positive status would be less likely to engage in risky sexual behaviour, the actual situation is not known. It is also not known if there is a difference in the risk taking behaviour of HIV positive female sex workers on HAART as compared to their HIV positive counterparts who have not yet been initiated on HAART. Thus it is of paramount importance to inquire whether or not sex workers who actually know of their HIV positive status may be engaging in high risk sexual practices. These individuals may be party to spreading new HIV infections to both their casual and regular clients. A Review of available literature revealed that often sex workers left risk reduction to the clients and would willing engage in risky sexual activity if there was enough inducement. (Amkomah, 2011). The modes of transmission study in Kenya revealed that sex workers and their clients were responsible for 14% of all new HIV infections. (Lawrence, 2009).

### **1.3 Justification for the study**

This study aimed at establishing the possibility of increased sexual risk taking behaviour among sex workers on HAART at the SWOP clinic, Nairobi. A critical analysis of reported reasons for increased risk taking behaviour was undertaken. It is important to establish whether or not sex workers who actually know of their HIV positive status engage in high



risk sexual behaviour. These individuals may be party to spreading new HIV infections to both their casual and regular clients. Findings of the study could provide a platform for health education provision and sexual health promotion targeting female sex workers on HAART, their clients and other stakeholders such as health care providers and policy makers. Additionally the findings could inform relevant policy regarding measures to be taken against risk taking behaviour.

Anecdotal evidence collected by the investigator in the past five years have shown a tendency for sex workers to increased risk taking behaviour once they embark on HAART program. In year 2010 alone no less than four women became pregnant in the fourth month of HAART treatment.

After a critical review of literature on risk taking behaviour, there is apparently a discrepancy in the body of knowledge on change in risk taking behaviour in female sex workers upon initiation on HAART. There is also an absence of qualitative component in research that would yield rich and in-depth information from the sex workers themselves on their sexual habits upon initiation on HAART. Such information would also reveal their perceived knowledge of the capacity of HAART in reducing HIV infection. Sometimes the health provider may fall into the assumption that the user is at a similar level of knowledge of the abilities and limitations of HAART.

#### **1.4 Structure and services of the SWOP clinics**

The sex workers outreach program (SWOP) began in August 2008. The program is funded by PEPFAR. The idea behind SWOP was to provide a comprehensive package of care services to sex workers in Nairobi. Initially the mandate was to provide services only to female sex workers. However as the program began to take root, it emerged that there indeed was a large population of male sex workers. Thus the mandate of the program was enlarged to also include male sex workers and men who have sex with men (MSM).

Originally there was only one SWOP clinic located in the central business district (CBD) of Nairobi. The clinic was thus referred to as the SWOP clinic. It catered for sex workers who ply their trade in the Nairobi CBD. However, it was realized that there is a need to have more similar clinics in other areas of Nairobi to improve access to prevention services. Therefore in 2010 an ambitious expansion program was launched. It saw the opening of a SWOP clinic in many of the former districts of Nairobi now referred to as sub-counties; therefore there needed to be change in the naming of the clinics. For the sake of keeping an identity all the new clinics had the prefix SWOP before the name of the clinic, identifying its location. The original SWOP clinic was renamed SWOP city, to cater for Starehe and Westlands districts of Nairobi. SWOP Majengo was created to cater for Kamukunji and Makadara districts. SWOP Langata for Langata district, SWOP Kawangare for Dagoretti district, SWOP Embakasi for Embakasi and SWOP Kariobangi to cater for Kariobangi and Njiru districts and SWOP Thika road for Kasarani district. Currently there are seven SWOP clinics operating in Nairobi with over 28,000 sex workers enrolled.

At any SWOP clinic, a sex worker is welcome to access services any weekday during regular working hours. At the clinic the services offered to a sex worker include: Health education, HIV testing and counselling, screening for STIs and general outpatient medical services. In addition to these services, any one that tests positive for HIV is enrolled into the care and treatment program. In this program they get more information on their condition, a CD4 count is done to establish if they need to be on OI prophylaxis or if they need to start on ARVs. Screening for TB and Cancer of the cervix is also routinely offered.

The screening for STIs is conducted every three months, however a client may request a shorter duration if they have a reason to suspect they may have an infection. Screening for STIs in female sex workers is achieved by taking blood for a syphilis test known as venereal diseases research lab (VDRL), and a high vaginal swab for culture to rule out asymptomatic

Gonorrhoea, Chlamydia and a wet preparation slide for bacterial vaginosis and Trichomoniasis.

In women, STI's tend to be asymptomatic. Approximately 45% of all STIs are asymptomatic. (Liambila. W, 2010) Frequent screening is thus vital to ensure the health of both the sex worker and all her contacts and clients.

In addition to all these services, the SWOP clinics also serve as a safe space and a drop-in centre for sex workers. They may come there just to rest, watch television or gain access to educational material, as they wait to start work at the various hot spots where they operate their trade from. The safe spaces have also provided for social capital among the sex workers.

The clinic also serves as a refuge and safe space where a sex worker can be herself without enduring stigma and discrimination from members of the general public. The clinics also provide a space where sex workers can interact with other sex workers and can even brainstorm on ways to make sex work safer or generate ideas on alternative income generating projects.

All the SWOP clinics are interlinked via a virtual private network (VPN) that allows for sharing of information on clients. This means that a sex worker can walk into any of the SWOP clinics and receive services just like she would at the clinic where she first registered. There has been standardization of services so that services rendered are the same in all clinics regardless of the location. Clients identify themselves by name and a unique identifier code that facilitates service provision.

## **1.5 Research Questions**

1. What are the socio-demographic characteristics of HIV positive female sex workers?
2. What is the prevalence of risk taking behavior in female sex workers?
3. What factors determine risk taking behavior in female sex workers?
4. What advice on evidence based programming to mitigate the consequences of increased risk taking behavior can the study provide?

## **1.6 Study Objectives**

### **1.6.1 Overall Objective**

To determine the prevalence and determinants of sexual risk taking behaviour in HIV positive female sex workers receiving services at two SWOP clinics in Nairobi.

### **1.6.2 Specific objectives**

1. To determine the socio-demographic characteristics of HIV positive female sex workers
2. To determine the prevalence of risk taking behaviour of HIV positive female sex workers.
3. To identify factors determining risk taking behaviour in HIV positive female sex workers.
4. To provide advice on evidence based programming to mitigate the consequences of increased risk taking behaviour.

## **1.7 Hypothesis**

There is no association between sexual risk taking behaviour in HIV positive female sex workers and being on treatment.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Introduction**

This section looked at scholarly articles on sex work, risk taking behaviour and any repercussions that result from the same.

### **2.2 Social demographic characteristic of Sex workers**

In a study on characteristics of sex workers in sub-Saharan Africa, it was seen that younger female sex workers were more likely to engage in risky sexual activity as opposed to elderly ones. They were also more likely to not use condoms during anal sex. (Scogie, 2012)

In a qualitative study done in Argentina, noted that street base male sex workers were generally younger, less educated and less able to negotiate for safer sex practices as opposed to their older and mature peers. (Marino.R, 2013)

In a study on contraceptive choices for sex workers in Afghanistan, it was established that there was a huge unmet need for contraception in female sex workers, especially when they ply their trade away from their home towns. There was also a large number of unintended pregnancies in the same population and consequential frequent termination of pregnancy. (Catherine. S, 2010)

Characterization of sex workers has been conducted to group sex workers by the place where they operate their trade. A study done in Dar es Salaam found that there were about 14 classes of sex workers, but there was great fluidity from one type to another depending on the prevailing economic circumstances. (Kamazima. S.R, 2012)

A study of the association between sex worker typology and condom use in female sex workers in Pakistan found that street based sex workers were more likely to engage in risky sexual activity as compared to other classes of sex workers. (Suleiman. M Otho, 2012).

However in study done in Nairobi on the needs of sex workers however found that there really was no association between typology of the sex worker and risky sexual activity. (Antony, 2014)

### **2.3 Determinants of risk taking behaviour**

In a retrospective study involving a cohort of sex workers, initiation on HAART did not show any change in the risk taking profile of the female sex workers. (Mawji, 2012). This concurs with study conducted in Mombasa, Kenya (McClelland, 2010) there was no change in the risk taking behaviour of female sex workers upon initiation on HAART. However, the study was carried out in the initial period of introduction of anti-retroviral drugs in Kenya and there may have been more of fear than complete understanding of how HAART was going to work. It would be important to tease out if any changes in attitude towards ART have occurred since then.

A study conducted in Nigeria, female sex workers considered risk reduction upon initiation on HAART as being difficult and even unnecessary. The respondents felt that being HIV positive was an end in itself and this sense of fatalism may result in an increase in infection incidence in their clients. (Amkomah A 2011). A study conducted in Netherlands on female sex workers found inconsistent condom use after initiation on HAART and recommended targeted health promotion services for female sex workers (Van-veen, 2010)

An earlier study in a Nairobi slum reported that female sex workers who charge less than their perceived up market street based sex workers, were more likely to engage in risky behaviour including unprotected sexual intercourse. However, the study did not find any increase in risk taking behaviour in the same female sex workers after initiation on to ARVs. (Ngugi, 2012)

Another study conducted on street youth in Canada showed an increase in risky sexual behaviour with increases use of cocaine. (MacDonald N 1994). Thus drug and substance abuse may contribute to an increase in risky sexual behaviour. A similar pattern was also observed in sex workers in three cities in the United States of America (Jones, 2003).

In Bali, Indonesia condom use by sex workers and their clients appeared to have been influenced by the education status of their peers. Those who used condoms frequently also reported that their friends also regularly used condoms and the vice versa. (Kathleen, 2007)

A study of sex practices in Meru in Eastern Kenya found that at least 40% of all interviewed female sex workers reported engaging in unprotected anal sex. The practice was often initiated by the client and often the sex worker received much more payment than for vaginal sex. (Schwandt, 2006)

#### **2.4 Highly active antiretroviral therapy (HAART) in Kenya**

ARVs are a class of anti-viral medications specifically targeting RNA containing viruses also called, Retro-virus. The most common retro-virus is the HIV and ARVs are classified according to the mode of action. There are those that act to inhibit viral entry into host cells and those that prevent viral replication in host cells.

ARVs may also be classified by the manner in which they are used, that is, those used first and those used later. The ones that are used initially are known as first line therapy. The second line therapy is used when for some reason the first line therapy is not working well.

Assessment of how well ARVs are working is done by assessing the patients' physical condition, the change in CD4 counts and quantification of viral loads. An unexplained deterioration in these parameters is then called, clinical failure, immunological failure and/or virological failure, respectively.



According to the Kenya AIDS indicator survey of 2012, the prevalence of HIV in Kenya is 6.2% (NASCO, 2014), while the total number of Kenyans living with HIV was 1.6 million). Of this number 58%, (1.1 million) need to be on HAART. According to the MoH national guidelines for initiation of HAART, the cut off point for CD4 counts has been set at 500 cells/mm. (Ministry of Health, 2015)

Access to HAART has been on the rise in Kenya over the last decade. (Michael H. Chung, 2010) Initially HAART was only available in a few private hospitals and the cost of treatment was prohibitive. A monthly supply of medications would cost upward of ten thousand Kenya shillings, a cost unaffordable for most Kenyans as it far exceeded the average monthly income of most people. However in 2004 the President's emergency program for AIDS relief was launched in selected countries by the Government of the United States of America. It aimed at making access to anti-retroviral therapy possible to as many as needed it. This was to be achieved through a scale up program. In the program, Government owned facilities, Faith based health facilities and those run by the private sector were mandated to provide comprehensive care services to the general public at no cost. The plan is that since there are over one million people living with HIV in Kenya and access to HAART was limited by financial ability, the PEPFAR program sought to fill this gap. (United States Embassy Kenya, 2010)

PEPFAR provides ARVs, through KEMSA-MOH, to the facilities at no cost and the facilities are in turn supposed to provide the same to all who need medication. PEPFAR also provides medication to take care of opportunistic infections (OIs). The program also provides funding to pay for the salaries of the medical staff employed by a health provision centre, specifically to provide comprehensive care services to persons living with HIV. (PLHIV)

Since the year 2005, there has been a massive scale up in the provision of ARVs in Kenya. Currently, there are over 600,000 adults in Kenya receiving HAART and over one million are enrolled in care programs where they are getting prophylaxis against opportunistic infections. (Michael H. Chung, 2010). The scale up of access to ARVs in Kenya, under the PEPFAR program has been the best implemented program in Africa so far. (CDC Kenya/PEPFAR 2008)

An ambitious program was launched in 2014 by the UNAIDS, known as the UNAIDS 90/90/90 strategy. It aims to ensure that by the year 2020, 90% of all people living with HIV people will know their status, of this number 90% will be put on treatment (ARVs) and finally, 90% of this will eventually achieve full viral suppression.

However there remains much work to be done. There are a large number of PLHIV who do not know of their status and need to be in care and treatment programs.(NASCOP, 2014) There is also a need to carry out a cohort analysis to analyse the outcomes of all those who have been put on HAART. No clear data is available on those who have been lost to follow up in programs or the number of those who have transitioned into the second line therapy.

The review of literature was anchored on the Health belief model Theory. This is described below.

## **2.5 Theoretical Framework:**

The Health Belief Model (HBM) is a psychological model that attempts to explain and predict health behaviors. This is done by focusing on the attitudes and beliefs of individuals.

The HBM was first developed in the 1950s by social psychologists. The model was developed in response to the failure of a free tuberculosis (TB) health screening program.

Since then, the HBM has been adapted to explore a variety of long- and short-term health behaviors, including sexual risk behaviors and the transmission of HIV/AIDS.

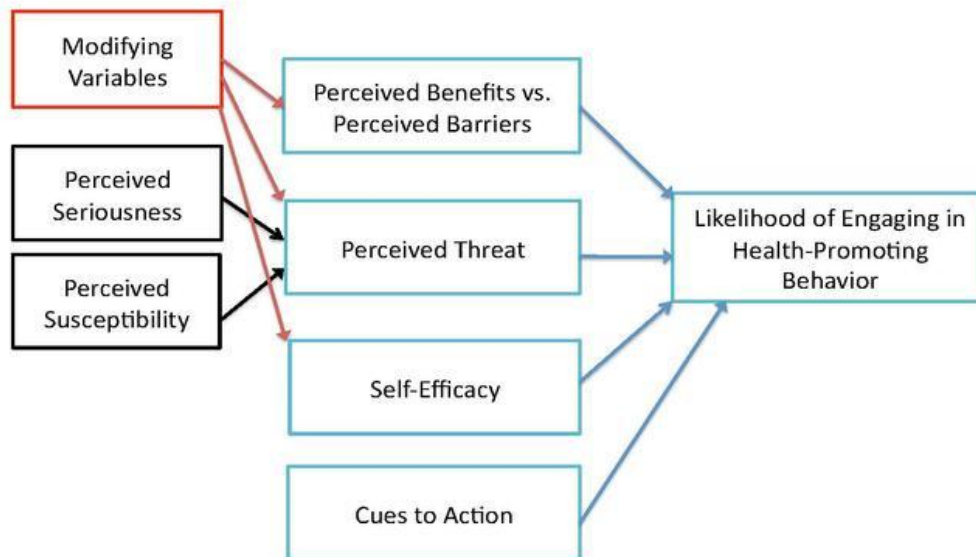
### **2.5.1 Core Assumptions and Statements**

The HBM is based on the understanding that a person will take a health-related action (i.e., use condoms) if that person:

1. Feels that a negative health condition (i.e., HIV) can be avoided,
2. Has a positive expectation that by taking a recommended action, he/she will avoid a negative health condition (i.e., using condoms will be effective at preventing HIV), and
3. Believes that he/she can successfully take a recommended health action

**Figure 2.1 Health Belief Model**

## The Health Belief Model



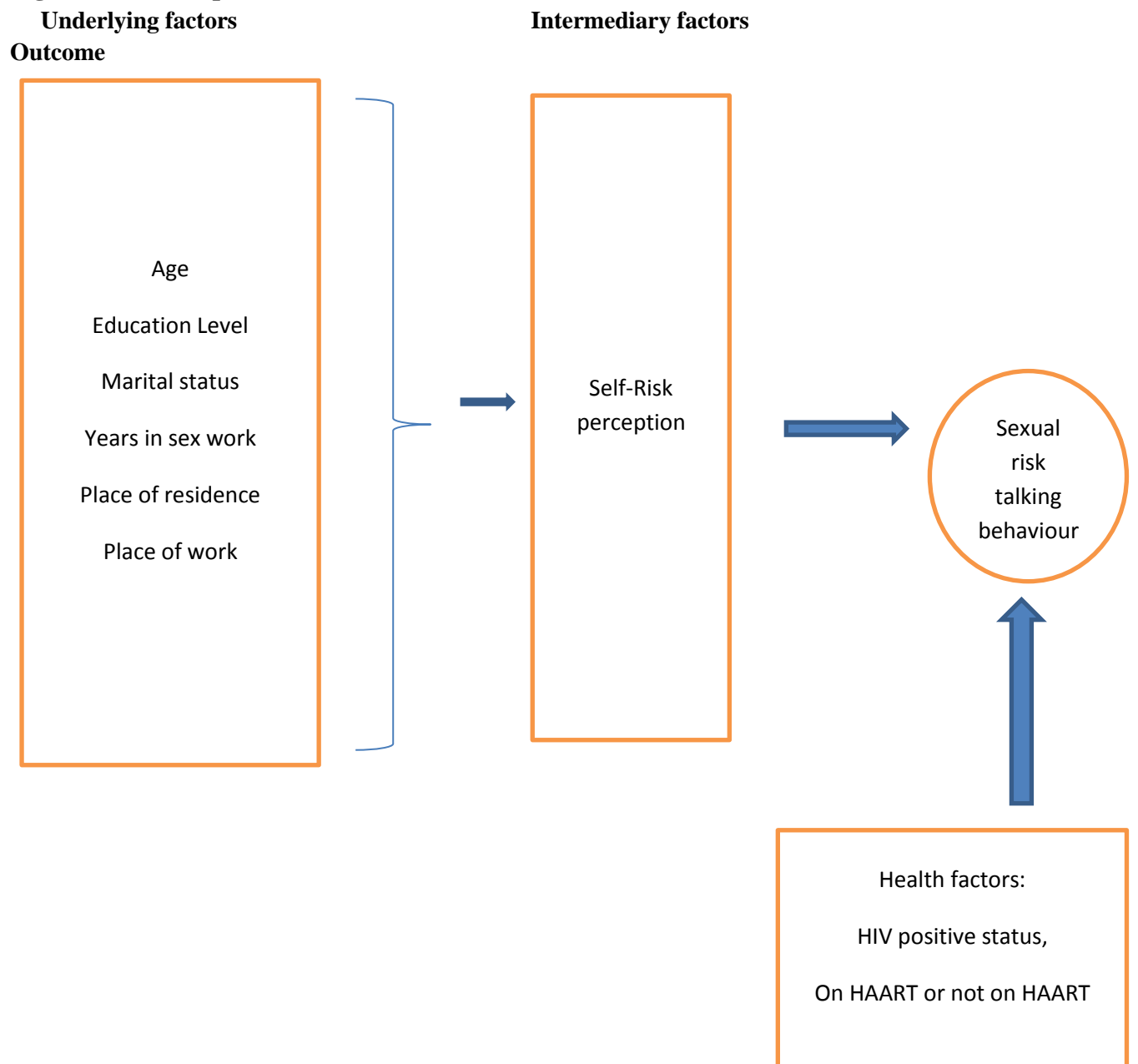
**Source:** Adopted from the Boston University Medical Collage

### 2.5.2 Scope and Application

The Health Belief Model has been applied to a broad range of health behaviors and subject populations. Three broad areas can be identified (Conner & Norman, 1996):

- 1) Preventive health behaviors, which include health-promoting (e.g. diet, exercise) and health-risk (e.g. smoking) behaviors as well as vaccination and contraceptive practices.
- 2) Sick role behaviors, which refer to compliance with recommended medical regimens, usually following professional diagnosis of illness.
- 3) Clinic use, which includes physician visits for a variety of reasons.

**Figure 2.2: Conceptual framework**



## CHAPTER 3: RESEARCH METHODOLOGY

### 3.0 Introduction

This section presents the study methodology highlighting study design, sampling and sample size determination, methods of data collection, methods and type of data analysis and presentation

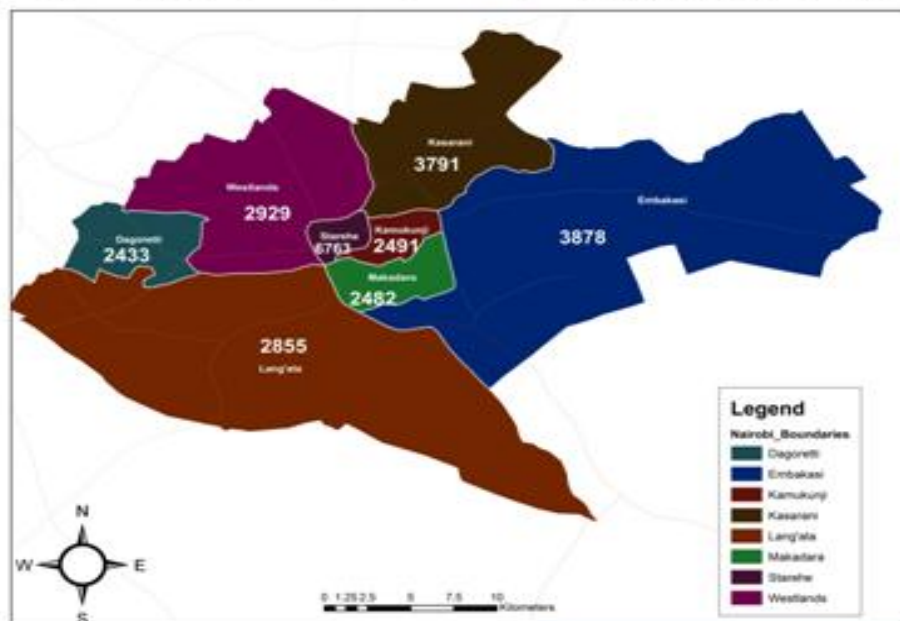
### 3.1 Study Site

The study was carried out in two of the largest SWOP clinics that is SWOP city clinic and the SWOP Majengo clinic. The choice of the two clinics was purposive as they were thought to represent the entire spectrum of sex worker cohorts in Nairobi County.

Kamukunji and Starehe, though the smallest of the districts in Nairobi, are also the most densely populated. They lie between Westlands and Makadara districts. The Nairobi central business district lies in Starehe district, as does the SWOP city clinic.

SWOP Majengo clinic is found in Kamukunji district.

### Estimates of FSWs in Nairobi, by districts



Total Ave.: 27,620  
Total Min.: 21,081; Max.: 34,160

### **Figure 3.1: Study site, Nairobi County**

#### **3.2 Study design**

This was a cross sectional survey in design and was undertaken from February to June 2013.

The study employed quantitative and qualitative approaches to assess sexual risk taking behaviour of female sex workers who were HIV positive.

#### **3.3 Study population**

The study targeted all female sex workers who had been enrolled in the HIV care program at either of the two clinics in the two years preceding the study.

#### **3.4 Sample size determination and recruitment of participants**

##### **3.4.1 Sample size determination**

The SWOP clinics have been in operation since August 2008. In that period of time they have managed to enrol into the program over twenty thousand female sex workers operating within Nairobi County. Close to a third of these (6340) were known to be HIV positive as of January 2013. Of this number a total of 1367 were enrolled for at both SWOP city and Majengo for HAART as of January 2013. The remaining number had not yet qualified for initiation on HAART according to national guidelines, or those who actually qualify but for personal reasons are either unwilling or unable to start taking HAART.

The sample size was then calculated as follows:

$$n = z^2 \times p(1-p) / m^2$$

Where

n= required sample size

z= confidence level at 95% (standard value of 0.05)

p= estimated prevalence of risk taking behaviour. (The actual prevalence of risk taking behaviour is unknown thus a figure of 50% was used hence use of 0.5)

m= margin of error at 5%

$$n= 1.96^2 \times 0.51(1-0.51)/0.05^2$$

n=393.16 rounded up to 393

**n=393**

To cater for non-response and loss to follow up the sample size was beefed up by 10% making the final sample size 431 participants. During data collection total of 431 individuals were interviewed. Of this, 339 were on HAART while 92 were on cotrimoxazole (septrin) prophylaxis only.

### **3.4.2 Selection of participants**

The HIV status of all sex workers enrolled in the SWOP clinics is available in the database. All those who test positive either on enrolment or on subsequent visits are enrolled in to a subset of the program called the care and treatment program. In this program a list of all HIV positive individual is made and is regularly updated. The information is however secured in a password protected file and only available to selected staff members.

It is from the list of individual in the care and treatment program that a sampling frame was designed. Thus all HIV positive individual were listed and could potentially be included into the sample.

The list was then used to identify clients as they appeared in the clinics for any services. Once identified at the reception to the clinic potential participants were offered the option to engage in the study. The entire study was described to them including the study design, objectives, time dedication, possible benefits and expected outcomes. Those who indicated desire to be enrolled then had administration of the informed consent form and when they fully understood it and felt ready to join the study, they signed it and retained a copy.



The process was repeated with all identified potential participants until the desired sample size was acquired. The participants were enrolled on a 'first come, first served' basis disregarding their HAART status.

### **3.5 Data Collection procedures**

Once enrolled into the study, the individual participants had a questionnaire administered to them by the investigator. This study tool collected information on the social demographic characteristics of the individuals, the duration of time involved in sex work, knowledge level of sexually transmitted infections and HIV/AIDS, and their risk taking profile. All the interviews were conducted to individually and confidentially and respondents were free to decline to answer any question that they deemed too personal or were unwilling to answer.

All the filled questionnaires were checked by the investigator for completeness and correct filling. Data was then entered into a Microsoft access program with a data screen that mirrored the physical paper form. Quantitative data was checked for completeness and imputed into SPSS version 21 for analysis.

### **3.6 Data analysis**

Data was analysed for both descriptive and analytic statistics. Descriptive statistics included tables and pie charts for social demographic characteristics, and risk taking behaviour. Analytic techniques employed was cross tabulation for HAART status compared to the risk taking variables of unprotected sex, anal sex, oral sex, sex during menses and sex with a known HIV positive individual. The cross tabulations were then subjected to Pearson's chi square and finally fishers exact test for one variable whose cells were less than five and thus violated the provisions of Pearson's chi square.

The qualitative arm, on the other hand, enrolled female sex workers who met the selection criteria but who had not participated in the quantitative arm. Participants were engaged in interactive focus group discussion (FGD) with the aim of obtaining in depth information into

the phenomenon of risky sexual behaviour. A total of three FGDs with each with 10 participants were conducted.

For the FGDs, investigator booked the date, time and venue for meeting with each of the three (FGDs). The venue was a room in the clinic with privacy where the participants felt comfortable to hold the discussions freely. The investigator ensured the room was organized in a friendly way, all seated in a circular manner to facilitate interactive face to face discussions. The investigator introduced the purpose of the study and obtained consent from all the participants. Their demographic information was recorded for purposes of the discussions and they were assured that their real names would not appear in the report. Data was recorded on tape to facilitate capturing verbatim quotes. At the end of each FGD participants were treated to refreshments and the cost they had incurred on transport were refunded. The tool used to guide the FDG is attached to the appendices. The number of FGDs was determined by the point of saturation of information. By the second FGD, repetition and saturation of information had begun to manifest and the third FGD confirmed this.

Qualitative data from the FGDs was transcribed, summarized and verbatim quotes selected to complement relevant statistical findings.

### **3.7 Ethical considerations**

Before the study began, the entire proposal, and data collection tools were sent to the KNH/UON ethical review committee. The study only commenced after ethical approval had been acquired. A copy of the approval document is in the appendix.

Participation in the study was purely on a voluntary basis. Participants were free to exit at any point without any effect on the quality of services that they had been receiving at the clinic. They also signed an informed consent form that clearly stated their rights. A copy of the same is also available on the appendix.

### **3.8 Limitations of the Study**

The study faced certain limitations that may have had some influence on the overall data. The limitations include:

#### **3.8.1 Information bias**

The information being collected was of a very personal nature and therefore some respondent may not have given true information.

This was mitigated by assuring the participants on confidentiality of the data collection and data handling.

#### **3.8.2 Operating hours of the clinics**

The SWOP clinics have regular working hours to serve a population that does not follow a regular working hour time schedule. This means that those who come to the clinic are only those in need of services and not the entire cohort. The selection of participants might have been affected by this arrangement. This limitation was overcome by having the recruitment period into the study run for a longer time and thus afforded as many potential participants reached and informed of the study.

## CHAPTER 4: STUDY FINDINGS

### 4.1 Introduction

This chapter presents the analysed data focusing on interpretation and presentation of the data obtained, as per the objectives of the study as follows; the socio-demographic characteristic of HIV positive female sex workers in the SWOP clinics; the prevalence of risk taking behaviour in female sex workers; the determinants of risk taking behaviour in female sex workers and evidence based repercussions of increased risk taking behaviour.

### 4.2 Socio-demographic characteristics of the respondents

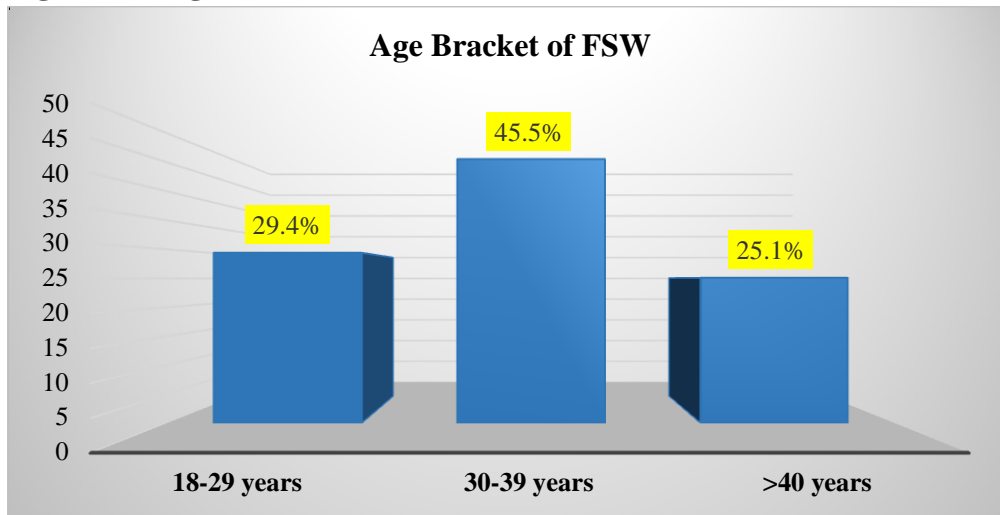
The findings are presented in tables and figures below categorizing the study population by age; number of years in sex work; residential status; sex work typology and employment status/alternative income source and marital status.

#### 4.2.1 Age distribution of respondents

**Table 4.1: Distribution of the study population by age**

Age (Years)	Frequency (n=431)	Percentage (%)
18-29	128	29.4
30-39	195	45.5
>40	108	25.1
<b>Total</b>	<b>431</b>	<b>100</b>

**Figure 4.1: Age of Female Sex Workers (FSW)**



This study population comprised of FWS aged between 18 and more than 40 years. Age bracket 30-40 was predominant at (45.5%)

In the FGDs it was clearly established that younger sex workers, perceived as more attractive to the clients, were less willing to identify themselves with the trade of sex work. The more experienced ones however had no illusions as to what they did for a living and readily admitted to being sex workers.

There was consensus in the FGDs that as the sex workers got older the more she willingly engaged in increasingly risky sexual behaviour. Some of the explanations for this behaviour included perceived decline in their market value and need to attract potential customers. They also were left with little choice but to comply with the client's demand, much of which meant increasingly more daring sexual activities. The slightly older sex workers (over 40 years) stated that the clients would only desire them if they expressed a desire to be more adventurous. The men were not interested in routine sexual activity. As the sex worker aged, she is under increasing pressure to reinvent herself in an attempt to retain her clientele.

*“Kwa sisi wakongwe kazi inaendelea kuwa hatari vile miaka inaongezeka... (laughter)...directly translated....” for us older women sex work becomes increasingly hazardous as years increase”.*

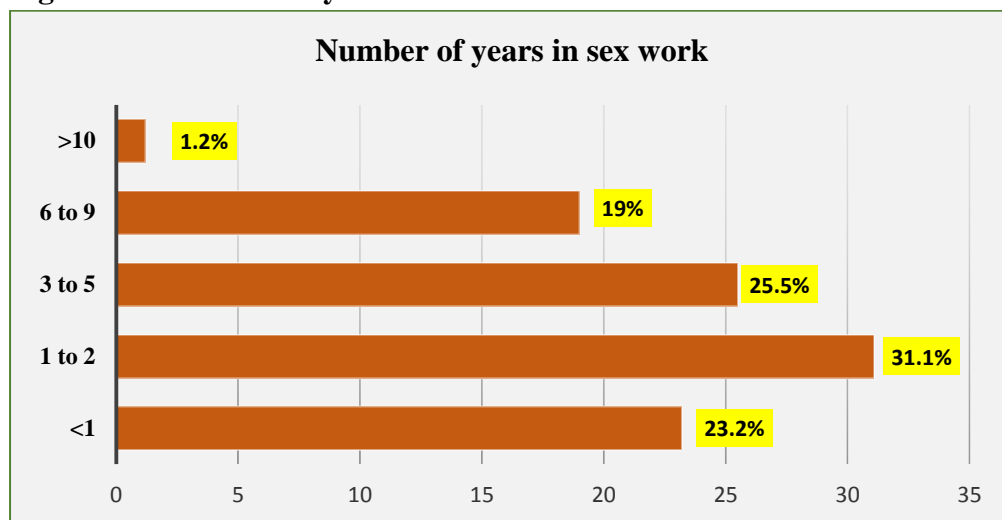
Similarly, participants agreed that being young was an added advantage for the younger sex workers. There was consensus that younger sex workers were also more empowered to negotiate for safer sex than the older ones, as summed up by an elderly sex worker:

*“.....the customers like small (young) girls. If you want to compete with the small ones, you must be ready to do anything the client demands. You need their money, so you give them your body.....”*

#### 4.2.2 Number of years in sex work

The study also sought to categorize the respondents by the number of years in sex work. The findings were tabulated in the figure 4.2.

**Figure 4.2: Number of years in sex work**



One hundred and thirty four of the participants (31.1%) had been in sex work for a period of one to two years. This was followed by 110 (25.5%) who had been in sex work for 2 to 5 years. Only 5 (1.2%) admitted to having been in sex work for more than ten years. The mean duration of engagement in sex work was 2.5 years.

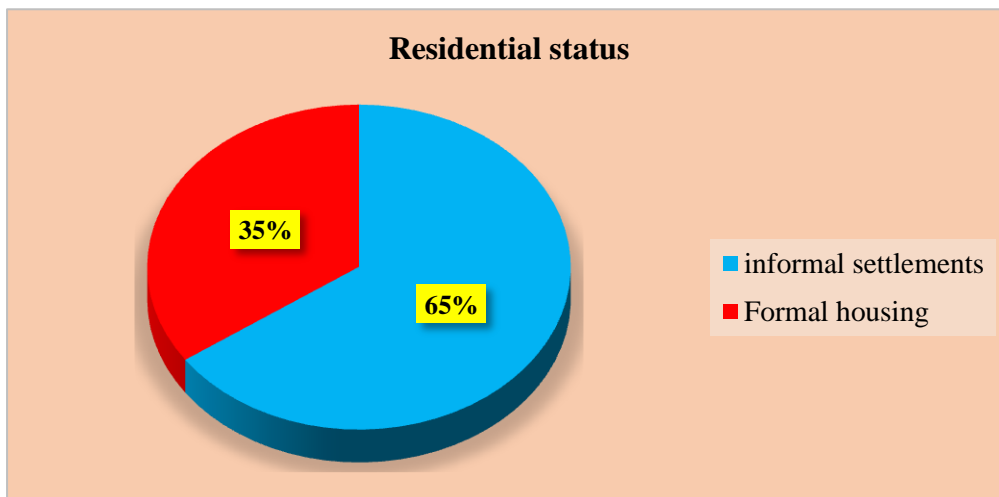
Most of the sex workers reported a desire to quit sex work after this period and engage in new activity. The respondents gave reports of being regarded as less attractive to potential clients in relation to how long they had been in the trade. This may mean they either exit sex work as

they age or take drastic actions to attract customers. In the FGDs there was consensus that older women have to improve both their looks and style of dressing if they want to continue in business. This came up from the statement by a middle aged woman:

*“.....the men get bored of seeing the same face over and over. To get picked up by a client you need not only to promise him but also use make up and dress like the young ones to prove you are worth his money.....”*

#### 4.2.3 Residential Status

The residential status of the respondents was equally important and this was categorized under formal and informal settlements as per the figure 4.3:



**Figure 4.3:**  
**Residential**  
**Status of**  
**participants**

The principal residential status for the majority of the respondents (65%) reported living in informal settlements and slums. Slightly over a third (35%) of the respondents reportedly resided in the formal housing. In the FGDs there was consensus that the rent in the informal settlements is far much cheaper than in formal housing units. The informal settlement also provided opportunity to blend into the crowds without raising suspicions as to the nature of the work that they engage in. A number of participants stated having two residential places.

One where they live with their family and another dedicated to sex work. The latter is often in the slums to cut on costs. This is summed up by the statement below.

*“.....you can't let your children know what work you do. You get another place in another estate to do your work. You must respect yourself and protect your children..... ”*

#### 4.2.4 Sex Work Typology

The study characterized types of sex work as shown in table 4.2.

**Table 4.2: Distribution of respondents by sex work typology**

<b>Sex work typology</b>	<b>Frequency (n=431)</b>	<b>Percentage (%)</b>
Street based	198	43.6
Bar based	85	19.5
Brothel or sex den	67	15.4
Home based sex workers	68	16.6
Escort and call girl service	5	1.1
Strip club based	10	2.3
Massage parlour based	7	1.4
<b>Total</b>	<b>431</b>	<b>100</b>

A total number of the respondents 198 (43.6%) indicated that their sex work typology was street based. This is followed by 85 (19.5%) as bar based. Home based sex workers accounted for 68(16.6%), followed closely by brothel based at 67(15.4%). Escort and call girl service had the lowest proportion at 5(1.1%) followed closely in that order by strip club based 7(1.4%)

The most common type of sex work was street and bar based sex work. Here the sex workers go to places frequented by potential clients in the hope that they will attract one. However,

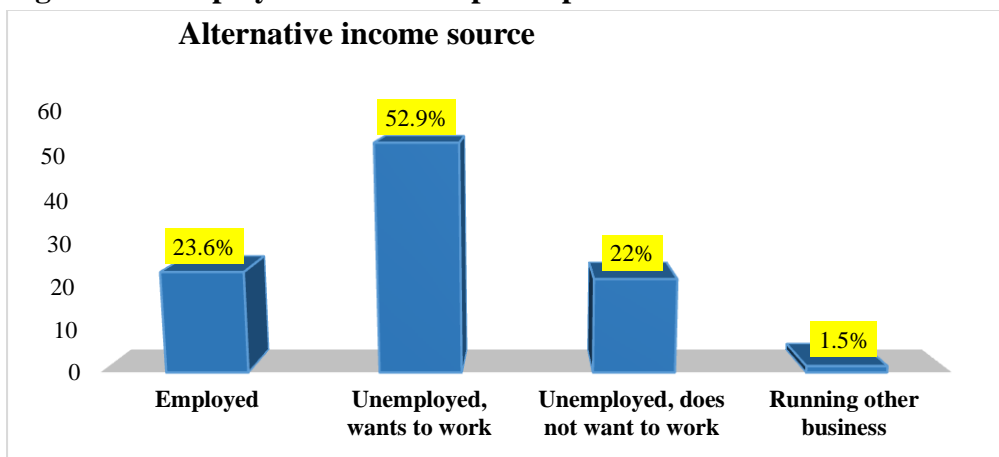


due to the setting of one of the clinics (Majengo), there was a significant population of home based sex work. These are the one that work from their houses.

#### 4.2.5 Alternative income source

The employment status/ alternative income sources of the study population were established as shown in Figure 4.4.

**Figure 4.4: Employment status of participants**

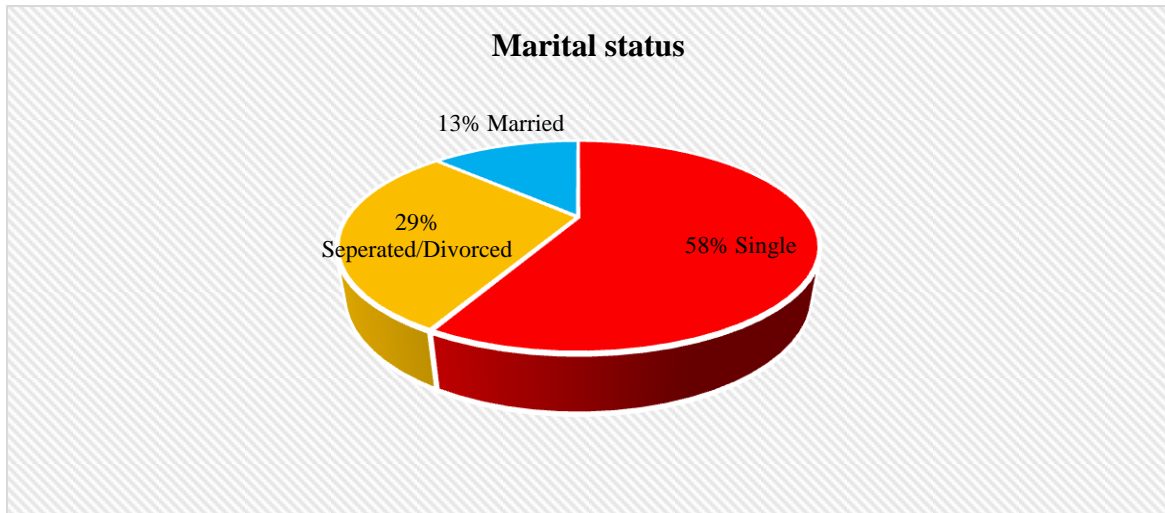


The majority of the respondents (74.9%) were predominately unemployed, with 52.9% reporting willingness to work if they landed an employment, while (22%) reported unwillingness to seek for employment. A total of 99 respondents (23%) were employed and sex work was an alternative income source, while a small proportion (1.5%) of the respondents were running other businesses with sex work as an alternative income source. It is clear close to (75%) were full time sex workers.

#### 4.2.6 Marital Status of study participants

The marital status of the respondents is categorized under three categories as shown below in Figure 4.5.

**Figure 4.5: Marital Status of Study Participants**



More than half of the respondents (58%) of the study participants were single while (29%) were separated or divorced and only (13%) were married.

In the FGDs it was reported that economic hardship of providing basic needs for the family pushed these women to sex work to earn their living. The single females indicated that they had responsibilities to provide for their dependants and they would do whatever it takes to earn a living for survival. As the head of the families, they are left with a heavy burden for providing and meeting their demand single headedly. There was consensus that for a woman to be married did not always mean she achieves economic security. Some married women remain the bread winners for their family. The married female sex workers indicated that they also want to participate in providing for their families while others indicated that their husbands are irresponsible, drunks who do not contribute in providing for the family. Thus the females take the role of seeking alternative income sources leading them to sex work. A statement by one married sex worker summarizes it as follows:

*“Some of the so called husbands are more of liability than providers...drunkard dependents”*

Almost 60% of the respondents reported that they were single. They were engaged in sex work as the only means of providing for themselves and their families. They also felt that sex work is the only way to make a living. However, about 12% were actually in marital unions and even lived with the partner. It was also generally common for some females to continue in sex workers even in marriage when the man did not provide enough for the family, or the women were unwilling or unable to exit sex work, and the exciting life that comes with it as stated below:

*“...ukizoea pesa rahisi, kuiacha ni vigumu sana....” (Once you are used to easy/quick money it is very difficult to stop the habit)*

#### **4.3 Prevalence of risk taking behaviour in female sex workers**

The prevalence of risk taking behaviour in female sex workers looked into contraceptive use, multiple sexual partners, sex with known HIV positive client, unprotected sex, oral/anal sex and sex during messes.

### 4.3.1 Contraceptive use among female sex workers

**Table 4.3: Contraceptives use by study participants**

<b>Contraceptive use in female sex workers</b>	<b>Frequency (n=431)</b>	<b>Percentage (%)</b>
Male condom	291	67
Tubal ligation	5	2
Depo	54	12
Herbal/others	18	4
Oral	23	5
IUCD	6	3
Diaphragm	0	0
Female condom	2	1
None	32	6
<b>Total</b>	<b>431</b>	<b>100</b>

The male condom was the most popular method with (67%) of sex workers reporting its use, followed by depo provera at only 12%. The diaphragm was the least popular method mainly due to its very limited availability. Overall 94% of the respondents reported being on some form contraceptive, while (6%) of respondents were not on any contraceptive. In the FGDs there was consensus that the female condom was not only expensive and difficult to use, but additionally unpopular with male clients, some of whom feared the sex worker may not change a condom between.

The male condom was the most commonly used method followed by injectable hormonal contraception. The injectable hormonal contraception was preferred as it had an effect on some of the participant's menstrual cycles resulting in amenorrhea. This situation was favourable as it meant the lady does not have to avoid work for a few days every month.

*“.....the days you are not at work due to periods no one will refund you that money, yet your bills are waiting. Getting a Depo injection takes care of that problem.”*

However of those who reported having been with a client the day before, condom use was generally quite low. Condom use depended upon the type of sexual activity the sex worker was involved in. When it came to vaginal sex with a regular client, consistent condom use was reported at 62.2%. However when it came to anal sex 7.2% reported not using condoms. The reason for these differences might be due to a perceived lower risk when having anal sex rather than vaginal sex. In reality however, anal sex carries a much higher risk as opposed to vaginal sex due to ease of tearing of rectal mucosa and reduced lubrication.

#### **4.3.2 Coital acts with casual clients**

The study sought to determine the coital acts with casual clients in the day preceding data collection. The findings are presented in the figure 4.6.

**Figure 4.6: Coital acts with casual clients on the day preceding data collection**

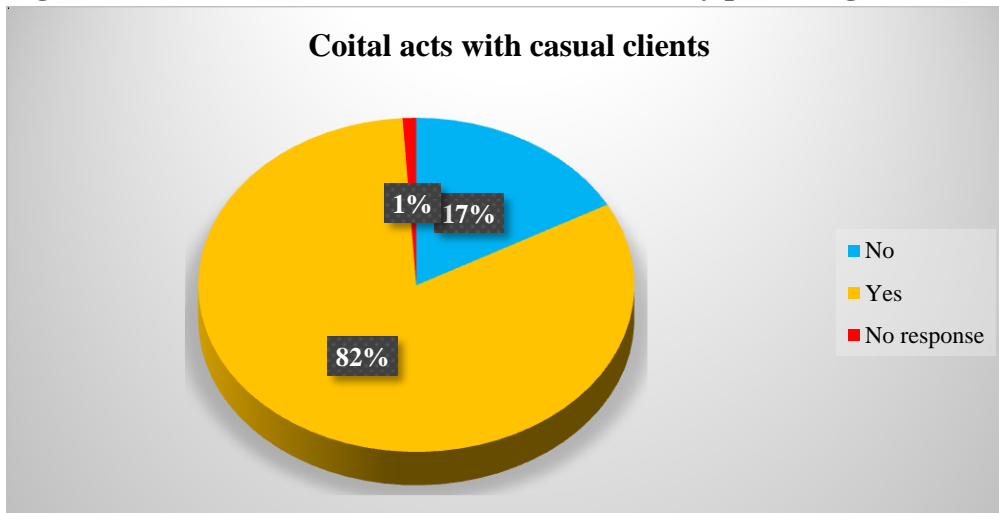


Figure 4.6 reveals that three hundred and fifty three (82%) of the respondents had coital acts with casual clients; seventy three (17%) respondents did not have coital acts with casual clients while five (1%) respondents gave no response.

Sex workers have two kinds of clientele that they service. The casual client is one who is a first time user of the services she is offering. Often the sex worker does not know him at all. The transaction is strictly cash in exchange for sex.

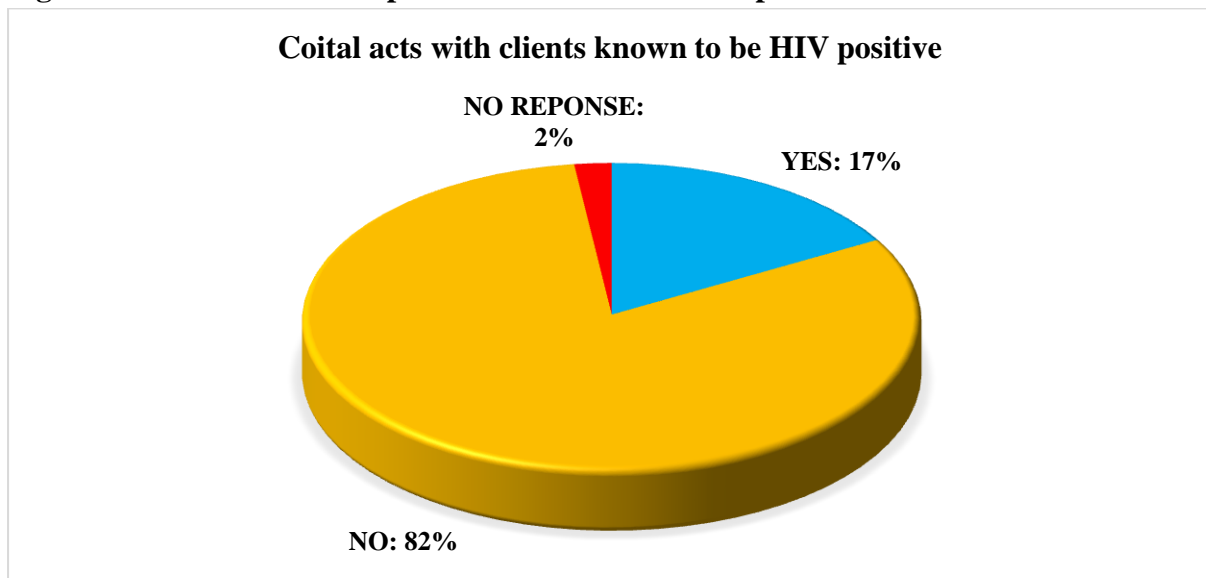
The other class is the regular client; this is one who is well known to the sex worker. He may even be a former boyfriend. He does not need to pay for the service up front and may get services on credit advanced to him.

The mean number of casual client per day per sex worker was two (2)

#### **4.3.3 Coital acts with partners known to be HIV positive**

The study sought to determine whether the female sex workers would knowingly engage in sexual activity with a client whose HIV status she knew. The findings are presented in figure 4.7.

**Figure 4.7: Coital acts with partners known to be HIV positive**



A majority (82%) of the respondents indicated that they had no single episode of coital acts with clients known to be HIV positive, while 17% of the respondents answered in the affirmative and 2% of the respondents did not respond. This mainly applied to regular clients whose HIV status the sex worker may know.

#### **4.3.4 Condom use with clients**

The study sought to investigate the use of condom among the respondents and whether they would stop condom use. The findings are presented below in table 4.4.

**Table 4.4: Condom use with clients among study participants**

<b>With how many clients did you use a condom</b>	<b>Frequency</b>	<b>Percentage (%)</b>
1	275	63.8
2	31	7.2
3	45	10.4
4	22	5.1
5	26	6
6	20	4.6
7	6	1.4
8	2	0.5
9	1	0.3
10	3	0.7
<b>Total</b>	<b>431</b>	<b>100</b>

As per table 4.4, about two thirds (63.8%) used a condom when servicing a client. However as the number of clients increased, the frequency of condom use declined. A few participants in the study reported frequent multiple sexual partners in a single day. Most reported having been with a single client on the day preceding data collection



## Condom Use

**Table 4.5: Reasons to consider stopping condom use**

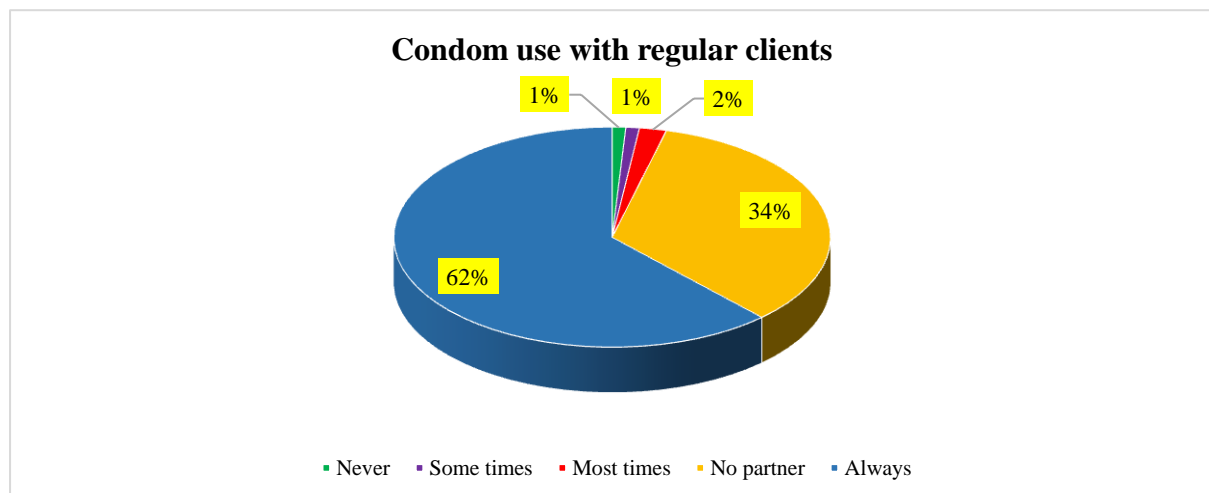
Stop condom use	Frequency (n=431)	Percentage (%)
Never stop	313	72.6
If I had to buy	115	26.7
Other reasons	3	0.7
<b>Total</b>	<b>431</b>	<b>100</b>

Three hundred and thirteen (72.6%) respondents indicated that they would never stop using a condom; 115 (26.7%) respondents indicated that they would only stop the use of condoms if they had to buy them while 3 (0.7%) respondents indicated that they had their own personal reasons to stop the usage of condoms.

### 4.3.5 Condom use with regular clients

The study sought to determine the use of condoms with regular partners. The findings are presented in figure 4.8.

**Figure 4.8: Condom use with regular clients**



As illustrated in figure 4.8, the majority of respondents (62%) reportedly always used condoms with regular clients; 34% of the respondents indicated that they had no partners, that is they had no regular clients; 2% of the respondents indicated that most times they used condoms with regular clients while 1% of the respondents indicated they sometimes did and others never used a condom with regular clients, respectively. Of the respondents who reported having a regular client, 62.2 per cent reported using a condom at every sexual encounter with the regular client. Only 1 per cent reported never using a condom with the regular client.

#### **4.3.6 Number of clients day before interview**

The study sought to determine the number of clients the female sex workers had a day before the questionnaires were administered.

Frequency of sex with multiple partners was estimated by establishing the number of clients they had entertained the day preceding questionnaire administration. This was interpreted as a surrogate measure of average daily number of clients. 61% of the respondents however reported not having had a sexual encounter in the 24 hours preceding the interview, while the remaining 39% reported having engaged in sex prior to the interview.

**Table 4.6: Number of clients serviced in the day preceding data collection**

<b>Number of clients</b>	<b>Frequency</b>	<b>Percentage (%)</b>
1	39	23.8
2	38	23.1
3	22	13.4
4	28	17.07
5	19	11.6
6	9	5.4
9	6	5.5
10	3	1.8
<b>Total</b>	<b>164</b>	<b>100</b>

Of the 39% of respondents who reported having had a client in the day preceding data collection, a combined 46.9% had between one and two clients. The frequency of reported was inversely proportional to the number of clients.

### **Unprotected sexual exposure**

The respondents in the FDGs gave information on incidences when they chose not to have protected sex. The most interesting of this was the report of a sex worker who chose not to react when she felt the condom tear as she reported she was enjoying the said event immensely.

*“....I knew that the condom had burst but it was so long since a man treated me so well I didn't want to destroy the thought that maybe he was treating as a girlfriend and not as a prostitute.”*

#### 4.4 Determinants of risk taking behaviour

The study sought to establish determinants of risk taking behaviour in female sex workers.

The following subsections document reported determinants of risk taking behaviour.

##### 4.4.4 Engagement in sex work at the time of the study

The study sought to determine whether the female sex workers were currently engaged in sex work for the past two months. The findings were presented in table 4.7.

**Table 4.7: Engagement in sex work as at the time of the study**

<b>Currently engaged in sex work</b>	<b>Frequency (n=431)</b>	<b>Percentage (%)</b>
Yes	315	73
No	112	26.1
No response	4	0.9
<b>Total</b>	<b>431</b>	<b>100</b>

Three hundred and fifteen respondents (73%) indicated that they were currently engaged in sex work; one hundred and twelve (26.1%) respondents indicated that they were not currently engaged in sex work while four (0.9%) respondents did not respond.

Sex workers tend to vary the period of time that they engage in sex work. Sometimes they may go off sex work for a period of time. The reasons for this break in sex work include travelling out of the city, finding alternative sources of income or even marriage.

##### 4.4.5 Categorization of study population by oral and anal sex

The study sought to inquire from the respondents whether they had casual oral sex; condom use during sex; casual sex anal and condom use during anal sex. Table 4.8 shows the types of sexual acts study participants engaged in.

**Table 4.8: Distribution of study population by oral and anal sex**

Oral Sex	Frequency	Percentage
Never	310	71.9
Always	10	2.3
Sometimes	61	7.19
No response	50	11.6
Total	431	
Use of condoms during oral sex		
Never	2	2.8
Always	35	49.3
Sometimes	34	47.8
Total	71	
Anal Sex		
Never	308	71.4
Always	3	0.69
Sometimes	1	0.23
No response	119	27.6
Total	431	
Use of Condoms During anal sex		
Never	4	100
Total	4	

As per table 4.8, the response given by female sex workers indicates that three hundred and ten (310) respondents representing 71.9% would never have casual oral sex. Seventy one (71) respondents representing 16.4% of the participants, admitted being involved in the activity, however 11.6% of the respondents opted not to respond to this question. Of those that have casual oral sex, 49.2% used condoms at each encounter. Only 2 respondents (2.8%) reported never using a condom during casual oral sex.

A casual client was described as one with whom the sex worker had only just met, and for whom the transaction was strictly money in exchange for sex. Neither party in the transaction appeared aware of the health status of the other nor did they want to know. This means that in the event of any mishap, for instance, a condom burst, the risk level is unknown. In this study, an attempt was made to grade the risk taking behaviour by looking at how many would engage in oral sex with a casual client.

Three hundred and eight respondents (71.5%) had never engaged in casual anal sex. One hundred and nineteen (119) representing 27.6% did not respond to this question. Only 4 individuals admitted to engaging in casual anal sex, representing less than 1% of all the respondents. However, of these four individuals, none of them ever used condoms during the act.

Anal sex was as a result of demand by the client and rarely offered as an option by the sex worker. Anal sex carries a much higher risk of infection with HIV due in part, to lack of adequate lubrication. The prevalence of anal sex with casual clients was however reported rather low.

#### 4.4.8 Regular partners

The study sought to determine whether the female sex workers had regular partners.

**Table 4.9: Whether or not respondents had regular partners**

<b>Do you have a regular partner</b>	<b>Frequency (n=431)</b>	<b>Percentage (%)</b>
No	177	41.1
Yes	254	58.9
<b>Total</b>	<b>431</b>	<b>100</b>

Table 4.9 shows 58.9% of the respondents indicated that they did have a regular partner while 41.1% of the respondents indicated that they did not have a regular partner. A regular partner is one who is well known to the sex worker. He may or may not pay for services rendered upfront and may pay in kind. Such partners are often boyfriends or even ex-spouses. Due to the familiarity between them they may not insist on safer sex practices when they engage in these activities.

**Money being offered:** The amount of money offered to a sex worker by a client had the potential to sway their choice to engage in risky sexual activity. This was especially so with the age of the sex worker in question. More elderly sex workers in the FGDs gave reports of being more willing to engage in a risky activity so as to get a client. They felt that the worst (HIV infection), had already happened and there was no point of losing money if the client chose to expose himself to an infection.

*“.....we go to the street to get money, if a man wants to have sex without a condom so he can give me the money, then so be it.”*

Knowledge of partners HIV status: As mentioned, above if the status of a regular partner is either known or has been speculated about, the respondents in the FGDs concurred that they would be less incessant that the partner had to use a condom each time they had sex. They felt that since they already knew of their status there was no reason to insist that the partner used a condom. There was a sense of security brought on by familiarity.

*“.....you are already sick, and he has been good to you .....there is no need to make him think that you do not trust him.....”*

#### **4.5 Repercussions of increased risk taking behaviour**

##### **4.5.1 Sexually transmitted infections**

The study sought to determine if the participants had any sexually transmitted infections during the two months preceding the study. The findings are presented in the and table 4.10

**Table 4.10: History of having an STI in the two months preceding the study**

<b>Had an STI</b>	<b>Frequency (n=431)</b>	<b>Percentage (%)</b>
No	265	61.5
Yes	166	37.1
<b>Total</b>	<b>431</b>	<b>100</b>

Table 4.10 shows that the majority (61.5%) of the respondents did not report having an STI on the two months preceding the study, while 37.1% of the respondents have reported having had either symptoms or been treated for an STI. To quantify any unprotected sexual activity, the participants were requested to recall any sexually transmitted infections that they either suspected they might have had or that were confirmed to them in the clinic during examination.

##### **4.5.2 Frequency of sexually transmitted infections**

The participants were asked to respond to a question on any sexually transmitted infection that they may have had in the two months preceding the study. At least 37.8% of all



respondents reported having had an STI within the specified period. This finding was important to the investigator given that the clinics provide the sex workers with all that it takes to avoid contracting STIs. They are given health education and condoms as frequently as they desire. They also get frequent screening for STI and treatment for the same. This means that the sex worker who reported having an STI really did have an infection and quite possibly has been engaging in risky sexual activity despite the efforts by the clinic.

#### **4.5.3 Unplanned pregnancy**

In the FGDs, participants were asked to comment on what they thought might have been consequences to the risky sexual activity that they were involved in. There was concurrence that they sometimes got pregnant from men whom they did not even know. Some opted to keep the pregnancy but majority said they had procured an abortion some even stating having had multiple abortions. The reasons for the termination of the pregnancy were inability to bring up a child and the fact that they did not know the father to the child. The following statements summarize the FGD agreement.

*“.....I am on the street to make money not to get a baby...”*

*“...the man could be a criminal; I cannot raise the baby of a man I don't know. I could bring up a criminal or an albino..... ”*

*“....I am sad about having had three abortions since I started this work yet I don't have my own child.....but I need to know the child's father if I am to keep it.”*

#### **4.5.4 Occurrence of difficulty for future pregnancy**

As a continuation to the discussion on unplanned pregnancies, participants were asked to comment on their experiences regarding any reproductive health challenges that they could attribute to sex work. The participants concurred over the inability to conceive when so desired, as summarized in the statements below:

*“.....when I was young they are worried about getting pregnant and how to raise a baby, now I am old and lonely and all I want is a child..... with anyone.”FGD1*

*“.....I think God is stopping me from getting pregnant coz I might abort it just like all the others.....I so desire to have a child.....just one.”FGD3*

#### **4.6 Association between treatment status and sexual risk taking behaviours**

This section shows the comparative analysis of risk taking behaviours in the respondents.

The subjects were categorized according as to whether or not they were on HAART or not, and thereafter related to the various risk taking behaviour variables including, non-contraception use, inconsistent condom use, sex with a known HIV positive client, sex during menses, anal sex and multiple partners

The results are presented in the table 4.11.

**Table 4.11** Presents the comparison of use of contraceptives, consistent condom use, sex with a known HIV positive client, sex during menses, anal sex and multiple partners, against either being on HAART or not. Contraception use was generally high across the two groups but those not on HAART (93.1%) had slightly higher contraceptive use than those on HAART (92.6%). The difference was however not statistically significant.

Consistent condom use while generally high across the groups, those on HAART (97.7%) had higher condoms use when compared to those not on HAART (92.1%) This relationship was statistically significant

**Table 4.11 Association between risk taking behaviour and treatment status**

Variable		On HAART	Not on HAART	Statistic	Significance
		No (%)	No %	Chi- Square	P-value
<b>Use of contraceptive</b>	Used contraception	314 (92.6)	81(93.1)	$X^2= 0.0334$	0.14
	No contraceptive used	25 (7.3)	6(6.8)		
	Total	339	87		
<b>Condom Use</b>	Consistent condom use	222(97.7)	59(92.1)	$X^2= 4.735$	<b>0.02955</b>
	No condom use	5(2.2)	5(7.8)		
	Total	227	64		
<b>Sex with known HIV positive client</b>	Yes	55(19.9)	20(22.9)	$X^2= 1.729$	0.49
	No	271(83.1)	67(77.01)		
	Total	326	87		
<b>Sex during Menses</b>	Yes	7(2.9)	5(7.5)	$X^2= 0.0029$	0.12
	No	235(97.1)	62(92.5)		
	Total	242	67		
<b>Anal Sex</b>	Yes	1(1.4)	3(4.47)	$X^2= 6.7$	<b>0.00332*</b>
	No	241 (98.36)	64(95.5)		
	Total	242	67		
<b>Multiple sex partners</b>	No	201(81.7)	56(81.5)	$X^2= 0.00932$	0.116
	Yes	45(18.3)	13(18.84)		
	Total	246	69		

\*Using fishers exact test

Having sex with a client whose HIV positive status was well known to the participants was generally low. Of those on HAART, 19.9% reported this as compared to 22.9% for those not on HAART. Those on HAART were less likely to knowingly have sex with a client whose HIV positive status was well known to them. This difference was not statistically significant when subjected to correlation test

The incidence of having sex during menses was generally low across the two groups with those on HAART (2.9%) compared to those not on HAART (7.5%). and when this relationship was subjected to a correlation test, the difference turned out to be statistically insignificant

The reported incidence of anal sex was very low in both groups at 4.4% in those not on HAART compared to 1.4% for those on HAART. The difference however turned out to be statistically significant. ( $p=0.01$ ). That particular cell was further subjected to a Fishers exact test. This served to reconfirm the significance of the finding. ( $p=0.0332$ )

The number of clients that the respondents had on the day preceding data collection was similar across the two groups. There was no significant difference between the two groups in terms of numbers of clients. The risk was generally the same. Those on treatment 18.3% reported having more than two clients which was very similar to 18.8% for that not on treatment.

## **CHAPTER 5: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

The study was designed to describe the sexual risk taking behaviour of HIV positive female sex workers receiving services at two SWOP clinics. The following are discussion of the key findings.

### **5.2 Social Demographic characteristics of the participants**

The majority of the participants in the study were aged between 30 and 40 years. This finding is in keeping with the knowledge that sex work has a 'shelf life'. (Olenja, Kimani, 2002) The sex worker has a limited time within which she can profitably ply her trade. After this period, the sex worker has to find ways to re-invent herself to keep plying the trade. This was confirmed by the responses given in the FGDs by participants. The younger a sex worker the more attractive she is to the clients, but also the less willing to identify herself as a sex worker. Olenja and Kimani confirm this in their study beauty is necessary to doing well in their profession; therefore, to be beaten and disfigured with ugly marks often throws them out of business. (Olenja, Kimani, 2002). The more experienced ones have no illusions as to what they do for a living and readily admit to being sex workers.

This finding from the study contrast with Scorgie, whose study describes that younger female sex workers were more likely to engage in risky sexual behaviour as opposed to elderly ones. (Scorgie.F, 2012). This might be due to the unique nature of sex workers at the SWOP clinics. Here they receive high quality health education and risk reduction strategy information.

The mean duration of engagement in sex work was two years. Most of the sex workers reported a desire to quit sex work after this period and engage in new activity. The respondents gave reports of being regarded as less attractive to potential clients in relation to how long they had been in the trade. This may mean they either exit sex work as they age or they need to take actions to attract customers. In the FGDs there was concurrence that older women have to get into increased risky sexual activity.

Close to one third of respondents gave history of living in non- formal settlements, including slums. The reason for this was that the rent in such houses is less than in formal housing units. They are also able to blend into the crowds without raising suspicions as to the nature of the work that they do unlike in formal settlements. Some also had two places of residence. One where they live with their family and another dedicated to the activity of sex work. The second residence is often in the slums to cut on costs.

The most common type of sex work was street and bar based sex work. Here the sex workers go to places frequented by potential clients in the hope that they will attract one. However, due to the setting of one of the clinics (Majengo), there was a significant population of home based sex work. These are the ones that work from their houses.

Almost 60% of the respondents reported that they were single. They were engaged in sex work as the only means of providing for themselves and their families. They also felt that sex work is the only way to make a living. This concurred to the report by Olenja and Kimani, Who stated in their study that *'It is pertinent to note that for the girl child entry into prostitution is a last resort in her long pursuit of food and shelter.'*(Olenja, Kimani, 2002) However, about 12% were actually in marital unions and even lived with the partner. This group was in sex work, either because the man did not provide enough for the family, or were unwilling or unable to exit sex work, and the exciting life that comes with it.

The women were mainly in sex work as they did not have any other idea of where they can get an alternative source of income from. Most of the women expressed a desire to engage in different work if given the opportunity. A small percentage was actually running a business and sex work was an adjunct source of income.

A few participants in the study reported frequent multiple sexual partners in a single day. Most reported having been with a single client on the day preceding data collection. However of those who reported having been with a client the day before, condom use was generally quite low. Condom use depended upon the type of sexual activity the sex worker was involved in. When it came to vaginal sex with a regular client, consistent condom use was reported at 62.2%. However when it came to anal sex 7.2% reported not using condoms. The reason for these differences might be due to a perceived lower risk when having anal sex rather than vaginal sex. In reality however, anal sex carries a much higher risk as opposed to vaginal sex due to ease of tearing of rectal mucosa and reduced lubrication. This finding is in keeping with the findings of a study in Pakistan that described that sex workers would determine when to use condoms depending on the type of sexual activity that they were about to engage in. (Suleman. M Otho, 2012). The same is also corroborated by a study in Meru, Kenya, where sex workers reported that risky sexual activity was often initiated by the client and the enticement of more money used to sway the female sex workers better judgement and decision making. (Shwandt.M, 2006)

Of all the respondents in the study 92% reported being on at least one method of contraception. Only 7.7% reported not being on any single method. The high prevalence of contraception use was due to fear of having an unplanned pregnancy, which would result in strain on the home economy. The male condom was the most commonly used method followed by injectable hormonal contraception. The injectable hormonal contraception was preferred as it had an effect on some of the participant's menstrual cycles resulting in



amenorrhoea. This situation was favourable as it meant the lady does not have to avoid work for a few days every month. This finding is in contrast to the findings of the study on contraception and sex workers in Afghanistan that reported a huge unmet contraceptive need. (Catherine. S, 2010) This difference could be explained by the fact that contraception is freely available at the SWOP clinics and maybe the unmet need in sex workers in Afghanistan is really part of a wider unmet need among Afghani women.

The respondents in the FGDs gave information on incidences when they chose not to have protected sex. The most interesting of this was the report of a sex worker who chose not to react when she felt the condom tear as she reported she was enjoying the said event immensely. This event was unprecedented in available literature and raises the question of addressing the sexual satisfaction needs of sex workers and its association with risky sexual behaviour.

The amount of money offered to a sex worker by a client had the potential to sway their choice to engage in risky sexual activity. This was especially so with the age of the sex worker in question. More elderly sex workers in the FGDs gave reports of being more willing to engage in a risky activity so as to get a client. They felt that the worst (HIV infection), had already happened and there was no point to losing money if the client wanted to expose himself to an infection. If the status of a regular partner is either known or has been speculated about, the respondents in the FGDs reported that they would be less insistent that the partner had to use a condom each time they had sex. They felt that since they already knew of their status there was no reason to insist that the partner used a condom. There was a sense of security brought on by familiarity. This finding is in keeping to the findings of a similar study of sex workers in Nigeria, where they felt that the issue of condom use and risk reduction was really the responsibility of the client as it was in his interest that they have protected sex and not for the sex worker to do. (Amkomah. A, 2011)

As has been alluded to earlier in the text, elderly sex workers are more likely to engage in risky activity keep a client as compared to the younger generation. The younger sex workers were also more empowered to negotiate for safer sex than the older ones. This finding contrasted with that found in literature where younger sex workers were the one who generally tended to engage in risky sexual activity. (Marino. R, 2013)

The participants were asked to respond to a question on any sexually transmitted infection that they may have had in the two months preceding the study. Of all the respondents at least 37.8% reported having had an STI. This finding is significant given that the clinic is supposed to provide the sex workers with all that it takes to avoid contracting STIs. They are given health education and condoms as frequently as they desire. They also get frequent screening for STI and treatment for the same. This implied that the sex worker who reported having an STI really did have an infection and quite possibly has been engaging in risky sexual activity.

During the FGDs the participants were asked to comment on what they thought might have been consequences to the risky sexual activity that they were involved in. The most common response was that they sometimes got pregnant from men whom they didn't even know. Some opted to keep the pregnancy but most said they had procured an abortion some even stating having had multiple abortions. The reasons for the termination of the pregnancy were inability to bring up a child and the fact that they did not know the father to the child. Opinions raised by the FGD participants when asked about unplanned pregnancies as a result of sex work.

As a continuation to the discussion on unplanned pregnancies, the participants were asked to comment on if they were experiencing any reproductive health challenges that they could attribute to sex work. The most frequently stated issue was that of inability to conceive when

so desired. Most respondents in the FGD for women aged between 30-40 years gave this complaint. FGD participants talking about the difficulty they have had trying to conceive a child.

## **5.3 Conclusions**

### **5.3.1 The prevalence of risk taking behaviour in female sex workers.**

From the FDGs majority of the participants confirmed their willingness to engage in unprotected sexual activity if the client so demanded as long as he was ready to pay them extra for the activity. This line of reasoning was prevalent in all age groups during the FDGs. The participants put the need to make money above any other personal risk. Due to the seasonal nature of their work the women said that they try to make as much money as they can when the opportunity to do so arises.

### **5.3.2 Factors determining risk taking behaviour in female sex workers.**

Knowledge of partners HIV status: from both the quantitative and qualitative data collection and analysis periods the women expressed an increased chance of engaging in unprotected sexual activity if they were aware of the partners HIV positive status.

Relating those on HAART and those not on HAART: Risk taking profile of an individual was not affected by her being on HAART or not. The risk taking behaviour cut across the groups equally. Being on HAART does not increase the potential for risky sexual activity. Therefore the researcher accepted the null hypothesis which stated there is no difference between the sexual risk taking behaviour of HIV positive female sex workers on HAART and those not on HAART.

Condom use: the choice to use or not to use the condom is a combination of decisions' made by the client of the sex worker and demands from the potential client. The final choice is thus not only up to the sex worker alone.

Contraceptive use: the contraceptive prevalence was quite high, over 90% of all the respondents reported being on some method of family planning. The choice of a method was however influenced by the availability of the method and its added advantages like ease of use, fewer side effects and any effect it had on the menstrual cycle. Any method that had the effect of reducing or totally eliminating the menstrual flow was a favourite among the respondents.

### **5.3.3 Evidence based repercussions of increased risk taking behaviour.**

Unplanned Pregnancy management: The younger respondents reported how very willing they were to procure an abortion in the event a pregnancy happened. The fear of bringing up a child whose biological father the woman did not know, was much greater than the fear of having an abortion done. This trend was reversed in the more mature group of respondents who often expressed encountering difficulties when trying to get pregnant often associated with past termination of pregnancy. They were more willing to see a pregnancy through to delivery.

## 5.4 Recommendations

1. The blanket health education package currently offered by the clinic to the sex workers needs review to cater for specific differences in the sex workers based on their ages.
2. Provision of contraceptive option in the clinics: The Sex workers were all willing to go for a method of contraception and most were on the condom due to its ease of use and availability. It however would be important to introduce to them the concept of dual methods where they would be on condoms to protect against STIs and another method to protect against unplanned pregnancy in the event of a condom break. The cost of the addition method may be prohibitive to the sex worker and the program can include it in the package offered to a sex worker.
3. There is need for regular partner involvement in prevention activities: The regular partner has influence on the some of the choices a sex worker makes and will affect her risk taking profile. The regular client could be involved in the discussions on risk reduction.
4. Provision of comprehensive abortion care package at the clinics: The Ministry of Health has appreciated the need to provide comprehensive post abortion care to the general public. The program could consider training its staff on the provision of the same to sex workers. This could ensure fewer future events of infertility associated with past abortions.

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## APPENDICES

### APPENDIX I: ETHICS AND RESEARCH COMMITTEE APPROVAL



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25<sup>th</sup> October 2012

Dr. Makobu Kimani  
School of Public Health  
College of Health Sciences  
University of Nairobi

Dear Dr. Kimani

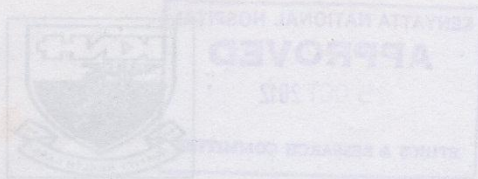
**RESEARCH PROPOSAL: "DETERMINANTS AND PREVALENCE OF RISK TAKING BEHAVIOR IN FEMALE SEX WORKERS ON HIGHLY ACTIVE ANTI-RETROVIRAL THERAPY" (P330/06/2012)**

This is to inform you that the KNH/UoN-Ethics & Research Committee (KNH/UoN-ERC) has reviewed and **approved** your above revised proposal. The approval periods are 25<sup>th</sup> October 2012 to 24<sup>th</sup> October 2013.

This approval is subject to compliance with the following requirements:

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

For more details consult the KNH/UoN ERC website [www.uonbi.ac.ke/activities/KNHUoN](http://www.uonbi.ac.ke/activities/KNHUoN)



Yours sincerely

*A. N. Guantai*

**PROF. A.N. GUANTAI**  
**SECRETARY, KNH/UON-ERC**

- c.c. The Deputy Director CS, KNH
- The Principal, College of Health Sciences, UoN
- The Director, School of Public Health, UoN
- The HOD, Records, KNH
- Supervisors: Mr. Lambert Nyabola, School of Public Health, UoN
- Prof. Joyce Olenja, School of Public Health, UoN

## **APPENDIX II: INFORMED CONSENT FORM**

My name is Makobu Kimani. I work at the Majengo SWOP clinic. I am currently doing my master in public health. As part of my course work, I am carrying out a study on the risk taking behaviour of female sex workers who are HIV positive and either on anti-retroviral therapy or not. I would like to compare and if there exists any difference in their risk taking behaviours.

You are being offered the opportunity to be a participant in the study after you were picked from the register at this clinic. Being chosen from the clinic register does not mean that you must be involved in the study. It is completely voluntary to be in the study. If you should choose to be included in the study you are still free to exit the study at any point. Exiting the study does not have any effect on your continuing to receive care at this clinic, or your eligibility to participate in future studies at this clinic.

I plan to carry out the study using a questionnaire which I will administer to you. It is my hope that you will answer all the questions as truthfully as possible. You can choose not to answer a question if it seems too sensitive. All the information that you give to me will be treated confidentially and will not be used beyond the study purpose. I will be the only one handling the filled forms and they will not contain your name or any marker that can be directly identified to you by another person. I will assign you a unique study number known only by me as being in reference to you.

In addition to filling the questionnaire, I may also require you to give me further information as part of a group. This group is known as a focused group discussion. It will consist of other female sex workers who are also in the study and are also HIV positive just like you. They may or may not be on anti-retroviral therapy. In this group we will discuss risk taking behaviour and what contributes to it. The session will be recorded on a tape recorder for

review by me after the discussion. You are free to request that the recording be stopped at any time during the discussion.

While there will be no direct benefit to you being in the study, all the information you give me can be used to better plan interventions and services for you and others in similar programs. You are free to exit from the study at any point without any adverse effects on your provision of care service at the clinic. I will not be drawing any samples from your body, and other than loss of time, there isn't any risk to you being in the study.

Please feel free to ask me any questions

If you have any questions about the study please feel free to call the KNH/UoN ethical review committee on 020-725452. Or visit their office at the old hospital building, next to the school of pharmacy, Kenyatta National Hospital grounds.

If you feel satisfied with the explanation please indicate your willingness to participate in the study by signing on the line below.

**I \_\_\_\_\_ have had the above study explained to me and I am willing to participate in the study. I understand that I may leave the study at any point without risk or adverse effect to me.**

**Signed\_\_\_\_\_ Date\_\_\_\_\_**

**APPENDIX III: RESEARCH QUESTIONNAIRE**  
**HAART and increased risk taking Behaviour in female sex workers study**

**a) Demographic data**

- 1) Study number \_\_\_\_\_
- 2) Date \_\_\_\_\_
- 3) Residence in Nairobi \_\_\_\_\_
- 4) Year of birth \_\_\_\_\_
- 5) Age in completed years \_\_\_\_\_
- 6) Year started sex work \_\_\_\_\_
- 7) Where do you work \_\_\_\_\_
- 8) Marital status 1. Married 2. Single 3. Separated 4. Widowed
- 9) Other source of income 1.yes 2. No
- 10) If other income source specify \_\_\_\_\_
- 11) Religion 1. Catholic 2. Protestant 3. Muslim 4. Other  
(specify)\_\_\_\_\_
- 12) Highest level of education 0. No schooling 1. Primary 2. Secondary 3. Tertiary
- 13) Have you ever been pregnant? 1. Yes 2. No
- 14) If yes, how many times?

**b) HIV/AIDS knowledge**

- 1) Do you know of HIV/AIDS? 1. Yes 2. No
- 2) When did you learn of your HIV positive status? \_\_\_\_\_
- 3) If yes from where did you get information 1.Newspaper 2.Radio 3.Television 4. Friend 5. Other (specify)\_\_\_\_\_
- 4) When did you begin taking HAART? \_\_\_\_\_
- 5) Do you know the drugs you are on? 1. Yes 2. No
- 6) If yes specify the regimen \_\_\_\_\_
- 7) Does HAART cure HIV/AIDS? 1. Yes 2. No
- 8) Can one get a re-infection with HIV if they are already HIV positive? 1. Yes 2. No
- 9) Is it possible to transmit HIV to another person? 1. Yes 2. No
- 10) How can one prevent transmitting HIV to others? \_\_\_\_\_
- 11) Is it important for a person to know their HIV status? 1. Yes 2. No
- 12) If yes, what are the benefits to knowing their HIV status?  
\_\_\_\_\_
- 13) If no, what are the disadvantages to knowing one's HIV status?  
\_\_\_\_\_

**c) Sexually transmitted infections knowledge**

- 1) Have you ever heard of sexually transmitted infections? 1. Yes 2. No
- 2) If yes, what are some of the STIs you know of? (list all)  
\_\_\_\_\_
- 3) Are all STIs curable? 1. Yes 2. No
- 4) If no, which ones are incurable? (list all)  
\_\_\_\_\_
- 5) Can one be re-infected by an STI after they have suffered from it? 1. Yes 2. No
- 6) Have you ever had an STI? 1. Yes 2. No
- 7) If yes, when and did you get treatment? \_\_\_\_\_
- 8) Do all STIs have visible signs and symptoms? 1. Yes 2. No
- 9) If no, which ones do not have symptoms? (list all) \_\_\_\_\_
- 10) Do untreated STIs have any long term complications? 1. Yes 2. No
- 11) If yes which ones? (list all)

**d) Sexual practice and risk assessment**

- 1) When did you last have sexual intercourse?  
\_\_\_\_\_
- 2) Did you use a condom? 1. Yes 2. No
- 3) Are you still active in sex work? 1. Yes 2. No
- 4) Average number of clients per day \_\_\_\_\_



5) Do you practice any of the following

	Never	Sometimes <50%	Most times>50%	Always
Vaginal sex				
Oral sex				
Anal sex				
Sex during menses				

6) How often do you use a condom when having Sex

	Not applicable	Never	Sometimes<50%	Most times>50%	Always
Vaginal sex					
Oral sex					
Anal sex					
Sex during menses					

7) Who supplies you with condoms? 1. Self 2.Client 3.Both 4. No condom use

8) What influences the type of sex that you engage in? 1. Clients demands 2. Money being offered 3. Self-choice 4. Other(specify)\_\_\_\_\_

9) Are you currently pregnant? 1. Yes 2. No

10) If yes, did you plan to be pregnant? 1. Yes 2. No

11) If no will you carry it to term? 1. Yes 2. No

12) Since you started HAART have you ever had an abortion? 1. Yes 2. No

13) If yes, when and where? \_\_\_\_\_

14) Are you on a contraceptive method? 1. Yes 2. No

**e) Past medical history**

1) What illness have you been treated for in the last three months? 1. Yes 2. No

2) If yes specify what illness. \_\_\_\_\_

3) Where did you get treatment? 1. Dispensary 2. Hospital 3. Self-medication 4. Other  
the counter medication

4) Did you complete the medication? 1. Yes 2. No

5) If no, why not? \_\_\_\_\_

## **APPENDIX IV: FOCUS GROUP DISCUSSION GUIDE**

What, in your opinion is risky sexual behaviour?

Which age groups are more likely to engage in risky sexual behaviour?

What effect, does HIV status have on risk taking behaviour?

Does being on HAART have an effect on risk taking profile?

What risks would you take for increased income?

What are the consequences of risky behaviour?

What would you recommend to reduce this risk taking behaviour?

Any other questions the group would like to ask.

## **CLOSING**

**Brief oral summary** (by facilitator or note taker)

Is this an adequate summary?

Have we missed anything?

**Thank you!**