DRIVERS FOR ACCEPTABILITY OF HUMAN IMMUNODEFICIENCY VIRUS (HIV) SELF-TESTING KITS AMONG FEMALE COMMERCIAL SEX-WORKERS IN UGANDA. AN EVALUATIVE STUDY AT UGANDA MEDICAL RESEARCH CENTRE

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FEBRUARY 2024

DECLARATION

I, hereby declare that the work submitted in this report is my original work and a result of my efforts. This report had not been submitted for another degree award in this or any other University or institute.

Signature: _____

Date: 07/03/2024



APPROVAL

As the research supervisor for the above-named student, I certify that I have read Apio Sophie's report and have approved the changes required. I hereby recommend the proposal for examination.

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ACKNOWLEDGEMENT

I would like to express my deepest gratitude to Dr. Amos Ronald Kalukusu for his invaluable guidance, mentorship, and unwavering support throughout the course of this research. His expertise and encouragement have been instrumental in shaping the direction of this study.

I am also grateful to my classmates and the lecturers at King Ceasor University Medical School for their camaraderie, insights, and constructive feedback, which have enriched my academic journey.

I extend my heartfelt appreciation to my uncles, especially Mr. Charles Oloo and Mr. Odora Charles, for their generous financial support, which enabled me to pursue my studies and research endeavors.

Special thanks are due to His Highness King Ceasor Mulenga for facilitating my connection to the scholarship offered through Mulago Hospital in partnership with King Ceasor University. His support has been a beacon of encouragement and motivation throughout this academic pursuit.

I am sincerely grateful to all individuals and institutions who have contributed to the realization of this research project. Your assistance and encouragement have been invaluable, and I am deeply appreciative of your support.

LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
eMTCT	elimination of Mother to Child HIV Transmission
ART	Antiretroviral Therapy
CDC	Centre for Disease control and Prevention
HC	Health Centre
HIV	Human Immunodeficiency Virus
HIVST	HIV Self-Testing
IDUs	Injectable Drug Users
AOR	Adjusted Odd Ratio
MARPS	Most at Risk Populations
MoH	Ministry of Health
MSM	Men who have Sex with Men (MSM)
PrEP	Pre-Exposure Prophylaxis
PGD	Participatory Group Discussion
UNAIDS	United Nations Program on HIV/AIDS
STDs	Sexually Transmitted Diseases
WHO	World Health Organisation

OPERATIONAL DEFINITIONS

Acceptability of HIVST: The number of people who undertake an HIVST after being offered the test kit.

Feasibility of HIVST: This is the degree to which the results from an HIVST can be trusted to detect the HIV.

HIV Self-Testing: Any form of HIV testing in which an individual collects his/her sample, performs a simple, rapid laboratory test, and is, therefore, the first to know the results.

Oraquick: A home HIV test, which is performed by taking an oral swab of the inside of the human mouth and reported to show results within the first 20 minutes.

Uptake of HIVST: An individual is offered the HIVST kit and undertakes the HIV self-test.

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ABSTRACT

This study explored the utilization of HIV self-testing (HIVST) among female commercial sex workers in Uganda, focusing on individual and health facility factors influencing its uptake. Data were gathered through interviews with 184 respondents, revealing that only 48% had tested for HIV, while merely 27.2% had used HIVST. Results indicate that factors like age ($\chi2$=19.353, p=0.000), marital status ($\chi2$=8.564, p=0.014), and experiences of stigma ($\chi2$=8.309, p=0.016) significantly affected HIVST. Health facility factors were also influential; 68.8% lacked access to HIVST kits, and 65.9% reported kit unavailability. Distance to facilities ($\chi2$=7.943, p=0.005) and receiving health education ($\chi2$=5.612, p=0.015) impacted HIVST uptake. Logistic regression revealed that younger age groups (18-24 years: AOR=2.537, 95% CI: 1.670-3.561, p=0.002; 25-34 years: AOR=2.001, 95% CI: 1.511-3.890, p=0.001) and proximity to testing facilities (AOR=4.661, 95% CI: 2.510-7.002, p=0.000) increased HIVST uptake. Conversely, having fewer sexual partners correlated with lower HIVST usage (one partner: AOR=0.275, 95% CI: 0.101-0.442, p=0.024; two partners: AOR=0.431, 95% CI: 0.118-0.782, p=0.010). These findings underscore the need for tailored interventions to enhance HIVST accessibility, especially targeting younger individuals and improving awareness among key populations.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter presents the background to the study, statement of the problem, research objectives and questions, significance of the study as well as the conceptual framework of the study.

1.1 Background of the Study

Human Immunodeficiency Virus (HIV) remains a global threat. Globally, by the end of the year 2020, there were about 38 million people living with HIV and in the same year, approximately 940,000 people died of HIV related illnesses (UNAIDS,2021). More HIV cases are found in Sub Saharan Africa with approximately 25 million people in the region living with HIV (UNAIDS, 2021).

In Uganda, HIV is the 3rd leading cause of death following neonatal disorders and diarrhoeal diseases (CDC, 2017). The HIV epidemic is considered generally stable for past 7 years (MoH Uganda, 2015). Despite the improving trends, Uganda is still among the countries in sub Saharan Africa categorized as high "burden" in respect to HIV prevalence. The prevalence among the adult population (15years-64 years) stands at 6.2%, and is reported to be higher among women (7.6%) than men (4.7%). The prevalence among children (0-14 years) has considerably dropped in recent years from 2% to 0.5%, an achievement attributed to eMTCT efforts (MoH, 2017). Most of the new infections occur in Key Populations (KP) which includes fisher folk (MoH, 2019b).

HIV self-testing (HIVST), entails a person collecting their own oral-fluid and interpreting their own test results, happens to be the newest approach that also allows for testing at any time and place of an individual's choice (WHO, 2020). World over it is a promising new HIV testing strategy that has been proven to overcome barriers to facility-based testing and increase recent and frequent testing among diverse populations in different settings (Hatzold et al., 2019; Johnson et

al., 2017). Numerous sub-Saharan African countries have recently expanded their HIV testing guidelines to include HIVST and are working to scale HIVST services nationally (HIVST.org, 2019; WHO, 2019).

HIVST has had the potential to particularly benefit key populations that are at increased risk of HIV infection and have additional barriers to accessing traditional health services, including female commercial sex workers (Baral et al., 2017; Chanda, Perez-Brumer, et al., 2017; Shannon et al., 2015). Previous studies in Uganda and Zambia have shown peer-delivered HIVST increases recent and repeat testing among female commercial sex workers in high HIV prevalence settings (Chanda, Ortblad, et al., 2017; Figueroa et al., 2015; Ortblad et al., 2017). For instance, HIV self-testing randomized controlled trials among female commercial sex workers in Uganda and Zambia found that HIV self-testing achieved near-universal HIV testing coverage and substituted for facility-based testing.

The benefits of HIV testing such as initiation of HIV care and prevention behaviors, can only rely on correct interpretation of self-test results in which case, in traditional HIV testing and counseling, HIV test results are interpreted by a trained health care professional (Jamil et al, 2017). However, other studies Uganda suggest that female commercial sex workers might have difficulties interpreting HIV self-test results and there remains uncertainty around unintended ways female commercial sex workers may use HIV self-tests (Ortblad, Kibuuka Musoke, et al., 2018; Ortblad, Musoke, et al., 2018).

According to Ministry of Health (MoH) Uganda Population HIV/AIDS indicator survey (MoH, 2017), 72.5% of people living with HIV (PLHV) in Uganda know their status. The World Health Organization (WHO) and United Nations Program on HIV/AIDS (UNAIDS) set a global target of 90:90:90 in 2019 (UNAIDS, 2019a; WHO, 2019), which states that by 2020, 90% of all

people living with HIV should know their status; of those who are HIV positive, 90% should be on Antiretroviral Therapy (ARVs) and 90% of those on ARVs should have maximum viral suppression (WHO, 2019). Uganda however raised the targets to 95:95:95 therefore for Uganda to achieve the first 95 target, an extra 23.5% of PLHA need to be identified, hence a need to scale up HIV testing to identify new cases.

The HIV epidemic worldwide is fueled by key populations among whom are female sex workers. The most recent Uganda Population HIV Indicator Survey (UPHIA 2019) results indicate that 66.2% of adults living with HIV reported awareness of their HIV status: 68.6% of HIV positive women and 62.0% of HIV-positive men. These statistics indicate that Uganda is still far from realizing the global UNAIDS target of the 1st 95%. The Uganda national HIV Testing Services (HTS) policy addendum (2018) recognizes HIV self-testing as an additional testing approach and studies elsewhere have demonstrated that HIVST could be a better testing option among key populations. This is because key populations are required to test for HIV every three months since they are at high risk of HIV acquisition. The regular HIV testing among key populations is meant to detect HIV infection at the earliest possible time with subsequent early initiation of Ant Retroviral Therapy (ART) for optimal viral suppression. It has been proven that HIV positive individuals whose viral load is undetectable have minimal chances of transmitting the virus hence the concept of treatment for prevention.

1.2 Problem Statement

Uganda has a multispectral multifaceted approach to HIV prevention of which HIV testing is among them. This is because knowing one's status is the gateway to HIV prevention through employing biomedical, structural and behavioral interventions (MoH, 2019b). In a bid to scale up prevention strategies to end the HIV pandemic, Uganda adopted the World Health Organisation recommendation of combination prevention measures for HIV. Among them is the Test and Treat

approach where all newly identified HIV positive clients are enrolled on Anti-Retroviral Therapy (ART), HIV self-testing, and use of PreP in MARPS in which people who are HIV negative but are at a high risk of acquiring HIV are given ARVs to take until when either the risk for HIV acquisition is eliminated or when they become HIV positive (WHO, 2017).

In 2019, Uganda's Ministry of Health launched oral rapid HIV self-testing kits, a move aimed at increasing testing rates as part of efforts to stem new infections in the country (MOH, 2019). The kits are available for free in public health facilities and on sale in private pharmacies. Available results of an acceptability study conducted among clients from the general population seeking HIVST at Kisenyi HC IV, Kampala, an urban setting, (Nangendo et al., 2017) showed an 87% acceptability.

In spite of the all above strategies, there are still people living with HIV/AIDS do not know their HIV status especially among the key populations such as the female commercial sex workers. The female commercial sex workers are part of the key population that should be targeted for HIV prevention services that include PrEP and HIV self-testing. However, the Self-testing is still an uncommon or new intervention.

According the available statistic 44.8% know their status through routine counselling and testing while majority do not know their status because of stigmatization and busy schedule that comes because of the nature of their work. And the use of HIVST not being embraced by the female commercial sex workers.

If the female commercial sex workers do not embrace HIVST, they will not know their status meaning they cat start treatment in time, which has led to increased transmission of HIV as it is evidenced by the high prevalence of HIV in female commercial sex workers communities which is estimated to be six times that of the general population at 38% overall HIV prevalence among

female commercial sex workers compared to 6.7% among the general population (Kwagonza et al, 2020). As a result of high prevalence, there is high reported cases of mortality due to late enrollment to care.

From the researcher point of view, HIVST is associated with individual factors such as age, gender, fear of stigma; socio-economic factors like level of income, marital status, history of STI; and health system factors like availability of the kits, education on how to use the kit. However, is no published data guiding on the use of HIVST as an alternative HIV screening test among key population in the female commercial sex workers in Kampala. Therefore, purpose of this study was to determine the drivers for acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre.

1.3 Objectives of the Study

1.3.1 General Objective

To determine the drivers for acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre.

1.3.2 Specific Objectives

i. To determine the level of acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre.
ii. To assess the individual drivers for acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre.
iii. To determine the health system drivers for acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre.

1.4 Research Questions

i. What is the level of acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre?
ii. What are the individual drivers for acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre?
iii. What are the health system drivers for acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre?

1.5 Significance of the Study

Implementation of the findings of this report will inform on key policy formulation in the national health policy and Hospital leadership, as well as protect the rights of female sex workers in an aim to regulate incidence of HIV/AIDS. This study will also add to the existing body of knowledge on HIV and sex work.

It is hoped that the findings of the study will offer valuable contributions from both a theoretical and practical standpoint. From a theoretical standpoint, it is hoped that the findings generated from this study will make several contributions to both knowledge and understanding of what is one of the worst calamities to hit Uganda and the world in many years which is HIV infection. It will also contribute to the sociological/anthropological understanding of non-testing among the FSWs and

be useful in developing interventions that will take into consideration the problems faced by FSW at the clinic.

It is expected that the qualitative and quantitative data collected in this study will be made available to health planners such as Ministry of Health and it is hoped that this will lead to better designed, better directed and more culturally sensitive intervention programs to deal with socio-cultural associated with non-testing among FSWs including HIV self-testing.

In addition, findings will assist the Ministry of Health in effort to develop a scheme for rational use HIV self-testing among the FSWs and also serve as a resource for resource teams developing new protocols. Some of the burning issues answered in this study may be incorporated immediately to address urgent problems that may not require scientific inquiry at the hospital.
The findings of this report will help in policy formulation in the national health policy and Hospital leadership, as well as protect the rights of female sex workers in an aim to regulate incidence of HIV/AIDS.

This study will also add to the existing body of knowledge on HIV and sex work in Kampala.
It is hoped that the findings of the study will offer valuable contributions from both a theoretical and practical standpoint.
From a theoretical standpoint, it is hoped that the findings generated from this study will contribute to both knowledge and understanding of HIV infection.

It will also contribute to the sociological/anthropological understanding of non-testing among the Female Sex Workers (FSWs) and be useful in developing interventions that will take into consideration the problems faced by female commercial sex workers at the clinic.

It is expected that the qualitative and quantitative data collected in this study will be made available to health planners such as Ministry of Health which will lead to better designed, better directed and more culturally sensitive intervention programs to deal with HIV-testing among female commercial sex workers.

1.6 Conceptual Framework

The study was guided by the conceptual framework shown in figure 1.

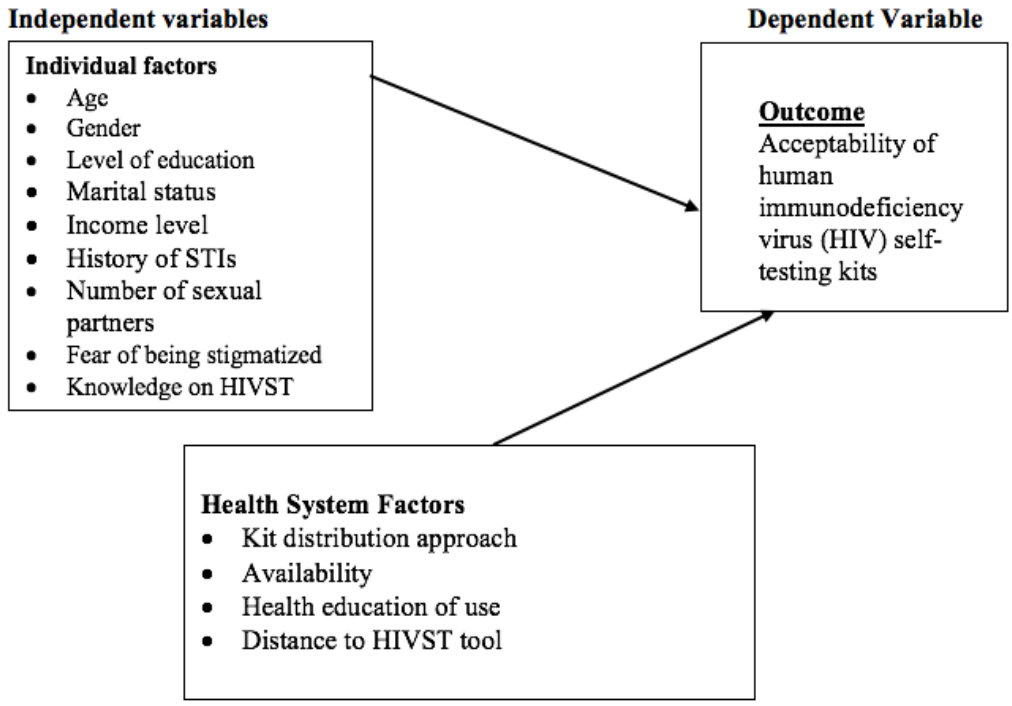


Figure 1: Conceptual Framework for the Study (Primary Data @2024)

Figure 1 is a conceptual framework that shows the relationships between the independent and the dependent variables identified for the study. The conceptual framework diagrammatically elaborates the factors associated with uptake of acceptability of human immunodeficiency virus-self-testing (HIVST) kits influenced by various independent variables. In this study, the independent variables are the factors associated with uptake of HIVST namely: individual factors, health system factors, and the dependent variable was uptake of HIVST.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter is a review of findings and facts from previously written literature relevant to the specific problems to be investigated. The literature was obtained from research published journals and dissertations, online publication articles in Google, CINAHL, Google Scholar, CDC, WHO, and PubMed.

2.1 Acceptability of HIV-Self Testing Kits

In 2019, World Health Organization (WHO) recommended HIV self-testing as a safe, accurate and effective way to reach people who may not test otherwise, including people from key populations, men and young people. An HIV self-test (or rapid self-test) refers to an antibody test that can be used at home or in a private location. Therefore, HIV self-testing (HIVST) refers to a process in which a person collects his or her own specimen (oral fluid or blood) and then performs an HIV test and interprets the result, often in a private setting, either alone or with someone he or she trusts (CDC, 2018). As with all approaches to HIV testing, HIVST should always be voluntary, not coercive or mandatory. Although reported misuse and social harm are rare, efforts to prevent, monitor and further mitigate related risks are essential (WHO/UNITAID HIV, 2019).

HIV self-testing has benefits. HIV self-testing (HIVST) is a convenient and confidential option for HIV testing. It allows people to take an HIV test and find out their result in their own home or other private location.

In a setting where there are concerns about confidentiality, self-testing seems to be superior when individuals decide to undertake the test. Moreover, lay users can perform HIVST reliably and accurately and achieve performance comparable to that of trained health-care workers. With an HIV self-test, you can get your test results within 20 minutes. (CDC, 2018). Furthermore, although

HIV self-testing does not offer a definitive result, it is an excellent opportunity to increase the uptake of HIV testing among those who have not been tested using other HIV testing approaches (MacPherson et al., 2018). In general, HIV self-testing appears to be an accepted approach to HIV testing for various population groups (Figueroa et al., 2019).

A study conducted in USA by Katz et al, (2017) to assess the acceptability of home-based HIVST, revealed that less than 20% in men having sex with men use HIV self-testing services. However, this randomized clinical trial was conducted in an urban setting with only one category of Most at Risk Populations (MARPS) Men who have Sex with Men (MSMs), which limits our understanding of the subject in a rural setting and from other categories of MARPS. In another study on HIV self-testing among 144 participants, including transgender women, men who have sex with men, and female entertainment workers in Cambodia by Pal et al. (2019), all 144 participants expressed acceptability of HIVST but only 23% accepted HIV self-testing services to know their HIV status. This was however a qualitative study with no quantitative aspect, which might limit the generalizability of the study findings.

Another cross-sectional study was conducted to assess the utilization of HIV self-testing services, and to explore the reasons for the non-utilization of HIV self-testing services among the key populations at the Bhutanese key population in eastern Nepal showed that HIV self-testing services are accepted by less than a third (29%) of the key population among the Bhutanese key population (Khatoon et al. 2018). In another cross-sectional study design was conducted among 588 participants to determine the magnitude of HIV self-testing service utilization among female commercial sex workers in Brazil found that 5.6% of study participants accepted testing for HIV suing the HIV self-testing services (Desta et al., 2017).

In Africa, a study by Jimoh & Balogun, (2020) on factors hindering uptake of HIV self-testing services among key population including female commercial sex workers in Kwara state, Nigeria,

reported that in many countries, 6.0% of HIV self-testing services accepatibilitye. In addition, a study by Jimoh & Balogun, (2019) reported that the level of HIV self-testing services uptake in Nigeria remains low and stressed the need to change the attitudes of most Nigerians vulnerable key population. A study to assess the use of HIV Self-Testing among First-Time Testers at Risk for HIV in Senegal reported that 46.9% were first-time testers and 26.2% had tested within the last year; 94.3% reported using the HIVST, and 2.9% reported a reactive result which was associated with first-time testers ($p = 0.024$). HIVST represents an approach that reached first-time testers and those who had not tested recently. Implementation indicators suggest the importance of leveraging existing community structures and programs for distribution (Lyons et al, 2019).

According to a study by Ogaji, Oyeyemi & Ibrahim (2018) on awareness, willingness and use of HIV self-testing services by female commercial sex workers and other key population in South-South Nigeria found that 43% used HIV self-testing services in 2015 according to the HIV/AIDS and Reproductive Health Survey (NARHS) report among HIV self-testing services. The study however reported acceptability rate self-testing services of 14.4% and 14.7% of females and males respectively in the general population.

In East Africa, a cross sectional conducted in Kenya on the use of HIV self-testing among 240 pre-exposure prophylaxis users in Kenya revealed that 14.0% of PrEP clients accepted the use of self-testing kit (Ngure et al., 2017). Nevertheless, the feasibility of the tests was low, as over 15% of the tests were invalid indicating a need for more sensitization and training in the use of the test. This study applies well to the Ugandan setting; although the PrEP clinic involved only discordant couples, yet in Uganda discordant couples undergoing PrEP represent only about 2% of the entire clients on PrEP.

In Uganda, due to the advantages of HIV-Self Testing listed in the previous section (such as ease of administration, privacy, and time saving), it is likely to be an appropriate method to scale up HIV testing among the key populations, the majority of which use PrEP regularly due to their HIV exposure risk. On the contrary, a cross-sectional design to assess the demographic, behavioural, psychosocial and structural factors associated with non-acceptability of HIV self-testing services in Uganda showed that non- acceptability of HIV self-testing was 14% (Shewade, et al. 2017)

2.2 Individual Factors Influencing Uptake of HIV-Self Testing

2.2.1 Age

A study of predictors of HIV testing, conducted among 117 gay, lesbian, and bisexual youth in the US in 2019, found that young age was positively and significantly related to acceptability of HIV self-testing among the study population (Maguen, Armistead, & Kalichanan, 2019). In addition, Fortenberry et al. (2017), in their face-to-face interviews of 847 men and 1126 women from clinic locations in seven U.S. cities, found among that age, was independently associated with acceptability of HIV self-testing in the past one year.

Another study conducted by Kaai et al (2017) on factors that affect HIV testing and counseling services among heterosexuals' African key population in Canada and the United Kingdom found age to be the most frequently mentioned individual factor such as age was associated with acceptability of HIVST. The study further indicated that there was a difference in the direction of the association. The difference was found in comparing three studies where it was reported that HIVST was more likely if respondents were younger than 40–45 years, while other three studies found that respondents who were younger than 25 years or 30 years were less likely to accept HIVST. In both situations however, the results were reported to suggest that the highest

acceptability rates were among the middle-aged study participants and lower among the young and older populations.

A cross-sectional study was conducted to assess Prevalence and associated factors of HIV self-testing among men who have sex with men from April to October 2019 in Ningbo, China among men who have sex with men (MSM). The study found that odds of acceptability of HIVST of older age 30–39 years (AOR = 0.49, CI 0.32–0.76) were more than 40 years (AOR = 0.07, CI 0.04–0.14) compared to 18–29 years) (Hong, et al, 2021).

No such study has been done among other at-risk population hence this study seeks to determine the HIVST among female commercial sex worker in Lake Albert.

In Nigeria, Yahaya et al, (2020) conducted a quantitative study on factors hindering HIVST in Kwara State. A total of 600 participants comprising 390 males and 210 females of the state took part in the study. In terms of older age of above 35 years had a positive associated with HIVST practices.

In another a cross-sectional survey involving quantitative research methods conducted by Sanga et al, (2015) to evaluate the factors influencing the acceptability of HIVST in Arusha City, Tanzania adopted, it was found that age range from 13 to 24 years had lower acceptability of HIVST compared to their older counterparts.

2.2.2 Gender

A cross sectional study in the UK found other demographic factors such being a female to have influenced the heterosexuals in getting tested for HIV. They found three studies that cited marital status as a factor associated with acceptability of HIVST (Kaai et al, 2017).

According to Yawson et al, (2019) other studies conducted across Africa have reported varied HIV self-testing uptake by female commercial sex worker. The study reported that females in Southern African countries were acceptability of HIV self-testing than males compared to

countries such as Ethiopia, Nigeria, Tanzania, and Zambia where male acceptability of HIV self-testing was higher than females. They found the high female testing to be consistent with previous findings in Ghana, which shows high readiness for HIV testing among pregnant women in Ghana. The study also reported that the limited HIV self-testing among men is well known.

Asante (2018) in SA reported that though most people are aware of HIV infection only 28.3% of females and 34.2% of males aged were able to accurately distinguish between factual information and common misconception. Furthermore, Olusola et al, (2015), who conducted a quantitative study with 287 participants in Shagamus Metropolis of Ogun state, Nigeria, to assess acceptability of HIVST found that participants' gender had significant relationship with acceptability of HIVST utilization. In other words, acceptability of HIVST was positively associated with female gender.

2.2.3 Level of Education

A cross-sectional study was conducted to assess prevalence and associated factors of HIV self-testing among men who have sex with men from April to October 2019 in Ningbo, China among men who have sex with men (MSM). The study found that acceptability of HIVST was higher among MSM who were higher education level (high school: AOR = 2.82, CI 1.70–4.69, compared to middle school or less), gay apps use (AOR = 1.86, CI 1.13–3.05) (Hong, et al, 2021).

Another study conducted to examine the association between socio-economic factors and HIVST knowledge amongst South African women found that women with tertiary education were 3.93 times more likely to accept HIVST (Ekholuenetale, Nzoputam, & Okonji, 2022).

Furthermore, a study also found other demographic factors such as being more educated to have influenced the heterosexuals in getting tested for HIV. They found three studies that cited marital status as a factor associated with acceptability of HIVST (Kaai et al, 2017). In a related study, Mtengo, Exavery, Kakoko and Gienbebels (2015) indicated in a cross-sectional analytical study revealed education was also found to be significantly associated with acceptability of HIVST.

Thus, respondents with higher education or secondary school education were more likely to accept HIVST services than those with primary or no education.

In Uganda, a mixed methods cross-sectional study at Pre-Exposure Prophylaxis clinics at MARPI Mulago and Kasensero HC II to uptake of oral based HIV self-testing revealed that predictors of acceptability of HIV self-testing was education level; high among those with post primary education (Matovu et al, 2020).

Kalanzi, (2018) study revealed that 63% of those with some college education had accepted HIVST, compared to 47% of those with a high school education having tested for HIV in South African and Uganda key population.

In Africa, Yahaya, Jimah & Balogun (2020) conducted a quantitative study on factors hindering HIVST in Kwara State. A total of 600 participants comprising 390 males and 210 females of the state took part in the study. The study concluded that more educated individual's acceptability of HIVST services more than the less educated individuals.

2.2.4 Knowledge on HIV Self-Testing

According to Strauss, Rhodes, & George, (2018) in study done in SA, at the level of the individual, one fundamental finding that influences acceptability of HVST is the importance of knowledge about testing and HIV. The study further explained that lack of knowledge can be an important barrier to acceptability of HIVST. The potential of young person's behaviour affecting their belief and intention to test for HIV was also carefully established in the study. They added that people who perceived themselves as high risk because of unhealthy sexual behaviours and suspecting that they may be positive were likely to accept HIVST test. Again, the study explained that key population including female sex workers who have never engaged in sexual activity and hence belief they are not infected by HIV are less likely to accept HIVST. The study however, found

that history of frequent HIVST as well as frequent visit to health facility in the female commercial sex worker as predictors of continuity to HIV testing.

According to Kalichman, Eaton, & Cherry, (2021) in a RCT found that fact-based education about HIV transmission is necessary, but not sufficient for promoting HIVST. Having knowledge about HIV were 3.69 times more likely to accept HIVST service as compared to those who did not have knowledge about HIV.

In a Sub-Saharan African Survey (2020-2015) revealed that only 10% males and 15% females in the keep population knew their HIV status through HIVST. This means that most of the key population who did not know how to use the kit were not aware of their HIV status thus showing that acceptability of HIVST was associated with being knowledgeable about IV information and way of transmission.

A study to determine use of oral HIV self-testing among female sex workers in Gaborone, Botswana found that the barrier to HIVST included lack of knowledge about the HIVST kit, fear of testing due to anticipated stigma, mistrust of the test's accuracy, doubt of self-competency to perform HIVST.

2.2.5 HIV Stigma and Discrimination

Stigma and discrimination have been shown to affect the acceptability of HIV testing in general, as reported by Mohlabane et al. (2019). In their study to determine the barriers and facilitators of acceptability of HIV testing among South African health facilities, it was established that HIV stigma and lack of motivation were significant barriers to acceptability of HIV self-testing among the study population. Although this study focused on HIV testing in general, the findings may suggest that HIV stigma can affect access to HIVST. Indeed, some authors (Walensky & Bassett, 2021) have indicated that HIVST testing approaches which offer privacy and thus minimize stigma

are more likely to be acceptable than those which do not. The above literature appears to suggest that although various factors can influence the acceptability of HIVST, it is generally a feasible approach in increasing HIV testing in rural communities.

Stigma was found to have significant and dangerous effects on health and HIV transmission by influencing persons to delay care seeking and also failure to disclose health conditions due to fear of being isolated or rejected, and may subsequently result in non-adherence to medical advice.

According to Kaai et al., (2017) "Stigma and discrimination have taken their toll in Ethiopia not only at the work place, in housing, health facilities, schools, and family and personal relations but also in medical services, discouraging people from acceptability of HIVST as they believed that once positive, they still needed to open up to the health workers.

An exploratory study employing in-depth interviews (IDI) and participatory group discussions (PGD) with FSWs and female commercial sex worker in Kenya found that the participants had concerns about their ability to interpret and trust the results of the test. Participants also expressed concern that HIVST could cause personal harm, including severe distress and self-harm for the FSWs with reactive test this was related to the lack of professional counselling support in the self-testing environment (Soori et al, 2019).

2.2.6 Marital Status

A cross-sectional research design to examine factors associated with never having tested for HIV among 4,168 participants in the US found that acceptability of self-HIV testing was associated with being married compared to being unmarried (Jude et al, 2021).

Similarly, Addis et al. (2018) in Ethiopia found marital status as having statistically significant association with acceptability of HIVST. In a study conducted among key population including FSWs, track drivers and female commercial sex worker in North west Ethiopia, Addis et al., reported that large proportion of the participants who were single (59%) were more likely to have

taken an HIVST than those "in-relationship" (25%) and married (16%). The study further reported a greater proportion of never married students (66%) as likely to accept HIVST in the future as compared to those "in relationship" (27%) or married (7%) students.

According to the review study, two of the studies that found association between marital status and HVST reported that unmarried people were more likely to accept HIV self-tested for HIV compared to those who were married or those cohabitating.

Furthermore, Olusola et al, (2015), who conducted a quantitative study with 287 participants in Shagamus Metropolis of Ogun state, Nigeria, to assess HIVST utilization found that participants' gender had significant relationship with HIVST utilization. In other words, acceptability of HIVST was positively associated with marital status of being single.

The study then gave a plausible explanation that the sample in Johns' and his colleagues study were older immigrants from East Africa (mean age of 35.7 years), who were more likely to be married compared to the other two Canadian studies which had participants who were mainly younger and single (Kaai et al., 2017).

Another cross-sectional study was carried out at Nabweru HCIII and Entebbe Hospital in central Uganda found that single participants, separated/ divorced, female, fear and unfair treatment after HIV status disclosure were less likely to be linked to accept HIVST (Bbuye et al, 2022).

2.2.7 Income Level

A study in the UK found other factors such as having low income, to have influenced the heterosexuals in getting tested for HIV (Kaai et al, 2017). Another study conducted to examine the association between socio-economic factors and HIVST knowledge amongst South African women found that richer and richest women who have good knowledge of HIV infection were 1.88 and 2.24 times more likely to accept HIVST, respectively, when compared with those from

the poorest wealth household had more HIVST acceptability (Ekholuenetale, Nzoputam, & Okonji, 2022).

In a related study, Mtengo, Exavery, Kakoko and Gienbebels (2015) indicated in a cross-sectional analytical study revealed income was also found to be significantly associated with acceptability of HIVST. Thus, respondents with higher income were more likely to acceptHIVST services than those with low-income status.

In a study conducted by Bwambale et al, (2018) in in rural western Uganda, poverty was found to be a big barrier for seeking health care from professionals. The relationship between health seeking behavior of HIVST and poverty is also supported in a study in Bangladesh. Meanwhile, Addis et al., (2018) in Ethiopia found that low-income level was associated with low acceptability of HIVST. This was because they might not be able to purchase the kits from the nearby clinic unlike those who were able to afford the kit (Addis et al., 2018).

2.2.8 History of STIs

According to Tanser et al., (2015) study revealed that key populations' slow progression through the HIVST in South Asia can be attributed to feelings of confidence by the fact that they have never suffered from STIS in the recent months. Similarly, preliminary result from a large MCTC program in Botswana shows a relatively low acceptability of HIVST during the first eight months of operation. This was said to be due to not feeling at risk since they believed that if one is diagnosed with Sexually Transmitted Disease, it means that they have the high chance of having HIV (Mazhani et al, 2000).

In addition, a study where Kalibala et al. (2017) assessed knowledge, attitudes and practice towards voluntary HIVST among internally key population in Ethiopia, they found that the main reason for persons who had never had accepted HIVST in the past was not having experience any STDS. The authors therefore stressed on the need for more work in creation of awareness

regarding stigma and discrimination and the possibility to live longer with the virus as far as HIV positive individuals lead their lives as per physicians and counselor's recommendations.
Furthermore, a study conducted in Uganda showed that interest in HIVST is often "social", with clients showing interest in knowing their sero status before getting suffering previously with STDs (UNAIDS, 2019).

2.2.9 Number of Sexual Partners

Kaai et al., (2017) studied on factors that affect HIVST among heterosexuals in Canada and the United Kingdom, reported that several personal-related factors were found to be associated with acceptability of HIVST. The study categorized these factors into six broad categories as follows: risk perception, illness or having HIV symptoms, fear of HIV-related stigma and other fears, level of HIVST education, mandatory or partner recommended HIVST. The study found having multiple sexual partners as the strongest predictor of acceptability of HIVST compared to having one single sexual partner.

Again, Yahaya et.al (2019) in analyzing HIVST among youths in Kwara state, Nigeria, indicated that having many sexual partners had a significant difference with acceptability of HIVST.
In a related study, Mtengo et al (2015) in Tanzania indicated in a cross sectional analytical study revealed number of sexual partner was also found to be significantly associated with acceptability of HIVST. Thus, respondents with more than one sexual partner were more likely to accept HIVST services than those with only one sexual partners.

2.3 Health Facility Factors Influencing HIV-Self Testing

2.3.1 Kit Distribution Approach

In South Africa, according UNAIDS (2019), the number of ways HIVST testing kits are distributed has significantly increased the acceptability of HIVST among the population, across sub–Saharan Africa, it is estimated that acceptability of HIVST testing increased magnificently with increased in the number of distribution methods used. (UNAIDS, 2017).

Barriers to HIV self-testing do exist as UNAIDS has outlined aspects of these barriers including access of the kit at the facility of pharmacies and other distribution means (UNAIDS, 2019).

Geng et al. (2017) studied the direct provision versus facility collection models of HIV self-tests among female sex workers in Uganda. Their findings indicated that HIV self-testing was more likely to be successful if kits were distributed by peers compared to health facility pick up. The direct provision model was more likely the priority due to the likely privacy it could offer for the sex workers and could be a better choice for other key populations likely to be stigmatized by society. Having been conducted in Uganda, a randomized controlled trial, and a very recent study makes the findings of this study more reliable and thus could be applicable to the Ugandan context. Nevertheless, only one aspect of HIVST was assessed, although it was from the sex workers indicating a need for a more comprehensive study on the study topic.

2.3.2 Purchase and Availability of Testing Kits

Gadegbeku & Saka (2018) in their study of the female commercial sex workers in Accra regarding HIVST, reported that despite the fact that acceptability of HIVST services have numerous advantages, the kits are unavailable even when one wants to buy them. The study further revealed that although 95% of respondents knew their sero-status could be checked, only 37% had actually heard about availability of HIVST services. Out of the 37% who were aware of this service few

(6%) had actually been able to buy and acceptability of HIVST kits. This suggests the level of availability of the HIVST and acceptability of this service by the studied population was low. The cross-sectional study by Strauss et al., (2015) in Kenya reveals that the offer of HIVST without charge, the performance of HIVST service, greatly facilitates HIVST among key population.

2.3.3 Health Education on Use

According to Kalichman, Eaton, & Cherry, (2017) found that vigorous community health education programs on HIVST as one of the way to test was very essential for effective promotion of HIVST. The study further explained the receiving health education on HIV testing methods increased the acceptability of HIVST like any other methods. A study done in Ethiopia to assess acceptability of HIVST testing using the health belief model revealed that respondents who had received health education on HIV including HIVST had more chance of using the methods in HIV testing unlike those who had no education would rather do the tradition HCT (Abiy et al, 2019)

A study conducted among mineworkers in South Africa showed that lack of health education on the procedures involve in self-testing fear of testing is one of the main barriers to acceptability of HIVST among the population (Magnus & Gbakeji, 2019).

2.3.4 Distance to HIV Testing Facility

A related study conducted in 2019 in South Africa was cited to have found that having access to testing facility was associated with acceptability of HIVST services more. The authors reported in their study that in rural areas with smaller communities and less anonymity there may be fear about compromised confidentiality, which eventually increase stigmatization from a positive test. The difference in acceptability of HIVST between urban and rural areas was purportedly attributed to the perceived differences in access to health care facilities where HIVST and HIV/AIDS-related information are provided (Leta, Sandøy, & Fylkesnes, 2017).

According to the findings of a cross-sectional survey conducted by Leta et al. (2017) on factors affecting voluntary HIVST among men among the key populations in Ethiopia, revealed that uptake of HIVST increases when kits are provided at health facility compared to clinic-source. This showed that there are some hindrances of facility-related acceptability of HIVST.

Mobilizing community members to advocate about HIV testing through outreach and education programmes was identified as a potential factor in the success of HIVST in three studies with key stakeholders working in sexual health and HIV (Burns et al, 2017; Prost et al 2017; Elam et al, 2019) and one study with African men and women considered to be at risk of HIV infection (Burns 2019).

A study by Asante, (2018) among FSWs in Ghana found that over 90% of the participants had knowledge about where to get an HIVST test. The resistance of participants to access and use HIVST was attributed to distance to access the kits for use.

Another study carried out by Matoro et al., (2017) in Uganda found that health-seeking behavior of youth with regard to HIVST was low mainly because of different kinds of distance to the health facility for the kits.

Another study also found other factors such as residing or living in a city of over one million people, to have influenced the heterosexuals in getting tested for HIV. They found three studies that cited marital status as a factor associated with HTC (Kaai et al, 2017).

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This chapter consists of the methods that was used in the research study such as research design, study area, study population, sample size, sampling technique and eligibility criteria. The methodology also covered variables, sources of data, data collection instruments and tools, data collection technique, plan for data analysis, quality control issues, ethical consideration, and finally plan for dissemination of study findings.

3.1 Study Design

The study employed a cross-sectional study design. Quantitative data collection methods were applied. Interviews were conducted using a structured questionnaire for collecting data from respondents. In a cross-sectional study, the investigator measures the outcome and the exposures in the study participants at the same time (Gravetter, & Forzano, 2017). This rationale for choosing the study design was because the method has an advantage of being quick and cheap to conduct since data is collected once and multiple outcomes can be studied therefore requiring fewer resources to conduct the whole study.

A cross-sectional study is also the best choice if the researcher only has the time or money to collect cross-sectional data, or plans to gather data at a single point in time

3.2 Study Area

The study was done in Uganda Medical Research Centre.

3.2 Sources of Data

Primary data was collected on uptake and drivers for acceptability of HIVST from the female commercial sex workers in Kampala.

Secondary data was collected from the register books showing the recent acceptability of HIVST to compare with the data collected from primary sources as well as literature review sources like the journal, articles, district and hospital data.

3.3 Study Population

This comprised of female commercial sex workers receiving services in Uganda Medical Research Centre aged from 18 years and above who met the inclusion criteria.

3.4 Eligibility Criteria

3.4.1 Inclusion Criteria

All female commercial sex workers who were at least 18 years of age, in Uganda Medical Research Centre were eligible for inclusion in the study. Those who were willing to participate were included in the study.

3.4.2 Exclusion Criteria

Those who meet the inclusion criteria above but were found to have unsound mind or very sick were excluded from the study.

3.5 Sample size Calculation

The sample size was determined by using a statistical formula for cross-sectional studies as outlined by Kirkwood and Sterne (Jonathan, 2003).

$$\mathbf{n} = \frac{\mathbf{z}^2 \times \mathbf{p}(\mathbf{1-p})}{\mathbf{d}^2}$$

n=required sample size

z= confidence level at 95% (standard value of 1.96)

p =proposed percentage of acceptability of HIVST showed at 87% acceptability (Nangendo et al., 2017).

d = margin of error at 5% (standard value of 0.05).

n= $\frac{1.96^2 \times 0.87\ (1-0.87)}{0.05^2}$ = 173.79

Therefore, the sample size of respondents was 173 respondents.

3.6 Sampling Procedures

The study utilized probability sampling procedures. Participants were assigned unique numbers to be used for sampling. First, a systematic random sampling was used to establish the sampling interval by dividing the required estimated population over the data collection period by the number of participants to be interviewed.

The sampling interval was determined by dividing the population (N) and sample size (n)

$$\text{Sampling Interval} = \frac{\text{Study Population (N)}}{\text{Sample Size (n)}}$$

Where; study population is the total number of female commercial sex workers visiting the centre =578

Sample size calculated =173

Therefore, sampling interval = 578/173

Sampling interval = 3.34

Sampling interval = 3

From the sampling interval, a simple random sampling method was used to select the first respondent.

In simple random sampling method, two pieces of paper each marked numbers 1 and 2 respectively was placed in a box and mixed thoroughly before drawing one paper by one independent person to randomly select the first respondent. From this first respondent, selected the next one every

after 3 respondents, and the process was repeated by adding 2 to the previous number until all the entire sample of 257 participants was obtained.

3.7 Study Variables

The variables that this study was used in the assessment of drivers for Luganda among the female commercial sex workers; in terms of the categories that each of the variables (independent and dependent) was made of, the type of analysis that each was subjected to and the scale of measurement that each of them were set with, during analysis. It is shown that the three independent variables were each be analyzed descriptively and inferentially, using the regression model.

Table 1: Summary of Factors Affecting HIV Self-Testing Among Commercial Sex-Workers

Variable	**Category**	**Data analysis for each variable**	**Scale of measurement of each variable during analysis**
Individual Factors			
	Age	Descriptive, and inferential	Scale
	Level of education	Descriptive, and inferential	Ordinal
	Gender	Descriptive, and inferential	Nominal
	Fear of being stigmatized	Descriptive, and inferential	Nominal
	Knowledge on HIVST	Descriptive, and inferential	Nominal
Social Economic Factors			
	Marital status	Descriptive, and inferential	Scale
	Income level	Descriptive, and inferential	Nominal
	History of STIs	Descriptive, and inferential	Nominal
	Number of sexual partners	Descriptive, and inferential	Scale
Health System Factors			
	Kit distribution approach	Descriptive, and inferential	Nominal
	Availability	Descriptive, and inferential	Nominal
	Health education of use	Descriptive, and inferential	Nominal

	Distance to HIV Testing facility	Descriptive, and inferential	Scale
Dependent Variable			
	Acceptability of HIV Self-Testing		
	Use HIV Self-Testing	Descriptive only	Nominal

Table 1 presents a comprehensive overview of the factors influencing HIV self-testing (HIVST) among commercial sex workers, categorizing them into individual, socio-economic, and health system factors, with the dependent variable being the acceptability and usage of HIVST. Individual factors such as age, level of education, gender, fear of being stigmatized, and knowledge on HIVST were analyzed both descriptively and inferentially. Socio-economic factors including marital status, income level, history of sexually transmitted infections (STIs), and number of sexual partners were also examined using similar analytical approaches.

Additionally, health system factors such as kit distribution approach, availability, health education of use, and distance to HIV testing facilities were considered. While the dependent variable, acceptability and use of HIVST, was analyzed descriptively only. The scale of measurement varied across the variables, with some categorized nominally, ordinally, or measured on a scale. This comprehensive analysis provides insights into the various aspects influencing the adoption and utilization of HIV self-testing among commercial sex workers, contributing to a better understanding of the factors driving or hindering its uptake within this population group.

3.8 Data Collection Techniques

The study used researcher administered structured interviews to collect data from the female commercial sex workers in Uganda medical Research Centre. A semi-structured questionnaire was administered to respondents by a research assistant to collect data regarding factors influencing Luganda among the female commercial sex workers. One of the methods that can do so is the structure interview given that it involves asking a respondent a question, supplemented

with multiple choice questions from which they can choose the most appropriate in the study context. It can thus be said that with a structured interview, it was possible to obtain data that was be used to answer all the four analytical type objectives that the study has. That is one of the reasons why it was chosen as the most suitable data collection method, in addition to the fact that it is fatigues respondents relatively less as compared to other data collection methods given its structured feature.

The questionnaire was written in English and a translation in Luganda was made available and applied during data collection process since all respondents understand Luganda language very well.

3.9 Data Collection Tools

As with the choice of data collection method, the type of data that this study has to collect required that the responses obtained from the female commercial sex workers are captured in a close ended format, that later made the responses quantifiable and measured in scale, nominal or ordinal formats during analysis. That implies that the data collected using structured questionnaires were able to answer all four research questions, making it a suitable tool for this study.

Additionally, structured questionnaires have a merit of being quicker to administer compared to semi structured or open-ended tools, in addition to having more comprehensible items for all categories of study populations. Its use thus ensures that all data collected with it is accurate and more valid. The tool was designed with four sections A (individual factors) B (Socio-Economic factors), C (Health system), D (Acceptability of HIV-Self Testing).

3.10 Plan for Data Analysis

A compilation of all the responses from the data collection techniques and tools including 190 responded to questionnaires were entered into epidata software and the entire data set exported to create an SPSS file for analysis.

Univariate Analysis: data on respondent's age, sex, and acceptability of HIV-Self Testing was tabulated and frequency tables, bar charts and pie charts generated to assess the statistical distribution followed by the study population. The prevalence of acceptability of HIV-Self Testing was determined by dividing the number of those who made use acceptability of HIV-Self Testing services by the total number of participants interviewed and this was presented in a pie chart.

Bivariate Analysis: cross tabulations as a standard measure for association of the two categorical variables under measure was made between the acceptability of HIV-Self Testing and each of the respondent's independent variables. As a result of this comparison, the probability values (P) generated from each of these cross tabulations were determine the significance of the variables. All probability values $p< 0.05$ was considered significant from the cross tabulations and therefore considered as actual influencing factors for acceptability of HIV-Self Testing.

Multivariate analysis: All the significant factors assessed to drivers for acceptability of HIV-Self Testing ($p< 0.05$) wad then be further assessed in relation to the acceptability of HIV-Self Testing using a regression equation and the factor with the highest regression co efficient was considered to have the highest influence on acceptability of HIV-Self Testing.

3.11 Quality Control Issues

In order to adhere to the principle of validity and reliability, a specific day was set for pre-testing the questionnaires were done at Marpi Clinic and this involved a total of 10 female commercial sex workers. The purpose of conducting this pretest was to ensure the highest degree to which the questionnaire is clearly understood by the respondents. This helped in identifying areas which call

for modification and certainly corrections were undertaken, if need be, before the actual data collection commences. Pretesting also familiarized the research assistants to the data collection tools.

The data was collected by the researcher assisted by the research assistants. Two categories of the research assistants were recruited and trained on how to administer the questionnaire in order to minimize errors during data collection process. Strict supervision throughout the process of data collection was emphasized by the principal investigator to facilitate collection of quality data with minimal errors.

Considering consistency, all the filled questionnaires were rechecked on daily basis after data collection and pre-coding of the questionnaires containing closed ended questions was done. The data was then entered in epidata software and was then exported to SPSS version 26 where the data cleaning was effectively be conducted. For security reasons of the data, keeping data under key and lock was strictly observed in order to deny access to data by unauthorized people.

3.12 Validity of the Data Collection Tool

Of the available forms of validity, content validity of the questionnaire was tested, as it could show the readiness of the questionnaire for data collection, among the children. Content validity of the tool was tested first, among other quality control measures because the next steps of quality control (training of assistants and pretesting) had to be done using a valid tool. In measuring the validity of the tool, the content validity index was calculated, in a process that involved identifying four independent judges to rate the items in the questionnaire. Each of them was given the objectives of the study and a summary of the methods that was used in the study, so that their item ratings are done while in the know about the study as a whole. They were also requested to use a rating scale that was as follows; 4 for a very relevant item, 3 for a relevant item, 2 for a somewhat relevant item, and 1 for a non-relevant item. Each was independently given the questionnaire, and requested to rate.

Therefore, the content validity index was calculated using the formula;

CVI = Number of items rated 3 or 4

Total number of items in the too

The tool was deemed as valid if the CVI was found to be within the range of 0.7 to 0.9 (Cronbach, 1990), and at that point, it was used during the training of the research assistants

3.13 Ethical Issues

This study was conducted with due approval of King Ceasor University after which the researcher obtained an introductory letter to go with to the field. Permission from Uganda Medical Research Centre was obtained before collection of data.

An official letter that explains the objectives, rationale and expected outcomes of the study was written to district authorities' office as well as health facilities from the University requesting cooperation. The principal investigator communicated to the hospital management' office and obtain written consent from the office as well as from households on which the study was conducted.

The respondents were assured that the information they pass on were kept as confidential information, and that it was used in such a way that it was not traced back to a particular respondent. The respondents were also assured of maximum respect during the entire process of data collection

In addition, the right to decide whether or not to participate in the study was explained. Similarly, the Researcher informed the respondents that they were free to choose not to answer particular questions that they feel they should not answer. Lastly, a consent/assent form was availed to the respondents for signing after an elaborative explanation of the subject matter in the research study. Other ethical issues that were considered in this study include the fact that the participation in the study was voluntary. The privacy of the participants was duly respected as they were not

compelled to respond to questions, which they were not comfortable with. The identities of the participants were made anonymous and collected data cannot be traced to any of them.

3.14 Plan for Dissemination of Findings

The report was presented to King Ceasor University for partial fulfillment of the requirement for a ward of a Bachelors of Nursing Science at King Ceasor University.

Copies of the report was disseminated to KCCA; all the sub-counties were given a copy each.

The researcher was organizing a community feedback sessions/meetings to the respective study participants to give them the finding from the study to the study participants and some other stakeholders.

CHAPTER FOUR: RESULTS PRESENTATION, INTERPRETATION AND ANALYSIS

4.0 Introduction

This chapter contains the results from the study. The study investigated the drivers for acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre to improve utilization of HIVST services among female commercial sex-workers. The respondents were 173 female commercial sex-workers at Uganda Medical Research Centre yielding response rate of 100%. The results are presented below in accordance with the study objectives.

4.1 Responses on Self-testing Among The Female Commercial Sex-Workers At Uganda Medical Research Centre

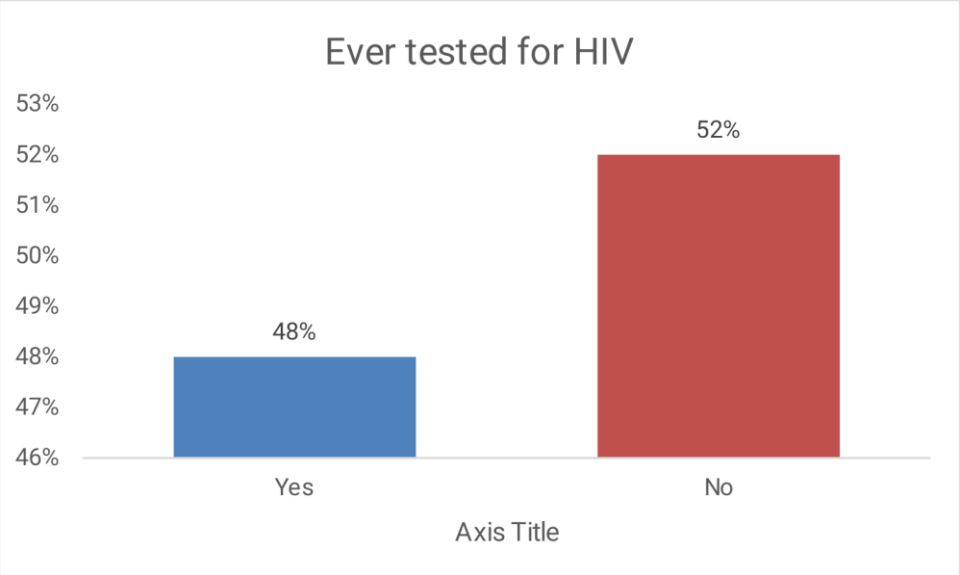


Figure 2: **Responses Regarding HIV Testing Among Female Sex-Workers**

Respondents were interviewed to provide information whether they had tested for their HIV status, and only 48% of the respondents had tested for HIV while 52% had not, as shown in figure 2.

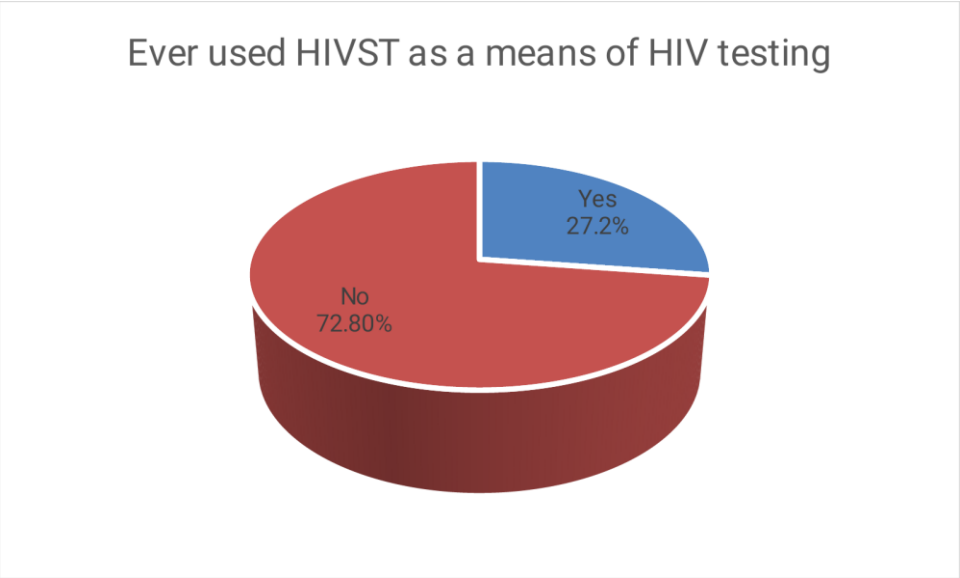


Figure 3: *Level of uptake* of HIV Self-Testing.

In regards to HIV self-testing, only 27.2% had ever used HIV self-testing as a mean of HIV testing while 72.8% have never use HIVST as indicated in figure 3.

4.2 Individual Factors Influencing HIV Self-Testing Among The Respondents

Table 2: Univariate analysis of individuals drivers influencing HIV self-testing among the female commercial sex-workers at Uganda Medical Research Centre

Variables	**Category**	**Frequency n**	**Percentage %**
Age	18-24 years	49	28.3
	25-34 years	78	45.1
	35-44 years	27	15.6
	>45 years	19	11.0
Educational status	Not gone to school	22	12.7
	Primary	43	24.9
	Secondary	69	39.9
	Tertiary	39	22.5
Gender	Male	51	29.5
	Female	122	70.5
Marital status	Never married	60	34.7
	Married	79	45.7
	Widowed	34	19.7
Felt embarrassed for going for HIV testing services including HIVST	Yes	63	36.4
	No	110	63.6
Ever been afraid of the HIV self-test results	Yes	70	40.5
	No	103	59.5
Reasons for being afraid	Stigma	34	48.6
	Taking ART	23	32.9
	Disclosure	13	18.5
Discriminated in the community because HIV status	Highly	49	28.3
	Averagely	51	29.5
	Not at all	73	42.2
Felt stigmatized/ discriminated because of using HIV testing services	Yes	53	30.6
	No	120	69.4
Benefits of HIV testing	People who test positive can get treatment.	52	30.1
	Effective at preventing spread from those who are positive to the negative.	56	32.4
	It also enables positive living through referral to social groups like (TASO) and peer support groups.	36	20.8
	Increases community awareness about HIV	13	7.5
	Reducing stigma among HIV/AIDS people	11	6.4
	Helps plan for future	5	2.9

Ever heard about HIV self-testing	Yes No	98 75	56.6 43.4
Source of information	Family member Friend Community VHT Radio, TV	48 30 41 23 31	27.7 17.3 23.7 13.3 17.9
Know how to use the HIV self-testing	Yes No	67 106	38.7 61.3
Average household income in shillings	<100.000 >100.000	62 111	35.8 64.2
Number of people living in household	1-3 4-6 >6	37 46 90	21.4 26.6 52.0
Occupation	Market vendor Formal employment Sell food Tailor Other	33 39 39 36 26	19.1 22.5 22.5 20.8 15.1
Ever been diagnosed with STIS	Yes No	91 82	52.6 47.4
STIs diagnosed with	HIV Gonorrhoea Syphilis Candida	26 30 17 18	28.6 33.0 18.7 19.8
Number of sexual partners	One Two Three More than three	34 43 37 59	19.7 24.9 21.4 34.1

Table 2 above shows that most of the respondents 45.1% were aged between 25-34 years while 39.9% were in secondary level; Seven in every ten, (70.5%) of the respondents were females. Regarding information of HIVST, most 56.6% of the respondents had ever heard about HIV self-testing with 27.7% hearing about it from family member as source of information.

When the respondents were asked about the benefits of HIV testing, 32.4% of the respondents mentioned that HIV testing is beneficial in effective prevention/ spread of HIV infection. In regards to knowledge on the procedure involved in HIVST, slightly above six in every ten (61.3%) of the respondents did not know how to use the HIV self-testing kits.

Most 63.6% of the respondents never felt embarrassed for going for HIV testing services including HIVST and nearly six in every ten (59.5%) of the respondents had never been afraid of the HIV self-test results. Most 42.2% of the respondents reported that there was no discrimination because of HIV status in their community and 69.4% of the respondents never felt stigmatized/ discriminated because of using HIV testing services.

Table 3: Bivariate analysis of individuals drivers influencing HIVST among the female commercial sex-workers at Uganda Medical Research Centre

Variables	**Category**			x^2	**P-value**
		Yes, %	**No, %**		
Age	18-24 years 25-34 years 35-44 years >45 years	9(19.1%) 15(31.9%) 11(23.4%) 12(25.5%)	40(31.7%) 63(50.0%) 16(12.7%) 7(5.6%)	19.353	**0.000**
Educational status	Not gone to school Primary Secondary Tertiary	6(12.8%) 11(23.4%) 22(46.8%) 8(17.0%)	16(12.7%) 32(25.4%) 47(37.3%) 31(24.6%)	1.703	0.636
Gender	Male Female	14(29.8%) 33(70.2%)	37(29.4%) 89(70.6%)	.003	0.548
Marital status	Never married Married Widowed	24(51.1%) 14(29.8%) 9(19.1%)	36(28.6%) 65(51.6%) 25(19.8%)	8.564	**0.014**
Felt embarrassed for going for HIV testing services including HIVST	Yes No	18(38.3%) 29(61.7%)	45(35.7%) 81(64.3%)	.099	0.443
Ever been afraid of the HIV self-test results	Yes No	18(38.3%) 29(61.7%)	52(41.3%) 74(58.7%)	.126	0.431
Discriminated in the community because HIV status	Highly Averagely Not at all	10(21.3%) 15(31.9%) 22(46.8%)	39(31.0%) 36(28.6%) 51(40.5%)	1.587	0.452
Stigmatization	Yes No	11(23.4%) 36(76.6%)	42(33.3%) 84(66.7%)	1.588	0.141
Benefits of HIV testing	People who test positive can get treatment. Effective at preventing spread from those who are positive to the negative. It also enables positive living through referral to	12(25.5%) 13(27.7%) 13(27.7%)	40(31.7%) 43(34.1%) 23(18.3%)	2.839	0.725

	social groups like (TASO) and peer support groups. Increases community awareness about HIV Reducing stigma among HIV/AIDS people Helps plan for future	4(8.5%) 3(6.4%) 2(4.3%)	9(7.1%) 8(6.3%) 3(2.4%)		
Ever heard about HIV self-testing	Yes No	23(48.9%) 24(51.1%)	75(59.5%) 51(40.5%)	1.563	0.141
Source of information	Family member Friend Community VHT Radio, TV	13(27.7%) 5(10.6%) 14(29.8%) 5(10.6%) 10(21.3%)	35(27.8%) 25(19.8%) 27(21.4%) 18(14.3%) 21(16.7%)	3.430	0.489
Know how to use the HIV self-testing	Yes No	18(38.3%) 29(61.7%)	49(38.9%) 77(61.1%)	.005	0.544
Average household income in shillings	<100.000 >100.000	18(38.3%) 29(61.7%)	44(34.9%) 82(65.1%)	.170	0.405
Number of people living in household	1-3 4-6 >6	10(21.3%) 11(23.4%) 26(55.3%)	27(21.4%) 35(27.8%) 64(50.8%)	.381	0.826
STIs did you suffer from	HIV Gonorrhoea Syphilis Candida	8(32.0%) 10(40.0%) 5(20.0%) 2(8.0%)	18(27.3%) 20(30.3%) 12(18.2%) 16(24.2%)	3.109	0.375
Number of sexual partners	One Two Three More than three	5(10.6%) 12(25.5%) 8(17.0%) 22(46.8%)	29(23.0%) 31(24.6%) 29(23.0%) 37(29.4%)	6.310	0.097
Number of sexual partners affected you taking HIVST	Hard to test with everyone	23(48.9%) 9(19.1%) 15(31.9%)	40(31.7%) 48(38.1%) 38(30.2%)	6.542	**0.038**

The respondents' age (χ^2=19.353, p-value of 0.000) marital status (χ^2=8.564, p-value of 0.014), and reasons for feeling stigmatized (χ^2=8.309, P-value of 0.016) were the significant individual factors influencing HIVST among the respondent.

4.3 Health facility factors influencing HIVST among the female commercial sex-workers at Uganda Medical Research Centre

Table 4: ***Univariate analysis of health facility factors influencing HIVST among the respondents***

Variables	Category	Frequency n	Percentage %
Health facility/place where the HIVST kit	Yes No	54 119	31.2 68.8
Place of access	Pharmacy Drug shop Health facility NGOs	14 12 8 2	38.9 33.3 22.2 5.6
Kits always available when needed the service	Yes No	59 114	34.1 65.9
Distance to Health Facility	<5km 6-10km >10km	52 82 39	30.1 47.4 22.5
Health facility provide education materials on HIVST among other HIV information	Yes No Not sure	70 80 23	40.5 46.2 13.3
Received health education on HIVST from any source	Yes No	57 116	32.9 67.1
Place of health education provided	Pharmacy Drug shop Health facility NGOs	28 21 4 4	49.1 36.8 7.0 7.0
Health education about	HIV counselling and testing ART adherence How to use HIVST HIV prevention (condom use)	17 12 12 16	29.8 21.1 21.1 28.1

On the analysis of health facility factors, according to Table 6 above two third (68.8%) of the respondents had no health facility/place where to access the HIVST kit while 31.2% would access the HIVST kits, of those, 38.9% accessed the kits from the pharmacy. On the availability of the kits, majority 65.9% of the respondents reported that the kits are not available. Eighty-two, 47.4% of the respondents lived 6-10km to healthy facility. Most of the respondents 46.2% said health facility did not provide education materials on HIVST among other HIV information and 67.1% of the respondents did not receive health education on HIVST from any source while 22.9%

received health education on HIVST. Of those, 49.1% were from pharmacy as 29.8% had health education about HIV counseling and testing.

Table 5: ***Bivariate Analysis of Health Facility Drivers Influencing HIV Self-Testing Among The Respondents***

Variables	**Category**			χ^2	**P-value**
		Yes, %	**No, %**		
Health facility/place where the HIVST kit	Yes No	14(29.8%) 33(70.2%)	40(31.7%) 86(68.3%)	.061	0.479
Place of access	Pharmacy Drug shop Health facility NGOs	2(28.6%) 3(42.9%) 2(28.6%) 0(.0%)	12(41.4%) 9(31.0%) 6(20.7%) 2(6.9%)	1.115	0.774
Kits always available when needed the service	Yes No	13(27.7%) 34(72.3%)	46(36.5%) 80(63.5%)	1.193	0.181
Distance to Health Facility	<5km 6-10km >10km	17(36.2%) 21(44.7%) 9(19.1%)	35(27.8%) 61(48.4%) 30(23.8%)	1.233	0.540
Distance to the facility affects uptake of HIVST	Transport cost	22(46.8%) 25(53.2%)	31(24.6%) 95(75.4%)	7.943	**0.005**
Health facility provide education materials on HIVST among other HIV information	Yes No Not sure	24(51.1%) 17(36.2%) 6(12.8%)	46(36.5%) 63(50.0%) 17(13.5%)	3.222	0.200
Received health education on HIVST from any source	Yes No	22(46.8%) 25(53.2%)	35(27.8%) 91(72.2%)	5.612	**0.015**
Place of health education provided	Pharmacy Drug shop Health facility NGOs	15(68.2%) 5(22.7%) 2(9.1%) 0(.0%)	13(37.1%) 16(45.7%) 2(5.7%) 4(11.4%)	7.321	0.062
Health education about	HIV counselling and testing ART adherence How to use HIVST HIV prevention (condom use)	6(27.3%) 8(36.4%) 2(9.1%) 6(27.3%)	11(31.4%) 4(11.4%) 10(28.6%) 10(28.6%)	6.511	0.089

As shown in Table 7, distance to the facility affect your uptake of HIVST (χ^2=7.943, p-value of 0.005), Received health education on HIVST from any source (χ^2=5.612, P-value of 0.015) were

the significant health facility factors influencing HIVST among the female commercial sex-workers at Uganda Medical Research Centre.

Table 6: ***Multivariate Analysis of Factors Influencing Uptake of HIV Self-Testing Among The Respondents***

Variables	Category	AOR (95% CI)	P-value
Respondents age	18-24 years 25-34 years 35-44 years >45 years	2.537(1.670-3.561) 2.001(1.511-3.890) 1.517(0.817-2.583) 1.0	**0.002** **0.001** 0.145
Number of sexual partners	One Two Three More than three	0.275(0.101-0.442) 0.431(0.118-0.782) 0.886(0.315-1.645) 1.0	**0.024** **0.010** 0.087
Distance to Health Facility	<5km 6-10km >10km	4.661(2.510-7.002) 2.916(0.879-3.221) 1.0	**0.000** 0.110
Received health education on HIVST from any source	Yes No	4.000(2.855-7.010) 1.0	**0.000**

As shown in table 8, when variables that were significant at bivariate level were analyzed for cofounding and interaction, HIVST was high among respondents who were aged 18-24 years (AOR: 2.537, 95% CI: 1.670-3.561, P-0.002), and those aged 25-34 years (AOR: 2.001, 95% CI: 1.511-3.890, P-0.001) as compared to those aged >44 years. In addition, living within 5km form the health facility that provides HIV self-testing (AOR: 4.661, 95% CI: 2.510-7.002, P-0.000) was associated with high level of HIVST compared to those who lived more than 10 km from the health facility which provide the services. Respondents who received health education on HIVST from some source (AOR: 4.000, 95% CI: 2.855-7.010, P-0.000) were also more likely to have used HIV self-testing compared to those who had not received health education on HIVST.

However, having only one sexual partner (AOR: 0.275, 95% CI: 0.101-0.442, P-0.024), and two sexual partners (AOR: 0.431, 95% CI: 0.118-0.782, P-0.010) were associated with low use of HIVST services as compared to those who had more than three sexual partners.

CHAPTER FIVE: DISCUSSION OF RESULTS

5.0 Introduction

This chapter provides the related literature in line with the study objectives.

5.1 Uptake of HIV-Self Testing

In the present study, the proportion of utilization of HIVST among the female commercial sex-workers at Uganda Medical Research Centre was found to be 27%. This is a low use probably because they were not aware of the HVST procedures and not being able to access the kits easily at the health facility. This is similar to a study by Katz et al, (2017) in the USA who revealed that less than 20% in men having sex with men use HIV self-testing services. However, findings from other places found different results on low use of HIVST, Pal et al. (2019) in Cambodia found that 3% used HIV self-testing services to know their HIV status, in Brazil 29% of the key population use HIVST (Khatoon et al. 2018); Desta et al., (2017) in Brazil found that 5.6% of study participants were tested for HIV using the HIV self-testing services, Jimoh & Balogun, (2020) in Kwara state, Nigeria, reported that only 6.0% of HIV self-testing services uptake. On the contrary still, reported low uptake of HIV self-testing services of 14.4% and 14.7% of females and males respectively in the general population.Ogaji, Oyeyemi & Ibrahim (2018) found a higher use rate when they found that 43% used HIV self- testing services.

Another study found higher use of HIVST, Lyons et al, (2019) in Senegal reported that 94.3% reported using the HIVST and non-utilization of HIV self-testing services in Uganda showed that non-utilization of HIV self-testing was 14% Shewade, et al. (2017). The difference in the study findings could probably because of the differences in the study settings and study population in the different studies. Implementation of HIV self-testing has been constrained due to lingering doubts about feasibility, acceptability, demand, accuracy, and safety and this study's contribution to investigate factors associated with HIVST and help the government develop targeted strategies to improve HIV testing among key population including female commercial sex-workers.

5.2 Individual Factors Influencing Uptake of HIV-Self Testing Among Female Commercial Sex-Workers

The study found that age of the respondents was significantly associated with uptake of HIVST among the study population; HIVST was high among respondents who were aged 18-24 years and, aged 25-34 years as compared to those aged >44 years. This is similar to Fortenberry et al. (2017), in seven U.S. cities, found among that age, was independently associated with HIV self-testing in the past one year. A likely explanation for this association may be that individuals in these age groups have a sense of responsibility for their lives and families, as well as being familiar with the health-care system. Similarly, Maguen, Armistead, & Kalichanan, (2019) who found that young age was positively and significantly related to HIV self-testing among the study population, Hong, et al, (2021) in Ningbo, China found that odds of older age 30–39 years (AOR = 0.49, CI 0.32–0.76 ;) were more than 40 years (AOR = 0.07, CI 0.04–0.14) compared to 18–29 years) (Hong, et al, 2021). Furthermore, among heterosexuals' African key population in Canada and the United Kingdom found age to be the most frequently mentioned individual factor associated with HIVST, more likely if respondents were younger than 40–45 years.

However, in Nigeria, Yahaya, Jimah & Balogun (2020) found that older age of above 35 years had a positive associated with HIVST practices and Sanga et al, (2018 in Arusha City, Tanzania found that age range from 13 to 24 years had lower use of HIVST compared to their older counterparts. It is possible that younger members of the female commercial sex-workers are more worries about positive test results Therefore, HIVST education should be included as a part of comprehensive sexual and reproductive health education for female commercial sex-workers

The study found that reasons for feeling stigmatized was significantly associated with uptake of HIVST. This is probably because stigma and discrimination have been shown to affect the uptake of HIV testing in general. This is in line with a study by Walensky & Bassett, (2021) who showed

that HIV stigma and lack of motivation were significant barriers to uptake of HIV self-testing among the study population support this. In addition, Kaai et al., (2017) in Ethiopia found that not only at the work place, in housing, health facilities, schools, and family and personal relations but also in medical services, discouraging people from taking HIVST as they believed that once positive, they will still need to open up to the health workers. Furthermore, Soori et al, (2019) expressed concern that HIVST could cause personal harm, including severe distress and self-harm for the female commercial sex-workers with reactive test as this was related stigma and discrimination and to the lack of professional counselling support in the self-testing environment. As one of the intended benefits of HIVST is opening preferred access pathways for underserved individuals with high risks, it may be useful to also consider the benefits for individuals who have testing experience but may prefer the con-venience and discreetness associated with HIVST. This implies that stronger strategies such as mass education/sensitization needs to be emphasized to reduce stigmatization in HIV.

5.3 Social-Economic Factors Influencing HIV-Self Testing Among Female Commercial Sex-Workers

This study found that number of sexual partners was significantly associated with uptake of HIVST; having only one sexual partner and two sexual partners were associated with low use of HIVST services as compared to those who had more than three sexual partners. This is probably because those who had more partners that are sexual were more worried about the status than those who had only one sexual partner. This is in line with Kaai et al., (2017) in Canada and the United Kingdom reported that several personal-related factors found that having multiple sexual partners as the strongest predictor of HIVST compared to having one single sexual partner. Similarly, Yahaya et.al (2019) indicated that having many sexual partners had a significant difference with HIVST and Mtengo et al (2018) in Tanzania indicated that the number of sexual partners was also found to be significantly associated with HIVST utilization. Thus, respondents with more than one

sexual partner were more likely to use HIVST services than those with only one sexual partner.

5.4 Health Facility Factors Influencing HIV-Self Testing Among Female Commercial Sex-Workers

In the study, receiving health education was positively associated with uptake of HIVST services among the study population. This is probably because those who have been health educated were more informed about the services and the procedures HIVST kits, receiving health education on HIV testing methods increased the use of HIVST like any other methods. This is consistent with Kalichman, Eaton, & Cherry, (2017) who found that vigorous community health education programs on HIVST, as one of the ways to test was very essential for effective promotion of HIVST.

In addition, Abiy et al, (2019) in Ethiopia revealed that respondents who had received health education on HIV including HIVST had more chance of using the methods in HIV testing unlike those who had no education would rather do the tradition HCT. Moreover, Magnus & Gbakeji, (2019) in South Africa showed that lack of health education on the procedures involved in self-testing fear of testing is one of the main barriers to use of HIVST among the population. The WHO has highlighted the importance of the message that HIVST does not provide a verified diagnosis on HIV, but requires further testing. Therefore despite its ease of use and high acceptability, illustrated in this study, HIVST should contain clear instructions for the use and interpretation of results, as well as how to access the HIV prevention, care and treatment services. This implies that the ministry of Health through the health facilities should embark on various health education on the use of HIVST kits to enhance its use and uptake.

This study found that the distance HIV testing facility was significantly associated with uptake of HIVST, , living within 5km form the health facility that provides HIV self-testing was associated

with high level of HIVST compared to those who lived more than 10 km from the health facility. This is probably because when the health facility is near the residents an access the testing kits with ease and less expense compared to those where the testing facility is far. This is supported by Leta, Sandøy, & Fylkesnes, (2017) who found that HIVST utilization between urban and rural areas was purportedly attributed to the perceived differences in access to health care facilities where HIVST and HIV/AIDS-related information are provided.

Similarly, Burns et al, 2017; Elam et al, (2019 found that having access to testing facility was associated with use of HIVST services more, Asante, (2018) found that the resistance of participants to access and use HIVST was attributed to distance to access the kits for use. Furthermore, Kaai et al, (2017) also found out that residing or living in a city influenced the heterosexuals in utilizing HIVST and Matoro et al., (2017) in Uganda found that health-seeking behavior of youth with regard to HIVST was low mainly because of different kinds of distance to the health facility for the kits. It is anticipated that in routine implementation of HIVST through online ordering, delivery, and pharmacy distribution, there will be a lower threshold to access that will facilitate substantially higher uptake among female commercial sex-workers who do not identify as a female commercial sex-workers but may be at high risk for HIV infection and would not otherwise access HIV testing. Therefore, it is important that the provision of HIVST, as with all HTC services, include programming and messaging about how to access and link to HIV prevention, care and treatment services. This implies that the health services including HIVST should be brought closer to population to improve uptake.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter deals with the brief summary of the steps taken in the study, conclusions, study findings and recommendations

6.1 Conclusions

Generally, the study found that the level of uptake of HIVST among the female commercial sex-workers was low at 27.2% compared to those the target of 95%.

The study found that uptake of HIVST was high among the young individuals compared to the older individuals.

Having more than one sexual partner was found to have a positive association with uptake of HIVST.

Living with 5km to the HIV testing facility and having received health education on HIVST were associated with increased chance of up-taking HIVST.

6.2 Recommendations

a) The ministry of health in Uganda should develop specific guidelines to address HIV self-testing among female commercial sex-workers.
b) Deliberate efforts by the government of Uganda and relevant stakeholders need to be channeled towards the promotion of education towards HIVST.
c) HIVST education should be strengthened for female commercial sex-workers, and free HIVST kits may be provided to high-risk population to achieve the increased HIV testing frequency.
d) The hospital facilities to avoid the high frequency of HIV retesting, the clinic management team should consider disseminating and implementing the HIV

retesting guidelines to female commercial sex-workers.

e) Hospital management must address scheduling issues so that HCWs are given the opportunity to attend pre-HIVST information sessions and learn about HIVST

f) Hospital facilities should have HIVST education in order to improve the knowledge on HIVST

6.3 Area for Further Study

a) More research is still needed to establish the accuracy of test kits (given the confirmatory test required after using HIVST), monitoring of test kits, and linkages of clients to care after testing HIV-positive.

b) Given that our study did not provide programmatic evidence on how to provide post-test counseling and care, future implementation of HIVST should examine innovative strategies of providing post-test counseling and linkage with care and support after HIVST

c) There is a need for more robust studies on adoption, cost/cost-effectiveness, fidelity, penetration, and sustainability to guide scale up and roll out.

d) Willingness to seek HIV psychosocial support, care and treatment may not translate to actual access.

e) Therefore, further research could be conducted to determine actual access to these HIV services among health care workers.

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APPENDIX 1: INFORMED CONSENT TO PARTICIPATE IN THE STUDY

Informed Consent to Participate in Research

Dear Participant

My name is Apio Sophie, a student of KCU pursuing A Bachelors in Nusing Sciences, I am conducting a study on drivers for acceptability of human immunodeficiency virus (HIV) self-testing kits among female commercial sex-workers in Uganda at Uganda Medical Research Centre.

I am asking you to take part in a research study called**: Individual drivers, socio-economic drivers, health system drivers for acceptability of HIV self-testing among female commercial sex workers in Uganda Medical Research Centre.**

You have been selected on merit for your legibility to provide necessary information required. However, any information provided will be used mainly for academic purposes and will be treated with utmost confidentiality.

The research will be conducted in Uganda Medical Research Centre, Kampala.

Purpose of the study

The purpose of this study is to determine the proportion of female sex workers who accept HIV self-testing, the associated Individual factors for acceptance and the preferred distribution for the HIV self-testing kits.

Study Procedures

You are being asked to participate in this study, as you are female commercial sex workers receiving services from Uganda medical Research centre who can help us to better understand factors that influence HIV-Self testing.

If you take part in this study, you will be asked to:

• Take part in a one-time, one-on-one, semi-structured interview;

• The interview will take approximately half an hour;

• The interview will take place at a location most convenient to you as the participant;

• The interview will be transcribed, in the form of field notes, to ensure accuracy in reporting your statements;

Benefits

There may be no direct benefits associated with your participation in the study, but the information you will provide will be useful in planning and organizing health awareness campaigns on the benefits of HIV-Self testing as a preventive measure to the female commercial sex workers.

Risks or Discomfort

This research is considered to be of minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

Compensation

No research participants will be compensated, however, due to the Covid-19 each study participants will be provided with a Face Mask

Privacy and Confidentiality

We will keep your study records private and confidential. Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

The research team, including the Principal Investigator and those involved with the study**.**

I may publish what I have learnt from this study. If l do, l will not include your name will not publish anything that would let people know who you are.

Voluntary Participation / Withdrawal

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time.

There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study.

You can get the answers to your questions, concerns, or complaints

If you have any questions, concerns or complaints about this study contact the researcher, Apio Sophie Odora.

If you have questions about your rights as a participant in this study, general questions, or have complaints, concerns or issues you want to discuss with someone outside the research, contact the Research supervisor

Statement of consent:

…….. has explained to me what is going to be done, the risks, benefits involved and my rights regarding this study. I understand that my decision to participate in this study will not affect me in any way. In the use of this information, my identity will be concealed. I am aware that I may withdraw from the study any time. I understand that by signing this form, I do not waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name …… Signature/Thumbprint of participant …… Date ……..

Name …… Signature of witness …….. Date ……..

APPENDIX II: QUESTIONNAIRE

Serial No. ……..

Section A: Individual factors

s/n	Information	Possible options	Tick the appropriate response
1	Maternal age in complete year		
2	Mothers' educational status	Not gone to school Primary Secondary Tertiary	
3	What is your gender?	Male Female	
4			
5	Marital status	Never married Married Widowed	
6	Religion	Catholics Protestants Pentecostal Muslim	
7	Have you felt embarrassed for doing for HIV testing services including HIVST?	Yes No	
8	Have you ever been afraid of the HIV self-test results in case you test?	Yes No	
9	Do you think you will be discriminated in the community because of you HIV status?	Highly Averagely Not at all	
10	Have you felt stigmatized/ discriminated because of using HIV testing services?	Yes No	
11	If yes to question above, what has made you feel so?		
12	What benefits does a person get in going for HIV testing?	People who test positive can get treatment Effective at preventing spread from those who are positive to the negative. It also enables positive living through referral to social groups like	

		(TASO) and peer support groups. Increases community awareness about HIV. Reducing stigma among HIV/AIDS people Helps plan for future	
13	Have you ever heard about HIV self-testing?	Yes No	
14	Where did you hear it from? (Tick what is mentioned)	Family member Friend Community VHT Radio, TV others	
15	Do you know how to use the HIV self-testing in case you need to use it?	Yes No	
16	What is your average household income in shillings	_____	
17	Including you, how many people live in your household?	_____	
18	What is your occupation?	__put options to choose from _____	
20	What is your average household income in shillings	_____	
21	Have you ever been diagnosed with STIS	Yes No	
22	If yes, which STIs did you suffer from	_____	
23	How many sexual partners do you have?	_____	

Section B: Health system factors

s/n	**Information**	**Possible options**	**Code and remarks**
24	Do you have a health facility/place where you can access the HIVST kit if you need it?	Yes No	
25	If yes, what is the place		

26	Are the kits always available for you when you need the service?	No	
27	How far is the health facility from your home where you can test for HIV?	<5km 6-10km >10km	
28	Does the health facility provide education materials on HIVST among other HIV information?	Yes No Not sure	
29	Have you received health education on HIVST from any source?	Yes No	
30	If yes, from where was the health education provided?		
31	If yes, what was the health education about?		

Section C: Acceptability of HIV Self-Testing

s/n	**Information**	**Possible options**	**Code and remarks**
32	Would you accept HIVST kit to test for HIV?	Yes No	
33	If no, Why not?	Yes No	
34	If yes, what method did you use?		

Thank you