

**FACTORS ASSOCIATED WITH HIV RISK
SEXUAL BEHAVIOURS AMONG FEMALE
DOMESTIC WORKERS IN NAIROBI CITY,
KENYA**

SAMUEL OTIENO MUNYUWINY

MASTER OF SCIENCE

(Public Health)

**JOMO KENYATTA UNIVERSITY OF
AGRICULTURE AND TECHNOLOGY**

2016

**Factors Associated with HIV Risk Sexual Behaviours among Female
Domestic Workers in Nairobi City, Kenya**

Samuel Otieno Munyuwiny

**A thesis submitted in partial fulfilment for degree of Master of
Science in Public Health in the Jomo Kenyatta University of
Agriculture and Technology**

2016

DECLARATION

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

Signature

Date

Samuel Otieno Munyuwiny

This thesis has been submitted for examination with our approval as University supervisors.

1. Signature Date

Dr. Abel Kamweya, (PhD)

JKUAT, Kenya

2. Signature

Date

Ms. Lilian Nyandieka

KEMRI, Kenya

3. Signature

Date

Mr.Njoka Murimi

UoN, Kenya

DEDICATION

I dedicate this work to my departed father (Aloys Munyuwiny) who showered me with much love, and encouraged me to take on unbeaten paths in life; to my wife Susan and children (Sierra, Sheenah and Samara), who have been patient and supportive; and to the domestic workers who keep the wheel of our economy going, and without whom, most of us would not report to work.

ACKNOWLEDGEMENT

I am grateful to God for giving me this opportunity to undertake this study. I appreciate the professional guidance provided by my supervisors, Dr. Abel Kamweya, Mrs. Lilian Nyandieka and Mr. John Njoka Murimi; and additional support from Dr. Simon Karanja, Dr. John Gachohi and Dr. Joseph Ng'ang'a.

I am grateful to the International Labour Organization – Program on Elimination of Child Labour (ILO/IPEC) through the University of Nairobi, Institute of Development Studies; HOPE *worldwide* Kenya and United States Agency for International Development (USAID) funded project on HIV and AIDS (APHIA II) project, for partially meeting the costs of data collection, data analysis and general logistics during field work and report writing.

Last but not least, thanks to female domestic workers who voluntarily accepted participate in the study, their legacy lives in the knowledge they have contributed to stakeholders in health and behavioural science.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BCC	Behaviour Change Communication
BSS	Behaviour Surveillance Survey
FDW	Female Domestic Worker/s
HBM	Health Behaviour Model
HIV	Human Immunodeficiency Virus
ITROMID	Institute of Tropical Medicine and Infectious Diseases
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KEMRI	Kenya Medical Research Institute
PMT	Protection Motivation Theory
STIs	Sexually Transmitted Infections
TPB	Theory of Planned Behaviour
VCT	Voluntary Counselling and Testing for HIV sero-status
GoK	Government of Kenya

OPERATIONAL DEFINITION OF TERMS

- Domestic worker:** This is an individual who is employed in a third party household) to perform domestic chores (neither working in own household nor in a blood relative's household).
- HIV risk sexual behaviour:** This is a sexual event that may expose an individual to Human Immune Deficiency Virus (HIV) infection.
- Risk perception:** This is an opinion of a domestic worker as to whether he or she is vulnerable to HIV infection.
- Unprotected sex:** This refers to having sex without using a condom.

ABSTRACT

Female domestic workers (FDW) are classified as a key population at HIV risk of HIV infection because they are exposed to physical violence, sexual harassment and exploitation in the private household settings where they work. They are also considered a bridge population in HIV transmission and may therefore contribute to new transmission in households. This study sought to identify factors associated with HIV risk sexual behaviour among Female Domestic Workers (FDW) living in employer's households in Nairobi city, Kenya. The objectives included: determining the socio-demographic characteristics of female domestic workers in Nairobi, Kenya; determining the proportion of female domestic workers in Nairobi that engage in HIV risk sexual behaviour, 12 months prior to the interview; determining the level of awareness and risk perception of HIV and AIDS among female domestic workers in Nairobi, 12 months prior to the interview and assessing factors associated with HIV risk sexual behaviour among female domestic workers in Nairobi, 12 months prior to the interview.

Across sectional study design was employed. Respondents were stratified along upper, middle and lower income socio-economic classes of their employers' households. Respondents were randomly selected by applying a skipping pattern of the households to enrol the 187 FDW in the study. Data was collected by trained interviewers guided by a structured questionnaire.

Findings indicated that majority of the FDW were young with a mean age of 25.7 (± 7.5); about half of the FDW had attained a minimum of primary education and a quarter of the respondents were married. Majority of the FDW interviewed (>70%) were awareness of HIV and AIDS and correctly dispelled myths on transmission. FDWs with post primary education being in a higher awareness of HIV and AIDS category was 0.63 times more than FDWs with primary education. Age and marriage status were associated with HIV risk sexual behavior. If an FDW were to increase in age by one year, her ordered log-odds of being in a higher risk sexual behavior category would increase by 0.05. The ordered logit for FDWs that have never married being in a higher risk sexual behaviour category was -0.67 less than FDWs

that had ever been married. FDWs working in a middle and high socio-economic location being in a higher risk category was 1 and 0.91 times more than FDWs working in a low socio-economic location

The socio demographic characteristics of the female domestic workers in Nairobi as described in this study are similar to those found by other researchers. It is a workplace that attracts young and school drop outs who often have limited options in the job market; this is a factor that can make them vulnerable to HIV risk sexual behaviour as they desperately seek to keep the job at any cost. The high proportion of FDW engaging in HIV risk sexual behaviour (51%) can be due to the gender perceptions and power balance in the households. The HIV risk behaviour was higher among the younger FDW (18-30years) possibly due to low knowledge. Only one construct on risk perception was associated with HIV risk sexual behaviour.

The study recommends that HIV prevention interventions should aim at raising age of entry to domestic work; target especially FDW in low and middle income employer households; sensitize FDW on HIV risk and consequences; and provide correct information on condom use to prevent risks of new HIV/ STI infections.

CHAPTER ONE

INTRODUCTION

1.1 Background

Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) remains one of the greatest challenges to health care in the 21st Century. Despite progress made in reducing new infection in sub-Saharan Africa by 34% between year 2001 and 2012, there are large populations at HIV risk of new infections and bearing heavy burdened of the disease. As of the year 2012, the number of new HIV infections among adults in low and middle income countries was 1.9 million per year (UNAIDS/WHO 2013). In Kenya, HIV and AIDS contribute 1.5% of disease burden. It is the third largest cause of mortality as it contributes to about 7.0% of deaths per year (GoK, 2010). Kenya AIDS Indicator Survey of year 2012 reported 5.6% of adults aged between 15 and 64 years as living with HIV. More women than men were infected by HIV at 6.9% compared to men at 4.4% (NASCOP, 2013).

Anecdotal evidence pointed to growing number of new HIV infections within households; these are reportedly due to HIV risk sexual behaviours between male members of a household and Female Domestic worker (IOM, 2010). Female domestic workers (FDWs) have reported having unprotected heterosexual sex with multiple partners, forced or coerced sex and paid sex in their workplaces which are risk factors for HIV infection (Okemwa, 2008; Le Baron, Smith, Kaur, Critzer, & Hills, 2013).; Human Rights Watch, 2010; Human Rights Watch, 2014). The World Health Organization (WHO) has classified domestic workers as among the key populations at HIV risk of new infections of HIV. This risk had also been reported by UNAIDS, which attributes it to gender based violence and sexual harassment at workplaces, especially for migrant workers (UNAIDS, 2006). Domestic workers therefore play an important role in slowing HIV incidence rates in Kenya.

Domestic workers however remain invisible in the public health intervention against HIV and other STIs. Their invisibility is partly due to inaccessible private workplaces that are not open to monitoring by employment officer and the limited research conducted among them. This is despite the important role they play in national

economies and their likely role in HIV infection cycle within households. The population of domestic workers in the city of Nairobi, Kenya is estimated at between six hundred thousand and one million, majority of them being the live-in female domestic workers (Agler, Kroh, & Tanori, 2006; FHI360, 2014; ILO, 2013). Eight or nine of every ten domestic workers (80-90%) are females. This is partly due to gender constructs, with males not expected to take on domestic chores. Within homesteads, men have instead been known to work as drivers, gardeners, cooks and such outdoor tasks (Okemwa, 2008). They are therefore a substantive proportion of the population in Nairobi.

Engagement of Female Domestic Workers in HIV risk sexual behaviour might be influenced by several factors, just like women in the general population. These include their socio-demographic factors, the level of awareness on HIV and AIDS, and risk perceptions. In the general population, HIV infection has been strongly associated with age; younger women are often more vulnerable to manipulation for sexual exploitation by men. The Kenya Demographic Health Survey reported that younger women are particularly affected by HIV. Prevalence rates among those aged 20-24 are three times higher among women than men (KDHS, 2003). Education is also positively associated with better health (Groot and Maassen van den Brink 2006). People with more years of formal schooling have been shown to be better at choosing delayed gratification (Becker and Mulligan 1994), therefore a FDW with more years of formal education is likely to make a healthier choice of not giving in to the master demanding sex for favour than one with lower education.

Knowledge of HIV and AIDS and risk perception by an individual may also influence the sexual behaviour. Demographic Health Surveys in Uganda and Kenya identified positive relationship between correct knowledge of HIV infection methods, myths on AIDS and protective sexual behaviour (Macintyre, 2001). Health behaviour theories such as Health Belief Model, Theory of Reasoned Action and Protection Motivation Theory (Weinstein, 1993) predict that there is an association between risk perception of HIV infection and self-reported HIV risk sexual behaviour. This has been been inconsistent in various studies (Lawanet *al.*, 2012; Khawcharoenpornet *al.*, 2012; Nunn *et al.*, 2011; Akwara *et al.*, 2003).

Preventing new HIV infections is necessary for sustained herd immunity. It would involve identifying new sources of infection and the most at risk populations such as Female Domestic Workers. A better understanding of the factors that contribute to increased risk of HIV infection such as level of awareness, risk perception and sexual behaviour among FDWs is important in informing effective HIV interventions. Considering that few studies have documented HIV and AIDS experiences and factors influencing HIV risk behaviour among domestic workers in Kenya, this is a gap that this research sought to fill-in.

1.2 Statement of the Problem

There is limited information on how Female Domestic Workers in Nairobi, Kenya are affected by HIV and AIDS. Also lacking is adequate understanding on HIV risk sexual behaviour among the FDW and factors associated with it. This is despite anecdotal evidence indicating that they engage in HIV risk sexual behaviour and may directly contribute to new HIV infections within households. In Africa, 17% of women of reproductive age estimated to engage in HIV risk sexual behaviour. This figure could be higher among FDW who are vulnerable to sexual abuse in private setting. These sexual behaviours include unprotected sex with multiple partners, sometime with male sex partners from the same household; sex for rewards and forced sex. Existing literature have however not pointed out factors associated with HIV risk sexual behaviour among Female Domestic Workers. This limits design of appropriate HIV prevention interventions for FDW in Kenya and prevention of new infections in general population. A good understanding of factors associated with the HIV risk sexual behaviour is necessary to inform effective HIV prevention interventions among the FDW in the city Nairobi which has more than two thirds of the domestic workers.

1.3 Justification

HIV and AIDS remains one of the greatest health care burdens in Kenya. It is therefore important to continuously identify new sources of the infection, especially among the key populations at HIV risk of HIV infections for the purposes of developing interventions. Anecdotal evidence pointed to growing number of reported HIV infections within households due to multiple sexual relationships between male

members of a household and Female Domestic worker (IOM, 2010). This study focused on the plight of female domestic workers (FDW) within Nairobi County; this was due to the high proliferation of households that require the services of FDW in the city. An ILO study in 2013 estimated domestic workers in the city at between 560,000 and 900,000. In addition, in relation to the aims of the study, Nairobi County had clearest divide among social classes, thus, possible to assess the occurrence of HIV risk sexual behaviour in different social classes. Incidences of HIV risk sexual behaviour is a threat to employment opportunity provided by domestic work sector, which is estimated at half a million potential jobs (ILO, 2013). This study sought to identify factors associated with HIV risk sexual behaviour. The results would inform design of appropriate public health mitigation measures against HIV infections for domestic workers and the employer household.

1.4 Research Questions

The study sought to answer the following research questions:

1. What are the socio-demographic characteristics of female domestic workers in Nairobi, Kenya?
2. What proportion of female domestic workers in Nairobi engage in HIV risk sexual behaviour?
3. What is the level of awareness and risk perception of HIV / AIDS among female domestic workers in Nairobi?
4. What is the relationship between socio-demographic characteristics, level of awareness, risk perception of HIV /AIDS; and HIV risk sexual behaviour among female domestic workers in Nairobi?

1.5 Objectives

General Objectives

To determine factors associated with HIV risk sexual behaviour among female domestic workers in Nairobi.

Specific Objectives

1. To determine the socio-demographic characteristics of female domestic workers in Nairobi, Kenya.
2. To determine the proportion of female domestic workers in Nairobi that engage in HIV risk sexual behaviour, 12 months prior to the interview.
3. To determine the level of awareness and risk perception of HIV and AIDS among female domestic workers in Nairobi, 12 months prior to the interview.
4. To assess factors associated with HIV risk sexual behaviour among female domestic workers in Nairobi, 12 months prior to the interview.

1.6 Hypothesis

• Null Hypothesis

1. Female domestic workers do not engage in HIV risk sexual behaviour
2. Female Domestic Workers have a low level of awareness and HIV risk perception
3. There is no association between Female Domestic Worker's socio-demographic characters, level of knowledge and risk perception of HIV and AIDS; and their sexual behaviour

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section summarizes a critique of literature that have described the characteristics of female domestic workers (FDW) in Nairobi, Kenya; their sexual behaviour; and factors that have been associated with their engagement in HIV risk sexual behaviour. These publications were however limited and comparisons have therefore been made with women in the general population in Kenya. These are likely to share similar characteristics. It presents a summary of review of other literature on socio-demographic characteristics, level of awareness and risk perceptions on HIV and AIDS of women and domestic workers in Kenya. It also explores how these characteristics are likely to predispose female domestic workers to HIV risk behaviour.

2.2 Theoretical Framework

Health promotion involves positively influencing behaviours at individual (intrapersonal), interpersonal and community levels. Understanding and influencing individual's behaviour at individual level is the basis of effective health promotion. Individual behaviour is the fundamental unit of group and community behaviour. Therefore achieving behaviour change at community or institutional level requires influence over individual behaviour.

2.1.1 Theories that explain individual behaviour

Theories that explain individual behaviour focus on intrapersonal factors (occurring within self or in the mind), attitudes, knowledge, skills, beliefs, motivations, and self-concept and past experiences. Individual level theories are: protection motivation theory (PMT); health belief model (HBM); stages of change (Transtheoretical) model; Theory of Planned Behaviour (TPB); and precaution adoption process model.

Theories and models explain individual, group and community behaviours have the following cross cutting concepts: behaviour is mediated by cognitions – meaning that people behave based on what they know and think; knowledge is necessary but not sufficient to produce most behaviour change; perception, motivation, skills and social environment are key influence on behaviour change (National Cancer Institute –USA, 2005). These are applicable in predicting uptake of less risky sexual behaviours among FDW. This study applied constructs of PMT to predict risk perception of the FDW. This is likely to affect their uptake of less risky sexual behaviour.

2.1.2 Protection Motivation Theory Expounded

Roger (1975) proposed the Protection Motivation Theory (PMT) with the aim of providing conceptual clarity to the understanding of fear appeals. A later revision of Protection Motivation Theory (Rogers, 1983) extended the theory to a more general theory of persuasive communication, with an emphasis on the cognitive processes mediating behavioural change.

Protection Motivation Theory Expounded proposes that intention to protect one depends on four factors: perceived severity of a threat to health or wellbeing; perceived vulnerability to the threat; efficacy of the recommended preventive behaviour (or response efficacy); perceived self-efficacy (one's ability to adopt recommended preventive behaviour) (Boer & Seydel, 1996).

Therefore the motivation to protect oneself from a health threat is the result of threat appraisal and coping appraisal. Threat appraisal comprises individual assessment of vulnerability and severity of a disease. Coping appraisal comprises of response efficacy and self-efficacy (Rogers, 1975). Protection motivation is a mediating variable whose function is to arouse, sustain and direct protective health behaviour (Boer, Seydel, 1996). Stainback and Rogers (1983) study on how to reduce alcohol consumption; reported that individuals or groups exposed or perceiving a health situation as posing greater threat than ability to cope, often adopt the low risk behaviours; than those exposed to low threat situations.

2.2 Conceptual Framework for the study

In this study, Protection Motivation Theory (PMT) which predicts the likelihood that someone will take action to prevent illness depending upon the individual's perception of vulnerability, how serious the consequences of the condition are, effectiveness of the precautionary behaviour, and if the benefits exceed the costs, was applied in explaining the relationship between the HIV risk perception and HIV risk sexual behaviour among FDW (see Figure 2.1 below). Conceptual frameworks used to explain health behaviour are classified as expectancy-value theories. This is mediated by a balance between a threat appraisal pathway and a coping appraisal pathway. Threat and coping appraisal pathways are modified by environmental factors such as knowledge of health threat, previous experience of an attack, societal attitudes and subjective norms and benefits of engaging in behaviour (Norman, 2005).

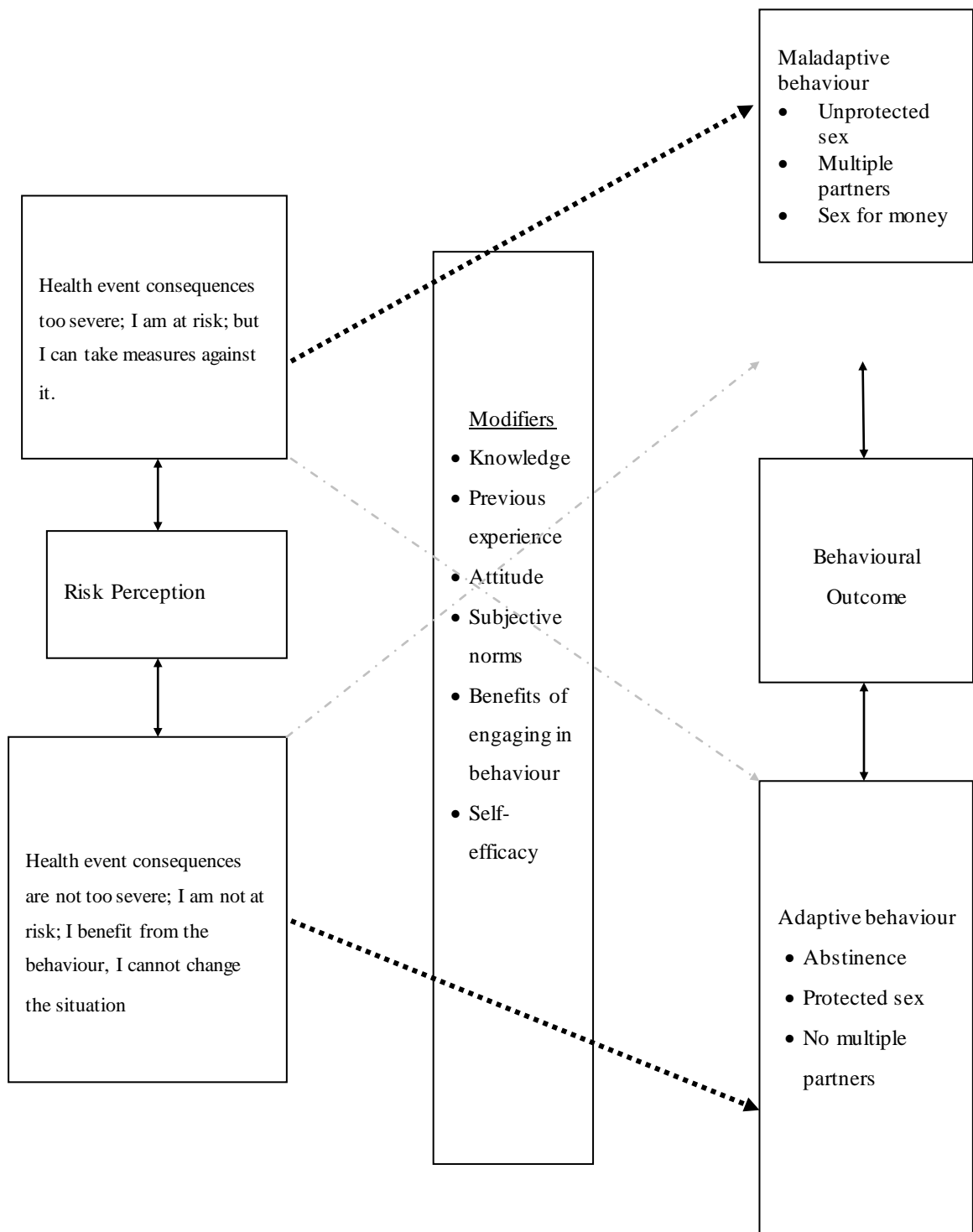


Figure 2.1 Conceptual framework for the study modelling of interaction between risk perception and health behaviour outcomes

(Source, Rogers 1983; Harrison *et al.*, 1992; Witte *et al.*, 1996; Fishbein *et al.*, 2001).

2.3 HIV risk sexual behaviour among female domestic workers in Kenya

Anecdotal evidence points to a high vulnerability of female domestic workers in Kenya to HIV infection through sexual route (IRIN, 2012). This risk had also been reported by UNAIDS, which attributes it to gender based violence and sexual harassment at workplaces, especially for migrant workers (UNAIDS, 2006). HIV risk sexual behaviour occurring among domestic workers includes unprotected sex especially with multiple sex partners. HIV risk behaviours among domestic workers are also heightened by forced sex and sex for money or favour (Okemwa, 2008). The latter two behaviour reduce female domestic worker's abilities negotiate for protected sex.

2.4 Socio-demographic characteristics and HIV risk sexual behaviour

Other studies on HIV risk sexual behaviours have found an association between possibility of engaging in HIV risk sexual behaviour and age, level of education, gender, marital status, method of recruitment and migration. These have been explained in this section and comparison made with findings from this study.

2.4.1 Age as a factor in HIV risk behaviour

HIV infection has been strongly associated with age. Younger FDW have been reported as being more vulnerable to manipulation for sexual exploitation by male members of employer households (Amornkul, *et al.*, 2009).

Study of domestic workers in Nairobi by Agler *et al* (2006) described them as largely comprised of young women and children aged between 13 to 18 years. Okemwa (2008) reported that half of the domestic workers she interviewed in Nairobi were below 20 years of age, with 12% aged below 10 years and 38% aged between 21-30 years. Situation analysis of child domestic workers in Busia, Kisumu, Kitui and Nairobi (ILO, 2013) found that 20 per cent of the randomly interviewed domestic workers were children; two thirds of the Child Domestic Workers (CDW) were aged between 16 and 18 years, majority having begun work at the age between 12-15years. According to a study by Family Health International (FHI360) (2014), the average age of the randomly selected FDW were in the 20's, with mean age 28-29.7 years. From these studies, it can be concluded that domestic workers in Nairobi are generally

young, aged between 16 and 30 years. The average age of the FDW was assessed in this study and compared to the findings from the other studies.

Other age related HIV risk behaviour partners among domestic workers is contributed to by the cross-generational sexual relationships. A study by Longfield (2003) reported that FWDs engaging in cross-generational relationships are preoccupied with generalized risks such as fear of being exposed, pregnancy, economic hardship, and emotional abandonment rather than their personal risk for STIs and HIV infection. Young women perceive older men to be low-risk partners because they are not promiscuous and remain faithful to younger partners and wives. Men believe that young female partners are low-risk because they lack sexual experience (Longfield, 2003). The women are also perceived as having only a few sex partners if any. Similarly, a study on cross generational sexual relationships in Kenya found that low risk perception resulted in HIV risk sexual behaviours such as low use of condoms among couples (Chatterji, 2004).

According to Kenya Demographic and Health Survey (2010), young women's primary incentive for dating older partners is financial and material gain, whereas older men seek younger female partners for sexual gratification. Other factors that can compel women to engage in exploitative relationships are peer and economic pressure from family members who expect financial assistance. Women who are more likely to report having sex with a man ten or more years older are often aged 15-17, have lived in rural areas and have not completed primary education (KNBS, 2010).

2.4.2 How level of education relates to HIV risk sexual behaviour

Education is an important capital because it contributes to human productivity and is positively associated with better health. It has also been observed over time that educational attainment precede improvements in health status. (Groot & Maassen van den Brink 2006). In terms of influence on behaviour choices, people with more years of formal schooling have been shown to be better at choosing delayed gratification (Becker & Mulligan 1994), therefore a FDW with more years of formal education is likely to make a healthier choice of not giving in to the employer demanding sex for favour than one with lower education.

Most studies on domestic workers in Kenya have described them as having limited access to formal schooling; and that most of them dropped out of school before completing the primary level of education (Agler, Kroh, & Tanori, 2006; Thomsen & Wainaina, 2007). Agler (2006) reported that 84% of the domestic workers in Kenya had not completed any formal education or had dropped before completing the primary level of schooling. In contrast, ILO study on situation of child domestic workers in Kenya (2013) reported that domestic workers in the cities such as Nairobi were more likely to have higher levels of education (80% had completed secondary school education) than those in rural areas where over 80% had highest education level attained being primary school level. Domestic workers sampled in FHI360 (2014) study also reported a higher proportion (40%) as having completed secondary schooling. Working as a child domestic worker could diminish the opportunity for continuing education (Munene & Ruto, 2010; Wojcicki, 2005; Webbink, Smits, & De Jong, 2013).

In relation to the workplace, formal education reduces the likelihood that individuals will work in the most hazardous jobs (Feinstein, 2002; Feinstein Hammond, Woods, Preston, & Bynner, 2003). The limited access to formal education may expose FDW to further vulnerabilities due to limited options for employment and poor decision making skills. From these studies, domestic workers have limited education; this was assessed in this study for comparison. Bockerhoff & Biddlecom (1998) found that migrant female workers with higher education have much lower odd of engaging in high risk sexual behaviour. They also concluded that increased access to formal education reduced sexual activity among females thereby reducing chances of engaging in HIV risk sexual behaviour.

2.4.3 Gender as a factor in HIV risk sexual behaviour

Gender inequality coupled with the belief that men have stronger sexual drive and should have their way increase the likelihood of exploitative sexual relationship (Chamberlain & Levenson 2012). These findings by Chamberlain and Levenson (2012) also show that cultural stereotypes about rape and sexual assault influence a woman's perceptions of sexually coercive experiences. The perception of male superiority reinforces low risk perception among women who often feel that men are

entitled to sex on demand and also increases chances of transmitting STIs including HIV (Longfield, 2003).

Akwara (2003) reported that men were likely to engage in HIV risk sexual behaviour compared to women at 45% and 11%, respectively. The study by Akwara also found that more women than men perceived themselves as being at HIV risk of HIV/STI infection, though not always matched with safer sexual behaviour. In the case of KDHS of 2008-2009, condom use was lower among young women compared to young men, despite the women acknowledging risk of unprotected sex (KNBS 2010). This is a pointer that despite high knowledge and risk perception about HIV infection, women's ability to protect themselves is affected by male dominance. Forced sex is a HIV risk sexual behaviour that can lead to HIV infection because those involved in this type of sex, rarely have an opportunity to negotiate for safe sex (Chamberlain, 2012).

2.5 Level of awareness of HIV/AIDS and HIV risk sexual behaviour

Human beings are rational creatures. However, their rationality is only applied to problems in the context of the knowledge and beliefs they have. The assumption underlying Information, Education and Communication (IEC) intervention which has long been used to alert the general public to the reality of the risk of HIV/AIDS, has been that knowledge about HIV/AIDS will cause people's attitudes to change which will in turn lead to a change in sexual behaviour on HIV/AIDS (United Nations Programme on HIV and AIDS (UNAIDS), World Health Organization (WHO), the United Nations Children's Fund (NICEF), 2011).

Individuals in a community require adequate knowledge of HIV and AIDS to enable them to recognize risky sexual behaviour and act to reduce exposure to infection (Catania, 1990). However, the relationship between knowledge and sexual behaviour has been inconsistent in various studies. In the Kenya Demographic Health Survey conducted in 2008, more men (81%) compared to women (75%) knew that the chance of getting HIV can be reduced by using condoms (KNBS, 2010). A study in Zambia found that HIV and AIDS knowledge was associated with reduced sexual behaviour and increased condom use among men (Becker, 1988). Demographic Health Surveys in Uganda and Kenya identified positive relationship between correct knowledge of

HIV infection methods, myths on AIDS and protective sexual behaviour (Macintyre, 2001). A study on HIV and AIDS among women in Rwanda however found no association between knowledge and sexual behaviour (KNBS, 2010). Only a small proportion of the women who had knowledge adopted protective behaviour in Rwanda (Lindan, 1991). Even where positive relationship between HIV and AIDS knowledge and behaviour was observed, the degree of correlation was not demonstrated (Prata *et al.*, 2006).

2.6 HIV/AIDS risk perception and HIV risk sexual behaviour

Risk perception is considered as the first step towards behavioural change, from HIV risk-taking to safer health behaviour (Brewer *et al.*, 2004). The assumption that anticipation of negative health outcome would lead an individual to try to avoid or reduce consequences by adopting a self-protection, forms the back bone for prevailing health behaviour theories such as Health Belief Model, Theory of Reasoned Action and Protection Motivation Theory (Weinstein, 1993). The association between risk perception of HIV infection and self-reported HIV risk sexual behaviour have been inconsistent in various studies (Lawan *et al.*, 2012; Khawcharoenporn *et al.*, 2012; Nunn *et al.*, 2011; Akwara *et al.*, 2003).

In the study by Akwara *et al.*, (2003), a strong positive association between perceived risk of HIV and AIDS and HIV risk sexual behaviour for both FDWs and men in Kenya was observed. Using odds ratios, the association between risk perception and self-reported HIV risk sexual behaviour is such that females who perceive their risk of HIV infection to be great were more likely to have engaged in HIV risk sexual behaviour. The association between risk perception and reporting of risky sexual behaviour is stronger for Kenyan men than for women. The study also found that men who perceived themselves to be at 'low risk' had about double the odds of engaging in risky sexual behaviour compared to those who perceived themselves to be at 'no risk'; those who perceived 'moderate to great risk' had more than three times the odds of reporting risky sexual behaviour'. Such positive associations between risky sexual behaviour and HIV risk perception have been explained as being possibly driven by the weaknesses of cross-sectional study designs in which respondents are likely to report a risk perception based on their current sexual behaviour unlike cohort studies (Tsui, 2012).

2.6 Gaps in Knowledge

Only a limited number of literature specific to HIV risk sexual behaviour among FDW were available. There is a general agreement that Female Domestic Workers (FDW) engage in HIV risk sexual behaviour; this is both voluntary and coerced, thus at risk of HIV infection. Factors associated with FDW's engagement in HIV risk behaviour include age, socio-economic class of employer, level of education, awareness/ knowledge of HIV and AIDS, migration status, poverty level and risk perception. The literature reviewed in this study, were however not consistent in providing the direction of the relationship between sexual behaviour and knowledge, risk perception and other socio-demographic factors among FDW.

Gaps in information include what information the domestic workers have in regard to HIV/AIDS, how they perceive their vulnerability and how their level of awareness may predisposing them to engaging in HIV risk sexual behavior.

The fundamental question identified as gaps by other authors researching on FDW; and which this study sought to answer were: whether domestic workers in Nairobi appreciated that they were at higher risk of HIV infection or not; and establish whether domestic workers were able to say no inappropriate sexual advances.

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study design

This was a cross sectional study design in which FDW working in the three pre-defined social classes were randomly sampled and enrolled for voluntary interviewer administered interviews using structured questionnaire

3.2 Study Area

The study targeted female domestic workers (FDW) working and living in residential areas in Nairobi County. A list of all the residential areas in Nairobi County was made, and using the social class stratification criteria for Nairobi County (K'Akumu, 2007), the study areas were classified as low, middle and upper class based on average income levels of households. Residential areas were selected from each social class, giving consideration to geographic representation across the city.

The map below indicates the distribution of the residential areas sampled across the city.

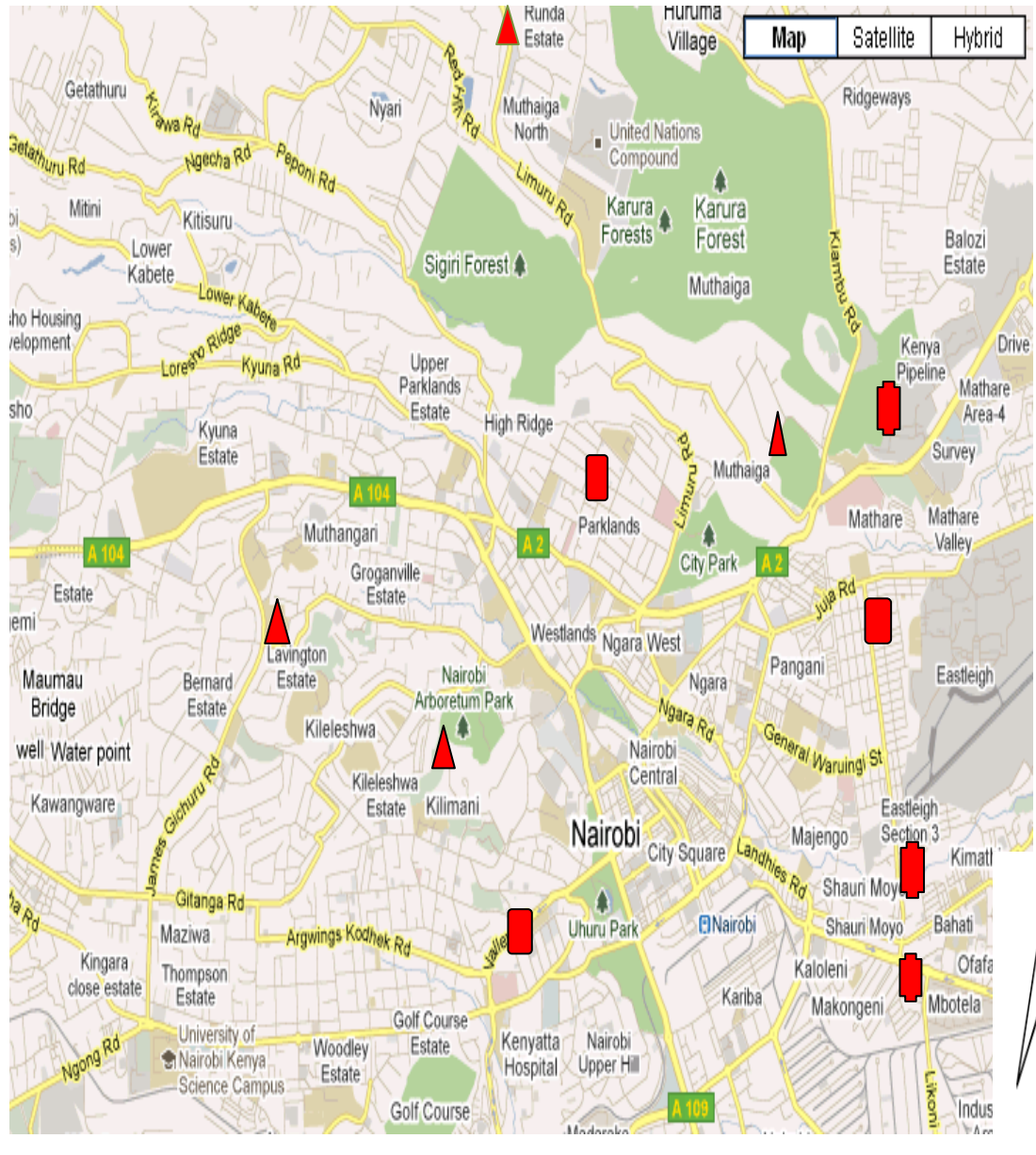


Figure 3.1: Map of Nairobi Indicating Study Sites

Source: www.earthspots.com/viewcity.php. Scale 1:1000

Key:

- ▲ - Upper social class
- - Middle income social class
- - Low income social class

The FDW were recruited from 19 different locations as shown in the map above. The locations were grouped as low income social class (Mbotela and Kariobangi South), middle income social class (Garden Estate, Buruburu, Kilimani, Langata, Nairobi West, Parklands, South B and South C) and high income social class (Runda, Village Market, Lavington, Brookside, State House, Karen and Westlands).

3.3 Sampling Procedure

A systematic random sampling method was used to select the respondents for the study. Upon arriving at a randomly pre-selected study site (residential area), the interviewer knocked at the door of the nearest household, and thereafter applied a skipping pattern of every other third household. The interviewer conducted interviews for respondents who met the inclusion criteria.

Reconnaissance visits were made to the identified study sites as listed above and permission to enter homes sought from the local administrative officer (Chief). In addition, meetings were held with leaders of neighbourhood associations to explain the purpose of the study and introduce the study team. In a few estates especially the secluded neighbourhoods in the high income socio-economic classes, Reconnaissance visits were conducted over the weekend to meet employers and seek permission to interview FDW when convenient.

3.3.1 Study Population and Sample Size Calculation

The population of domestic workers in Nairobi was estimated at 600,000 to 1 million, with 90% of them being females (Agler, Kroh, & Tanori, 2006). Because this study was limited to female domestic workers, it assumed a female domestic workers population of 90% of total estimated domestic workers population in Nairobi as the population under study.

3.3.3 Inclusion Criteria

The respondents in the study were recruited if they satisfied the following criteria: female domestic workers; aged above 18 years and therefore can legally provide informed consent; willing to participate and communicate freely; self-identifying as a domestic worker; and gave informed consent for participation in study.

3.3.4 Exclusion Criteria

The respondents in the study were not recruited if they possessed any of the following characters: did not self-identify as domestic worker; were below 18 years of age because of challenge of obtaining consent from children; and/ or refused to give informed consent for participation in study.

3.3.2 Sample size calculation

The sample size was calculated using Cochran1997 formula.

Cochran (1977) Formula used to calculate sample size

$$n = \frac{Z^2 p(1-p)}{c^2}$$

Where:

n= Sample size

Z = Standard normal deviate at 95% confidence level (1.96)

p = 0.17 prevalence of HIV risk sexual behaviour among female of reproductive age in Kenyain the last 12 months (Berhan & Berhan, 2012)

c = Absolute precision/Error margin (=5%)

The sample size was calculated at 185 female domestic workers to represent the female domestic workers in Nairobi. A total of 187 Female Domestic Workers (FDW) were recruited for the purpose of taking part in the study.

3.4 Data collection procedures

The researchers conducted interviews guided by structured questionnaire given in Appendix 6.3. Three female data collectors with experience in social research and trained in gender based violence and HIV counselling were recruited to collect data through conducting personal interviews with the FDW or allowing them to fill in by themselves. Data collection focused on four thematic area, namely socio-demographic characteristics, awareness of HIV/AIDS, HIV risk perception and risky sex behaviour. The interview sessions lasted an average of 30 minutes. Interviews were conducted in private setting. The choice of interview location was agreed upon by the interviewer, employer and FDW.

3.5 Data Analysis Procedure

A number of construct¹s related to sexual behaviour and perceptions were generated for the purpose of data analyses. These constructs were categorical with either two (binomial) or more than two (multinomial) categories. In these analyses, these levels were assumed to have a distinct order to them, i.e. ordinal. Unless stated, for each construct, categories were assumed to represent total values of a composite variable made up of scored variables. Ordinal models were then fitted to these data to determine the relationships between a construct and the explanatory variables in Table 1 and between constructs as well. These data were fitted to proportional odds models (constrained cumulative logit models) where the coefficients estimate the effect of a

¹ A construct is an idea or theory containing various conceptual elements, typically one considered to be subjective and not based on empirical evidence.

variable on the log odds of being above a specified category level compared with the log odds of being at or below the specified category level. The model assumes that the ordinal outcome variable represents categories of an underlying continuous latent (unobserved) variable with a natural ordering (for instance low to high risk) but the distances between adjacent levels are unknown. This analysis further assumed that the value of the underlying latent variable (or “score”) (S_i) is a linear combination of explanatory variables in a univariable analysis with the level of significance set at $P \leq 0.1$ as follows:

$$S_i = \beta_1 \chi_{1i} + \varepsilon_i$$

ε_i is a random error term from a continuous distribution. The latent variable (S) was divided by cutpoints (τ_j) so that the i^{th} FDW was classified as high risk category 1 for instance, if $S_i \leq \tau_1$ and was classified as moderate risk category 2 for instance if $\tau_1 < S_i < \tau_2$ and so on.

3.5 Main outcome variables

Dependant variable in this study was HIV risk sexual behaviour while independent variables were socio-demographic factors; level of awareness on HIV and AIDS; and risk perception.

3.4.1 HIV risk sexual behaviour

This was the dependant variable. A set of four questions were used to determine the level of exposure to HIV risk sexual behaviour (see appendix 5). A “Yes” response was interpreted as high risk and given a score of 1 while a No response was interpreted as low risk and given a score of 0.

The sexual behaviour score (possible range 0–4) was generated by summing the scores to the 4 questions with a higher score indicating a high risk sexual behaviour. To

account for missing data in a question during the summing process, the scores were standardized to produce a “standard score” that ranged between 0 and 1. Those with a standardized score of 0 were placed a new low risk category, otherwise high risk category in a new variable called “risk sexual behaviour”.

3.4.2 Socio-demographic characteristic of female domestic worker

This was the first independent variable. Characteristics investigated were the Female domestic worker’s age, highest level of education completed, marital status, and duration of work as a domestic worker and social class strata of the neighbourhood where they work (employer’s household) were determined based on self-reported information. These were each considered as independent variable that can influence HIV risk sexual behaviour.

3.4.3 Awareness of HIV and AIDS

This was the second independent variable. The eight questions that determined the levels of awareness of HIV/AIDS are listed in appendix 5. The responses were interpreted as high level or low level of knowledge and given a score of 1 or 0 respectively based on the dimension of the question. The Awareness of HIV/AIDS score (possible range 0–8) was generated by summing the scores to the 8 questions with a higher score indicating a high level of awareness. Those with a summed score of ≤ 4 were placed in a new low level awareness category, those with a summed score of 5 or 6 were placed in a new middle level awareness category otherwise high level awareness category in a new variable called “Awareness level of HIV/AIDS”.

3.4.4 Risk perception of HIV and AIDS

This was the third independent variable. Seven constructs of risk perception were used to assess an individual FDW risk perception. The constructs are based on psychometric questions informed by Protection Motivation Theory. Risk perception was determined

by valuation of threat posed to personal health or the benefits of proposed protective behaviour modification. Several health behaviour models and theories predict an individual's risk perception. In this study, Protection Motivation Theory (PMT) was applied. It has seven predictors(also referred to as constructs) of risk perceptions – (i) individual assessment of vulnerability, (ii) severity of disease, (iii) efficacy of response, (iv) ability to apply response (self-efficacy), (v) cost of the response, (vi) intrinsic and (vii) extrinsic rewards as described below. The questions that were asked to assess risk perception reference to each of the seven constructs are listed in appendix 5 of this document. The responses were interpreted as low or high level of risk and given a score of 1 or 2 respectively based on the dimension of the question.

3.6 Limitations

- i. This study did not include determination of HIV serological status of the female domestic workers, given the high proportion of those engaging in HIV risk sexual behaviour, an accompanying test for HIV and STIs would provide a more accurate picture of their vulnerability to HIV and STIs.
- ii. The above conclusions should be considered in light of limitations in sampling. The study employed weak random sampling due to lack of reliable sampling frame and population of domestic workers in Kenya. The difficulty in accessing the female domestic workers and limited resources reduced the ability for random selection of the respondents.
- iii. Positive association between risky sexual behaviour and HIV risk perception found in this study may need to be confirmed by cohort studies because they are inherent in the weak cross-sectional study designs as used in this study.

There was scarce literature on sexual behaviour of female domestic workers and associated factors which limited comparisons from Kenya.

CHAPTER FOUR:

RESULTS

4.1 Explanatory variables

The mean (standard deviation) age of the sampled FDWs was 25.7 (7.5) years. The youngest and oldest FDW were 18 and 51 years old respectively. Other characteristics of the FDWs are shown in Table 4.1.

Table 4.1 Characteristics and distribution of explanatory variables of FDWs sampled in Nairobi City, Kenya

Explanatory variable	Category	n	%
Employer socio-economic status	Low	96	51.3
	Middle	51	27.3
	High	40	21.4
Education level	Primary	96	51.3
	Post primary	91	48.7
FDW employment period*	Shorter than 1 year	93	50.5
	Longer than 1 year	91	49.5
Marriage status	Ever married	48	25.7
	Not married	139	74.3

*Three FDWs did not respond to this question

4.1.1 Sexual behaviours

Majority of the FDWs had not had sex with more than one (multiple) sexual partner in 12 months preceding the survey, had not had sex for money or rewards and had not been

Question	Response	Interpretation	Score	Frequency, n (%)
Have you had sex with more than one (multiple) sexual partner in last 12 months?	Yes	HIV behaviour	risk 1	20 (14.6%)
	No	Low behaviour	risk 0	117 (85.4%)
Have you had sex for money or other rewards?	Yes	HIV behaviour	risk 1	20 (13.8%)
	No	Low behaviour	risk 0	125 (86.2%)
Have you ever been forced to have sex with your employer or a member of the household?	Yes	HIV behaviour	risk 1	9 (16.2%)
	No	Low behaviour	risk 0	137 (93.8%)
The last time you had sex, did you use a condom?	Yes	Low behaviour	risk 0	70 (49.3%)
	No	HIV behaviour	risk 1	72 (50.7%)

forced to have sex with the employer or a member of the employer's household (Table 4.2). However, half of the FDWs had not used a condom in the last sexual encounter

preceding the survey (Table 4.2). The frequency of the HIV risk sexual behaviour was $n=58$ (37.9%) for low risk and $n= 95$ (62.1%) for high risk.

Table 4.2: Questions, possible responses and their interpretation that determined levels of risk of sexual behaviour among female domestic workers in Nairobi City, Kenya

4.1.2 Awareness of HIV/AIDS

Generally, majority of the FDWs (>70%) had high level of awareness about transmission of HIV (Table 4.3). However, the lower proportions (between 70% and 80%) were obtained in questions relating to whether HIV can be transmitted by a healthy-looking person and whether they knew a HIV-positive individual (Table 4.3). The frequency of awareness level of HIV/AIDS was $n=19$ (10.1%) for low level, $n=137$ (73.3%) and $n= 31$ (16.6%) for high level of awareness.

Table 4.3: Questions, possible responses and their interpretation that determined levels of awareness of HIV/AIDS among female domestic workers in Nairobi City, Kenya

Question	Response	Interpretation (level of awareness)	Score	Frequency (%)	n
Ever heard of HIV?	Yes	High	1	180 (96.3%)	
	No	Low	0	7 (3.7%)	
I know someone living with HIV	Yes	High	1	141 (75.4%)	
	No	Low	0	46 (24.6%)	
HIV can be transmitted by mosquitoes	True	Low	1	25 (13.4%)	
	False	High	0	162 (86.6%)	
HIV can be transmitted by sharing meal with infected person	True	Low	0	21 (11.2%)	
	False	High	1	166 (88.8%)	
HIV can be transmitted by a healthy looking person	True	High	1	49 (26.2%)	
	False	Low	0	138 (73.8%)	
HIV can be transmitted by witchcraft/ curse/ taboo	True	Low	0	16 (8.6%)	
	False	High	1	171 (91.4%)	
HIV can be cured by having sex with a virgin	True	Low	0	9 (4.8%)	
	False	High	1	178 (95.2%)	
HIV can be transmitted through breastfeeding a child	True	High	1	166 (88.8%)	
	False	Low	0	21 (11.2%)	

4.1.3 Risk Perception

4.1.3.1 Measures of Extrinsic Reward

Generally, majority of the FDWs (>65%) had low levels of risk as a measure of extrinsic reward (Table 4.4). This construct score (possible range 1–6) was generated by summing the scores to the 3 questions (Table 4.4) with a higher score indicating a high level of risk. Those with a summed score of <3 were placed in a new low risk level category, those with a summed score of between 3 and <5 were placed in a new medium risk level category otherwise HIV risk level category in a new variable called “Extrinsic reward”. The frequency of the risk in this construct $n=135$ (77.1%) for medium level, and $n= 40$ (22.9%) for high level of risk.

Table 4.4: Questions, possible responses and their interpretation that determined perception of risk of HIV and AIDS reference to extrinsic rewards among female domestic workers in Nairobi City, Kenya

Question	Response	Interpretation (level of risk)	Score	Frequency n (%)
Many FDW have sex with more than one person	True	Low	1	96 (66.7%)
	False	High	2	48 (33.3%)
Many FDW have had sex with their employers or members of the household	Agree	Low	1	139 (89.1%)
	Disagree	High	2	17 (10.9%)
Many FDW have had an STD	Agree	Low	1	89 (64.5%)
	Disagree	High	2	49 (35.5%)

4.1.3.2 Measures of Intrinsic Reward

Majority of the FDWs (>60%) were perceived to have high levels of risk as a measure of intrinsic reward (Table 4.5). This construct score (possible range 1–8) was generated by

summing the scores to the 4 questions (Table 4.5) with a higher score indicating a high level of risk. Those with a summed score of <4 were placed in a new low risk level category, those with a summed score of between 4 and <6 were placed in a new medium risk level category otherwise HIV risk level category in a new variable called “Intrinsic reward”. The frequency of the risk in this construct $n=41$ (21.9%) for medium risk level, and $n= 146$ (78.1%) for high level of risk.

Table 4.5: Questions, possible responses and their interpretation that determined perception of risk of HIV and AIDS reference to intrinsic rewards among female domestic workers in Nairobi City, Kenya

Question	Response	Interpretation (level of risk)	Score	Frequency n (%)
A FDW with multiple sexual partners is smart/ cool/ shrewd	Agree	Low	1	62 (38.0%)
	Disagree	High	2	101 62.0%)
An FDW having sex with the employer is smart	Agree	Low	1	47 (27.7%)
	Disagree	High	2	123 (72.3%)
FDWs have sex with employers because of loneliness and depression	Agree	Low	1	31 (19.4%)
	Disagree	High	2	49 (80.6%)
FDWs who have sex with employers just want to indulge themselves and seek pleasure	Agree	Low	1	114
	Disagree	High	2	(71.3%) 46 (28.3%)

4.1.3.3 Measures of Severity of Infection

Generally, majority of the FDWs were perceived to have low levels of risk as a measure of severity of infection (Table 4.6). This construct score (possible range 1–6) was generated by summing the scores to the 3 questions (Table 4.6) with a higher score indicating a high level of risk. Those with a summed score of <3 were placed in a new low risk level category, those with a summed score of between 3 and <5 were placed in a new medium risk level category otherwise HIV risk level category in a new variable

called “Severity of Infection”. The frequency of the risk in this construct $n=103$ (56%) for medium risk level, and $n= 81$ (44%) for high level of risk.

Table 4.6: Questions, possible responses and their interpretation that determined measures of severity of infection among female domestic workers in Nairobi City, Kenya

Question	Response	Interpretation (level of risk)	Score	Frequency n (%)
If an FDW is infected with HIV, her family members should keep away from her	Agree	High	2	4 (2.2%)
	Disagree	Low	1	180 (97.8%)
If an FDW is infected with HIV, he/she should be sacked	Agree	High	2	40 (22.2%)
	Disagree	Low	1	140 (77.8%)
If an FDW catches HIV, he/she will lose friends	Agree	High	2	121 (70.4%)
	Disagree	Low	1	51 (29.6%)

4.1.3.4 Measures of Vulnerability

In this measure of risk perception, majority (68%) of the FDWs were perceived to have high levels of risk as a measure of vulnerability. severity of infection.

4.1.3.5 Measures of Response Efficacy

The frequency of the risk in this construct $n=156$ (87.6%) for low risk level, and $n= 22$ (12.4%) for medium level of risk.

Table 4.7: Questions, possible responses and their interpretation that determined measures of response efficacy of infection among female domestic workers in Nairobi City, Kenya

Question	Response	Interpretation (level of risk)	Score	Frequency n (%)
When a man and a woman are in a serious relationship, they don't need to use condoms	True	Low	1	65 (37.0%)
	False	High	2	111 (63.0%)
There are many ways to become infected with HIV, one might even become infected without having sex	True	Low	1	12 (6.9%)
	False	High	2	163 (93.1%)
You can be infected with HIV by having sex without protection even once	True	Low	1	155 (92.3%)
	False	High	2	51 (7.7%)

4.1.3.6 Measures of Self-Efficacy

Generally, low or high levels of risk depended on the question (Table 8). This construct score (possible range 1–4) was generated by summing the scores to the 2 questions (Table 8) with a higher score indicating a high level of risk. Those with a summed score of <3 were placed in a new low risk level category, those with a summed score of 3 and 4 were placed in a new HIV risk level category in a new variable called “Response Efficacy”. The frequency of the risk in this construct $n=169$ (97.1%) for HIV risk level, and $n= 5$ (2.9%) for medium level of risk.

Table 4.8: Questions, possible responses and their interpretation that determined measures of self-efficacy of infection among female domestic workers in Nairobi City, Kenya

Question	Response	Interpretation (level of risk)	Score	Frequency n (%)
I can persuade my partner including my employer to use a condom during sex even if he/she doesn't want	True	High	2	153 (91.1%)
	False	Low	1	15 (8.9%)
I can refuse to have sex if my partner including my employer does not want to use a condom	Agree	High	2	12 (7.3%)
	Disagree	Low	1	152(92.7%)

4.1.3.7 Measures of Response Cost

Generally, for this construct, majority of FDWs were perceived to have a high level of risk perception (Table 4.9). This construct score (possible range 1–4) was generated by summing the scores to the 2 questions (Table 9) with a higher score indicating a high level of risk. Those with a summed score of <3 were placed in a new low risk level category, those with a summed score of 3 and 4 were placed in a new HIV risk level category in a new variable called “Response Cost”. The frequency of the risk in this construct was $n=129$ (7.6%) for HIV risk level, and $n= 44$ (25.4%) for medium level of risk.

Table 4.9: Questions, possible responses and their interpretation that determined measures of response cost of infection among female domestic workers in Nairobi City, Kenya

Question	Response	Interpretation (level of risk)	Score	Frequency n (%)
Using a condom during sex will reduce sexual pleasure	Agree	Low	1	67 (39.0%)
	Disagree	High	2	105 (61.0%)
Many girls become FDWs because they can't find other jobs	Agree	Low	1	67 (39.0%)
	Disagree	High	2	105 (61.0%)

4.2 Univariable analyses

4.2.1 Sexual behaviours

In this construct, the “risk sexual behaviour” variable was the outcome variable. Table 4.10 shows the univariable analyses ($P \leq 0.1$) relating this outcome variable with socio-demographic variables. Only two socio-demographic variables were significant, i.e. age and marriage status. If an FDW were to increase in age by one year, her ordered log-odds of being in a higher risk sexual behaviour category would increase by 0.05 (Table 4.10). The ordered logit for FDWs that have never married being in a higher risk sexual behaviour category was -0.67 less than FDWs that had ever been married (Table 4.10).

4.2.2 Awareness of HIV/AIDS

In this construct, the “Awareness level of HIV/AIDS” variable was the outcome variable. Table 4.10 shows the univariable analyses ($P \leq 0.1$) relating this outcome variable with socio-demographic variables. Only one socio-demographic variable was significant, i.e. the length of FDW employment period. The ordered logit for FDWs that had been in domestic work employment longer than one year being in a higher awareness of HIV/AIDS category was 0.57 more than FDWs that had that had been in domestic work employment shorter than one year (Table 4.10).

4.2.3 Measures of Risk perception

Table 4.10 shows the univariable analyses ($P \leq 0.1$) relating the seven constructs of risk perception variable with socio-demographic variables.

4.2.3.1 Measures of Extrinsic Reward

In relating this construct of the “Measures of Extrinsic reward” to socio-demographic variable, only one explanatory variable was significant, i.e. the employer socio-economic status. The ordered logit for FDWs working in a middle and high socio-economic location being in a higher risk category was 1 and 0.91 times more than FDWs working in a low socio-economic location (Table 4.10).

4.2.3.2 Measures of Intrinsic Reward

In this construct, the “Measures of Intrinsic reward” variable was the outcome variable. None of explanatory variable was significant at $P \leq 0.1$.

4.2.3.3 Measures of Severity of Infection

In this construct, the “Measure of Severity of Infection” variable was the outcome variable. Table 10 shows the univariable analyses ($P \leq 0.1$) relating this outcome variable with socio-demographic variables. Only variable age was significant. If a FDW were to increase in age by one year, her ordered log-odds of being in a higher risk sexual behaviour category would decrease by -0.04 (Table 4.10).

4.2.3.4 Measures of Vulnerability

Two explanatory variables were significant, i.e. employer socio-economic status and FDW employment period. The ordered logit for FDWs working in a middle and high socio-economic location being in a higher risk category was 0.1 and 1.1 times more than FDWs working in a low socio-economic location. The ordered logit for FDWs that had been in domestic work employment longer than one year being in a higher awareness of HIV/AIDS category was 0.66 more than FDWs that had that had been in domestic work employment shorter than one year (Table 4.10).

4.2.3.5 Measures of Response Efficacy

In this construct, the “Measures of Response Efficacy” variable was the outcome variable. None of explanatory variable was significant at $P \leq 0.1$.

4.2.3.6 Measures of Self-Efficacy

Two explanatory variables were significant, i.e. employer socio-economic status and FDW education level. The ordered logit for FDWs working in a middle and high socio-economic location being in a higher risk category was -17.5 and -19.2 times less than FDWs working in a low socio-economic location. The ordered logit for FDWs with post primary education being in a higher awareness of HIVAIDS category was -17.5 times less than FDWs with primary education (Table 4.10).

4.2.3.7 Measures of Response Cost

Two explanatory variables were significant, that is, education level and marriage status. The ordered logit for FDWs with post primary education being in a higher awareness of HIVAIDS category was 0.63 times more than FDWs with primary education (Table 4.10). The ordered logit for FDWs that have never married being in a higher risk sexual behaviour category was 0.86 times more than FDWs that had ever been married (Table 4.10).

Table 4.10: Univariable analyses of socio-economic variables and the various constructs

Construct	Socio-economic variable	Category	Coefficient	95% Interval	Confidence <i>P</i>
HIV Risk sexual behaviour	Age		0.05	[-0.003, 0.09]	0.06
	Marriage status	Ever married	Reference		
Awareness level of HIV/AIDS	FDW employment period	Not married	-0.67	[-0.14, 0.10]	0.08
		< 1 year	Reference		
Measures of Extrinsic Reward	Employer socio-economic status	> 1 year	0.57	[-0.08, 1.22]	0.08
		Low	Reference		
		Middle	1.00	[0.16, 1.84]	0.03
Measures of Severity of Infection Measure of vulnerability	Employer socio-economic status	High	0.91	[0.00, 1.81]	0.05
		Low	-0.04	[-0.081, 0.001]	0.03
		Middle	0.1	[-0.60, 0.79]	
Measure of Self-efficacy	FDW employment period	High	1.1	[0.21, 2.04]	0.03
		< 1 year	Reference		
		> 1 year	0.66	[0.03, 1.28]	
		Low	Reference		0.006
Measure of Response Cost	Employer socio-economic status	Middle	-17.5	[-8950.5, 8915.5]	
		High	-19.2	[-8952.2, 8913.9]	
		Primary	Reference		0.006
		Post primary	-17.5	[-4205.1, 4170.9]	
Measure of Response Cost	Education level	Primary	Reference		0.07
		Post primary	0.63	[-0.67, 1.34]	
		Ever married	Reference		0.02
		Not married	0.86	[0.13, 1.6]	

CHAPTER FIVE

DISCUSSION

5.1 Socio-demographic characteristics of the FDW

Majority of the 187 FDWs interviewed were young (18-30years), the greatest proportion (43%) being those aged 21-29years. Studies of domestic workers in Nairobi by Okemwa, (2008), ILO, (2013), and FHI360, (2014) also found majority of them being below mean age 30years.

This is explained by the observation that domestic work sector in Kenya often attracts young migrant workers who would often be school drop-outs or those who have completed the primary and secondary school level of schooling. This could be due to their limited education and skills; they often migrate into cities to join informal economic sectors such as domestic work which are construed to demand fewer skills (FHI360, 2014; Gebre, 2012). This is often a temporary work as the young domestic workers seek to be busy or raise money to further their education (ILO, 2013). For other domestic workers however, this may be the only means to livelihood, or a better life to live or use the money earned to support self and other family members left at home (Tsikata, 2009). This is a situation that would make FDW even more vulnerable to abuse as they desperately seek to keep the job at any cost. As would be discussed in later in this discussion section, younger FDW are more vulnerable to manipulation, sexual abuse and exploitation; which may expose them to HIV infection risks.

Distribution of respondents by age was found to have significant relationship with HIV risk sexual behaviour. If an FDW were to increase in age by one year, her ordered log-odds of being in a higher risk sexual behaviour category would increase by 0.05 (Table 4.10).

The distribution of the FDW by highest level of education attained (51% primary level and 48% post primary) was similar to findings by ILO, (2013) and FHI360 (2014). Findings from studies conducted earlier by Agler (2006) reported a much lower proportion of just 16% as having been to a formal school. The difference with these later studies could be as a result of the implementation of the Free Primary Education (FPE) and subsidy in secondary school fees by the government beginning the year 2003. Indeed, an analytical report on situation of child labour using Kenya Household Survey data (KNBS, 2005) reported that the implementation of FPE brought to school over one million working children, with domestic work sector employing 30% of the child workers. The increased accessibility to secondary school due to subsidy also increases the chances of transition from primary to secondary school, which may also explain the higher age of entry into domestic work in this study compared to age reported in earlier studies (ILO, 2013).

Close to a third (72%) of the respondents in the study had dropped out of school at some point in their education. The report by ILO, (2013) found that saving money to go back to school was one of the commonly cited reasons for seeking work as a domestic worker. Being a female in Kenya, places one at risk of being discriminated against in poor households faced with the choice between sending their children to school or buying food (Okemwa, 2008). A girl's salary from domestic work or other such menial jobs would be used to educate boy child in a family faced with the challenge of inadequate funds to cover costs for education of all children (Munene & Ruto, 2010; Webbink, Smits, & De Jong, 2013). Results from this study indicate that domestic workers with lower levels of school completion are more likely to be employed in lower income households, though not statistically significant. There were 53 per cent of FDW with primary education completed employed in low SE compared to 37 percent of the same FDW in high SE class neighbourhoods. Both low levels of education and low income socio-economic class have been associated with HIV risk sexual behaviour (Brockerhoff & Biddlecom, 1998). Reasons for preference for more educated domestic workers in upper income households include the

sophistication of operations, such as use of modern kitchen equipments which require higher level of schooling; such employers are also able to afford the higher salaries demanded by such more educated domestic workers, who are likely to be older and able to negotiate for better terms and conditions of work (Nazir, 2011).

In this study, finding that about half (51%) had worked for less than one year in the particular household may point to short lived employment contracts in domestic work sector, or high turn-over rates due to unfavourable terms and conditions of work (including low pay and sexual harassment) as was reported by ILO (2013). Such domestic workers quitting one workplace may seek better paying domestic work positions, go back to school, get married, or join other sectors including sex work (Okemwa, 2008). Frequent change of employers' poses the risk of expanded sexual network and heightening risk of HIV or STI infection (Brockhoff & Biddlecom, 1998). There were far more FDW who had worked for less than one year in this study (81%) compared to a study on domestic workers in Nairobi by FHI360 (2014) which reported only 9%. Difference between duration of work in FHI360 study and this study could be that the neighbourhoods sampled in the later study (Dagoretti, Embakasi, Kasarani, Lang'ata, Makadara, and Westlands) were largely considered middle income; with no lower income neighborhoods included in sampling (Kariobangi, Mbotela), which often have higher job attrition rates due to poor pay and conditions of work, and likely to employ children (ILO, 2013).

KDHS 2008/9 reported knowledge of all the key HIV prevention methods as lower among women and men age 15-19 than among those age 20 years and older. This was similar to findings reported by (WHO & UNICEF, 2011), which identified the 15-24year old as being at higher risk of HIV infection due to sexual behaviour. Younger FDW are likely to have less years spent in school (in this study, most cases younger FDW had only primary education completed); lower level of education attained by women and men between age 15-49

strongly relates to their knowledge of ways to avoid contracting HIV/AIDS (KNBS & ICF Macro 2010).

The awareness of HIV and AIDS among the FDW was high (over 90% of respondents reporting ever heard of HIV and AIDS). However, a smaller proportion of FDW with adequate awareness of HIV and AIDS were engaged in HIV risk sexual behaviour compared to those with less awareness as measured by the overall awareness score. This compared with high proportion of FDW reported by Okemwa (2008) and similar proportions among women in Kenya as reported in KDHS 2008/9 report (KNBS & ICF Macro, 2010).

In this study, 75% of the FDW knew someone infected by HIV and 53% had a relative living with HIV and AIDS. Majority were able to correctly dispel myths (averaging 87.4%), however, a lower than average proportion of the respondents (73.8%) correctly dispelled the myth that HIV cannot be transmitted by healthy looking person. This apparent misconception was reported by Okemwa (2006) who found that FDW were aware of the phenomenon of HIV and AIDS and its epidemiology (able to mention symptoms such as severe weight loss, diarrhoea and vomiting), but the level of awareness differed from individual to individual. Okemwa (2008) reported that in most cases, the FDW wanted to see these symptoms to believe that someone is infected with HIV, while in essence the virus is mostly spread by healthy looking people; thus FDW may engage in sex with men carrying the virus in a household but not showing the physical symptoms.

Knowledge on HIV prevention methods appeared low among the sampled FDW in this study. Condom use was positively identified as a prevention method by only 19% of the respondents. Consequently, the overall awareness score generated from a composite score of awareness of HIV and AIDS (including ability to correctly identify HIV prevention methods and correctly dispelled myths) was just a little above average. Only 50.3% of the FDW were able to score above the mean composite score of 7.3. This was an indication of inadequacy of knowledge of HIV and AIDS. This could be explained by the fact

that majority of the FDW have lower level of education (primary school for the majority) and limited opportunity to participate in public health education forums. While some researchers have reported that FDW spend much time at home and may have access to mass media such as Television and radio, the efficacy of these media is much lower than small group health education sessions (Remme, Igbokwe, & Watts, 2014) which domestic workers may not find time or permission off their busy work schedules to attend (FHI360, 2014).

5.2 Female domestic workers engaging in HIV risk sexual behaviour

Two thirds of the (62.1%) of the female domestic workers who were interviewed in this study engaged in HIV risk sexual behaviour 12 months prior to the interview. These findings are consistent with findings by Akwara P (2003) which was based on an analysis of data from KDHS 1998 report; she reported that between 8-15% of women engaged in at least one form of HIV risk sexual behaviour. Few available reports on domestic workers and HIV provide a prevalence of HIV risk sexual behaviour. According to UNAIDS report on monitoring and evaluation of HIV prevention programs for Most-At-Risk-Populations (2006), Female domestic workers were an additional populations considered vulnerable to HIV and should be the focus of HIV prevention interventions and, therefore, monitoring and evaluation activities in some settings. This was because female domestic workers are often sexually abused.

Possible reasons for high proportion of females engaging in HIV risk sexual behaviour include the extreme and imbalanced power relationships that prevail in context of FDW employer household. This makes women and girl children vulnerable to forced or coerced to sex encounters with male members of the household they work in. Some myths that may propagate HIV risk sexual behaviour which were reported by Okemwa (2008) as including “a healthy man cannot be satisfied sexually by one woman” thus permitting sexual advances from married men to FDW; and “younger female domestic workers are innocent and do not carry HIV virus” therefore older men prefer them as “safer” sex partners.

The most reported form of HIV risk sexual behaviour in this study was unprotected sex reported by 49.3%. The Kenya demographic health survey of 2009 (KNBS & ICF Macro, 2010) reported about 65 per cent of women in general population in Kenya engaging in sex without condoms; condom use was correlated with education levels in the KDHS study. FHI360 (2014), study on domestic workers reported that 49% of participants and 56% non-participant study arms in the project had used a condom the most recent time they had sex.

In the study on domestic workers in Kenya (ILO, 2013), reasons cited for having unprotected sex among FDW as including “I used other contraceptives”, “I did not think of it (using a condom)”, and “condoms were not available”. FHI360 (2014) study cited reasons given by domestic workers for not using condoms included lack of knowledge on condom use, partner refusal, rumours about condoms and lack of access. Basukiet *al.*,(2002) found that frequency of intercourse has been found to be positively associated with condom use self-efficacy; relationship duration has been negatively associated with condom use; other factors that influence use of condoms are negative beliefs about condoms which were found to be significantly associated with less frequent condom use in various populations (Sarkar, 2008;Parsons *et al.*, 2000). Therefore reducing negative condom beliefs may help towards reducing sexual risk and identifying significant correlates would inform about what can be done to better promote condom use (Magu, Wanzala, Mutugi, & Ndahi, 2012).

Female domestic workers in this study also reported that they had had sex with multiple sex partners (reported by 15.3%). This was far higher than 1% of women in Kenya’s general population reported as engaging in multiple partnering (KNBS & ICF Macro 2010). However, almost equally higher proportions were reported in earlier study in Kenya which indicated that 11 percent of sexually active Kenyan women had multiple sex partners (casual or commercial sex) in the last 12 months with someone other than their regular partner (Mba, 2003; Hawken, *et al.*, 2002; Waithaka & Bessinger, 2001; Brockerhoff & Biddlecom, 1998). A study on domestic workers by ILO, (2013)

also reported a higher proportion comparable to this study at 13% of the respondents, mostly females, who had sex with a multiple partners.

Women working outside their home in informal sectors, such as in market vending, may exchange sex for money intermittently (Romero-Daza & Himmelgreen, 1998); related to this migrant workers, females and males who gain more right to autonomy and decision making but without financial and social resources (especially migrants) who are young age, urban residence, education, media exposure, and working for cash and away from home – are more likely to have multiple sex partners (Uchudi, Magadi, & Mostazir, 2010).

Female domestic workers (FDW) in this study also engaged in sex for money or rewards (13.8%). This is also referred to as transactional sex. This comparable to findings by ILO, (2013) 24% of CDW interviewed had had sex for money or other non-monetary rewards (Ochieng, 2010) house-girls project which reported 12% had had sex in exchange for money. Age and economic asymmetries are generally common; with a mean age difference of 5.5% in non-marital partners; these types of asymmetry are associated with non-use of condoms and HIV infection (Nancy, 2005). Transactional sex with an on-going or once off partner elevates young women's risk of HIV infection (Jewkes, Dunkle, Nduna, & Shai, 2012).

Forced sex with male members of employer household was third most reported HIV risk sexual behaviour, reported by 6.2% of the FDW. A study on prevalence of forced sex in Kisumu in Kenya, reported that 13% of women sampled had experienced forced sex. ILO, (2013) reported 9% of CDW had sex forced with members of employer household and Ochieng (2010) reported that 7% of house-girls in the study had been coerced to have sex.

5.2 Level of awareness

Level of awareness of HIV and AIDS has been associated with HIV risk sexual behaviour (Johnson & Budlender, 2002) even though in this study there was

such association. The level of awareness in other studies involving domestic workers in Nairobi (FHI360, 2014) reported that all survey respondents except one could name at least one modern method of contraception and name at least one STI. In addition, the lowest scores on level awareness was on the question “if healthy looking person can carry HIV virus”. This could partly be due to association of HIV and AIDS with weight loss as images often displayed by media. In a study FHI360 The most common sources of knowledge of HIV and AIDS for domestic workers were the mass media, including print media, TV, and radio (83% vs. 68%) followed by health care providers (62% vs. 46%).

5.3 HIV and AIDS risk perception

Most constructs of risk perception based on Protection Motivation Theory (PMT) applied in this study did not have statistically significant relationship with HIV risk sexual behaviour, except for perception on use of condoms and whether it reduces pleasure; this is an element of perception of cost of taking up less risky behaviour. A smaller proportion of those who perceived use of condoms as reducing sexual pleasure were reported to be engaging in HIV risk sexual behaviour (54.5%) compared to those who did not hold such perception (77.9%). Other studies on relationship between risk perception and HIV risk sexual behaviour (Akwara, 2003), reported that a higher proportion of those who had good knowledge of HIV and AIDs and HIV risk perception (extent to which one is exposed to HIV/AIDS) engage in HIV risk sexual behaviour. While it is often hypothesised that risk perception is the primary motivation for avoidance of risky behaviour, and that HIV risk perception triggers precautionary behaviour; such relationship between perception and behaviour can be reciprocal. Perceived high vulnerability or exposure to risk in cross-sectional studies, may itself be a reflection of current and recent HIV risk and less precautionary behaviour (Gerrard, Gibbons, & Bushman, 1996).

Female domestic workers who perceived use of condoms as reducing pleasure during sex (therefore likely not to use condoms), were less likely to engaging in HIV risk sexual behaviour (0.19 times) compared to those who did not hold this

perception. A possible explanation for this observation was that engaging in HIV risk sexual behaviour would demand use of condoms, but because it would have no pleasure, it is better not to engage in such HIV risk sexual activity. Agha *et al.*, (2002), in studying reasons for non-use of condoms in eight countries in sub-Saharan Africa reported that males and females most frequently reported dislike of condoms as the most frequently cited reason for not using a condom with a casual partner. Other commonly cited reasons are trust their partner as the main reason for not using a condom in last sex with a marital or a regular (non-marital) partner. Respondents rarely cited the price of condoms as a barrier to condom use. Lack of condom availability was also rarely cited as a reason for not using a condom, except to some degree by males in casual partnerships. Among younger people, researchers have reported Condom use among adolescents is influenced by self-efficacy and self-esteem may be true for boys, it may not always apply in the case of girls (Adedimejiet *al.*, 2005). Behaviour change campaigns encouraging sexually experienced people to accurately assess their personal risk of acquiring HIV should be complemented with marketing campaigns emphasizing the positive attributes of condoms (Agha S *et al.*, 2002). Since increased risk perception is associated with increased likelihood of condom use, programs should aim at dispelling the myths that underestimate vulnerability to HIV (Adedimejiet *al.*, 2005).

5.4 Conclusion

1. In relation to objective one of determining the socio-demographic characteristics of the female domestic workers, it was concluded that most female domestic workers in Nairobi were young (below 30years of age), work in low income neighbourhoods, have at least primary level of education are married and frequently move from one employer to another.

2. In relation to objective two of this study which sought to determine the proportion of the female domestic workers, it was concluded that about half

of FDWs in Nairobi engaged in HIV risk sexual behaviours such as having unprotected sex, having multiple sex partners, engaging in sex for rewards, and having forced sex with employer; they were therefore at HIV risk of HIV infection.

3. In relation to objective three of this study on level of awareness and risk perception;

Majority of the FDW (>70%) were aware of HIV/AIDS; FDW who had been in employment longer than one year being 0.57 more aware of HIV/AIDS than FDWs that had that had been in domestic work employment shorter than one year. FDWs working in a middle and high socio-economic location being in a higher risk category was 0.1 and 1.1 times more than FDWs working in a low socio-economic location. The ordered logit for FDWs that had been in domestic work employment longer than one year being in a higher awareness of HIV/AIDS category was 0.66 more than FDWs that had that had been in domestic work employment shorter than one year.

4. In relation to objective four of this study which sought to assess factors associated with HIV risk sexual behaviour among female domestic workers in Nairobi, 12 months prior to the interview;

Only two socio-demographic variables were significant, that is, age and marriage status. If an FDW were to increase in age by one year, her ordered log-odds of being in a higher risk sexual behaviour category would increase by 0.05.

5.5. Recommendations

1. The finding that slightly more than half of the female domestic workers interviewed were engaged in HIV risk sexual behaviour warrants further studies to determine the prevalence of HIV among domestic workers in Kenya

2. Public health education programs aimed at raising awareness on HIV and modifying risk perception and HIV risk sexual behaviour should be designed to target the female domestic workers.
3. Because other literatures suggest that majority of domestic workers in Nairobi are children, it would be prudent to conduct a similar study targeting child domestic workers.

5.6 Future Research Study.

For more comprehensive policy interventions to be designed within the entire country there is a need for similar study to be conducted within other counties to give a clear picture to policymakers. As an emerging issue, there has been a steady increase in the proliferation of male domestic workers; for equality purposes it is advisable to other academicians and organizations to conduct studies on the HIV risk sexual behavioural patterns of male domestic workers.

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APPENDICES

Appendix 1: Summary of Published Paper

Title: Factors Associated with HIV Risk Sexual Behavior among Female Domestic Workers in Nairobi, Kenya. *African Journal of Health Sciences, Volume 25, Number 2, April-June 2013*

Munyuwiny S¹, Kamweya A², Nyandieka L³, Murimi N⁴,

1. College of Health Sciences (COHES), Jomo Kenyatta University of Agriculture.
2. Zoology Department, Jomo Kenyatta University of Agriculture and Technology, Kenya.
3. Centre for Public Health Research, Kenya Medical Research Institute.
4. Institute of Development Studies, University of Nairobi, Kenya.

Corresponding Author: Mr. Samuel Munyuwiny, P.O. Box 12814-00100, Nairobi, Kenya

Mobile Phone No: +254-723 359 783 email: munyuwiny@yahoo.com

Sources of financial support: Institute for Development Studies, Nairobi, Kenya, HOPE worldwide Kenya, USAID APHIA II.



SUMMARY

Background: Female Domestic Workers (FDW) engage in HIV risky sexual behavior. This study sought to determine factors associated with high risk sexual behaviours among FDW in Nairobi.


Method: A cross section of FDW in Nairobi city were sampled and stratified along low, middle and upper social classes of the employer households. The 187 FDW who participated were selected through simple random sampling.

Results: Majority of FDW interviewed (68.5%) were aged between 18 to 30 years; 49.4% had primary school education and 47.8% were separated from their spouses. Most (96.3%) had heard of HIV and AIDs; and 51.9% were able to correctly dispel myths on HIV and identify methods of prevention. 16.9% of the FDWs scored more than half on an 0-18 point maximum score range of risk perception. There was a weak association of risk perception score and duration the respondent had worked. Two thirds of the respondents engaged in high risk sexual behaviour. HIV risk sexual behavior was associated with age, risk perception, socio-economic class of neighbourhood, and having a regular sex partner.

Conclusion: FDW in Nairobi engage in high risk sexual behaviour; HIV interventions for this population should seek to raise awareness dangers of high risk sexual behaviour in relation to STI infections and target as a priority, those who work in low income area and have steady sex partners.

[Afr J Health Sci. 2013; 25:104-119]

Appendix 2: Copy of Ethical clearance letter


KENYA MEDICAL RESEARCH INSTITUTE

P. O. Box 54840 - 00200 NAIROBI, Kenya
Tel: (254) (020) 2722541 , 2713349, 0722-205901, 0733-400003; Fax: (254) (020) 2720030
E-mail: kemri-hq@nairobi.mimcom.net; director @ kemri. org; website: www.kemri.org

KEMRI/RES/7/3/1 **22nd July, 2009**

TO: **SAMUEL O. MUNYUWINY**
TM 306-0012/2007
ITROMID

THRO: **DR. YERI KOMBE**
THE DIRECTOR, CPHR,
NAIROBI

RE: **SSC 1610(ETHICS REVIEW): HIV RISK PERCEPTIONS AND**
BEHAVIOUR AMONG FEMALE DOMESTIC WORKERS IN NAIROBI,
KENYA

Forwarded to
[Signature] *29/07/09*

This is to inform you that during the 168th meeting of the KEMRI/NERC meeting held on 14th July 2009 the following documents were reviewed:-

1. The study protocol.
2. Annex 1: study questionnaire for female domestic workers (FDWs) and Informed Consent Document (ICD) in English

The committee made the following observations:-

1. The aim of the study is to assess the perception of HIV & AIDS among FDWs and determine the exposure to risky sexual behaviour.
2. A cross-section of FDW living in their employers household will be reached through the snow-balling technique.
3. The study will be conducted in the residential estates, Mbotela and Dandora, Buruburu and Parklands, Kilimani, Runda and Lavington. A total of 150FDW will be interviewed.

After careful consideration, the Committee finds that more information is necessary before a final decision on the study can be reached:

1. How will you get employees permission to gain entry into the household and interview FDWs.
2. How will you guard against possible victimization against FDW by the employer?
3. What will you do with information if negative that could be potentially damaging towards the children in the home?
4. What will you do with information about employer sexual harassment?
5. In low income estates, where will interview take place? This addresses the issue of privacy and confidentiality.
6. In all households, when will interview take place?
7. The ICD provided is lacking essential elements.

Kindly address the issues and remit a revised protocol to the secretariat for further action.

Yours sincerely,
R. C. Kithinji
R. C. KITHINJI,
FOR: SECRETARY,
KEMRI/NATIONAL ETHICS REVIEW COMMITTEE

In Search of Better Health

Appendix 3: Ethical Considerations

Guarding against possible victimization by employer

The risk of victimization against FDW by employer was anticipated in the event of breach of confidentiality. The employers were informed at the point of seeking permission that utmost confidentiality was to be observed. There was no participation of the employer or a member of the household during interview and privacy during interview must be observed. No personalized feedback was to be provided to the employer upon conclusion of the interview. However, general trends would be shared during the community organized feedback session.

Management of potentially damaging information towards children

Where interviewers gather information that was potentially damaging towards for children such as sexual abuse of the child by the domestic worker, the principle of confidentiality was observed. No immediate or personalized feedback was shared with the employer. The study recognized that responding to such information was not within its limit and instead the principal investigator would refer any such evidence to relevant authorities such as the children's department. During community sensitization and feedback session, any such evidence gathered was to be shared, including proposed solutions. However, no cases of child abuse were reported.

Management of information about employer sexual harassment

Based on empirical evidence, reports on on-going employer sexual harassment would be expected. The interviewers had basic skills in gender-based violence counselling to be able to respond appropriately. Confidentiality was observed and no feedback was provided to the employer. However, the domestic worker was provided with information on where to seek professional assistance. Referrals were made to Gender Recovery Unit at Nairobi Women Hospital and Kenyatta National Hospital.

Guaranteeing Confidentiality - Interview places

In all households: - No interviews were conducted in the presence of the any third party, neither the employer nor child. The most private location was chosen and agreed upon with the employer and respondent.

In low-income estates: - Given that most of the housing structures are single rooms, interviews were conducted outside the housing structure.

Appendix 4: Informed consent form

Title:HIV Risk Perception and Sexual Behaviour among Female Domestic Workers in Nairobi, Kenya.

Investigator: Samuel Munyuwiny

Affiliation: ITROMID/ JKUAT/ KEMRI/HOPE worldwide Kenya

Self-Introduction (by research assistant):

My name isI am part of a team conducting interviews to seek to find out what female domestic workers believe or know about HIV&AIDS, including factors that may expose them to the infection. This work is conducted by a student of Masters in Public Health in Jomo Kenyatta University of Agriculture and Technology. The work is also supported by ITROMID, KEMRI and HOPE *worldwide* Kenya.

Purpose:

Other researchers have said that domestic workers are at risk of HIV infection and yet they are not adequately reached by interventions. This study aims at providing evidence that would inform HIV intervention for domestic workers and those around them.

Procedures:

The process will involve asking you questions on what you think of HIV and sexual behaviour. This will be guided by a questionnaire administered by an interviewer or self-administered. I will ask you questions in private and keep the information you have provided in utmost confidence. Some of the questions are personal; however, no name is required. Your response to the questions is voluntary and you have the right not give an answer or stop

answering questions at any stage of the interviews. If you are going to answer the questions, I kindly request 30 minutes of your time for interview.

Benefits:

Benefit to Female Domestic Worker: The findings of this study will be disseminated to your community without mentioning specific persons or situations. The information to be collected was useful in designing appropriate HIV&AIDS behaviour change communication interventions. Moreover, ongoing interventions in Kenya have not targeted the domestic workers who work in difficult-to-reach workplaces, this information will be used to advocate for more interventions.

Financial Considerations: No financial incentives will be provided to the study subjects. The interviewers will travel to meet the respondents thus negating any need to reimburse bus fare or meals.

Risks:

The risks that the study subjects may be exposed to is the breach of confidentiality. Reports (BBC Mar, 2003; and *Shop steward* Vol 8-1 Health, 1998, S.A) have indicated that employers may expel the domestic workers who are suspected to be HIV positive. To guard against these risks, the study will not involve testing of HIV status and no names will be included in the data collection. The interviews will be conducted in private but with permission from employers who will be informed that no immediate and personalized feedback is expected.

Confidentiality:

Absolute confidentiality will be observed in the process of collecting data, data entry and storage. To guarantee this, no names will be included in data collected, and interview will be conducted in private places. No personal information was published, and where case studies have been cited, no names

or clues to the source will be published. Data collected will only be accessible to the principal researcher. None of the data collectors will be residents of the particular neighbourhoods being researched.

Contact of principal investigator:

Samuel Munyuwiny

P.O. Box 363-00517

Mobile Phone No.: +254-723 359 783/ 735 265 158

Email: Munyuwiny@yahoo.com

Student Registration No: TM306-0012/2007

ITROMID, Jomo Kenyatta University of Agriculture and Technology

Contact of KEMRI/NERC:

The Secretary

National Ethical Review Committee

Kenya Medical Research Institute

Tel: (254) (020) 2722541, 0722-205901

Email: kemri-hq@nairobi.mimcom.net

Compensation:

Basis of Participation: The participation will be on voluntary basis, the respondent in the study will be free to refuse to participate or withdraw participation at any stage of the interview. The study subject must be above 18 years to be able to make this informed choice. An informed consent form will be signed by the respondent prior to administration of the interview.

Storage, exportation of samples and further studies: The data was collected and stored in the form of questionnaires. The questionnaires were stored by the principal investigator in the offices of KEMRI or HOPE *worldwide* Kenya. They will only be accessible to him for a period of a maximum of 3 years after which they are destroyed.

Consent and signature options:

For Interviewer:

I certify that the nature and purpose, the potential benefits and possible risks associated with participating in this research have been explained to the volunteer.

Signature of interviewer

Date

For Volunteer Respondent:

I certify that the nature and purpose, the potential benefits and possible risks associated with participating in this research have been explained me. I agree to take part in this study voluntarily without any coercion. I will provide contact address in the event that additional information is required. That I have been provided with the contact information for the principal researcher for follow-up where need be. I understand that I am not giving up any of my legal rights by signing this informed consent document.

Respondent's Name (print)

Respondent's Signature/ thumb print
and Date

Witness Name – in case of thumb print (print)

Witness Signature and Date

Appendix 5: Main outcome variables

Dependant variable in this study was HIV risk sexual behaviour while independent variables were socio-demographic factors; level of awareness on HIV and AIDS; and risk perception.

5.1 risk sexual behaviour

This was the dependant variable. The questions and the interpretation that determined the levels of HIV risk were as follows:

1. *Have you had sex with more than one (multiple) sexual partner in last 12 months?*
2. *Have you had sex for money or other rewards?*
3. *Have you ever been forced to have sex with your employer or a member of the household?*
4. *The last time you had sex, did you use a condom?*

A “Yes” response was interpreted as high risk and given a score of 1 while a No response was interpreted as low risk and given a score of 0.

5.2 Socio-demographic characteristic of female domestic worker

Characteristics investigated were the Female domestic worker’s age, highest level of education completed, marital status, and duration of work as a domestic worker and social class strata of the neighbourhood where they work (employer’s household) were determined based on self-reported information. These were each considered as independent variable that can influence HIV risk sexual behaviour.

5.3 Awareness of HIV and AIDS

This was the second independent variable. The eight questions that determined the levels of awareness of HIV/AIDS were as listed below:

1. *Ever heard of HIV?*
2. *I know someone living with HIV*
3. *HIV can be transmitted by mosquitoes*
4. *HIV can be transmitted by sharing meal with infected person*
5. *HIV can be transmitted by a healthy looking person*
6. *HIV can be transmitted by witchcraft/ curse/ taboo*
7. *HIV can be cured by having sex with a virgin*
8. *HIV can be transmitted through breastfeeding a child*

5.4 Risk perception of HIV and AIDS

In this study, Protection Motivation Theory (PMT) was applied. It has seven predictors(also referred to as constructs) of risk perceptions – (i) individual assessment of vulnerability, (ii) severity of disease, (iii) efficacy of response, (iv) ability to apply response (self-efficacy), (v) cost of the response, (vi) intrinsic and (vii) extrinsic rewards as described below.

The responses were interpreted as low or high level of risk and given a score of 1 or 2 respectively based on the dimension of the question.

5.4.1 Construct 1: Extrinsic reward:

This construct measures external influences such as peer pressure and perceived social norms that may influence an individual's risk perception and/ or decisions to engage in HIV risk sexual behaviour.

The questions and the interpretation that determined measures of extrinsic reward were as follows.

1. *Many FDW have sex with more than one person*
2. *Many FDW have had sex with their employers or members of the household*
3. *Many FDW have had an STD*

Those who responded to the affirmative were considered as having low risk perception and given a score of 1; while those who responded to the negative were considered high risk and given a score of 2.

5.4.2 Construct 2: Intrinsic reward:

This construct measures internal benefits that may influence an individual to engage in a HIV risk sexual behaviour. It includes the anticipated pleasure or gaining social status by engaging in the behaviour. The responses were

interpreted as low or high level of risk and given a score of 1 or 2 respectively based on the dimension of the question.

The questions and the interpretation that determined measures of intrinsic reward were as follows.

1. *A FDW with multiple sexual partners is smart/ cool/ shrewd*
2. *An FDW having sex with the employer is smart*
3. *FDWs have sex with employers because of loneliness and depression*
4. *FDWs who have sex with employers just want to indulge themselves and seek pleasure*

Those who responded to the affirmative were considered as having low risk perception and given a score of 1; while those who responded to the negative were considered high risk and given a score of 2.

5.4.3 Construct 3: Severity of infection:

This construct assesses an individual's opinion of the impact of a negative consequences resulting from engaging in a risky behaviour.

The questions and the interpretation that determined measures of severity of infection were as follows:

1. *If an FDW is infected with HIV, her family members should keep away from her*
2. *If an FDW is infected with HIV, he/she should be sacked*
3. *If an FDW catches HIV, he/she will lose friends*

Those who responded to the affirmative were considered as having high risk perception and given a score of 1; while those who responded to the negative were considered low risk and given a score of 2.

5.4.4 Construct 4: Vulnerability:

This construct assesses perceived personal exposure to risky behaviour stemming from inability to protect self. For this construct, only one question was asked:

“What is the possibility that you will become infected with HIV?”

Possible answers and their interpretation included “*Very possible/somehow* – “*High risk*” and “*Not possible*” – “*Low risk*”. The low or high levels of risk were given a score of 1 or 2 respectively based on the dimension of the question.

5.4.5 Construct 5: Response efficacy:

This construct assesses perceptions regarding the efficacy of various protective behaviours in preventing the health threat.

The questions and the interpretation that determined measures of severity of infection were as follows:

- 1. When a man and a woman are in a serious relationship, they don't need to use condoms.*
- 2. There are many ways to become infected with HIV, one might even become infected without having sex.*
- 3. You can be infected with HIV by having sex without protection even once.*

Those who responded to the affirmative were considered as having low risk perception and given a score of 1; while those who responded to the negative were considered high risk and given a score of 2.

The construct score had a possible range 1–6 generated by summing the scores to the 3 questions with a higher score indicating a high level of risk. Those with a summed score of <3 were placed in a new

low risk level category, those with a summed score of between 3 and <5 were placed in a new medium risk level category otherwise HIV risk level category in a new variable called “Response Efficacy”.

5.4.6 Construct 6: Self-efficacy:

This construct assesses the belief about one’s own ability to engage in a healthy behaviour.

The responses were interpreted as low or high level of risk and given a score of 1 or 2 respectively based on the dimension of the question.

1. *I can persuade my partner including my employer to use a condom during sex even if he/she doesn't want* (response of “True” was interpreted as High risk and scored 1)
2. *I can refuse to have sex if my partner including my employer does not want to use a condom* (response of “True” was interpreted as High risk and scored 1)

5.4.7 Construct 7: Response cost:

The questions and the interpretation that determined measures of response cost were as follows.

1. *Using a condom during sex will reduce sexual pleasure*
2. *Many girls become FDWs because they can't find other jobs*

Those who responded to the affirmative were considered as having low risk perception and given a score of 1; while those who responded to the negative were considered high risk and given a score of 2.

Appendix 6: Questionnaire for Data Collection

HIV&AIDS Risk Perception and Risky Sexual Behaviour Study

001 Questionnaire Identification Number: |__|__|__|

002 Site: _____

003 Interviewer Code: |__|__|__|

004 Date of Interview _____

Checked by Supervisor Signature _____ Date

Result Code: Questionnaire Completed (1) ____ Partially Completed (2) ____

Refused (3) ____

Introduction:

My name is _____ I am working for _____.

We are interviewing people in Nairobi in order to find out what they believe or know about HIV&AIDS, including factors that may expose them to the infection. Some of the questions are personal; however, **no name is required**. I will be ask you questions in private and keep the information you have provided in utmost confidence. You have the right not to give an answer or stop answering questions at any stage of the interview.

The information you provide will be assist in planning appropriate HIV prevention programs. This work is conducted by a student of Masters in Public Health in Jomo Kenyatta University of Agriculture and Technology. The work is also supported by ITROMID, KEMRI and HOPE worldwide

Kenya. If you are willing to answer the questions, I kindly request 30 minutes of your time for this interview.

(NB: for those who voluntarily accept to participate in the study, request the respondent to sign the informed consent form)

Section 1: Socio-demographic Information

No.	Questions and Filters	Coding Categories	Skip to
<p>This survey only interviews Female Domestic Workers (FDW) aged above 18 years, if the respondent is younger than 18yrs or is male, do not interview the person.</p>			
Q101	<p>In what month and year were you born?</p>	<p>Month __ __ </p> <p>Don't Know Month 98</p> <p>No Response 99</p> <p>Year __ __ </p> <p>Don't Know Year 98</p> <p>No Response 99</p>	
Q102	<p>How old were you at your last birthday?</p> <p>(Compare and correct Q101 if needed)</p>	<p>Age in Completed Years</p> <p> __ __ </p> <p>Don't Know Month 98</p> <p>No Response 99</p> <p>Estimate Best Answer</p>	

Q103	Have you attended school? (CIRCLE ONE)	Yes 1 No 2 No Response 9	
Q104	What is the highest level of education you have completed: primary, secondary or college?	Primary 1 Secondary 2 College 3 No Response 9	
Q105	How many total years of education have you completed up to now?	No. Years Completed _ _ _ No Response 99	
Q106	How long have you worked as domestic worker: Less than 1 year, 1-2 years, 3-5 years, Above 5 years?	Less than 1 year 1 1-2 years 2 3-5 years 3 Above 5 years 4 No Response 9	
Q107	Have you ever been married?	Yes 1 No 2 No response 9	Q109

Q108	What is your current marital status: Married, widowed, separated or divorced?	Married 1 Widowed 2 Separated 3 Divorced 4 No Response 9	
Q109	Do you have steady boyfriend	Yes 1 No 2 No Response 9	

Section 2: Awareness of HIV AND AIDS.

No.	Questions and Filters	Coding Categories	Skip to
Q201	Have you heard of HIV?	Yes 1 No 2 No Response 9	
Q202	Do you know someone infected with HIV or who has died of AIDS	Yes 1 No 2 No Response 9	
Q203	Do you have a close friend or relative	Yes 1	

	with HIV or who has died of AIDS?	No 2 No Response 9	
Q204	How can HIV be prevented (circle method/s correctly mentioned by respondent)?	Abstinence 1 Being faithful to one uninfected partner 2 Condom Use 3 No Response 9	
Please state if the following statement is <u>true</u> or <u>false</u> or <u>Not Sure</u>			
Q205	HIV can be transmitted by mosquito bites	True 1 False 2 Not Sure 3 No Response 9	
Q206	HIV can be transmitted by sharing a meal with an infected person	True 1 False 2 Not Sure 3 No Response 9	
Q207	A healthy-looking person can transmit HIV	True 1 False 2	

		Not Sure 3 No Response 9	
Q208	A person can get HIV through taboo, curse or witchcraft	True 1 False 2 Not Sure 3 No Response 9	
Q209	Having sex with a virgin can cure HIV	True 1 False 2 Not Sure 3 No Response 9	
Q210	A woman can transmit HIV to her child through breastfeeding	True 1 False 2 Not Sure 3 No Response 9	

Section 3: Risk perception of HIV&AIDS

(Adopted from PMT constructs)

No.	Questions and Filters	Coding Categories	Skip to
Please state if you <u>Agree</u> or <u>Disagree</u> or <u>Not Sure</u> with the following statement (Measures of Extrinsic Reward)			
Q301	Many FDW have sex with more than one person	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Q302	Many FDW have had sex with their employers or members of the household	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Q303	Many FDW have (or had) a STD	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Please state if you <u>Agree</u> or <u>Disagree</u> or <u>Not Sure</u> with the following statement (Measures of Intrinsic Reward)			

Q304	A FDW with multiple sexual partners is smart/ cool/ shrewd	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Q305	A FDW having sex with the employer is smart	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Q306	FDW have sex with employers because of loneliness and depression	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Q307	FDW who have sex with employers just want to indulge themselves and seek pleasure	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Please state if you <u>Agree</u> or <u>Disagree</u> or <u>Not Sure</u> with the following statement (Measures of Severity of Infection)			

Q308	If a FDW is infected with HIV, her family members should keep away from her	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Q309	If a FDW is infected with HIV, he/she should be sacked	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Q310	If a FDW catches HIV, he/she will be lose friends	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Please state the possibility (Measure of Vulnerability)			
Q311	What is the possibility that you will become infected with HIV? (read the choices)	Very Possible 1 Somehow Possible 2 Not Possible 3 No Response 9	

Please state if the following statement is true or false or Don't Know (Measures of Response Efficacy)

Q312	When a man and a woman are in a serious relationship, they don't need to use condoms	True 1 False 2 Not Sure 3 No Response 9	
Q313	There are many ways to become infected with HIV, one might even become infected without having sex	True 1 False 2 Not Sure 3 No Response 9	
Q314	You can become infected with HIV by having sex without protection even once	True 1 False 2 Not Sure 3 No Response 9	

Please state if you Agree or Disagree or Not Sure with the following statement (Measures of Self-Efficacy)

Q315	I can persuade my partner including my employer to use a condom during sex even he/she doesn't want	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Q316	I can refuse to have sex if my partner including my employer does not want to use a condom	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Please state if you <u>Agree</u> or <u>Disagree</u> or <u>Not Sure</u> with the following statement (Measures of Response Costs)			
Q317	Using a condom during sex will be reduce sexual pleasure	Agree 1 Disagree 2 Not Sure 3 No Response 9	
Q318	Many girls become FDW because they can't find other jobs	Agree 1 Disagree 2 Not Sure 3	

		No Response 9	
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Section 4: Sexual behaviour

No.	Questions and Filters	Coding Categories	Skip to
<p>Now I am going to ask you some questions about sex. Remember we are asking these questions to learn about how domestic workers like you feel so that we can make your life safer. Please answer the following questions honestly. Remember, your name is not written on this questionnaire.</p>			
Q401	Have you ever had sexual intercourse?	Yes 1 No 2 No Response 9	→ Skip section
Q402	At what age did you first have sexual intercourse?	Age in years __ __ Don't Know 98 No Response 99	
Q403	Have you had sexual intercourse in the last 12 months?	Yes 1 No 2 No Response 9	
Q404	How frequently have you had sex with regular sexual partner in last 12 months?	Often 1 Rarely 2	

		Never 3 No Response 4	
Q405	Have you had sex with more than one sexual partner in last 12 months?	Yes 1 No 2 No Response 9	
Q406	Have you had sex for money or other rewards?	Yes 1 No 2 No Response 9	
Q407	Have you had sex with your employer willingly?	Yes 1 No 2 No Response 9	
Q408	Have you been forced to have sex with your employer?	Yes 1 No 2 No Response 9	
Q409	Have you ever heard of a male condom?	Yes 1 No 2 No Response 9	

Q410	Have you ever used a male condom?	Yes 1 No 2 No Response 9	
Q411	Have you ever heard of a female condom?	Yes 1 No 2 No Response 9	
Q412	Have you ever used a female condom?	Yes 1 No 2 No Response 9	
Q413	The last time you had sex, did you use a condom?	Yes 1 No 2 Don't Know 3 No Response 9	Q4→ 15
Q414	Who suggested condom use that time?	Myself 1 My partner 2 Joint decision 3	

		No Response 4	
Q415	<p>Why didn't you and your partner use a condom that time?</p> <p>(Read choices to respondent and circle all answers mentioned)</p>	<p>Y N</p> <p>Not Available 1 2</p> <p>Too Expensive 1 2</p> <p>Partner Objected 1 2</p> <p>Don't like them 1 2</p> <p>Used other contraceptives 1 2</p> <p>Don't think its necessary 1 2</p> <p>Didn't think of it 1 2</p> <p>Other</p> <p>_____</p> <p>__ 1 2</p> <p>Don't know 1 2</p> <p>No Response 1 2</p>	

Section 5: Additional Information

No.	Questions and Filters	Coding Categories	Skip to
Q501	Have you ever taken a HIV test?	Yes 1 No 2 No Response 9	Q510 →
Q502	What motivated you to seek the HIV Testing service?	Voluntarily Requested 1 Required to take test 2 No Response 9	
Q503	Did you receive a pre-test and post-test counselling?	Yes 1 No 2 No Response 9	
Q504	If yes, When was the last test	Less than three month ago 1 More than three months ago 2 No Response 9	

Q505	Did you receive the test results	Yes 1 No 2 No Response 9	
Q506	Where was the test conducted	Hospital 1 Community VCT Centre 2 Day Mobile VCT 3 Night Mobile VCT No 2 No Response 9	
Q507	Did you receive pre-test counselling only	Yes 1 No 2 No Response 9	
Q508	Did you receive post-test counselling only	Yes 1 No 2 No Response 9	
Q509	Did you receive no counselling	Yes 1 No 2	

		No Response 9	
Q510	Would you be willing to go to for HIV testing if available at your convenience?	Yes 1 No 2 No Response 9	