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SCHOOL OF PUBLIC HEALTH
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UNIVERSITY OF GHANA, LEGON

CONDOM USE AMONG FEMALE SEX WORKERS IN THE GREATER ACCRA REGION

BY

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DECLARATION

I, Edith Amenudzi-Darku, declare that except for other people's investigations which have been duly acknowledged, this dissertation is the result of my own original work carried out under supervision, and that this dissertation, either in whole or in part has not been presented elsewhere for another degree.

…… ……

Edith Amenudzi-Darku Date

(Student)

…… ……

Dr. Augustine Ankomah Date

(Academic supervisor)

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DEDICATION

I dedicate this research work to my late father, Mr. Michael Amenudzi Darku who worked tirelessly to cater for my education until his untimely death. I would also like to dedicate this work to my children; Elikem, Deladem and Rejoice as well as my big brother, Mr. Wisdom Amenudzi for their support throughout this academic work. I could not end without dedicating this work to my husband Mr. Godwill Asare-Mensah for his prayers, encouragement , understanding and love.

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This dissertation was born out of the hard work of individuals to whom I will like to extend my unconditional gratitude to.

To Dr. Augustine Ankomah, my supervisor, thank you so much for your guidance, encouragement, patience, understanding and immense support throughout my post-graduate study. I have learnt so much from you. Your knowledge on research is awe-inspiring. It has been a privilege to have been mentored and supervised by you; each experience has been very humbling. May your horn be exalted like that of the unicorn.

I also wish to express my unconditional gratitude to my colleagues especially Mr. Philip Tabong for their moral support throughout this study. They have made every minute of this academic journey memorable.

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ABSTRACT

Background

Female sex workers are a group of people who are important in the transmission of HIV. Studies have shown that they are a source of HIV infections to both their commercial and non-commercial partners. Regular condom use has been proven to remarkably reduce the transmission of sexually transmitted infections (STIs) and thereby its importance for the success of any STI/HIV control programme. This study was therefore designed to assess condom use among female sex workers and to elicit information on factors that influence condom use.

Method

This was a cross-sectional study using mixed method (quantitative and qualitative). Four hundred females who are roamers were recruited from three popular sites using systematic sampling technique. Two focus group discussions were also held with female sex workers who are *seaters* to elicit normative views on condom use. Bivariate and multivariate regression models were used to establish the relationship between independent variables and the dependent variables. Qualitative data were audio taped, transcribed and analyzed thematically.

Results

Knowledge on HIV transmission was high among both Roamers (98%) and seaters. Condom use was lower among non-commercial partners (9.7%) than commercial (11.7%). Knowledge on the use of condoms to prevent HIV was widespread but this did not transform into safe sex practices. Customer demand and use of alcohol were important social barriers in the use of condom. Perceived vulnerability, barriers to condom use and self-efficacy were key determinants in condom use.

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Conclusion

Knowledge on modes of transmission of HIV especially through unprotected sexual intercourse with an infected individual was high, however, unsafe sexual practices was still common among female sex workers. Prevalence of condom use was high among paying partners than non-paying partners as a means to establish trust in the relationship. Social factors such as customer demand and use of alcohol and other drugs were barriers to condom use and should be given more attention. The availability of condom did not determine consistent condom use. Perception of vulnerability cues to action, and barrier were predictors of condom use.

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LIST OF ABBREVIATIONS

AIDS : Acquired Immuno-Deficiency Syndrome

FGDs : Focus Group Discussions

FSW : Female Sex Workers

GHS : Ghana Health Service

GSS : Ghana Statistical Service

HBM : Health Belief Model

HIV : Human Immuno-Deficiency Virus

STIs : Sexually Transmitted Infections

TB : Tuberculosis

UNAIDS : United Nations Agency for International Developments

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CHAPTER ONE

INTRODUCTION

1.1. Background

HIV affection is of global concern especially in developing countries. Globally, over 30 million adults between the ages of 15-49 years are living with HIV, 16.8million women and 3.4 million children under fifteen years of age (UNAIDS, 2010). Although only 11% of the world's population live in Africa, roughly 67% of those living with HIV and AIDS are in Africa (UNAIDS, 2008). The prevalence of HIV infection vary globally, however, majority of the people infected with HIV are resident in Sub-Sahara Africa (UNAIDS, 2010).

The first HIV and AIDS case in Ghana was detected in 1986. Although the current prevalence is low at 1.37% in 2012, reducing the prevalence in key populations is important in sustaining the reduction in prevalence. The prevalence rate of HIV in 2012 ranged from 0.9 percent in Adibo representing the rural in the Northern region to1.9 percent for Cape Coast for the urban in the central region. The HIV sentinel report indicated that four regions; Central, Eastern, Greater Accra and Ashanti Volta recorded a decrease in HIV prevalence whilst the prevalence in the Brong Ahafo and Eastern remained the same (NACP, 2012).

However, only Volta Region recorded an increase in HIV prevalence of 2.5 percent against 2.2 percent in 2011. The prevalence of HIV in the remaining four regions decreased from the 2011 figures. Central region recorded 1.9 per cent in 2012 as against 4.7 percent in 2011, Eastern region recorded 3.6 percent in 2012 as against 3.6 percent in 2011, Greater Accra recorded 3.5 percent in 2012 as against 3.2 percent in 2011, Ashanti recorded 2.6 percent in 2012 as against 3.1 in 2011(NACP, 2012).

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Key groups in the population are sex workers, prisoners, and intravenous drug users. Sex workers and their clients act as a source of infection and transmission to the general population. Sex work remains an important contributor to HIV transmission within early, advanced and regressing epidemics in sub-Saharan Africa (Scorgie, Chersich, Ntaganira , Gerbase, Lule & Lo, 2012). Therefore, Female Sex Workers are among one of the groups considered to be high-risk group for HIV transmission and infection. As a result of the high infection rates coupled with the large numbers of sexual partners, sex workers have been considered a key population for the transmission of HIV and other sexually transmitted infections (STIs). In addition, men who have both commercial and non-commercial sex partners play a major role in bringing HIV infection into the general population. The regular partners, or non-commercial partners of sex workers, are another important core group. Information about the non-commercial partners of female sex workers (FSWs) in the context of HIV and other sexually transmitted infection (STI) epidemiology is limited. Condoms offer safe, economically cheap and practically effective means of preventing both unwanted pregnancies and sexually transmitted infections including HIV AND AIDS when used consistently and properly.

A study has shown that condoms can prevent the transmission of sexually transmitted infections (STIs) (Davis & Weller, 1999). A review of multiple studies reported that, consistent condom use during sexual intercourse reduced HIV incidence by 80% (Weller & Davis, 2002). Meta-analysis of several studies also revealed that male latex condoms are effective in reducing HIV transmission by 85% (United States Department of Health and Human Services (US DHHS, 2001). Understanding condom use in non-commercial partnerships is complex. The sex partners of FSWs are usually categorized as commercial/paying versus non-commercial/ non-paying.

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Non-commercial partners can include husbands, boyfriends or lovers, as well as men who have free sex (e.g., police or others who use power or force) (Bhattacharjee, Isaac, Raghavendra & Moses, 2009).

Despite the potential risk in transmitting HIV, limited understanding regarding the factors that influence condom use with FSWs' non-commercial partners exist. This study therefore intend to provide data to enable reproductive health programme staff design appropriate targeted intervention for both FSW and their commercial and non-commercial partners.

1.2. Problem Statement

In the developing world, HIV and AIDS has been primarily spread by heterosexual contact, and accelerated by the prevalence of sex work within each country. In the absence of effective vaccination against HIV, behavioral interventions encouraging the use of barrier technology to limit exposure to bodily fluids have remained the salient means of abating the advance of this disease. FSWs are among one of the groups considered to be high-risk group for HIV transmission and infection. Because of high infection rates and large numbers of sexual partners, sex workers have been considered a core group for the transmission of HIV and other sexually transmitted infections (STIs). Sex workers and their clients are a critical group in the spread of HIV infection in every region in the world (Vuylsteke, Das, Dallabetta & Laga, 2008). In the Greater Accra Region, an estimated number of females engaged in commercial sex are 6333 (Ankomah *et al.,* 2012). In addition, men who have both commercial and non-commercial sex partners play a major role in bringing HIV infection into the general population.

Unprotected sex with steady partners is a particular concern given that FSWs' steady partners may contribute more to FSWs HIV/STI risk than clients do. For example, a study in Cotonou,

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Benin showed that HIV prevalence of HIV among steady partners of FSWs was two times higher than HIV prevalence among their clients. This study revealed a percentage risk of 16.1% versus 8.4%, among steady partners and clients respectively (Lowndes, Alary, & Gnintoungbe, 2000). Another study of clients and boyfriends of FSWs in Accra, Ghana, showed similar results: HIV prevalence among FSWs' boyfriends was 32% versus 4.9% among clients of mobile-based FSWs and 15.8% among clients of home-based FSWs (Ulibarri, Strathdee & Lozada, 2010).

The Ghana AIDS Commission estimated that sex workers have the second highest HIV prevalence of any group in Ghana at 11.1% in 2011, compared to a national average of 1.5% (Amenyah, 2012). A study in Accra estimated that approximately four-fifths of prevalent cases of HIV in adult males were acquired from sex workers (Cote, Sobela, Dzokoto, Nzambi, Asamoah-Adu, Labbe, Masse, Mensah , Frost & Pepin, 2004).

Despite the role FSWs and their partners play in the transmission of HIV, little had been done to disaggregate the prevalence of condom use among paying and non-paying partners. For this reason, the current study intends to explore condom use among both paying and non-paying clients of FSWs and the factors that influence condom use among FSWs.

1.3. Objectives

1.3.1. General Objective

The general objective of the study was to determine the level of condom use among female sex workers.

1.3.2. Specific Objectives

The specific objectives of the study include:

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1. To assess the knowledge of FSWs on HIV transmission.
2. To assess vulnerability of risk among female sex workers.
3. To identify the factors that influence condom use and non-use among FSWs.
4. To determine differences in condom use among paying and non-paying clients
5. To explore the challenges to condom use among non-paying partners.

1.4. Justification

Globally, studies done among FSWs have revealed that they form a core group for HIV/STI transmission unlike the general population. Though studies have been done on this group of people, in sub- Saharan, information on them is sparse. Female Sex Workers who either operate in brothels or on the street and those who engage in commercial or non commercial sex with paying and non- paying partners all raise concerns about high rates of STIs and HIV. The control of STI is a global and a national priority (World Bank 1993).

The use of condom remains one of the important strategies espoused by Ghana in the prevention and control of STI including HIV. According to the National Strategic Plan for Ghana AIDS Commission 2010-2015, preventive activities that involved and recognized sex worker communities have reduced treatable STIs among female sex workers (NACP, 2010). Since FSWs and their partners constitute a population that is central in the transmission of STIs, it is therefore important to study the prevalence and determinants of condom use. This data is important to develop evidenced-based strategies and give a holistic approach to STIs and HIV prevention and control in Ghana.

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1.5. Conceptual Framework

Several factors affect condom use among FSWs. Socio-demographic factors such as the age, educational level, religion and type of partners involved. Another consideration in condom use is the knowledge of the FSW regarding STIs and HIV.

The socio-demographic data of the respondent may also determine the knowledge of the FSW regarding HIV transmission, prevention and control. According to the Health Belief Model (HBM), an individual's behaviour is determined by five factors. The HBM was first developed in the 1950s by social psychologists, Hochbaum, Rosenstock, and Kegels working in the U.S.A Public Services ((Rosenstock, 1966; Rosenstock, Strecher & Becker, 1988). This model was developed in response to the failure of a free tuberculosis (TB) screening programme in U.S.A. Since then, the HBM has been adopted to explore a variety of long and short-term health behaviors, including sexual risk behaviors and the transmission. The constructs in the HBM model include perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cue to action and self-efficacy.

In terms of HIV AND AIDS, the models propose that people are more likely to adopt safer sexual behaviours if they recognize themselves as susceptible to HIV infection; believe the consequences of HIV infection are serious; believe that their action (e.g. abstinence, faithfulness or condom use) could prevent HIV prevention; and believe the cost of safe sex is comparatively lower and that they personally can successfully carry out the behaviour required to produce the desired outcomes. Previous researchers have used the HBM in predicting behavioural change. De Paoli, Manongi & Klepp (2004) used the HBM to predict pregnant women uptake of Voluntary Counseling and Testing in Tanzania.

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In this study, all the variables except perceived barrier were significantly associated with willingness to accept VCT. Perceived self-efficacy was the strongest predictor (r = .451, p <.001), Barriers (r = .335, p < .001), susceptibility (R= .261, p < .001), severity (r = .183, p< .001), Cue to action (Knowing someone with AIDS- r = .163, p< .001; Ever tested for HIV and HIV AND AIDS/MTCT Knowledge not significant).

In a similar study, Agha (2003) used the HBM to predict condom use during last sex in Kenya. All the variables were significant predictors of outcome variable. The corresponding relationship between condom use and the variables were risk perception (R = .43, p <.001); self-efficacy (R = .50, p <.001), benefit of condoms (R= .30, p < 001), perceived barrier (R = .35, p <.001) and reduced embarrassment in purchasing condoms (R = .23, p <.001).

In Ghana, Adih and Alexander (1999) also used the HBM to predict condom use at last sex using 601 sexually active men from one district in Ghana. The results indicated that all HBM variables except perceived benefits from condom use were significantly correlated with ever used condoms but not last condom use. Higher perceived susceptibility and lower barriers were associated with greater likelihood to use condom at last intercourse, compared with high susceptibility and high barriers or low susceptibility and high or low barriers (5.9 times)

The constructs in the HBM can therefore be used to predict condom use among female sex workers. These constructs can however be influenced by the socio-demographic data of the FSWs. Other social factors such as clients demand and availability of condom at the point of use can affect condom use. There can be an interactive relationship between the constructs in the HBM and the social factors to determine condom use as well as condom use as illustrated in Figure 1.

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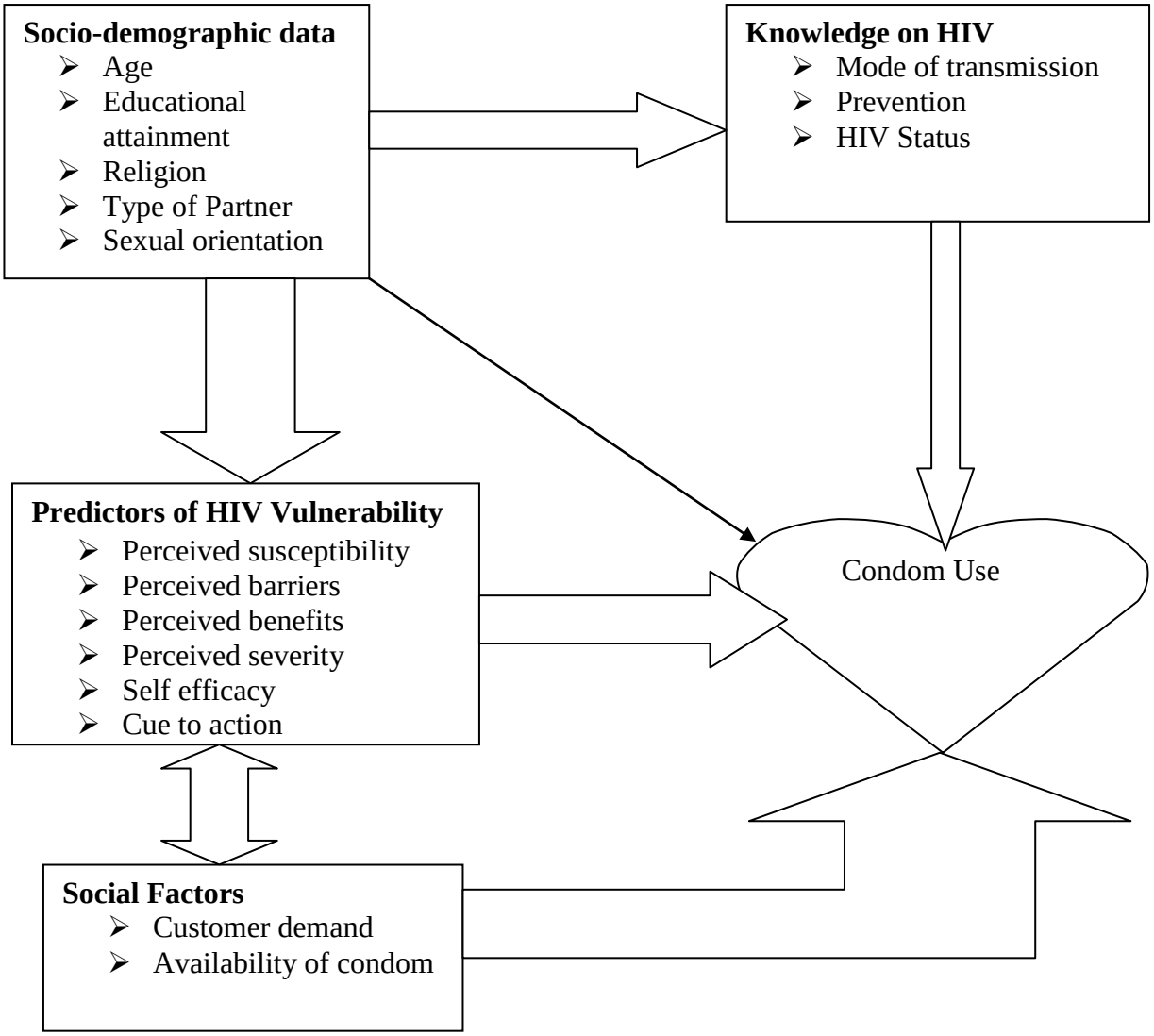
Figure1: Conceptual Framework showing the Relationship between the independent and dependent variable in the study



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CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed related literature on the knowledge on HIV and condom use among female sex workers. The chapter further examines the literature and situates the literature in the context of the present study.

2.2. Knowledge and Perceived HIV Risk among Female Sex Workers

Knowledge and perceived risk for HIV is an important factor in the use of condom. However, several studies have found that increasing knowledge regarding HIV transmission does not directly increase condom use in FSWs (Ford, Wirawan, Reed, Muliawan, & Sutarga, 2000; Williams et al., 2003). A study in Bali, Indonesia did not find a relationship between AIDS knowledge and condom use among FSWs (Ford et al., 2000). In South Africa, researchers implemented a peer-educator program to increase knowledge among mine workers, sex workers, and other adults in the biggest gold-mining complex in the world and found that knowledge of HIV AND AIDS and awareness of the epidemic increased but condom use remained low (Williams et

al., 2003)

The perception of one's vulnerability to an infection may influence the individuals taking protective measure. High-risk perception for HIV may lead to safe sex practices such as using condom. A study conducted on condom use in Nigeria found that sex workers underestimated their risk to HIV infections (Ankomah et al, 2012).

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2.3. Factors that Influence Condom Use and Non-use among FSW

Several factors may influence condom use among FSWs. A significant increase in condom use was observed among FSWs in establishments where a condom use policy exists compared with FSWs in establishments without such a policy in the Philippines (Morisky, Pena, Tiglao & Liu 2002). In another study in China, environmental support, which was measured by FSWs' perception of condom availability and managerial and social support of condom use in commercial sex establishments, has been found as a significant predictor of HIV prevention behaviours among establishment-based FSWs (Hong, Fang, Li, Liu, & Li 2008). Findings on alcohol intake and condom use have been mixed. As some researcher reported a higher tendency of FSW not using condom if alcohol were taken prior to the sexual act, others think there is no association between alcohol intake and use of condom.

A study by Morrison et al (2006) which examined the proportion of condom use when sexual intercourse was preceded by alcohol use and when it was not revealed that alcohol intake was not associated with people who engage in sexual risk. However, another study has reported that women with heavy episodic drinking patterns (more than five drinks on one occasion) are more likely to use condoms inconsistently and incorrectly; experience sexual violence; and acquire an STI, including HIV (Fisher, Cook, Sam & Kapiga, 2008). In Pretoria, South Africa, about half the sex workers reported having been too intoxicated by recreational drugs that it became difficult for them to negotiate for condom use during sex. (Wechsberg, Luseno, Lam, Parry & Morojele, 2006).

Self-efficacy is the belief that the individual is capable of performing a behavior in a given situation. It is a process of cognitive appraisal by which one integrates knowledge, outcome

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expectancies, emotional states, and past experiences to form a judgment about whether or not the individual can perform the behavior (Bandura, 1986). Self-efficacy which is one the constructs in the health belief model has been assessed in relation to condom use. Self-efficacy has been reported to increase condom use among sex workers around the world (Oladosu, 2001).

2.4. Socioeconomic and occupational context of sex work

Overall, most sex work takes place within an unhealthy and unregulated working environment, with little or no promotion of safe sex, scant control over a client's behaviour and encouragement for a high client turnover. In areas with economic insecurity, especially food insecurity, sex work is often seen as the best option for women, especially those with dependants. A study in Nigeria showed that hunger and food insecurity were particularly strong predictors of unsafe sexual behaviour among sex workers (Oyefara, 2007).

Another socioeconomic factor that affect the work of sex workers are social structures. Social structures refer to laws or policies that require or prohibit behaviors. Social structures set guidelines to limit high risk behaviours and can provide a framework for encouraging low risk behaviors (Cohen, Scribner & Farley, 2000). Women who work in bars/brothels have a different social structure than those who work on the street. Establishment based FSW's often work under conditions that promote condom use between the sex workers and their clients (Morisky *et al*., 2002).

2.5. Prevalence of Condom Use among FSWs

The prevalence of condom use among FSW is important in the prevention and control of STIs including HIV AND AIDS as sex workers and their clients are important source in the transmission of these infections. A study in Tanzania and Kenya revealed that 19% reported

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consistent condom use with most recent sex partner. Factors associated with consistent condom use were relation to most recent sex partner, gender, study site, perceived difficulty in requesting condom use and actually making requests for condom use (Norman, 2003). A study in Ghana, using four hundred fifty street commercial sex workers in Accra, Kumasi and Techiman showed that the level of condom education was very low (14%). However consistent condom use (all the time) with clients was relatively high (49.6%).Two hundred and seventy-seven of the participants did not use condoms all the time (Adu-Oppong, Grimes, Ross, Risser, & Kessie, 2007). This was against the backdrop that an earlier study in Ghana reported that one fourth of *roamers*, who work from bars and Hotels and on the streets, and one and a half of *seaters*, who work from home, acquired HIV within the first six months of sex work (Adu-Asamoah *et al*., 2001).

2.6. Reasons for non-condom use

Several factors have often been reported as the reasons for the non-use of condom by FSWs. Refusal by clients remains the most important reason for non-use of condom (Adu-Oppong, Grimes, Ross, Risser, & Kessie, 2007). In a study in Ghana, women cited client refusal (73%) and client brutality (43%) as reasons for not using condoms. Nearly three quarters of sex workers in that study also reported having had sex with a client who refused their request for condom use, and few believed that their co-workers would decline a client who rejected condoms (Adu-Oppong, Grimes, Ross, Risser, & Kessie, 2007) . Condom-use may also be influenced by controllers, or ‘‘pimps’’. Controllers are people who recruit females for practices as sex paid sex worker. They receive their pay as commissions from their controllers and are therefore unable to negotiate for condom use. A study in Ethiopia found that 7% of non-use of condoms was due to instructions from the owner of their working place (Aklilu, Messele & Tsegaye , *et al.,* 2001). A

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finding consistent across several studies is that clients offer sex workers more money for sex without a condom (Umar, Adekunle & Bakare, 2001). A study in Kinshasa found that about a quarter of sex workers reported having unprotected sex for extra money, charging up to 3.5 times more for unprotected sex (Ntumbanzondo, Dubrow, Niccolai, Mwandagalirwa & Merson, 2006).

Another reason for the non-use of condom by FSWs is the concept of emotional partners resulting in sex workers perceiving some clients as "clean" and other as "dirty". Emotional partners and more regular clients are also often regarded by FSWs as 'clean' and 'safe', in contrast to unknown and 'emotionally sterile' casual clients, who are therefore seen as 'dirty' and 'unsafe' (Varga, 2001). Therefore, condom use may be less with partners perceived to be clean than those perceived to be dirty. There are differences in condom use among FSWs with respects to paying and non-paying partners. Wojcicki & Malala (2001) report that condoms may be used less frequently with non-commercial partners compared to commercial clients in order to make a distinction between work and pleasure. Several reasons accounts for the low condom use among non-paying partners. Condoms may be preferred in commercial partnerships to create a barrier to intimacy and to gain a sense of control with clients (Sanders, 2002).

2.7. Predictors of vulnerability to HIV

According to the HBM, individuals would be more likely to adopt health behaviors if they perceived themselves to be susceptible to illness, and if they thought that the consequences of infection were serious, that an effective solution existed, and that they could surmount barriers entailed in adopting the effective behavior (Wilson, Lavelle, 1992). Previous study revealed that

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perceived benefits were in turn inversely related to condom use. STI/ HIV knowledge, condom use skills, and susceptibility/severity had no direct effect on condom use. Their effects on condom use were mediated by self-efficacy and perceived benefits. Self-efficacy was not associated with perceived benefits of unprotected sex. Perceived establishment-level support was positively related to condom use (Wang, Li, McGuire, Kamali, Fang, Stanton, 2009).

2.8. Summary of Literature Review

This review has highlighted that female sex workers are a group of global concern regarding their role in HIV transmission. Female sex workers are still engaged in unhealthy sexual practices despite several health education interventions across Africa. Female sex workers are more likely to compromise condom use with acquaintances than clients or people they did not know.

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CHAPTER THREE

METHODS

3.1. Introduction

This section provides detailed methodology of the study covering the type of study, study location, target population, followed by sample, sampling techniques, data collection instrument, pre-test, fieldwork approach, analysis of data and ethical issues.

3.2. Study Design

The study was cross sectional survey employing both qualitative and quantitative data collection methods. The quantitative designed elicited data on condom use and its determinants and knowledge on HIV. The purpose of using both qualitative and quantitative method was to help expand the understanding of the views expressed by the participants once findings have been made. It was to enhance the depth and validity of the research outcomes as the qualitative strategies sought to complement and corroborate statistical analysis of the quantitative data.

3.3. Study Area

This study was carried out in the Greater Accra Region of Ghana. The Greater Accra region is one of the ten administrative regions of Ghana. It lies in the South East of the country along the gulf of Guinea and has coastal savannah, a little forest area inland towards the Eastern region in the Ga district, and miles of beautiful coastline especially in the rural parts of the region. The greater Accra Region is the national capital for Ghana and cosmopolitan. The 2010 Population and Housing Census put the population in the Greater Accra Region at 4,010,054 with a female population of 2,071,829 (GSS, 2011).

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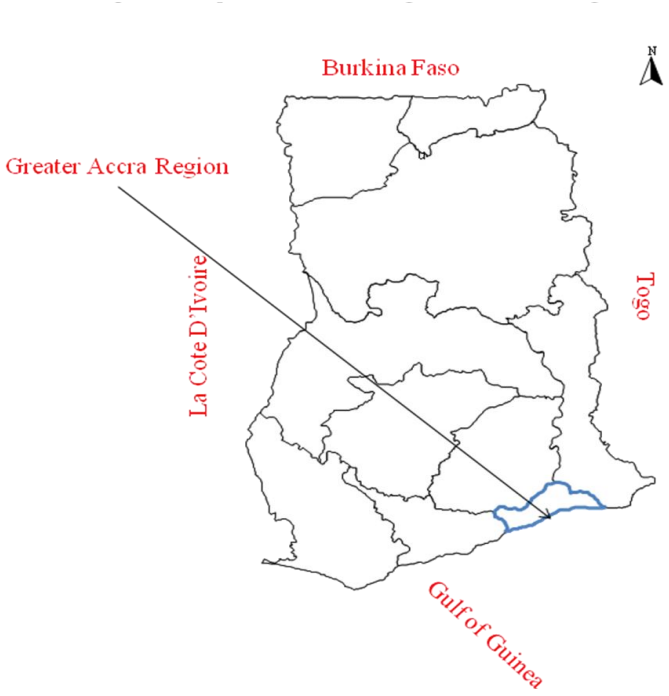
Figure 2: A map showing Greater Accra



3.4. Population

The population of the study included FSWs both *seaters* and roamers in the Greater Accra region of Ghana. Adu-Asamoah et al, (2001) was the first person to use the term seaters and roamers among commercial sex workers. The seaters are the category of sex workers who rent a brothel and and stay there permanently to operate, whilst raomers are the type of sex workers who move from one place to another depending upon the busy nature of the spot. They live there to operate not permanently The population of the *seater* community is unknown, however, the population of registered FSWs who are roamers was estimated to be in the region of 6, 300 (Ankomah et al, 2012).

3.5. Determination of Sample Size

The sample size was computed using the following assumptions and formula

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- The 95% level of confidence was used, therefore Zα/2 corresponding to the 95% CI=1.96 with a probability figure, p=0.05

The formula for the sample size

$$N = \frac{Z^2\alpha/2\ P(1-P)}{d^2}$$

$$N = \frac{1.96^2\ X\ 0.5(1-0.5)}{0.05^2}$$

N=384

The actual sample size was determined using the finite population correction formula since the total population was less than 10,000

$n_f = n/1+n/N$

n_f=384/1+(384/6300)

n=382

However, the researcher increased this number to four hundred to cater for non-response rate and increase precision of the study.

3.6. Sampling Procedure

The study employed mixed research strategy collecting both quantitative and qualitative data. Roamers were sampled and given the structured questionnaire while *seaters* were used for the focus group discussions.

3.6.1. Quantitative Sampling Procedure

The study adopted a compilation of the sex workers, which was carried out in 2012 (Ankoma *et al.,* 2012). This list contained the number of roamers in specific hotspots in Greater Accra where female sex workers operate. This list comprises eight vicinities within the Greater Accra region.

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A previous study by Ankomah *et al*., (2011) has estimated the number of sex workers in the various vicinities and this formed the population of sex workers in this study (refer table 1). These sites include; Madina, Circle, Nungua, Mamprobi, Osu/Danquah Circle, Cantonment, Odorkor and Kasoa. Within each of these locations, there are specific spots and recreational centres where sex workers wait for their potential clients. The spots in these eight sites were listed on a piece of paper and an independent person was asked to pick three without replacement. The independent person subsequently selected Obra spot, Jokers and Cantonment. The number of people to sample from each site was computed based on proportion of sex workers to the total sample size as summarized on Table 1. The number of sex workers operating at Jokers, Obra spot, Cantonment at Togo Embassy according to Ankomah *et al.,* (2011) were estimated at 286, 94 and 287 respectively. This therefore resulted in a total population of 667. A proportion of each of these sites to the total population was determined by dividing the estimated number of sex workers in each of the site by the total population and multiplied by 100% to determine the proportion to sample from each of these sites. These proportions were then divided by 100% and multiplied by the sample size of 400 to arrive at the number of respondents to interview at each of the sites as summarized on table 1. Two females and one male research assistants were trained for the data collection. The training covered several hours of class work and mock exercises.

The data was collected over a period of two weeks. For a given site, a sampling interval was determined by dividing the total number of sex workers that operate at that site by the number to be sampled from that site. Numbers were than written on pieces of papers and kept in a bowl. Using the sampling interval, a list was designed highlighting selected numbers which when

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picked by a potential research participant qualifies the person to take part in the study. At the site, sex workers who have assembled were made to pick from the bowl. Any person who picked a number that corresponded to a highlighted number on the list was interviewed. Those whose numbers fell outside the numbers were not interviewed and were also not given the opportunity for re-sampling at another time. This continued until the sample size for that site was reached.

Table 1: Sampling Procedure

Community	**Total Number of FSW**	**Proportion to sample (%)**	**Number to sample**
Jokers	286	42.9	172
Obra spot	94	14.1	56
Cantonment at Togo Embassy	287	43.0	172
Total	**667**	**100.00**	**400**

3.6.2. Qualitative Data collection Procedure

Ashiaman, a community with *seater* FSWs was purposely selected for two Focus Group Discussions. The leader of the community of *seaters* was contacted and informed about the study. The leader then invited those who were interested and did not have clients at the time. Those who presented themselves were put into two groups for the FGD. The participants for each focus group discussion comprised of eight members seated in a semi-circle fashion with the moderators and note taker sitting in front. The FGDs were moderated by the principal investigator and notes were taken by a trained research assistant. During the FGD, each participant was given the opportunity to contribute to any topic raised before proceeding to another topic. The focus group discussion guide were designed in English and translated into

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Akan. The FGDs were conducted in Akan within the vicinity the *seaters* operate. The FGD took between 45-60 minutes to complete and the discussions were also audio-taped in addition to the note taking.

3.7. Data Gathering Tool

Structured questionnaire was used for the quantitative aspect of the study whilst a semi-structured focus group discussion guide was used for focus group discussion. The structured questionnaire elicited responses on knowledge on HIV, HIV risk perception, condom use and factors that influence condom use among FSWs.The structured questionnaire comprised of closed-ended multiple-choice questions and Likert Scale type of questionnaire (refer to appendix A). The multiple choice questionnaire were designed to elicit information on knowledge on HIV, use of condom whiles the Likert Scale questionnaire was designed using the constructs in the HBM. The Likert Scale questionnaire had five levels. The FGD guide was put into themes. The themes covered HIV risks perception, condom use and factors that influence condom use. The focus group discussion guide was open-ended with opportunity to ask follow up questions to probe.

3.8. Variables

The study collected data on number of variables. The dependent variable was condom use whilst the independent variables included age, education level of the FSW, HIV risk perception and factors that influence condom use.

3.9. Inclusion and Exclusion Criteria

Females who have sex with clients for commercial purposes in selected locations in the Greater Accra were included in the study. They included both roamers and *seaters* (Adu-Asamoah, 2001). The female sex workers should have also attained the age of 18 years at the time of the

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data collection as this is the age for an individual to be capable of giving informed consent. Female sex workers who have not attained the legal age of 18 years to be capable giving informed consent were excluded from the study. In addition, those who are unwilling to take part in the study were excluded from the study.

3.10. Validity and Reliability

A pretest of the questionnaire was carried out in the Nima and Abrefi spot for the *seaters* and roamers respectively. Ten roamers were interviewed and the results compared for the validity and reliability of the questionnaire. Revisions were made on the questionnaire and focus group discussion guide before the main study. These communities were excluded from the main study.

The Likert scale questionnaire contained 33 items on Health Belief Model (perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cue to action, and self-efficacy) was administered to respondents. Participants responded to the items using a 5-point Likert scale ranging from 1("Strongly Disagree") to 5 ("Strongly Agree").

The items in the questionnaire were phrased so that 'strongly agree' indicates a strong preference of the item by the respondent. Reliability of the measures was assessed by the use of Cronbach's alpha 'α'. Cronbach's alpha provides an estimate of the internal consistency of the measures (Brown, 2006) and therefore test the consistency or reliability of the different variables. Cronbach's alpha reliability coefficient normally ranges between 0 and 1. The closer the alpha coefficient is to 1 the greater the internal consistency. George & Mallery (2003) showed that, alpha greater than or equal to 0.7 is acceptable and a good indication of a reliable measure. The lower limit of acceptability is 0.6 (Sekaran, 2003). The overall Cronbach's alpha for total quality management the tool that was used to collect the data was 0.905**,** with individual Cronbach's alpha for perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cue

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to action, and self efficacy been 0.806, 0.867, 0.773, 0.729, 0.796, and 0.876 respectively (Table 2).

Table 2: Reliability Test for Research Tool

Variables	No. of Items	Cronbach's Alpha
Perceived susceptibility	5	0.806
Perceived severity	11	0.867
Perceived benefits	5	0.773
Perceived barriers	6	0.729
Cue to action	3	0.796
Self efficacy	3	0.876
Total	**33**	**0.905**

3.11. Ethical Consideration

Approval was sought from Ethics Review Committee of the Ghana Health Service. The objectives of the study were explained to all participants for their informed consent. Participants were also informed of the right to withdraw from the study at a point in the study without any punitive measures taken against them. Respondents were further informed that any data collected will be held in confidence and personal identifier were not collected from respondents. The participants were provided with contact addresses and telephone numbers of contact persons. During focus group discussions, codes were used to identify respondents instead of their names. Participant were further encouraged to hold in confidence any contribution made by a participant in the discussion.

3.12. Data Processing and Analysis

Descriptive univariate analyses were performed to assess the frequency distribution of the various factors. Bivariate analysis was employed to examine the associations of individual factors with condom use. The chi square statistic with its corresponding probability level, odds

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ratio (OR), and 95% confidence interval (CI) were computed to examine the magnitude and significance of the bivariate associations between pairs of dichotomous variables. Factors identifies as significantly associated with condom use in the bivariate analysis were entered into a multivariate logistic regression analysis to assess the independent contribution of each factor in predicting condom use.

The quantitative data were cleaned, coded and entered into STATA (version 11) for analysis. This included the computation of percentages, odd ratios, bivariate and multivariate regression. The results were summarized into tables. However, the qualitative data were audio taped using a digital recorded, translated into English language by an independent person. The translations were then transcribed into Microsoft word for windows. The transcripts were subsequently coded thematically and analyzed manually and the results presented in narrations and supported by direct quotes from respondents. The final stage of the analysis involved triangulation of both quantitative and qualitative data.

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CHAPTER FOUR

RESULTS

4.1. Socio-Demographic Data of Respondents

This section presents the socio-demographic data of the respondents in both the quantitative and FGD. These include the age distribution, educational attainment, sexual orientation, religious affiliation, regional distribution and marital status.

4.1.1. Socio-Demographic Data of Respondents (Quantitative Data)

Four hundred respondents took part in this study. Three hundred and thirty-nine (84.7%) of respondents were between the ages of 18-25 years and 61 (15.3%) were 26 years and above. Regarding sexual orientation, majority, 383(95.7%) were heterosexual whiles 17 (34.3%) had both male and female partners (both heterosexuals and Lesbians). In terms of religious affiliations, 300 (75.0%) were Christians, 70 (17.5%) adhere to Islam and 30 (7.5%) indicated they did not belong to any religious affiliation. The respondents hail from regions all over Ghana with majority from the Greater Accra, 123 (30.7%), followed by Central region, 66 (16.6%) whilst the region with the least representation was the Upper West region, 5 (1.2%) as summarized on table 3. Majority of the respondents, 259 (64.8%) were never married, 19 (4.8%) indicated they were married, whiles 122 (30.4%) indicated they were either separated or divorced. The educational level of respondents varied. Sixty-four (16.1%) never had formal education, 185 (46.2%) had attained Middle and Junior Secondary Education, 142(35.5) had second cycle education and nine representing 2.3% of the total respondents had attained tertiary level of education.

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Table 3: Socio-Demographic Data

N=400

	Number(n)	**Percentage (%)**
Age		
18-25	339	84.7
26 and above	61	15.3
Sexual Orientation		
Heterosexual	383	95.7
Heterosexuals/Lesbians	17	34.3
Religion		
Christianity	300	75.0
Islam	70	17.5
No Religion	30	7.5
Permanent region of residence		
Ashanti	58	14.5
Brong Ahafo	12	3.0
Central	66	16.6
Eastern	52	13.0
Greater Accra	123	30.7
Northern	14	3.6
Upper East	12	3.0
Volta	33	8.4
Western	24	6.0
Upper West	5	1.2
Marital Status		
Never Married	259	64.8
Married	19	4.8
Divorced/Separated	122	30.4
Level of Education		
No Formal Education	64	16.1
Junior High	185	46.2
Second Cycle	142	35.5
Tertiary	9	2.3
Total	400	100.0

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4.1.2. Socio-Demographic Data of Respondents (Qualitative Data)

In addition to respondents that answered to the structured, two focus discussions were held with *seaters*. These were females between the ages of 18-49 years. They have all been practicing commercial sex (sex-for-work) for between 3-25 years and hail from various regions of Ghana.

4.2. Knowledge on HIV AND AIDS

The study collected data on the knowledge of the respondents regarding modes of HIV transmission and prevention. Majority of the respondents, 392 (98.0%) indicated they have ever heard of the disease. Despite several campaigns on HIV and AIDS 8 (2.0%) indicated they have never heard of the disease HIV and AIDS. Similar statistics were recorded regarding general knowledge on how HIV and AIDS is transmitted and prevented. However, data on specific modes of transmission and prevention yielded different results. Three hundred and seventy-nine respondents (94.8%) were aware that HIV and AIDS is transmitted through unprotected sexual intercourse with an infected person. Marginally, transmission through infected blood, 279 (69.8%) and body fluids, 259 (64.7%) were less known to respondents (Table 5). Condom is widely known as a way of preventing HIV accounting for about 379 (94.8%) of respondents. Data elicited on the knowledge of respondents on their HIV status revealed that 352 (88%) were aware of their HIV status whiles 48 (12%) did not know their HIV status. Out the number that knew their HIV status, four (1%) indicated they were HIV positive as summarized on table 4.

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Table 4: Knowledge on HIV and AIDS
N=400

Knowledge	Frequency (%)	
	Yes	No
Heard of HIV and AIDS	392 (98.0%)	8 (2.0%)
Do you know how HIV AND AIDS is prevented	394 (98.4%)	6 (1.6%)
Do you know how HIV and AIDS is transmitted	386 (96.5%)	14 (3.5%)
Transmission through unprotected sex	379 (94.8%)	21(5.2%)
Transmission through infected blood transfusion	279 (69.8%)	121 (30.2%)
Transmission through fluid/blood contact	259 (64.7%)	141(35.3%)
Prevention by abstaining from sex	253(63.2)	147(36.8%)
Prevention through use of condom	379(94.8%)	21(5.2%)
Prevention by having one sexual partner	254(63.4%)	146(36.6%)
Knowledge on HIV Status	352(88%)	48(12%)
Self-reported HIV Status	4(1%)*	396(99%)*

*Yes implies HIV positive computed out of number who knew their HIV status (352)

4.3. HIV Risk Behaviour

HIV risk behaviour is any behaviour that makes respondents vulnerable to HIV. The behaviours include the type of partners, the frequency of condom use, the number of partners respondents have sex with in a week. Data on the type of partners that respondents have revealed that 149 representing 37.2% of respondents were only having commercial (paying) partners whiles 251 (62.8%) had both commercial (paying) and non-commercial (non-paying) partners. The frequency of condom use among respondents was also assessed. The result indicates that only 47 (11.7%) frequently used condom during sexual intercourse, 306(76.8%) indicated that they use condom occasionally whiles 39 (9.7%) indicated they only use condom when they are having sexual intercourse with somebody they do not know. However, eight respondents, which represent 2.0% of respondents, indicated they do not use condom. To further measure the use of condom, a question was asked on whether the respondent used condom during last sex. The

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result revealed that 152 (38%) indicated they had used condom whiles 248 (62%) did not use condom during last sex. To differentiate condom used among paying and non-paying partners' respondents who indicated they had used condom during last sex were asked to indicate which category of partners' condom was used. The results revealed that 287 out the 293 (98%) respondents used the condom with paying partners while only nine (2%) used it with non-paying partners as summarized on Table 5.

Table 5: HIV Risk Behaviour
N=400

Category of Partners of Respondent	**Frequency**	**Percentage (%)**
Commercial (paying) Partners only	149	37.2
Both paying and non-paying	251	62.8
Frequency of Condom Use		
Anytime I have sex	47	11.7
Occasionally when I have sex	306	76.8
When having sex with unknown person	39	9.7
I don't use condom	8	2.0
Use condom during last sex		
Yes	293	73.2
No	107	26.8
Type of Partner condom was used		
Paying	287*	98.0*
Non-paying	9*	2.0*

*computed out of respondents who used condom on last sex (293)

Focus group discussions further supported the above observation that sex workers are less likely to use condom with regular non-paying partners than paying partners.

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Q: Which category of people do you request to condom during sex?

*R1: "I use condom for customer who have come to me for the first time but you know we have men who protect us here, so for such people we do not use condom when having sex"-**(34-year old female sex worker, FGD).***

*R2: "I agree with my sister, for regular customers, we do not use condom, however, if you are not a regular partner and willing to pay more for you not to use condom, then I will agree, after all we are working because of money-**(28-year old sex worker, FGD).***

Another theme that emerged during FGD was that condom was rather often used to prevent pregnancy than protection against STIs including HIV and AIDS.

Q*: why do you use condom during sex?*

R1:"We use condom to prevent pregnancy…. If you get pregnant you have to spend money to do abortion and some babies always refuse to die during abortion you are compelled to give birth. It will be difficult to take care such babies"**-(30-years old respondent in FGD).**

*R3"I use condom to prevent pregnancy"-**(22-years old respondent in FGD).***

4.4. Predictors of Condom use

A bivariate analysis (Chi Square) was carried out to ascertain determinants of condom use among respondents and the results revealed that younger respondents were more likely not to use condom than older respondents. Within the respondents that used condom during the last sex, 261 (89.0%) were less than 26 years and below whiles 32 (11%) were above 26 years. However, among respondents who did not use condom during the last sexual contact with clients, 78 (72.7%) and 29 (27.3%) were below 26 years and above 26 years respectively. The differences were significant (P=0.041). Regarding types of partners, among those who used condom during the last sex, 87 (30.7%) have only paying partners whiles 196 (69.3%) have both paying and non-paying partners. However, among those who did not use condom during last sex, 61 (51.8%) have only paying partners as against 56 (48.2%) who have both paying and non-paying partners.

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The differences were also significant (P=0.012). Table 6 gives a summary of the other socio-demographic differences between respondents who used condom during the last sexual contact and those who did not use condom.

Table 6: Determinants of condom use among commercial sex worker in the Greater Accra Region of Ghana

Variable	Used n (%)	Did not use n (%)	P-Value
Age			
18-25	261 (89.0)	78 (72.7) **0.041**	
26 and above	32 (11.0)	29 (27.3)	
Sexual Orientation			
Heterosexual	300 (97.9)	83 (88.9%)	0.145
Heterosexual/Lesbian	7 (2.1)	10 (11.1)	
Religion			
Christianity	200 (79.6)	100 (67.5)	**0.001**
Islam	38 (15.1)	32 (21.7)	
No Religion	14 (5.3)	16 (10.8)	
Type of Partner			
Paying	87 (30.7)	61 (51.8)	**0.012**
Both Paying/Non-Paying	196 (69.3)	56 (48.2)	
Marital Status			
Never Married	194 (68.8)	65 (55.1)	0.425
Married	11 (3.9)	8 (6.8)	
Divorced/Separated	77 (27.3)	45 (38.1)	
Level of Education			
No Formal Education	16 (6.7)	48 (29.1)	**0.002**
Middle/Junior Secondary	93 (39.0)	92 (55.7)	
Second Cycle	122 (51.5)	22 (13.3)	
Tertiary	6 (2.8)	3 (1.8)	
Total	237	163	

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A multivariate regression revealed that FSWs below 25 years were three times more likely to have sex without the use of condom than FSWs older than 25 years (P=0.041).The results further showed that religion (P=0.001), type of partner (P=0.012) and educational attainment (P<0.002) were factors that affected condom use (Table 8). The three factors were statistically significant in the bivariate analysis but when the same factors were put in the multivariate analysis model, only age [OR=2.352(0.64-2.82)], sexual orientation [OR=2.234(2.27-7.36)] were significant determinants of condom use Table 7.

Table 7: Crude and adjusted odd ratios of determinants of condom use among commercial sex workers in the Greater Accra Region of Ghana

Variable	Crude OR (95 CI)	Adjusted OR (95 CI)	P-Value
Age			
18-25	3.630 (2.16-10.9)	2.352(1.64-2.82) 0.041	
26 and above (ref)			
Sexual Orientation			
Heterosexual (ref)			0.145
Heterosexual/Lesbians	3.549(6.52-17.08)	2.234(2.27-7.36)	
Religion			
Christianity	2.701(1.57-4.63)	2.167(1.06-4.41) 0.001	
Islam	1.875(0.61-5.75)	0.923(0.47-10.56)	
No Religion (ref)			
Type of Partner			
Paying (ref)			0.012
Both Paying/Non-Paying	2.172(1.63-12.83)	1.87(11.39-28.26)	
Marital Status			
Never Married (ref)			0.425
Married	1.923(0.67-5.98)	1.452 (0.78-3.23)	
Divorced/Separated	3.523 (1.78-3.234)	2.657 (1.67-2.23)	
Level of Education			
No Formal Education (ref)			0.002

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Primary	2.782(0.49-0.96)	1.234(0.23-5.41)
Second Cycle	1.412(0.52-6.74)	1.201(0.47-7.23)
Tertiary	1.091(1.23-7.23)	0.923(1.12-6.27)

In addition, the study assessed which factors could influence regular condom use. Respondents who indicated they did not use condom during last sex were further made to select from a list the reasons why they did not use condom. The results revealed that only eight out of the 107 representing 7.5% respondents cited non-availability of condom as the reason for not using condom. Majority of the respondents 49 (45.8%) did not use condom because clients had requested for that whiles 18 (16.8%) revealed that they were under the influence of alcohol. The use of hard drugs and smoking recorded 21 (19.6%) and 11 (10.3%) respectively as illustrated on Table 8.

Table 8: Reasons why condom was not used during last sex

N=107

Variable	Number (n)	Percentage (%)
Non-availability of Condom	8	7.5
Customer Demand	49	45.8
Use of Alcohol	18	16.8
Use of other hard drugs	21	19.6
Smoking	11	10.3
Total	107	100.0

4.5. Relationship between HBM and Condom use during last Sexual Intercourse

The study assessed the constructs in the HBM which were more likely to predict condom use during last sexual encounter with customers. Questions were framed to test each construct using Likert Scale. For example under perceived susceptibility questions such as: "everybody can get

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STIs and HIV", "my chances of getting STIs and HIV are great" were asked for a respondents to rate their level of agreement or disagreement. Regards to perceived severity, the respondents were expected to rate on questions such as "the thought of STIs and HIV scares me and "I think STIs and HIV is deadly" amongst others. On perceived barrier, information was elicited on benefits of using condom and questions such as "the use of condom can prevent me from getting STIs including HIV" and "If I use condom, I will remain healthy to continue with my work" were asked. Information on barriers to condom use was also elicited using questions such as "the use of condom is cumbersome" and "my partners do not like using condom". In testing cue to action questions such as "I heard of use of condom during sex" and "I frequently do things to improve my health" were asked , and finally self efficacy was tested using questions such as "I have used condom before" and "I am willing to suggest using a condom to a partner even if he/she would reject me" were asked. The results revealed a composite means of 3.26 (SD=0.88) and 3.99 (SD=0.70) for perceived susceptibility and perceived severity respectively. Perceived benefits and barriers recorded a mean of 4.16 (SD=0.70) and 3.62 (SD=0.71) respectively. Cues to action had a mean of 3.99 with a standard deviation of 0.79 whiles self-efficacy had a mean of 4.39 with a standard deviation of 0.80. The mean and standard deviations of the individual questions were summarized on table 9a-f.

Table 9a: Perceived Susceptibility (Descriptive statistics)

Variables	No. of Respondents	Mean	S.D
Everybody can get STIs and HIV	396	4.09	1.16
My chances of getting STIs and HIV are great	396	3.18	1.23
I feel that my chances of getting the STIs and HIV in future is high	388	2.83	1.09
There is a good possibility that I will get STIs and HIV	390	2.88	1.12
I worry a lot about getting STIs and HIV	394	3.28	1.28
Total		**3.26**	**0.88**

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Table 9b: Perceived Severity (Descriptive statistics)

Variables	No. of Respondents	Mean	S.D
The thought of STIs and HIV scares me	396	4.13	0.98
I think STIs and HIV is deadly	380	4.32	0.83
If I had STIs and HIV my academic career	388	4.15	0.99
HIV has no cure	378	3.42	1.28
STIs and HIV would endanger my relationship significantly	394	4.18	0.97
STIs and HIV are hopeless diseases	365	2.97	1.27
My feelings about myself would change if I got STIs and HIV	392	4.03	1.07
I am afraid to even think about STIs and HIV	392	4.14	1.05
Problems I would experience from STIs and HIV would last a long time.	390	4.16	0.94
STIs and HIV would be more serious than	388	4.24	1.47
Positive STIs and HIV status will negatively change my life	389	4.18	1.06
Total		**3.99**	**0.70**

Table 9c: Perceived Benefits (Descriptive statistics)

Variables	No. of Respondents	Mean	S.D
The use of condom can prevent me from getting STIs including HIV	388	4.39	0.85
If I use condom, I will remain healthy to continue with my work	388	4.40	0.79
Knowing my HIV status can help prevent getting it in future	388	4.12	0.90
I would not be so anxious about HIV if I know my status	384	3.61	1.16
Prevents infection of others if tested positive	386	4.30	1.03
Total		**4.16**	**0.70**

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Table 9d: Perceived Barriers (Descriptive statistics)

Variables	No. of Respondents	Mean	S.D
The use of condom is not cumbersome	384	3.24	1.28
I do enjoy sex with condom	378	2.89	1.24
My partners like using condom	374	3.53	1.18
Condoms are easy to use.	372	3.76	1.08
I feel confident buying condoms	374	4.09	0.84
I know how to use a condom when I have sex with someone	382	4.24	0.72
Total		**3.62**	**0.71**

Table 9e: Cue to Action (Descriptive statistics)

Variables	No. of Respondents	Mean	S.D
I heard of use of condom during sex	374	3.81	1.02
I frequently do things to improve my health	382	4.12	0.76
I use condom anytime I have sex	382	4.06	1.00
Total		**3.99**	**0.79**

Table 9f: Self Efficacy (Descriptive statistics)

Variables	No. of Respondents	Mean	S.D
I'm confident I can discuss condom	382	4.29	0.96
I have used condom before	370	4.48	0.71
I am willing to suggest using a condom to a partner even if he/she will reject me	376	4.42	0.97
Total		**4.39**	**0.80**

To ease interpretation of the data a median strategy was employed to categorize each construct into low or high depending on the score on the aggregation of the various elements measuring each construct. The results revealed that, respondents who perceived a high susceptibility to HIV were three times more likely to have used condom during the last sexual intercourse than those with low perception on vulnerability. Perceived benefits of condom use and severity of HIV were insignificant at 95% confident interval. Respondents who perceived a low level of barriers to condom use were two times more likely have used a condom than those who

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perceived a high level of barriers to condom use [OR=2.35, (1.66–3.38)]. Respondents who perceived a high level of self-efficacy to use condoms were three times more likely ever to have used a condom [OR=2.64, (1.66–3.90)] than respondents who perceived a low level of self-efficacy to use condom as summarized on table 10.

Table 10: Logistic regression of predictors of condom use

Variable	**Used Condom OR(CI)**	**Did not use condom OR (CI)**	**P-Value**
Susceptibility to HIV			
High	3.10 **(**0.20 –1.14)	1.00 (0.19 –1.11) 0.001	
Low	1.00 (0.80 –1.68)	0.67	
Perceived Severity			
High	2.43 (0.78-1.98)	0.90 (0.65-1.35)	0.34
Low	1.00	1.00	
Perceived Benefits			
Low	1.00 (0.88 –2.23)	1.00 (2.07–16.87)	0.67
High	2.32	0.85	
Perceived Barriers			
High	1.00 (1.63–3.38)	1.00 (0.64 –2.58)	
Low	2.35	0.81	
Cue to Action			
High	3.12 (1.02–7.95)	0.67(1.63–3.56)	0.005
Low	1.00	1.00	
Self Efficacy			
High	2.64 (1.66 –3.90)	1.00(0.98 –5.18)	0.002
Low	1.00	2.18	

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In the FGDs, respondents unanimously agreed that they are highly vulnerable to HIV, and there were benefits in using condom as majority indicated they have condom in their rooms for customers who may want to use. However, the decision mostly lies on the customer as for them pregnancy is rather of concern to them. As a result, majority indicated they are taking contraceptive to prevent pregnancy.

> *R: Our work is risky and we can easily get HIV, but for condom use, we wish we could use condom for all customers we do not know, but some feel that the use of condom deny them of the pleasure they are seeking* - ***(26-year old, FGD).***

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CHAPTER FIVE

DISCUSSIONS

5.1 Introduction

This study examined knowledge on HIV and condom use among female sex workers. This chapter therefore discusses the findings of the study. In some instances the findings are also compared and contrasted with previous studies.

5.2. Socio-demographic Data

Three hundred and thirty-nine (84.7%) of respondents were between the ages 18-25 years and 61 (15.3%) were 26 years and above. The findings of this study indicate that marginally younger people were involved in commercial sex work. HIV prevalence is also observed to be high among this category of people. Regarding sexual orientation, majority, 383(95.7%) were heterosexual whiles 17 (34.3%) accept both heterosexual partners as well as practice lesbianism. In many parts of the world, new HIV infections are heavily concentrated among young people between 15 – 24 years of age (UNAIDS 2012). This implies that, relatively younger people are now engaged in sex for work and with associated high risk among this group, it has implications in the human resource development in Ghana. More efforts need to be directed at counseling the younger generation to prevent them from engaging in such practices. National AIDS and HIV control programme should find a way of getting these people alternative jobs.

5.3. Knowledge on HIV

The study collected data on the knowledge of respondents regarding HIV AND AIDS modes of transmission and prevention revealed that majority of the respondents, 392 (98.0%) indicated they have ever heard of the disease. The use of condoms as a way of preventing HIV was widely

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known accounting for about 379 (94.8%) of respondents as against 21 (5.2%) of respondents who indicated they did not known that the use of condom during sex could prevent one from getting HIV. Generally, knowledge on HIV was high among sex workers, however, this knowledge did not translate into behavioural change, as condom use was low among the respondents. Data elicited on the knowledge of respondents on their HIV status revealed that 352 (88%) were aware of their HIV status whiles 48 (12%) did not know their HIV status.

5.4. Condom use among Respondents

The result indicate that only 47 (11.7%) frequently used condom during sexual intercourse, 306 (76.8%) indicated that they use condom occasionally whiles 39 (9.7%) indicated they only use condom when they are having sexual intercourse with somebody they do not know. The findings of this study point to a relatively low consistent condom use. A previous study conducted in Kumasi, Techiman and Accra reported a relatively higher consistent condom use (all the time) with clients of 49.6% (Adu-Oppong, Grimes, Ross, Risser, Kessie (2007). The prevalence of nonuse of a condom at first intercourse with regular partner compared with casual partner was also a very common feature in this study. This was partly explained by the element of trust developed from men's length of sexual relationship with their partners (Maharaj, 2005). Another study in China also reported that social influences, such as trust in a stable partner as responsible for low condom use among female sex workers (Rogers, Ying, Xin, Fung, Kaufman, 2002). Wojcicki and Malala (2001) reports that condoms may be used less frequently with non-commercial partners compared to commercial clients in order to make a distinction between work and pleasure. This may be due to the fact that female sex worker really do not have control over condom use with such trusted partners who often provide protection for the female sex workers. This calls for the need for health promotion activities on condom to be targeted at such

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trusted partners of female sex workers. Any intervention that is targeted at increasing condom use among female sex workers that does not involve this group of people may not achieve it desired goals.

A major theme that emerged during FGD was that condom was rather often used to prevent pregnancy than protection against STIs including HIV AND AIDS. Similar finding were found in a prior study though the study participants were males. Condom use by men in these stable relationships is rather for fear of pregnancy than for disease prevention (Troth & Perterson, 2000; Maharaj, 2005; Marston and King, 2006). This observation can also serve as a barrier to condom use especially for female sex workers who are using other pregnancy preventive methods such as hormonal contraceptives.

As a measure to increase condom use among commercial sex workers, the National AIDS Control Programme have often advocated for members of the Ghana Hoteliers Association to make available condoms at hotel rooms to be used by customers. This may be predicated on an assumption that the availability of condom could increase condom use. However, the findings of this study point to the contrary. Availability of condom did not appear to influence the use of condom. Majority of the respondents did not use the condom upon the demand of the customer and some female sex workers were under the influence of alcohol. It will be important for the National AIDS control programme to act on this observation to come out with ways of reducing alcohol use and the use of drugs among sex workers.

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5.5. Predictors of Condom Use

Respondents who perceived a high susceptibility to HIV are three times more likely to have used condoms during the last sexual intercourse than those with low perception on vulnerability. Perceived benefits of condom use and severity of HIV were not significant at 95% confident interval. Respondents who perceived a low level of barriers to condom use were two times more likely have used a condom than those who perceived a high level of barriers to condom use. Respondents who perceived a high level of self-efficacy to use condoms were three times more likely ever to have used a condom than respondents who perceived a low level of self-efficacy to use condoms. Contrary to this finding, a previous study reported that Self-efficacy was not associated with the use of condom (Wang, Li, McGuire, Kamali, Fang, Stanton (2009). Health advocates should act on this observation to ensure condom promotional activities should focus on vulnerability; remove barriers to condom by engaging the partners of female sex workers in their programme. FGD revealed that the customer was very important in determining condom use. Further studies will be required to find out the proper way to engage the clients of female sex workers.

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CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter gives a summary of the key findings of the study and the conclusion arrived at in this study based on the findings. The chapter finally makes recommendations for policy and future research.

6.2. Summary

From this study, the knowledge of female sex workers on HIV was high however; this knowledge did not transform their attitude towards condom use. The key findings of the study were as follows:

1. Knowledge on HIV transmission was high among both *seaters* and *roamers*.
2. Condom use was lower among non-commercial partners (non-paying partners) than commercial partners (paying partners), however, respondents were ready to compromise this position if a customer offered to pay more.
3. Knowledge on the use of condom to prevent HIV was widespread but this did not transform into safe sex practices.
4. Customer demand and use of alcohol were important barriers in the use of condom
5. Perceived vulnerability, barriers to condom use and self-efficacy were key determinants in condom use.

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6.3. Conclusion

Knowledge on modes of transmission of HIV especially through unprotected sexual intercourse with an infected individual was high, however, unsafe sexual practices was still common among FSWs. Prevalence of condom use was high among paying partners than non-paying partners as a means to establish trust in the relationship. Social factors such as customer demand and use of alcohol and other drugs were barriers to condom use and should be given more attention. The availability of condoms did not determine its consistent use. Perception on vulnerability, cues to action and barrier were more predictors of condom use.

6.4. Recommendations

1. Based on the findings it is recommended that, the IEC/BCC programmes be strengthened, educating FSWs and their clients on their susceptibility to HIV and AIDS infection. Therefore the messages designed should place more emphasis on their susceptibility to HIV and AIDS infections.

2. Focused health education targeting the non-paying partners will be relevant to cause a behavioural change. This calls for an integrated approach towards sex workers and their non-paying partners.

3. There is the need for night based interventions such as education on STIs/HIV and condom use, targeting roamers especially new FSWs, as this is the ideal time to meet and reach out to both female sex workers and their clients.

4. It is recommended that the use of alcohol and other drugs and how they hinder preventive efforts should be integrated into HIV campaign strategies.

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APPENDICES

Appendix A: Questionnaire

SECTION A

Background/ Demographic data characteristics of respondents

1. Age 18-25 ( ) 26 and above ( )

2. What is your religious affiliation?

a. Christianity ( )

b. Islam ( )

c. African Traditional Religion ( )

d. Others (Specify)……

e. No religion ( )

3. What is your permanent region of residence?……

4. What is your current marital status?

a. Single ( )

b. Married ( )

c. Separated/ divorced ( )

d. Other (Specify)……..

5. What is the highest educational level attained?

a. No formal Education ( )

b. Primary Education ( )

c. Second Cycle ( )

d. Tertiary/ College ( )

Please indicate which category represent your sexual orientation

a. Heterosexual only ( )

b. Heterosexual and Lesbian ( )

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c. Lesbian only ( )

SECTION B

Knowledge of STIS and HIV Infections

6. Have you heard of an illness called HIV and AIDS?

a. Yes ( )

b. No ( )

7. Do you know how STIs and HIV are transmitted? (Tick as many as applicable)

a. Unprotected sex with person with STIs ( )

b. Infected blood transfusion ( )

c. Fluid/ blood contact with an infected person ( )

d. Do not know ( )

8. How can STIs and HIV be prevented?(Tick as many as applicable)

a. Abstain from sex ( )

b. Use of condom during sex ( )

c. Have only one sexual partner ( )

e. Do not know ( )

9. Do you know your HIV status?

Yes ( )

No ( )

If yes state tick status applicable?

Positive ( )

Negative ( )

10. Which category of partners do you have?

a. Commercial (paying) partners ( )

b. Non-commercial (non-paying) partners ( )

c. Both Commercial and Non-commercial partners ( )

11. How frequently do you use condom?

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a. Anytime I have sex ( )
b. Occasional when I have sex ( )
c. Any time I have sex with someone I don't know
d. I don't use condom

12. Which category of partners do you use condom with?

a. Commercial (paying) partners ( )
b. Non-commercial (non-paying) partners ( )
c. Both Commercial and Non-commercial partners ( )

13. Did you a condom during your last sexual intercourse

a. Yes ( )
b. No ( )
c. No idea ( )

13a. If yes indicate the type of partner you used the condom

a. Paying ( )

b. Non-paying ( )

13b. which of the following factors can affect condom use (tick as many as applicable)

a. Availability ( )

b. Customer Demand ( )

c. Alcohol Intake ( )

d. Smoking ( )

e . Other reason……

SECTION C

MEASURING INSTRUMENT FOR HEALTH BELIEF MODEL

Please Tick [√] the response that reflect your level of agreement or otherwise in each of the under listed statements (On a scale of 1 to 5, 5 means you strongly agree (SA) with the statement, 4 means you agree (A) with the statement, 3 means you are undecided (U), 2 means you disagree (D), 1 means strongly disagree (SD) with the statement)

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Perceived Susceptibility	**SA (5)**	**A(4)**	**U(3)**	**D(2)**	**S D(1)**
Everybody can get STIs and HIV					
My chances of getting STIs and HIV are great					
I feel that my chances of getting the STIs and HIV in future is high					
There is a good possibility that I will get STIs and HIV					
I worry a lot about getting STIs and HIV					
Total Score(s)					

Perceived Severity

Questions **Responses[Please Tick(√)**

	SA(5)	**A(4)**	**U(3)**	**D(2)**	**SD(1)**
The thought of STIs and HIV scares me					
I think STIs and HIV is deadly					
If I had STIs and HIV my academic career would be endangered					
HIV has no cure					
STIs and HIV would endanger my relationship significantly					
STIs and HIV are hopeless diseases					
My feelings about myself would change if I got STIs and HIV					
I am afraid to even think about STIs and HIV					
Problems I would experience from STIs and HIV would last a long time					
STIs and HIV would be more serious than other diseases					
Positive STIs and HIV status will negatively change my life					
Total Score(s)					

Perceived Benefits

Questions **Responses[Please Tick(√)**

	SA(5)	**A(4)**	**U(3)**	**D(2)**	**SD(1)**
The use of condom can prevent me from getting STIs including HIV					
If I use condom, I will remain healthy to continue with my work					
Knowing my HIV status can help prevent getting it in future					
I would not be so anxious about HIV if I know my status					
Prevents infection of others if tested positive					
Total Score(s)					

Perceived Barriers

Questions **Responses[Please Tick(√)**

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	SA(5)	A(4)	U(3)	D(2)	SD(1)
The use of condom is cumbersome					
I do not enjoy sex with condom					
My partners do not like using condom					
Condoms are easy to use.					
I feel confident buying condoms					
I know how to use a condom when I have sex with someone					
Score					

Cue to Action
Questions **Responses|Please Tick(√)**

	SA(5)	**A(4)**	**U(3)**	**D(2)**	**SD(1)**
I heard of use of condom during sex					
I frequently do things to improve my health					
I use condom anytime I have sex					
Total Score					
Self Efficacy (Questions)					
I'm confident I can discuss condom use with a new partner					
I have used condom before					
I am willing to suggest using a condom to a partner even if he/she would reject me					

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Appendix B: Focus Group Discussion Guide

INTRODUCTION:

Good morning/afternoon. We are pleased to have you here to discuss health and other related issues. We are from the School of Public Health and carrying out a research on condom use among Female sex Workers.

Knowledge and Risk Perception on HIV

1. How can one get HIV?

    - Who are the people at most risk of HIV?
    - How can HIV be prevented?

2. Do you think the FSWs are at risk of HIV?

Factors that influence condom use

3. In your opinion do you think FSW should use condom?

4. What are some the factors that influence condom use?

Barriers to condom use

5. What are some the factors that prevent FSW from the use of condom?

Thank you so much for your time. Is there anything else you'd like to add that we have not already discussed?

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APPENDIX C: CONSENT FORM

CONSENT FORM

Project Title:

Condom Use among Female Sex Workers in Accra And Ashaiman

Institutional Affiliation:

School of Public Health,

College of Health Sciences

University of Ghana

Legon

Background

Personal Introduction:

The Principal Investigator is Edith Amenudzi-Darku, currently a master's student of the School of Public Health, Legon and conducting a study on Condom Use among Female Sex Workers in Accra and Ashaiman. This study is for academic purposes and a requirement for the award of Master of Public Health Degree and supervised by Dr. Augustine Ankomah of School of Public Health, University of Ghana, Legon.

Procedure

An interview will be conducted using a structured questionnaire and an interview guide with in depth interview.

Risks and Benefits

There are no reasonably foreseeable harm that may arise from participating in this research while benefits that may arise include a greater contribution to the development of reproductive policies. It will also create personal awareness of condom use and risk of STIs including HIV AND AIDS.

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Right to refuse:

Although there are no known risks associated with the research protocols, if you feel uncomfortable you have the liberty to opt out. You are also at will to withdraw from participating if you desire to do so.

Anonymity and confidentiality:

You are assured that the information collection will be handled with the strictest confidentiality, will not be shared with third parties not directly involved in the research and thus will be used purely for academic purposes.

Before taking consent:

Do you have any questions that you wish to ask? If yes, questions to be noted.

If you have question you wish to ask later, or anything you wish to seek clarification on regarding the research, please do not hesitate to contact the principal investigator (Edith Amenudzi-Darku) on;

Telephone number: 0244-207804

Email:adjoa9422@yahoo.co.uk

Or

The Academic Supervisor on:026-152447

Or

The secretary of the Ghana Health Service Ethics Committee: 0244712919

PARTICIPANT

I …….having been adequately informed about the purpose, procedures, potential risks and benefits of this study. I have had the opportunity to ask questions and any question I have asked have been answered to my satisfaction. I know that I can refuse to participate in this study without any loss or benefit to which I would have otherwise been entitled. Having gone through the consent form thoroughly I agree to enroll in this study.

Name of participant: ……..

Signature or Right thumb print: ……..

Date: …….

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I have explained the procedure to be followed in this study to the client in the language that he/she understands best and he/she has agreed to participate in the study.

Signature of interviewer…….

Date…….

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APPENDIX D: ETHICAL APPROVAL

GHANA HEALTH SERVICE ETHICAL REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.

My Ref. :GHS-ERC: 3
Your Ref. No.

Research & Development Division
Ghana Health Service
P. O. Box MB 190
Accra
Tel: +233-302-681109
Fax + 233-302-685424
Email: nanatuesdaykad@yahoo.com

10th May, 2013

Amenudzi Edith D.
University of Ghana
School of Public Health
Accra

ETHICAL APPROVAL - ID NO: GHS-ERC: 35/03/13

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol titled:

"Condom Use among Female Sex Workers in Accra"

This approval requires that you inform the Ethical Review Committee (ERC) when the study begins and provide Mid-term reports of the study to the Ethical Review Committee (ERC) for continuous review. The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Please note that any modification without ERC approval is rendered invalid.

You are also required to report all serious adverse events related to this study to the ERC within seven days verbally and fourteen days in writing.

You are requested to submit a final report on the study to assure the ERC that the project was implemented as per approved protocol. You are also to inform the ERC and your sponsor before any publication of the research findings.

Please always quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
PROFESSOR FRED BINKA
(GHS-ERC CHAIRMAN)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra

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