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Investigation of Demographic Characteristics Associated with Uptake of HIV and AIDS Combined Prevention Strategies among Female Sex Workers in Nakuru County, Kenya

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Abstract

Purpose: The study aimed at identifying the demographic characteristics for FSWs associated with uptake of HIV and AIDS combined prevention strategies in Nakuru County.

Methods: The study adopted a descriptive cross sectional research design. A sample size of 336 FSWs was reached through Snowballing. Quantitative data was collected using questionnaires and qualitative data was collected using interviews through FGDs with 8 purposefully selected participants. Data was analyzed descriptively to produce percentages and frequencies which were presented in tables and figures. Chi-square test of association and binary multivariate logistic regression analysis was used to establish relationship between independent and dependent variables.

Results: Tertiary level of education (AOR: 5.59; 95% CI: 1.43-21.88; *p:* 0.013) and long duration in sex work (AOR: 3.83; 95% CI: 1.48-9.87; *p:* 0.006) increases likelihood of uptake of HIV and AIDS combined prevention strategies.

Recommendations: The study recommends educating FSWs constantly as they start engaging in sex work on HIV and AIDS combined prevention strategies, HIV and AIDs risks and positive behavior change, overcoming barriers so as to utilize HIV and AIDS combined prevention strategies.

Keywords: *HIV/AIDS, demographic characteristics, combined prevention strategies, sex workers, Nakuru County*

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1.1 INTRODUCTION

Human Immunodeficiency Virus (HIV) is the virus which causes Acquired Immune Deficiency Syndrome (AIDS). It affects people from all walks of life regardless of race, gender, physique, educational background and socio-economic status. It is estimated that over 36.9 million people are living with HIV and AIDS globally, of which 25.5 million of them are living in sub Saharan Africa while 19.4 million of them are living in East and Southern Africa (Avert, 2016) In Kenya, 1.5 million people are living with HIV and in Nakuru County, 41, 217 people are living with HIV (County HIV estimates, 2016) as the pandemic grows in its fourth decade now. With the potential of HIV and AIDS prevention programs to reducing HIV incidence, countries have been urged to strengthen public health approaches which are aimed at reducing HIV incidence (Green & Thorogood, 2009). The World Health Organization (WHO) recommends surveillance in order to improve and scale-up effective HIV and AIDS prevention programmes particularly for key populations such as sex workers (WHO, 2011).

Studies around the world have pointed out some difficulties associated with involving sex workers into HIV control and prevention efforts (Cohen, 2000; Wong, 2009; Simbayi, 2007). This is because sex work is highly stigmatized and sex workers are often subjected to blame, labeling, disapproval and discriminatory treatment. Globally, many sex workers rely on sex work for family support. Sex work can be categorized into three street, brothel or home-based. Sex work uphold this practice for various gains such as obtaining food, housing, tangible goods and cash. Living as a sexual worker can be occasional or routine whereby some sex workers are not ashamed of it while others do it in secret and conceal their identity (WHO, 2011).

1.1.1 HIV and AIDS and Sex Work in Sub-Saharan Africa

In sub-Saharan Africa, sex work is an important feature on transmission dynamics of HIV within the region. On the other hand, sex workers are identified to be at a higher risk for HIV acquisition and transmission than the general population because of the nature of their work (UNAIDS, 2012). In Africa, HIV occurrence was documented for the first time in the early 1980s. This triggered the WHO Global Program on AIDS to keep a close eye on the dominance of HIV among FSWs. This created the need to address the unmet needs for HIV prevention (Ferguson & Morris, 2007). The HIV and AIDS prevalence in Sub-Saharan Africa among sex workers and their clients today is commonly 10-20 folds higher than among the general population (WHO, 2008).

In West Africa, it is projected that 1-4% of women in the capital cities are FSWs. In Ethiopia, the first person found to be HIV positive dates back to 1984 and, by 1988, HIV prevalence among female sex workers and their trucker clients had already risen to 17% and 13%, respectively (Mehret, 1990). Studies in Southern Africa have found that more than half of female sex workers have been infected with HIV and AIDS (Scorgie, et al, 2011; Silverman, 2011).

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1.1.2 HIV and AIDS and Sex Work in Kenya

Trends of national HIV prevalence in Kenya in the adult population had a small increase between 2012 and 2015. The prevalence in 2012 was 5.6 KAIS (2012) while in 2015 was 6.0 Kenya HIV estimates (2015). According to Baral (2012), Kenya is one of the 16 sub-Saharan countries with high new HIV infections among the key population. The key population includes sex workers and their clients, men having sex with men, and people who inject drugs among others. A situation analysis by the Ministry of Health in 2014 indicated that the HIV prevalence among sex workers stood at 29.3% with sex workers and their clients' accounting for 14.1% of new infections of which FSWs are part of this group. Only about 68% of the FSWs had been tested for HIV and knew their results in the last 3 months. The usage of condoms has been, however, high since 86% of sex workers reported use of condom with their most recent client (NACC, 2014). According to Karanja (2011) the high rate of HIV prevalence among female sex workers in Kenya is enhanced by various factors that inhibit their control over their sexual lives and sexual health such as the illegal and criminal status of sex work; the limiting influence of poverty, gender inequality, the pervasiveness of stigma, and sexual violence. Although consistent condom use is relatively high among sex workers who participate in peer-led HIV prevention programs, this is not universal; not all sex workers are reached by these programs and not all sex workers have control over their sexual lives.

According to Rathavuth (2008), among Kenyan men aged 15-49 years who are clients of sex workers; only 20 per cent reported ever using a condom. Respondents in a 2008 Federation of Women Lawyers (FIDA) Kenya sex work survey reported that most customers paid higher rates for sex without a condom. In addition many FSWs have non-commercial, regular sexual partners and condom use with them is consistently low thereby increasing the risk of HIV transmission from the FSW to the non-commercial sexual partner (Karanja, 2011). Further, alcohol use and abuse among FSWs has been established as having contributed to multiplicity of sexual partners, inconsistences in the use of condoms, and more sexual violence as FSWs and their clients often engage in unprotected sex while intoxicated.

According to Kenya HIV County profiles (2015), Nakuru County HIV and AIDS prevalence in the general population was at 4.1 %, HIV burden of 41,217 People living with HIV (PLHIV) with total new HIV infections of 966 annually. The major mode of Transmission of HIV and AIDS is through unprotected sexual intercourse with an infected person. In Nakuru town alone, 4,000 females were involved in sex work in 2010 as reported by National AIDS Control Council (NACC, 2010). The number has increased over the years to 5,309 by 2015 (Kenya HIV Profile 2015).There is little known on the factors influencing uptake of combined HIV and AIDS prevention strategies (UNFPA, 2010). The influx of mutable clients poses the risk of continuous transmission of HIV and other STIs from the FSWs to the new clients (WHO, 2008).

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1.1.3 HIV and AIDS combined Prevention Strategies

During the 2008 International AIDS Society conference in Mexico is when the need for combination of biomedical, behavioral, and structural streams of action to reduce HIV Vulnerability and risk was underscored. Myron Cohen argued that these strategies should be married and get married today (AIDS 2010).

Despite the fact that the HIV epidemic has been diminishing with time in several sub-Saharan Africa countries such as parts of eastern Africa Kenya included, little emphasis has been put on the continued influx in the number of FSWs (WHO, 2011). Key public health principles note that various segments of the general populations face diverse risks with regard to contacting diseases. They also noted that groups who that are exposed to higher risk require special services depending on the intensity of the risk. For instance, FSWs require special services. However, their direct involvement is vital so as to minimize new transmissions (WHO, 2011).

1.2 Statement of the Problem

The fight against HIV and AIDS in Kenya has been intensified with an aim of reducing the prevalence of HIV and AIDS across all populations. It is estimated that over 1.5 million Kenyans are living with HIVand AIDS while the prevalence among sex workers is at 29.3%. (Kenya HIV County Profiles 2015).This implies that there is low uptake of HIV prevention strategies. Preliminary studies suggest that combined HIV and AIDS prevention strategies among sex workers can significantly reduce the new HIV and AIDS infections even among the general population (UNAIDS, 2013: Mutua, 2009). Sex workers have been identified as one of the special vulnerable groups for effective engagement in HIV and AIDS response. In Kenya, female sex workers contribute to new HIV infections in general population as the clientele of both female and male sex workers often have other sexual partners who further pose serious risks to their other partners. In total key population contribute to an estimated 30 % of new infections annually (KASF 2014/2015 – 2018/2019) . In Nakuru County there are approximately 5,309 FSWs and only 27% has been tested for HIV (Kenya HIV Profile, 2015). Little research attention has focused on uptake of HIV and AIDS combined prevention strategies while many HIV and AIDS interventions have not adequately addressed the needs of sex workers. Previous studies done among female sex workers have only assessed single HIV and AIDS prevention methods unlike combined prevention strategies. A pooling Booth Survey done by NASCOP in 2014 showed that only 48% of FSWs in Nakuru County used a condom in the last sexual encounter with a non-paying client indicating that there is no 100% condom use among FSWs, the same study showed that only 22% of FSWs were registered for ART and only 60% of those registered were currently using the ARVs. 11 % of FSWs reported to have faced sexual violence and 44% harrased by police.20% had been treated for STIs and only 69 % visited a health facility for medical assistance. While Kenya progresses towards the HIV prevention Road Map to implement the Kenya AIDS Strategic Framework 2014/2015-2018/2019 whose strategic direction number one is to reduce new HIV infections, it is imperative to establish the demographic characteristics influencing uptake of HIV and AIDS combined prevention strategies among female sex workers in Nakuru County which this study seeks to establish.

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1.3 Specific Objective

To identify the demographic characteristics for FSWs associated with uptake of HIV and AIDS prevention strategies in Nakuru County.

1.4 Conceptual Framework

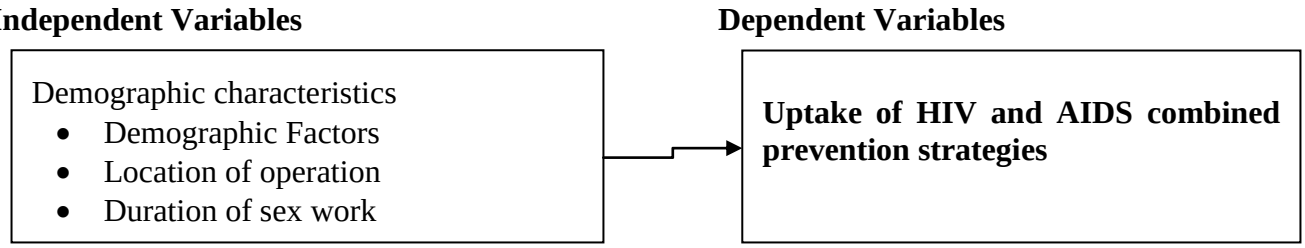

Figure 1: Conceptual framework

1.4.1 Uptake of HIV and AIDS combined prevention strategies for FSWs

Uptake in this study is the prevention strategies a female sex worker practices under the behavioral, biomedical and Structural areas. FSWs were asked to mention the strategies they are aware of and use of prevention of HIV and AIDS and the strategy ticked according to the category it falls in. The number and category were categorized as low or adequate based on recommended UNAIDS HIV and AIDS combined prevention strategies. Therefore adequate uptake refers to a FSW who attains all the category of behavioral, biomedical and structural prevention strategies and should be consistent for the last 12 months otherwise it was considered as inadequate. If one is HIV positive, should also be adherent to ARV medication in addition to other preventive measures. Those FSWs who are confirmed HIV positive are not expected to undertake HIV testing every three months but to adhere to HIV management. If not HIV positive then the issue of ARV adherent was not applicable but the rest of the strategies are applicable except needle exchange for those who inject drugs.

1.4.2 Demographic characteristics

The demographic characteristics were demographic factors for female sex workers which include age and level of education. Age was categorized into four categories which are 18-24 years, 25-31, 32-38 and above 38 years. Level of education of the respondent was categorized into none, primary, secondary and tertiary level. The site of operation was asked as where one meets her clients and was categorized as bars, streets, brothels or working from home or any other place. The duration of sex work was categorized into less than one year, 1- 5 years, 5-10 years, and over 10 years.

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2.0 LITERATURE REVIEW

2.1 Sex Work and HIV and AIDS

The risk of HIV infection is defined as the probability of an individual becoming infected by HIV either through his or her own actions knowingly or not, or via another person's actions (Ramesh, Moses & Washington, 2011). Sex workers comprise of people from all walks of life, different backgrounds, culture and motives. The diversity thus causes the disparity in the risks they are exposed to with regard to HIV infection. The level of risks is also dependent on their settings, their operation point, accessibility of condoms and other health services. Other factors that spur the risk of infection with HIV among sex workers include multiple partners and inconsistencies in the use of condoms, social and economic factors, migration and peoples' mobility.

The conditions in which sex workers operate may have a profound impact on HIV risk and vulnerability (Olesen, 2011). In the context of HIV and AIDS, sex workers (SW) are often labeled a high risk group with the argument that paid sex leaves the SW with limited rights of requesting for protection (Mutua, 2009). However, the level of risk is relative depending on the region. For instance, the level of risk is relatively low in most parts of Western Europe and North America while it is higher in the sub-Saharan Africa Asia (Mutua, 2009; Erausquin, 2012; Cornish, 2006). The clients of sex workers are often referred to as a bridge population for the transmission of HIV, meaning that they act as a link between high risk groups and the general population. Many women do not report using condoms with their husbands and may therefore be at risk of HIV infection if their husbands engage themselves in sex with sex workers. This is particularly true for wives of migrant workers who travel long distances and spend an extended period of time away from home. High HIV prevalence amongst the male clients of sex workers have been detected in studies across the world (Olesen, 2011). They can therefore be hard to reach with HIV prevention programs.

According to Evans (2010), the HIV prevalence in sub-Saharan Africa (SSA) among FSWs is diverse with some countries portraying higher rates up to 20 times. For instance, in West Africa number of sex workers living with HIV is more than a third (Erausquin, 2012). Additionally, reports revealed that in West Africa a fifth of men had visited sex workers in 2007. Hence, they act as a link to the general population resulting to an increased rate of HIV transmission either through their wives or other sexual partners (Evans, Jana & Lambert, 2010).

2.2 HIV and AIDS Combined prevention strategies

The UNAIDS conceded to a mix of counteractive action programs that were believed to be rights-based, proof educated, and network claimed programs that utilization a blend of biomedical, conduct, and basic intercessions, organized to meet the present HIV anticipation needs of specific people and networks, in order to have the best continued effect on diminishing new diseases (UNAIDS, 2010). An all-around planned blend avoidance programs are cautiously customized to national and nearby needs and conditions. The objective is to concentrate on assets on the blend of automatic and arrangement activities required tending to both impending dangers and fundamental helplessness. The procedures are insightfully arranged and figured out how to work synergistically and reliably on

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numerous dimensions and over a satisfactory timeframe. They activate network, private area, government and worldwide assets in an aggregate endeavor; require and advantage from improved organization and coordination. They consolidate instruments for learning, limit building and adaptability to allow constant enhancement and adjustment to the evolving condition. The techniques are effortlessly accessible, reasonable and are available (UNAIDS, 2010).

A current study on the possible usefulness of HIV and AIDS deterrence targeting FSW in India found an incremental desirability for prevention strategies (Ramesh, Moses & Washington, 2008). Elsewhere, HIV prevention programs for female sex workers that focused solely on individual risk behavior have been found to be ineffective due to the social context in which sex workers negotiate health behaviors. In Kenya, the combination prevention strategies for key population as a basic care package which incorporates female sex workers as stipulated by NASCOP includes structural and behavioral strategies. For Biomedical includes HIV testing and counseling, screening and treatment of sexually transmitted infections, HIV care and support, condom use, family planning, use of post exposure prophylaxis, needle exchange for those injecting drug users (MOH, 2005; NASCOP, 2005). The high HIV prevalence and transmission rate among sex workers has been associated with self-hate, lack of acceptance in the society, and inaccessibility of good appropriate health services. Hence, equipping sex laborers to have command over the dangers in their condition could subsequently make these enormous numbers insignificant. It is against this background that this study was seeking to find out the female sex workers' practice and perception on preventive strategies of HIV and AIDS transmission.

2.3 Theory of Cognitive dissonance

This study was based on the theory of cognitive dissonance (Festinger, 1957). This theory postulates that differentiating convictions and professed conduct can be discomforting and subsequently individuals endeavor to lessen disharmony. A need for change arises in the event of existence of a disparity among convictions and professed conduct so as to dispense with or diminish discord. The hypothesis additionally suggested that individuals have a persuasive drive to decrease cacophony. This is achieved by changing their frames of mind, convictions, or activities. Discord may likewise be diminished by defending, faulting, and repudiating. This theory is considered relevant in studying the key population such as female sex workers. While the risk of HIV infection among female sex workers is real, the reliance on denying their own sense of risk increases dissonance.

Subjective disharmony features three key systems to diminish or limit cacophony. This emphasizes more on strong convictions that exceed the noisy conduct, lessening the significance of the clashing conviction, or changing the contradictory convictions so it is steady with conduct. In this investigation, FSWs may concentrate on steady convictions that exceed discordant conduct by accepting firmly that sexual transmission isn't the main course of transmission. With a change in belief, perception and subsequently changed actions with a consistency, dissonance can be reduced hence increased uptake of combined prevention strategies.

2.3.1 Demographic characteristics

These include demographic factors such as age and education status. Other demographic characteristics include where the female sex workers meet their clients, and the duration in

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sex work. A study done in Malawi showed most sex workers were in their twenties. Majority of them had only primary school level of education. UNAIDS 2016 estimates on new infections among adolescent girls and young women shows a whole 18,000 age 15 -19 to have new infections, 11,000 in age 20-24 and 10,000 in age 25-29. This shows that age is an important factor in relation to HIV and AIDS response.

3.0 MATERIALS AND METHODS

This study adopted a descriptive cross sectional study design. The study was carried out in purposefully selected study areas in five Sub counties in Nakuru County namely Naivasha, Gilgil, Nakuru East, Nakuru West and Rongai. The target population of the study was 5,309 female sex workers operating in Nakuru County. A sample size of 336 FSWs was reached through Snowballing. Quantitative data was collected using questionnaires and qualitative data was collected using interviews through FGDs with 8 purposefully selected participants. Data was analyzed descriptively to produce percentages and frequencies which were presented in tables and figures. Chi-square test of association and binary multivariate logistic regression analysis was used to establish relationship between independent and dependent variables.

4.0 RESULTS

4.1 Demographic characteristics for FSWs in Nakuru County

The study found that 38.4% of FSWs are between 25 and 31 years of age and are sex workers for 1-5 years (52.4%). In terms of their highest level of education 50.3% had attained primary level and most FSWs (50.3%) meet their clients in bars. The summary of the finding is presented in the figure below.

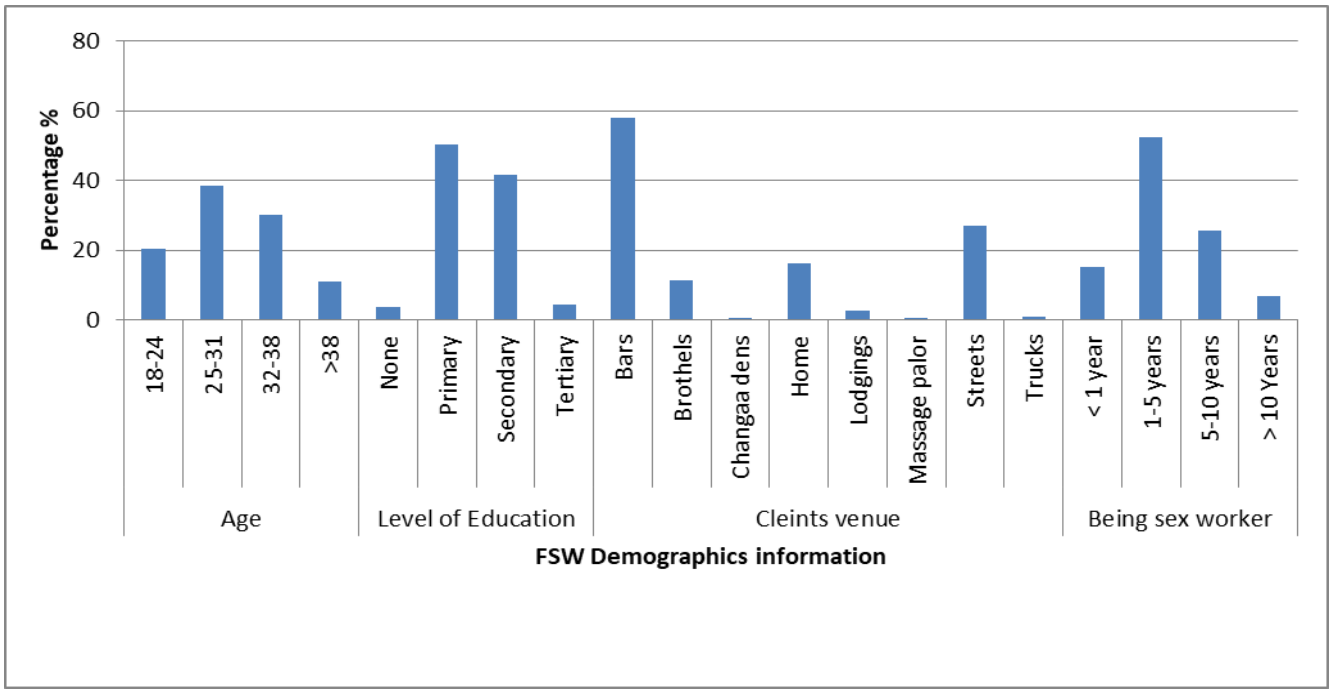

Figure 2: Demographic characteristics

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4.2 Hypothesis testing

4.2.1 Chi-square test of association on demographic factors and uptake of HIV/AIDS combined prevention strategies consistently

The uptake of HIV/AIDS combined prevention strategies consistently is associated with FSW level of education (X^2=11.93, *p:* 0.003); length of time they have been SW (X^2=15.43, *p:* 0.000); their level of knowledge on HIV/AIDS risks (X^2= 38.37, *p* .000).

Table 1: Chi-square test of association on the factors associated with the uptake of HIV/AIDS combined prevention strategies

		FSW uptake of HIV/AIDS combined prevention strategies		Chi-Square ($X^{2)}$	Degrees of freedom (df)	Probability value (p-value)
		In-consistent	Consistent			
Age	18-24	53	16	2.031	2	0.362
	25-31	89	40			
	>32	93	45			
Level of Education	Primary	140	41	11.93	2	0.003
	Secondary	88	52			
	Tertiary	7	8			
Clients venue	Bars	139	55	2.012	3	0.570
	Streets	58	32			
	Brothels	27	9			
	Home	11	5			
Length of time being FSW	< 1 year	41	10	15.43	2	0.000
	1-5 years	133	43			
	> 5 years	61	48			

4.2.2 Binary multivariate logistic regression results of factors associated with consistent uptake of HIV/AIDS combined prevention strategies

The study found an increasing trend of HIV and AIDS combined prevention strategies uptake as education level increases. FSW with tertiary level of education were 5.6 times (AOR: 5.59; 95% CI: 1.43-21.88; *p:* 0.013), and those with secondary level of education having 90% more (AOR: 1.89; 95% CI: 1.04-3.44; *p:* 0.036), likely take up of HIV and AIDS combined prevention strategies consistently compared to FSWs with primary level of education. Similarly, FSWs whose experience is more than 5 years were 3.8 times likely (AOR: 3.83; 95% CI: 1.48-9.87; *p:* 0.006) to take up HIV and AIDS combined prevention strategies consistently compared to those whose experience is less than a year.

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Table 2: Relationship between Uptake of HIV and AIDS combined prevention strategies consistently and FSWs demographics factors

Uptake of HIV/AIDS combined prevention strategies consistently

	AOR (CI)	*p*	std error
Level of Education (Ref: Primary level)			
Secondary	1.893 (1.041, 3.443)	0.036	0.305
Tertiary	5.588 (1.427, 21.878)	0.013	0.696
Experience (Ref: <1 year)			
1-5 years	1.307 (.524, 3.260)	0.565	0.466
> 5 years	3.825 (1.482, 9.872)	0.006	0.484

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion

The demographic characteristics for FSWs in Nakuru County found that increasing level of education and duration of sex work significantly increases the consistent of uptake of HIV and AIDS combined prevention strategies. Those with tertiary level of education were 5.6 times and those whose experience is more than 5 years were 3.8 times likely to take up HIV and AIDS combined prevention strategies consistently compared to those with primary level and their experience is less than 1 year respectively. These findings are consistent with studies in Malawi by (Sambo, 2017) that shown education status and the duration in sex work are among the factor influencing uptake of HIV and AIDS prevention strategies.

5.2 Summary and conclusions

The study concludes that education level significantly influences HIV and AIDS combined prevention strategies uptake with FSWs who have attained secondary and tertiary level of their education likely to be more consistent. FSWs who have worked less than one year are less likely take up HIV and AIDS combined prevention strategies more consistently compared to those who have been in sex work more than 5 years. This is in line with the findings of the study done by Nyagero *et al* (2012) on behaviour change and associated factors among FSWs which revealed that females with a higher level of education, more than four years in sex work, and a higher knowledge on HIV and AIDS prevention are likely to change their behaviour towards reducing HIV risk.

5.3 Recommendations from the study

The study recommends the Ministry of health to scale up sensitization of FSWs with duration of less than one year on the need to consistently utilize HIV and AIDS combined prevention strategies despite how well they know the client. FSWs with primary level of education were found to have low levels of knowledge on the HIV and AIDS combined prevention strategies hence needs to be trained and sensitized. FSWs who meet their clients in bar areas and streets are less likely to take up HIV and AIDS combined prevention strategies more

consistently hence more sensitization and training on influence of alcohol and drugs on decision making needs to be made on these groups.

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