DETERMINANTS OF ACCESS TO TREATMENT SERVICES FOR ANAL GENITAL WARTS AMONG SEX WORKERS ATTENDING KITENGELASUB COUNTY HOSPITAL, KAJIADO COUNTY

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H56/39011/2020

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE IN MASTER OF SCIENCE INNURSING (ONCOLOGY) OF THE UNIVERSITY OF NAIROBI

NOVEMBER, 2022

DECLARATION

This thesis is my own personal work and has not been offered in any other institution for examination purposes.

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SUPERVISORS' APPROVAL

This thesis has been written by the student through our supervision, mentorship, guidance and support; and is a true account of his own original work. The candidate wrote this thesis diligently.

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DEDICATION

I dedicate this thesis to all sex workers in our country who have to endure untold difficulties in accessing various healthcare services owing to the nature of their activities.

This thesis is also dedicated to my dear family. To my loving spouse Esther Wangui Joshua, my dearest children Joan Naserian Joshua and Benson Parmeres Joshua and my parents Mr. and Mrs. Benson Kishoyian. You have been my favourite cheerleaders. I am blessed to have you all. Thank you all for being part of my success story.

ACKNOWLEDGEMENT

I wish to acknowledge and sincerely thank my supervisors Dr. Samuel Kimani and Dr. Sabina Wakasiaka whose great support, effective supervision, timely feedback, inspiration and expertise were instrumental in the successful development and completion of this thesis. I am also grateful to the management of Kitengela Sub County Hospital for allowing me to carry out the study in the facility. I also wish to most sincerely thank the respondents of the study for their role in making this study a success. My regards also go to my family, friends and colleagues for standing with me throughout this journey in prayers, moral support and encouraging words. Above all, I thank the Almighty God for His immense blessings to me and my family.

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ABBREVIATIONS AND ACRONYMS

AGWs	Anogenital warts
AOR	Adjusted Odds Ratio
APR	Adjusted Prevalence Ratios
CI	Confidence Interval
DNA	Deoxyribonucleic Acid
FSWs	Female Sex Workers
GBV	Gender-Based Violence
HCPs	Health Care Providers
HICs	High Income Countries
HIV	Human Immunodeficiency Virus
HPV	Human Papillomavirus
MFSWs	Male and Female Sex Workers
MSM	Men Who Have Sex with Men
NGO	Non-Governmental Organization
SDGs	Sustainable Development Goals
SEM	Socio-Ecological Model
SPSS	Statistical Package for Social Sciences
SRH	Sexual and Reproductive Health
SSA	Sub-Saharan Africa

STDs	Sexually Transmitted Diseases
STIs	Sexually Transmitted Infections
TCA	Trichloroacetic Acid
UN	United Nations
US	United States
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Sex work - Is the exchange of sex or other intimate services for material compensation such as money, drugs, or other resources.

Sex workers - Are adults who receive money or goods for sexual services, either regularly or occasionally, and include women, men and transgendered people.

Anogenital warts - Are benign proliferative skin lesions in the anogenital area caused by low risk human papillomavirus strains.

Socio-cultural factors - Are factors relating to societal held beliefs, values and norms that may affect uptake of health services among sex workers in health facilities.

Health system factors - Are factors relating to the centres of care and care provision that may affect uptake of health services among sex workers in health facilities.

ABSTRACT

Background: Human papillomavirus (HPV) infection is transmitted through skin-to-skin contact, with genital and anal sex being the most common transmission routes. Anal-genital warts (AGWs) are benign proliferative skin lesions in the anogenital area caused by low risk HPV strains. Sex workers constitute an epidemiologically important group for HPV infection as they may acquire this infection and transmit it to other sexual partners. An understanding of the determinants of access to treatment services for AGWs is critical for improving care to this vulnerable population.

Objective: To establish the determinants of access to treatment services for anal-genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County.

Methods: This was a descriptive cross sectional study conducted among 60 adult sex workers attending the Reproductive Health Unit of Kitengela Sub County Hospital who were selected using census method. An interviewer-administered questionnaire that contained questions based on the study objectives served as the study tool. The study tool was pre-tested at Ngong Sub County Hospital using 10% of the study sample size. The study data was analyzed through descriptive statistics using the Statistical Package for Social Sciences (SPSS, version 25) and presented in percentages and frequencies. Associations between the study variables were evaluated using the Chi-square test at 95% confidence interval. Results are shown in tables, graphs and charts. Informed consent, confidentiality of information obtained, anonymity in reporting study findings, voluntary participation, right of withdrawal and appropriate approvals constituted the study's ethical principles.

Results: All (100%) of the respondents acknowledged as having been diagnosed with anal-genital warts at one point or another. However, only few (12.2%) of the respondents utilized treatment services for anal-genital warts from public health care facilities. Fear of discrimination (83.7%, p = .000), fear of stigma (93.9%, p = .003), fear of social isolation (77.6%, p = .006), low sexual health literacy (79.6%, p = .003) and lack of social support (85.7%, p = .008) were the socio-cultural related factors that led to poor access to treatment services for anal-genital warts among the respondents. Inconvenient clinic schedules (73.5%, p = .001), poor quality of services (100%, p = .000), long waiting times for care (75.5%, p = .010), lack of privacy (91.8%, p = .000) and unawareness about service availability (71.4%, p = .002) were the health system related factors that led to poor access to treatment services for anal-genital warts among the respondents.

Conclusion: A wide range of socio-cultural and health system related factors affected access to treatment services for anal-genital warts among sex workers attending Kitengela Sub County Hospital.

Recommendations: Efforts are required to improve access to treatment services for anal-genital warts among sex workers attending Kitengela Sub-county Hospital by addressing socio-cultural and systemic challenges that impede their health seeking behaviours.

CHAPTER ONE: INTRODUCTION

Background

Anogenital warts (AGWs), also known as condylomata acuminata or venereal warts, are benign proliferative skin lesions in the anogenital area attributed to the epidermotropic human papillomavirus (HPV) (Grennan, 2019). They are caused by low risk strains of the human papillomavirus namely, HPV 6 and HPV 11, which are different from the high risk strains that lead to neoplasms (Lacey, Guimera & Garland, 2020). AGWs have a highly variable appearance and may be flat, dome-shaped, cauliflower-shaped, or pedunculated. They can manifest individually, as a solitary keratotic papule or plaque, but are more frequently found in large clusters (Kilic & Ulku, 2019). Often, they begin as small, non-distinctive flesh-colored papules on the skin and may retain this presentation for the duration of the infection, or may alternatively grow and combine into large masses (Gadishah, 2018). AGWs may also vary in appearance colour ranging from white to pink, purple, red, gray or brown, and will usually appear 3 - 6 months after infection, though they may also appear many months or even years later (O'Mahony et *al*., 2019).

Evidence from World Health Organization (WHO) indicates that genital warts infections have an estimated prevalence of 20% to 40% in sexually active adults, with clinical manifestations in 1%(WHO, 2021). The lifetime risk of infection is 50% in sexually active individuals and both sexes are susceptible with rates of infection suspected to be more prevalent in women. Prevalence of genital warts is greatest in persons aged 17-33 years, with a peak incidence in those aged 20-24 years (WHO, 2021). Regionally, low resource settings including the sub-Saharan Africa (SSA) region appear to have higher AGW incidence and prevalence rates compared to the high income countries (HICs) which could be attributed to greater HPV vaccine implementation in the developed countries (Neme et *al*., 2015). However, across the globe, prevalence of AGWs is higher among key population groups including men who have sex with men and male and female sex workers (MFSWs) than in the general population (Wu *et al*., 2021).

Anogenital warts are transmitted mainly through oral, anal, and genital sexual contact, although rare instances of vertical transmission and autoinoculation have been reported (Grennan, 2019). Apart from HPV infection via sexual contact which is the leading cause of AGWs, having multiple sexual partners, a history of sexually transmitted infections (STIs), having a weakened/compromised immune system (such as from HIV or organ transplant immunosuppressive therapy), becoming sexually active at a young age, use of oral contraceptives and smoking are also known risk factors for contracting AGWs(Leslie, Sajjad & Kumar, 2021). Though largely asymptomatic in most people, AGWs have also been known to cause discharge, itching, redness, bleeding, burning sensation, tenderness and discomfort/pain in anogenital areas as well as psychological distress (Leslie *et al*., 2021). AGWs can still be transmitted to others even when one is asymptomatic (Bhatia *et al*., 2013).

The vast majority of AGWs can be accurately diagnosed with a careful clinical history and physical examination. In extremely mild or subclinical cases, the use of a 3 to 5% acetic acid solution (the acetowhite test) may be helpful in promoting wart visualization (O'Mahony et *al*., 2019). Biopsy is rarely needed for AGWs diagnosis, and is only recommended for lesions suspected of being malignant or having an increased malignant potential such as pigmented and ulcerated lesions (Kilic & Ulku, 2019). Most HPV infections will regress spontaneously within a 2-year period. However, anogenital warts are treated via topical therapies such as imiquimod (Aldara), sinecatechins and podophyllin and podofilox (Condylox), or via destructive and surgical modalities such as trichloroacetic acid (TCA), excision, electrosurgery, cryotherapy and via laser treatments. The treatments are largely centered upon removal of the warty growth rather than elimination of the underlying viral infection (Shaikh & Nisa, 2021).

It is imperative that persons with AGWs seek health care services. Treatment of AGWs is essential in preventing their recurrence and possible complications which include obstructed urinary flow, bleeding, local disfigurement, transformation to genitourinary malignancies in males and females, and transmission to neonate (during birth) or partners (Leslie *et al*., 2021). Seeking health care services also offers an

opportunity for persons with AGWs to be screened for other STIs such as chlamydia, gonorrhoea, syphilis and HIV hence allowing for timely medical intervention where need be (Grennan, 2019). Genital warts are also associated with a significant psychosocial burden which negatively impacts the quality of life of affected persons. Hence, seeking treatment avails an opportunity where these individuals can be offered much needed psychosocial support. There is also an opportunity for persons with AGWs to be taught regarding behavioral factors that increase the risk for HPV infection acquisition (Wu *et al*., 2021).

Across the world, sex workers constitute a high risk group for anogenital warts infection with significantly increased odds of contracting genital warts than the general population. This is due to their occupational hazards such as multiple sexual partners, difficulties in negotiating condom use, poor access to appropriate lubricants and high STI prevalence (Kilic & Ulku, 2019). However, despite being a priority population for sexual and reproductive health (SRH) interventions globally, major gaps are evident in their health seeking behaviour for AGWs treatment and particularly in the low- and middle-income countries (Shapiro & Duff, 2021).Evidence of poor uptake of anogenital warts treatment services among sex workers has been reported in various settings including those by Sawicki et *al*. (2019), Tyros *et al*. (2021) and Wu et *al*. (2021). Neme et *al*. (2015) and Makhakhe et *al*. (2019) also reported low utilization of HPV-related prevention, treatment and support programmes among MFSWs in the sub-Saharan Africa region.

The experiences of male and female sex workers in accessing treatment of anal-genital warts have major implications on their utilization of these services. For instance, even where sex workers are not explicitly excluded from utilizing SRH services, negative experiences including social isolation, verbal abuse, stigma and discrimination have been shown to impede their health seeking behaviours(Sawicki et *al*., 2019). On the contrary, the provision of a rights based care to this cohort characterised by compassion, respect and understanding has been shown to promote the health seeking behaviours of the sex workers (Makhakhe *et al*., 2019). Thus, in provision of health care services to sex workers, a humane treatment that respects

their human dignity irrespective of their occupation should be reinforced rather than viewing the sex workers as 'vectors of disease' denoting the need to make SRH services for this key population accessible, comprehensive, integrated and non-discriminatory (Shapiro & Duff, 2021).

Research indicates that the nature of experience during care-seeking affects the health seeking behaviours of sex workers. Positive or proactive health seeking behaviours among sex workers are likely to be seen in contexts where the sex workers are treated with dignity, compassion, respect and understanding (Makhakhe *et al*., 2019). Similarly, negative or poor health seeking behaviours are likely to manifest in settings where care delivery is marked by negative experiences in the form of social marginalization, prejudice, contempt, abuse, violence, stigma and discrimination (Neme et *al*., 2015; Dareng et *al*., 2019). This notwithstanding little was known about the determinants of access to treatment services for anal-vaginal warts among sex workers visiting public health care facilities in the local context - an area the current study sought to shed light on.

Problem Statement

The increasing incidence of HPV infection and HPV-associated conditions such as anogenital warts in key populations such as male and female sex workers is a global concern (Tyros *et al*., 2021).As provided in various international conventions, all individuals including sex workers are entitled to the full spectrum of sexual and reproductive health care and rights. Yet, world over, both male and female sex workers continue to bear significant SRH inequities and unmet needs for appropriate SRH services at every step along their sexual and reproductive lives (Shapiro & Duff, 2021). Critical gaps in access to genital warts treatment services among sex workers are evident in many parts of the world and particularly in low resource settings (Dareng et *al*., 2019). This underscores the need for greater attention on provision of SRH services for sex workers to protect sex workers from serious SRH vulnerabilities across their life course (Makhakhe *et al*., 2019).

Evidence from the Health Department of Kajiado County, Kenya showed low utilization of anogenital warts treatment services among female and male sex workers in the county's public health facilities. This was despite there being a large pool of male and female sex workers (MFSWs) operating in urbanized areas of the county (Kajiado County Health Department SRH Report, 2021). Similarly, the principal researcher had also observed that most of the female and male sex workers in Kajiado County sought health care services at several NGO run SRH clinics located in the county and barely sought the services in public health facilities. However, owing to donor funding challenges, most of the NGO run SRH clinics in the county had ceased operation leaving significant gaps in access of SRH services among this cohort. The reasons for the low utilization of anal and genital warts treatment services among the MFSWs from public health facilities in the county were unclear. Consequently, to address this existing research gap, this study sought to establish the determinants of access to treatment services for anal-vaginal warts among sex workers attending the Kitengela Sub County Hospital in Kajiado County.

Research Questions

1. What is the proportion of female and male sex workers presenting with anal and genital warts at Kitengela Sub County Hospital in Kajiado County?

2. What are the socio-cultural related factors affecting access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County?

3. What are the health system related factors affecting access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County?

Research Objectives

Broad Objective

To establish the determinants of access to treatment services for anal-genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County.

Specific Objectives

1. To determine the proportion of female and male sex workers presenting with anal and genital warts at Kitengela Sub County Hospital in Kajiado County.

2. To assess the socio-cultural related factors affecting access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County

3. To establish the health system related factors affecting access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County.

Research Hypothesis

Socio-cultural and health system related factors did not affect access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital, Kajiado County.

Study Justification

Considering that sex workers are a high risk group for HPV-related infections, improved access to treatment services for of anal and genital warts at public health facilities in Kajiado County would significantly reduce the high burden of anogenital warts morbidity and associated stigma. As espoused by Bhatia et al. (2013) and Sawicki et al. (2019), understanding the determinants of access to treatment services for anal-genital warts in public health facilities among female and male sex workers could inform development of appropriate strategies and interventions aimed at

ensuring delivery of high-quality SRH care services that are patient-centred and responsive to the needs of the sex workers.

Similarly, Shapiro and Duff (2021) and Makhakhe et al. (2019) also pointed that understanding the experiences of female and male sex workers in accessing anal and genital warts treatment services in public health facilities may form the basis for educating them on the need to utilize available SRH services and to take necessary preventive measures in light of the nature of their work. Further, according to WHO (2021), increased focus on access to treatment services for anogenital warts particularly in high risk groups such as MFSWs in all settings is vital in the fight against the HIV epidemic and the growing burden of HPV-related cancers across the globe.

As Kenya strives to achieve UN's SDGs on health and its own Vision 2030 health related goals of securing a healthy population served by an equitable and affordable health care system of the highest possible standards with no one left behind, investing in meeting SRH needs of key populations including MFSWs is one of the major pathways towards realization of this noble cause.

Study Variables

The study's dependent variable was access to treatment services for anogenital wartsamong the sex workers. The independent variables were socio-cultural related factors and health system related factors. The study's intervening variable was national health policy on SRH services for sex workers while the outcome variable was poor or low access of anogenital warts treatment services among the sex workers.

Conceptual Framework

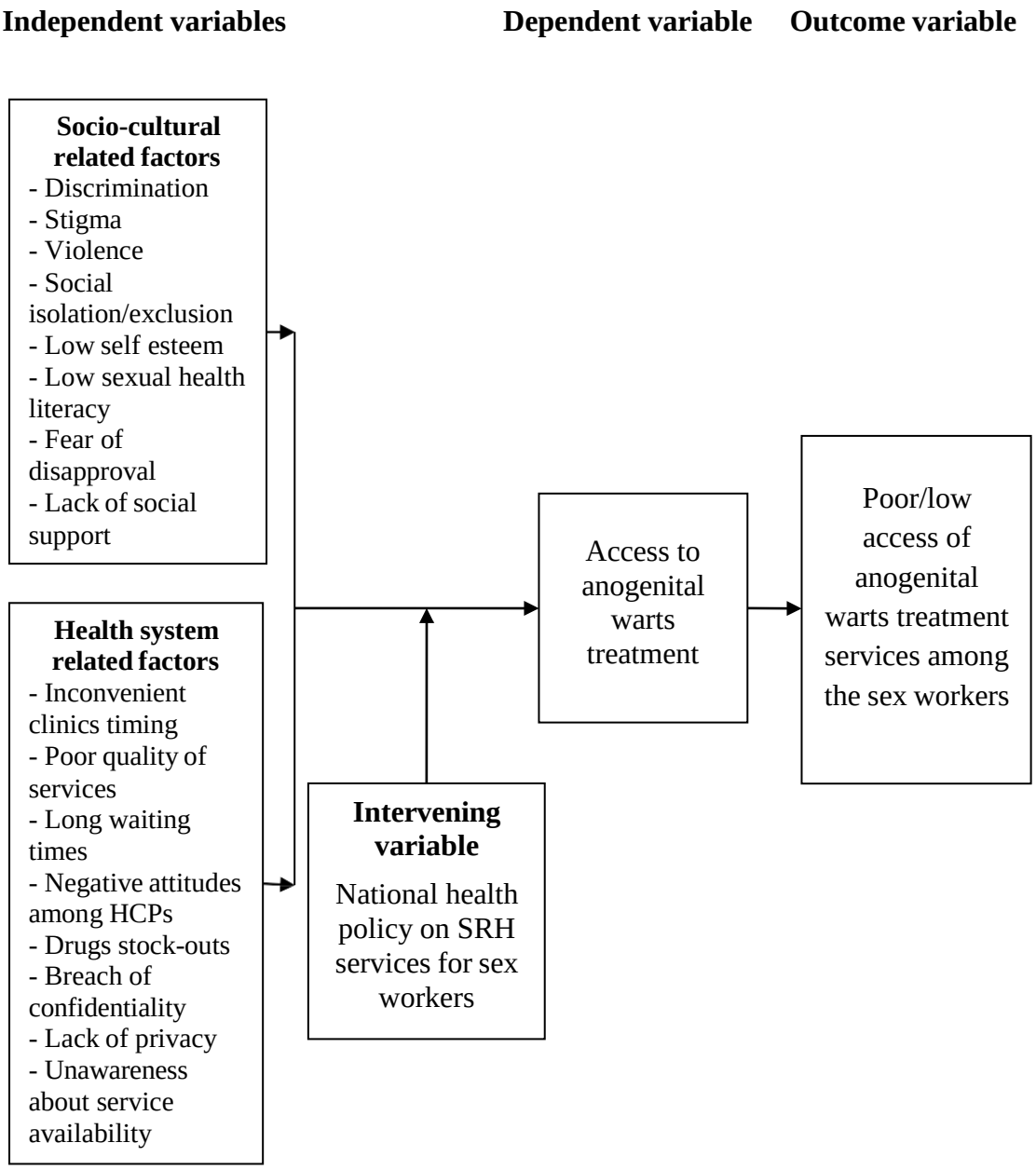

Figure 1.1: Conceptual framework

CHAPTER TWO: LITERATURE REVIEW

Introduction

This chapter contains a review of literature as guided by the study objectives. The chapter therefore contains review of empirical literature on proportions of sex workers presenting with anogenital warts in health facilities, AGWs care services available or offered in health facilities as well as on socio-cultural and health system related factors affecting uptake of anal and genital warts treatment services among sex workers. The chapter also includes a summary of the reviewed empirical literature and also presents the study's theoretical framework.

Proportions of Sex Workers Presenting with Anogenital Warts in Health Facilities

A cross-sectional study was undertaken to review the prevalence of HPV and associated risk factors among men who had sex with other men in Vietnam. The participants were tested for anal HPV infection via rectal swabs and were also queried about sexual behaviours. Data were analyzed descriptively with associations evaluated using adjusted odds ratio (AOR). Prevalence of HPV strains that cause anogenital warts among the surveyed respondents was 32.3%. These were associated with risky sexual behaviours including having multiple sexual partners, inconsistent condom use and engaging in sex under the influence of drugs (Tuan *et al*., 2021).

Tounkara *et al*. (2020) sought to estimate the prevalence of HPV among female sex workers in Benin and Mali. They undertook an analysis of data for 665 adult FSWs attending selected health clinics in the capitals of the 2 countries between 2017 and 2018. Data were analyzed using descriptive statistics while associations between study variables were evaluated using adjusted prevalence ratios (APR) at 95% CI. The overall HPV prevalence rates among the FSWs were 81.4% in Mali and 95.5% in Benin. AGWs were also found in over 70% of the FSWs in both countries. The study concluded that in the 2 West African countries, FSWs were a high-risk population for HPV infections including those that caused anogenital warts.

Another study performed in Vietnam also evaluated the prevalence of HPV infections in the genitals among male sex workers diagnosed with STIs. HPV DNA tests were performed on samples derived from the participants' genital area. Data were analysed using descriptive statistics while multivariate analysis helped establish associations of HPV infection with associated risk factors. The proportion of the men found to have AGWs was 29.3% with the most affected part being the penile. Genital HPV infections were found to be associated with risky sexual behaviours and the participants' low knowledge of STIs (Le *et al*., 2019).

In Australia, an evaluation of the prevalence of anal HPV infection among 496 young unvaccinated MSM aged 20-26 years attending the Melbourne Sexual Health Centre was conducted. Results showed that more than half (56.5%) of the participants had a HPV genotype detected in their anus. The proportion of the participants with AGWs-causing HPV strains (HPV 6 and HPV 11) was 43.1%. The study concluded that targeted catch-up HPV vaccination programs for male sex workers to protect against low-risk HPV genotypes that cause anogenital warts would still be beneficial (Chow *et al*., 2019).

A cross-sectional study was undertaken to establish the proportion of female sex workers presenting with HPV infection in Bulgaria. According to the findings, the prevalence of HPV infection among the surveyed FSWs was 43.4%. HPV 6 was accounted for 32.5% of the genital warts cases identified while HPV 11 was responsible for 14.7% of the identified AGWs cases. Older age, smoking and risky sexual behaviours were significant predictors of elevated risk for HPV infection. The results showed that FSWs in Bulgaria were at increased risk for HPV infection and represented an important source of HPV infection for the general population (Shikova *et al*., 2019).

In Peru, Stewart *et al*. (2018) evaluated the prevalence of HPV infection among 150 male clients of female sex workers. The participants provided self-collected penile samples for HPV evaluation. The study established that pre-coital HPV infection prevalence was 41.9% while post-coital HPV infection prevalence was 47.6%, though the difference between the 2 rates was not statistically significant. No cases of other

STDs such as gonorrhoea or syphilis were detected. The study concluded that despite low prevalence of other STIs, male clients of FSWs had a high prevalence of HPV infection, and hence were a group that deserved more attention.

Kavanaugh *et al*. (2012) undertook a cross-sectional study regarding the prevalence of genital warts among female sex workers in Mombasa, Kenya. About half of the enrolled FSWs were HIV seropositive. Association between genital warts and potential correlates was examined using chi square test and logistic regression. Findings showed that 2.3% of the surveyed women had genital warts. The odds of having genital warts were significantly higher among women who were HIV seropositive compared to those who were HIV seronegative. The study concluded that available HPV vaccine may be an important consideration for this population.

Socio-Cultural Related Factors Affecting Uptake of Anal and Genital warts Treatment Services among Sex Workers

Discrimination

Discrimination which denotes the unfair or prejudicial treatment of people and/or groups based on certain characteristics is one of the commonly cited factors that adversely affect utilization of health services including anogenital warts treatment services among sex workers. In an Iranian study, interviewed female sex workers identified discrimination as one of the leading barriers to their utilization of health services in healthcare settings (Asadi-Aliabadi et *al*., 2018). Similarly, in studies by Wong *et al*. (2016) and Ghimire et *al*. (2019), surveyed male and female sex workers indicated that they barely utilized public health services for their health care needs due to being discriminated against on account of being sex workers. Discrimination was also cited as a barrier to access of AGWs treatment services among sex workers in studies by Ndung'u (2016), Lafort et *al*. (2017) and Nyato et *al*., (2019).

Stigma

Stigma, a negative attitude towards a person or group of people on account of a distinct characteristic or attribute, is also a major predictor for low uptake of

anogenital warts treatment services among persons who engage in sex work. This was as reported in a study conducted in Burkina Faso which identified stigma in the form of stereotyping and ill treatment as a leading barrier behind the low utilization of health care services among surveyed FSWs and MSM (Kim *et al*., 2018). Similarly, in a Kenyan study, stigma was identified as having a significant adverse effect on sex workers' utilization of health services (Nyblade *et al*., 2015). Similar observation was made in a study by Ma and Loke (2019) who also reported that sex workers' experience of stigma in health care settings in Hong Kong was a major reason behind their reluctance to seek healthcare services from public health centres in the area. Stigma was also identified as a barrier to sex workers utilization of health facility based health services in reviews by Sharma *et al*. (2017) and Aggarwal *et al*. (2021).

Violence

Violence in its diverse forms including physical, sexual, psychological, emotional, verbal or neglect constitutes another major determinant for the low utilization of health services among sex workers. In a study reviewing the experiences of sex workers in accessing health care services in select African countries, Scorgie et *al*. (2018) did identify violence against sex workers as one of the leading reasons why they did not seek healthcare services from public health facilities. Similarly, in studies by Paul, Suresh and Mondal (2017) and Makhakhe *et al*. (2019), interviewed sex workers reported experiencing varied forms of violence whenever they sought health services in public health centres on account of their occupation which in turn made them choose not to go back to these facilities for health care needs. Sawicki et *al*. (2019) did also note that in settings where sex workers experienced violence, the odds of their use of health care services were greatly reduced.

Social Isolation

Social isolation or exclusion has also been identified as another factor leading to low utilization of health services among sex workers. Benoit *et al*. (2016) in a study on health care needs among sex workers in Canada cited social exclusion as one of the leading barriers that contributed to low uptake of hospital administered health services

among the surveyed sex workers. Social isolation was also a leading barrier to sex workers' access to health services in an Iranian study conducted by Asadi-Aliabadi et *al*. (2018). Studies conducted in Hong Kong and Nepal by Wong *et al*. (2016) and Ghimire *et al*. (2019) respectively also identified social isolation of persons who engaged in sex work as a leading reason as to why the said persons did not utilize sexual health services from public health facilities.

Low Self Esteem

Low self esteem or self worth denoting one's self regard or perceived personal value also contributes to sex workers' utilization of health services. According to studies by Benoit *et al*. (2016) and Aggarwal *et al*. (2021), levels of utilization of health care services within health facilities were significantly higher among sex workers who held themselves in high regard compared to those who held themselves in low regard. Lafort et *al*. (2017) notes that low self esteem is a pervasive attribute among many sex workers and this adversely impacts their health care seeking ability. Similarly, studies by Ndung'u (2016) and Reza-Paul *et al*. (2019) also identified low esteem among persons who engage in sex work as a contributing factor to their low utilization of health services offered within health care settings.

Low Sexual Health Literacy

Low sexual health literacy has also been identified as a factor contributing to low uptake of health services among male and female sex workers and particularly in low resource settings. According to a study undertaken in South Africa, sex workers' low knowledge of sexual health matters was noted as being a leading predictor for their low utilization of health services from health care facilities (Scheibe, Richter &Vearey, 2016). Similar sentiments were shared by Neme *et al*. (2015) who also observed that one of the reasons for the low uptake of anogenital warts treatment services among sex workers was their low knowledge on important aspects of their SRH. Sawicki *et al*. (2019) in a review of myths that stigmatized sex work hence hindering access to care among sex workers averred that most of the myths could be

addressed by empowering sex workers with the right information concerning their SRH rights.

Fear of Disapproval

Fear of disapproval is another factor that impedes sex workers' access of health services in numerous settings. Shapiro and Duff (2021) observed that in many settings across the globe, sex work is abhorred and despised and is associated with immorality and hence is highly disapproved among communities. Consequently, the fear of disapproval leads sex workers not to seek health care from health facilities. In India, Sharma *et al*. (2017) cited fear of disapproval as a significant correlate of low utilization of health care services among surveyed FSWs. Similar findings were reported in studies by Scheibe *et al*. (2016) and Makhakhe *et al*. (2019) who also observed that fear of disapproval did contribute to sex workers reluctance to seek health care in public health facilities.

Lack of Social Support

Lack of social support is another factor cited as contributing to poor utilization of health services among persons engaged in sex work activities. Ma, Chan and Loke (2017) in a systematic review of barriers to health services' access by sex workers noted that the low level of social support accorded to sex workers was a major contributing factor to their low utilization of care services from health facilities. Similarly, in studies by Ghimire et *al*. (2019) and Nyato et *al*. (2019), interviewed sex workers cited lack of social support as one of the leading reasons for their low uptake of health services from public health facilities. Similar views were also espoused by Sweeney *et al*. (2020) who observed that higher levels of uptake of health care services among sex workers positively correlated with higher levels of social support received and vice-versa.

Health System Related Factors Affecting Uptake of Anal and Genital warts Treatment Services among Sex Workers

Inconvenient Clinics Timing

Existing evidence indicates that one of the health system related factors that impedes uptake of health services among sex workers is inconvenient clinic timing/schedules. As reported in a cross-sectional study performed in India, inconvenient clinic schedules were part of the identified reasons for the low use of health services from public facilities among surveyed sex workers (Reza-Paul *et al*., 2019). According to a study by Makhakhe *et al*. (2019) conducted among FSWs in South Africa, a greater number of the FSWs indicated that they would have made greater use of available care services if the services were offered at more friendly and flexible operating hours. Similar observation was made in studies by Wong *et al*. (2016) and Aggarwal *et al*. (2021), where inflexible clinic schedules that inconvenienced the sex workers were indeed a barrier to the sex workers' greater utilization of existing health services.

Poor Quality of Services

Evidence from existing studies also suggests that the quality of health care services offered in health facilities is also a major determinant for their utilization among persons engaging in sex work. For instance, poor quality of health services in public health facilities was one of the leading barriers to uptake of health services among FSWs in Iran (Asadi-Aliabadi et *al*., 2018). Similarly, poor quality of health care services marked by low regard for sex workers' healthcare needs was a significant predictor for the sex workers' low utilization of public health facility based care services in Tanzania (Nyato et *al*., 2019). In Russia, poor quality of care services for the sex workers was also implicated as being behind the low use of health services from public health facilities in this patient population (King & Maman, 2013).

Long Waiting Times

Having to wait for long durations, before being served at health facilities, also acts as a barrier for utilization of health services in public health facilities among sex workers. Surveyed FSWs in India cited long waiting durations for care at public health facilities as one of the significant factors behind their low use of health services from these facilities. They preferred visiting NGO run or private clinics where service provision was much quicker with lesser lost time at the health clinics (Paul *et al*., 2017). Similarly, in studies by Lafort et *al*. (2017) and Ndung'u (2016), long waiting period before receipt of care sought was a major impediment to utilization of health services from public health facilities among surveyed sex workers.

Negative Attitudes among Health Care Providers

Poor attitude among health care givers towards persons engaging in sex work is another health system related barrier to sex workers' use of health services in health facilities. In a study exploring the experience of sex workers with respect to access of healthcare services in 4 African countries, health care providers' poor attitude towards sex workers constituted one of the leading reasons as to why sex workers were unwilling to seek health services from public health facilities in the countries (Scorgie et *al*., 2018). HCPs' negative attitude towards individuals engaged in sex work was also cited as a significant barrier to sex workers' use of hospital based health services in reviews performed by Ma *et al*. (2017) and Kim *et al*., (2018).

Drugs Stock-Outs

Unavailability of medications also constitutes another leading barrier to sex workers' uptake of health services in public healthcare settings. This was so reported in a South African study conducted by Makhakhe et *al*. (2019) in which sex workers averred that they did not like to seek health services at public health facilities due to persistent drugs stock-outs problem. Similarly, in studies by Scheibe et *al*. (2016)and Asadi-Aliabadi et *al*. (2018) in South Africa and Iran respectively, persistent drugs stock-outs in public health facilities was found to contribute to low uptake of health services in these facilities by persons in sex work. Lafort et *al*. (2017) also identified problems

of drugs stock-outs as impeding uptake of SRH services among surveyed FSWs in the diverse settings reviewed.

Breach of Confidentiality

Another commonly identified health system related factor that impedes utilization of health services among individuals engaged in sex work is breach of confidentiality. In a study undertaken in Nepal on female sex workers' utilization of sexual health services, Ghimire et *al*. (2019) reported breach of confidentiality through disclosure of patient information as among the leading reasons as to why surveyed sex workers shunned utilization of health services in public health facilities. Wong *et al*. (2016) also established breach of confidentiality by HCPs as one of the leading factors that impeded use of health care services among street-based sex workers in Hong Kong. Breach of confidentiality was also reported as a barrier to sex workers' use of health services in public health facilities in studies carried out by Benoit *et al*. (2016) and Sweeney *et al*. (2020).

Lack of Privacy

Lack of privacy is another commonly identified factor that impedes utilization of health services among persons engaged in sex work. In a study performed in several African countries on sex workers' experiences relating to access of health services, Scorgie et *al*. (2018) identified the general lack of privacy in public health facilities as one of the reasons as to why sex workers were reluctant to seek health services in these settings. Wong *et al*. (2016) also established lack of privacy in healthcare settings as one of the leading factors that impeded use of health care services among street-based sex workers in Hong Kong. Similar findings on lack of privacy being a barrier to sex workers' utilization of health services from public health facilities were also reported by Ndung'u (2016) and Sawicki et *al*. (2019).

Unawareness about Service Availability

Unawareness about service availability in public health facilities is also another factor associated with low uptake of health services among sex workers in these facilities. In

a review of factors that influenced access to health care services among Indian commercial FSWs, Paul *et al*. (2017) noted that most of sex workers did not seek health services in public facilities as they were unaware of whether the services they needed were available in public health facilities. Unawareness of availability of services in public health facilities was also cited as one of the factors impeding sex workers' utilization of care from these facilities. Similarly, Lafort et *al*. (2017) reported sex workers' unawareness about service availability as a barrier to their use of health services from public healthcare settings.

Summary of Literature Reviewed

Evidence from the reviewed empirical studies indicated that a significant proportion of sex workers presented with anogenital warts in health care settings. The literature also indicated that available anogenital warts care services for sex workers included diagnosis and treatment services for AGWs as well as related care services, psychosocial support and counselling and follow-up care. In addition, it was also evident from the reviewed empirical literature that a wide range of socio-cultural and health system related factors affected the uptake of anogenital warts treatment services in health facilities by sex workers across the various settings. However, most of the studies reviewed in the literature were largely done in foreign countries whose healthcare settings and systems differed from that of Kenya. Hence, it was desirable to validate their findings in the local context. It was also evident from the literature reviewed that there was paucity of local empirical data on determinants of access to treatment services for anal-genital warts among sex workers in the local public health facilities - a research gap the current study sought to bridge.

Theoretical Framework

This study was based on the socio-ecological model (SEM) developed by psychologist Urie Bronfenbrenner in the late 1970s and 1980s (Sallis, Owen & Fisher, 2015).The SEM conceptualizes health broadly and focuses on multiple factors that might affect health. It suggests that an individual's behavior is integrated in a dynamic network of intrapersonal traits, interpersonal processes, institutional factors,

community features and public policy (Wold & Mittelmark, 2018). The model recognizes that individuals affect and are affected by a complex range of social influences and nested environmental interactions, and hence understands health is affected by the interaction between the individual, the group/community, and the physical, social, and political environments (Kilanowski, 2017).

The SEM assumes that the environment is comprised of several overlapping levels. Itthus emphasizes multiple levels of influence and supports the idea that behaviors both affect and are affected by various contexts (Sallis *et al*., 2015). The model has however been criticized on grounds that it is challenging to evaluate all its components empirically and that its broadness also makes it challenging to intervene at any given level (Kilanowski, 2017). This notwithstanding, the SEM offers a useful framework for understanding the range of factors that influence health and well-being. It can assist in providing a complete perspective of the different factors that affect specific health behaviours including the social determinants of health (Scorgie et *al*., 2018). Because of this, it can be used to integrate numerous essential components, thus ensuring the design of a comprehensive health promotion program or policy approach (Ma *et al*., 2017).

This theory was applicable to the study as it provided a robust framework for exploring the multifaceted and interactive effects of socio-cultural and health system related factors that determined uptake of anal-genital warts treatment services among male and female sex workers in the study area. It also offered a mechanism for understanding the dynamic inter-relations among the various factors that influenced the sex workers' health seeking behaviour. The model was as illustrated in Figure 2.1.

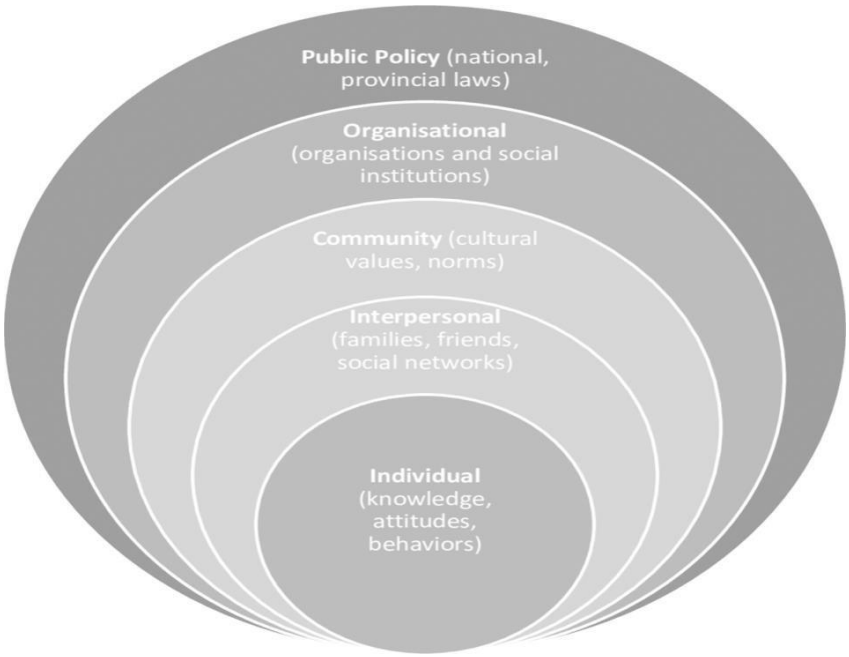

Figure 2.1: Theoretical framework

CHAPTER THREE: RESEARCH METHODOLOGY

Introduction

This chapter describes the research methods used in carrying out this study. It thus contains the study design, study area, study population, the criteria for inclusion and exclusion, sample size and sampling technique, the instruments of data collection, procedures for data collection, pretesting, the research tool validity and reliability, data analysis, dissemination of study findings, ethical considerations and study limitations.

Study Design

This was a descriptive cross sectional study. This research design presents facts concerning variables being investigated as they exist at the time of study as well as trends that are emerging. The descriptive method was preferred because it ensured complete and accurate description of the phenomenon under study, ensuring that there was minimum bias in the collection of data (Kothari, 2010).

Study Area

The study was conducted in Kitengela Sub-County Hospital. Kitengela Sub-County Hospital is a public Level 4 hospital located in Kajiado County, Kenya. The hospital is managed by the County Government of Kajiado under the Department of Health Services. The hospital is located along Saitoti Road, Oloosirkon/Sholinke Kajiado East, has a bed capacity of 120 and operates on a 24-hour basis. The hospital serves the health care needs of patients from the Kitengela sub-county and those from neighbouring regions. The hospital offers a wide range of inpatient and outpatient health services in its several general and specialized wards including curative in-patient services, curative outpatient services, family planning, HIV counselling and testing, antiretroviral therapy, basic emergency and comprehensive emergency obstetric care, basic surgery, antenatal care, postnatal care and maternity services, immunization and integrated management of childhood illnesses and tuberculosis diagnosis and treatment among others.

The study was performed in the Reproductive Health Unit of Kitengela Sub-County Hospital. On average, about 400 clients sought various SRH services in the hospital's Reproductive Health Unit outpatient section, each month, with approximately 60 of these being sex workers. Those presenting with anal-genital warts were treated by reproductive health specialists within the hospital's Reproductive Health Unit. As such, this setting provided a good platform for evaluating access to anal-genital warts treatment services among male and female sex workers attending the hospital. The hospital was also selected as the study area as it was located in a sex work hotspot area, and was a common care facility for individuals involved in sex work in the area.

Study Population

The study population consisted of adult male and female sex workers who sought health services at the Reproductive Health Unit of Kitengela Sub-County Hospital. Hospital records indicated that, on average, 60 sex workers were treated in the Reproductive Health Unit of the hospital every month (Kitengela Sub County Hospital Reproductive Health Unit Records, 2022). This constituted the study population.

Inclusion and Exclusion Criteria

Inclusion Criteria

The study included all male and female sex workers, with and without HPV related comorbidities such as HIV among others, who were aged 18 years and above who sought health services at the Reproductive Health Unit of Kitengela Sub-County Hospital, at the time of the study, and who freely consented to participate in the study.

Exclusion Criteria

The study excluded male and female sex workers who declined to consent to take part in the study.

Sample Size and Sampling Method

Census method was applied to select the entire study population as the study sample as the study population was small. This was in accordance with Kothari (2004) who postulated that a sample of 100% of the target population was used when the target population was small. In addition, the study applied snowballing sampling method to reach the targeted individual respondents. According to Creswell (2012), snowballing sampling is where study participants are identified through referral from one respondent to another and is most applicable for study populations that may not come out freely due to reasons such as discrimination and stigma as was the case for sex workers locally. Hence, the study sample size comprised of 60 sex workers attended to at the Reproductive Health Unit of Kitengela Sub County Hospital and who were identified through snowballing sampling technique. To be included in the study, one must have freely acknowledged that they were a sex worker - that is, they offered sexual services in exchange for money, drugs or other resources.

Data Collection Instrument

The data collection instrument for this study was an interviewer-administered questionnaire (Appendix 3). The questionnaire contained questions based on the objectives of the study. The questionnaire was structured into 5parts. Section A contained questions on the respondents' demographic characteristics. Section B contained questions on proportions of the respondents presenting with anal-genital warts. Section C contained questions on socio-cultural related factors affecting access to treatment services for anal-genital warts among the respondentswhile Section D contained questions on health system related factors affecting access to treatment services for anal-genital warts among the respondents.

Pretesting of the Study Tool

Pretesting of the study tool was carried out among sex workers identified through snowballing method who were attending Ngong Sub County Hospital in Kajiado. Six (6) questionnaires representing 10% of the study sample were used. Mugenda and Mugenda (2003) asserted that 10% of the sample size was adequate for purposes of

pre-testing the research tools. Upon completion of pretesting, the study tool was modified where applicable and a final validated version of the study tool was made.

Validity and Reliability of the Study Tool

Validity refers to the degree to which an instrument measured what it was supposed to measure (Kothari, 2010) or whether the findings obtained from the analysis of the data represented the phenomena under study (Denscombe, 2014). The study tool was availed to the supervising lecturers who helped establish its content and construct validity to ensure that the items were adequately representative of the study subject.

Reliability is the ability of a research instrument to produce consistent findings on repeated trials (Nsubuga, 2006). Reliability of the study tool was evaluated using the Cronbach's Alpha Coefficient based on data from the study tool's pretesting. Reliability values of at least 0.70 were accepted. Appropriate changes were made on items with low coefficient values to improve on the reliability of the research tool.

Data Collection Procedures

The procedure for collecting the study data entailed administration of the study questionnaire to the respondents by the researcher. The respondents were allowed to respond to the questions as contained in the study tool as the principal investigator documented their responses. The data collection exercise was held in a confidential counselling office located within the Kitengela Sub County Hospital's reproductive health unit. The data collection exercise took approximately 4 weeks.

Data Analysis

Data cleaning and entry preceded analysis. The study data were analyzed using descriptive statistics and presented through frequencies and percentages. Further, associations between the study's independent and dependent variables were assessed using the chi-square test at 95% confidence interval. Study findings were presented in tables, graphs and charts. The Statistical Package for Social Sciences (SPSS version 25.0) was the statistical analytical software utilized in this study.

Ethical Considerations

Ethical approval for the study was sought by the researcher from the KNH-UoN ERC. The principal investigator also sought permit to collect data among the targeted respondents from the administrator of Kitengela Sub County Hospital. All participants offered their informed consent before they participated in the study. Confidentiality was maintained throughout the study for all information obtained. Anonymity was observed by coding the questionnaires. No names or any other form of personal identification were written on the questionnaires. Participation in the study was voluntary and the respondents were free to withdraw from the study at any time without victimization. No inducements or rewards were given to the participants to join the study. There was no harm to participants owing to their participation in the study. Dissemination of the study's findings would only be done as per the University's guidelines and anonymity and confidentiality of the participants shall also be ensured during the findings dissemination. All filled questionnaires were kept safely under lock and key to await data analysis and reporting. Ministry of Health's COVID-19 prevention guidelines were adhered to during data collection.

Study Limitations

The study was based on results gathered from a single hospital in the country. Thus, the findings may not be generalized to all other hospitals in the country due to differences in sizes, geographical location and institution set up. To counter this limitation, a wider study involving other hospitals locally so that this study's results may be generalized has been recommended.

The study utilized a questionnaire as its data collection instrument and therefore instances of under- or over-reporting were likely. To counter this limitation, the study respondents were requested to respond to the research tool truthfully and honestly and were assured that responses given would be handled in confidence and for the sole aim of the research study.

Some cases of incomplete or missing data in the filled-in research tools were encountered. To counter this, data cleaning was carried out before the final analysis to ensure completeness of the information availed through the questionnaires.

Study Findings Dissemination Plan

The study findings shall be disseminated through forwarding a copy of the final thesis report to the University of Nairobi's Library and to the Department of Nursing Sciences. A copy of the final thesis report shall also be shared with the Reproductive Health Unit of Kitengela Sub County Hospital. The researcher would also endeavor to present the findings in appropriate academic and scientific forums, workshops and conventions. The work shall also be published in a relevant peer-reviewed journal.

CHAPTER FOUR: RESULTS

Introduction

This chapter presents the study results as set out in the research methodology. The results were presented on the determinants of access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital, Kajiado County. The chapter begins with highlighting the response rate and then provides results on the respondents' demographic characteristics before outlining the findings based on the research objectives.

Response Rate

The study targeted 60 sex workers attending Kitengela Sub County Hospital's Reproductive Health Unit as respondents. From the interviews held, the researcher was able to obtain adequate responses from 49 of the respondents translating into a response rate of 81.7%. The remaining 11 respondents were excluded from the final analysis on account of providing incomplete data. This response rate was, however, considered sufficient and representative and conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 50% is adequate for analysis and reporting, a rate of 60% is good while a response rate of 70% and over is excellent.

Demographic Characteristics of the Respondents

The study sought to establish the demographic profile of the study participants. The demographic attributes considered were gender, age, education level, marital status, their smoking and alcohol use status, how often they engaged in sex work, duration that they had engaged in sex work and their use of condoms.

Regarding the respondents' gender distribution, most (89.8%, n = 44) of the respondents were female while 10.2% (n = 5) were male, denoting that the study participants were both male and female sex workers at Kitengela Sub County Hospital, though female sex workers were prevalent.

On the respondents' age distribution, 46.9% (n = 23) of the respondents were aged 30 - 39 years; 32.7% (n = 16) were aged 40 - 49 years while 14.3% (n = 7) were aged 18 - 29 years. This denotes that majority of the study participants were middle-aged adults.

Regarding the respondents' education level, above half (59.2% n = 29) of the respondents had Secondary education, 26.5% (n = 13) had Primary education while 14.3% (n = 7) had tertiary education, illustrating that most of the study participants had a basic education background.

With respect to the respondents' marital status, most (83.7%, n = 41) of the respondents were not married while 16.3% (n = 8) were married. This denoted that the largest proportion of the respondents were unmarried sex workers.

As to whether the respondents' smoked, majority (91.8%, n = 45) of the respondents indicated that they did smoke while 8.2% (n = 4) were nonsmokers. This showed that a significant proportion of the male and female sex workers that took part in the study engaged in smoking.

As to whether the respondents took alcohol, all (100%, n = 49) of the respondents concurred that they did consume alcohol, denoting high prevalence of alcohol consumption among the study participants.

The respondents were also queried on how often they engaged in sex work. All (100%, n = 49) unanimously responded that they engaged in sex work on a regular basis. Further, about half (51%, n = 25) of the respondents indicated that they had engaged in sex work for 1 - 5 years while 30.6% (n = 15) indicated that they had engaged in sex work for 6 - 10 years with 12.2% (n = 6) indicating that they had engaged in sex work for over 10 years. This implied that majority of the respondents had engaged in sex work for a considerable duration.

The respondents were also asked whether they consistently used condom with their clients during sex work. Most (77.6%, n = 38) of the respondents indicated that they did not consistently use condom with their clients, denoting high risk sexual

behaviour among most of the study participants. The results are as shown in Table 4.1.

Table 4.1: Respondents' demographic characteristics

Demographic attributes		**Frequency**	**Percent**
Gender	Male	5	10.2
	Female	44	89.8
	Total	**49**	**100.0**
Age	18 - 29 years	7	14.3
	30 - 39 years	23	46.9
	40 - 49 years	16	32.7
	50 years & above	3	6.1
	Total	**49**	**100.0**
Education level	Primary	13	26.5
	Secondary	29	59.2
	Tertiary	7	14.3
	Total	**49**	**100.0**
Marital status	Not married	41	83.7
	Married	8	16.3
	Total	**49**	**100.0**
Do you smoke?	Yes	45	91.8
	No	4	8.2
	Total	**49**	**100.0**
Do you take alcohol?	Yes	49	100.0
	No	0	0.0
	Total	**49**	**100.0**
How often do you engage in sex work?	Regularly	49	100.0
	Occasionally	0	0.0
	Total	**49**	**100.0**
Sex work duration	Less than 1 year	3	6.1
	1 - 5 years	25	51.0
	6 - 10 years	15	30.6
	Over 10 years	6	12.2
	Total	**49**	**100.0**
Consistently uses condom during sex work	Yes	11	22.4
	No	38	77.6
	Total	**49**	**100.0**

Proportion of the Respondents that Presented with Anal-Genital Warts

The first objective of the study sought to determine the proportion of female and male sex workers presenting with anal and genital warts at Kitengela Sub County Hospital in Kajiado County.

The respondents were asked whether they had been treated for any HPV related infection(s) in the last one year. From the results, all (100%, n = 49) of the respondents agreed that they had sought health care services for HPV related infection(s), on multiple occasions, in the last one year. This denoted that HPV related infections were prevalent among the male and female sex workers attending the Reproductive Health Unit of Kitengela Sub County Hospital.

Further, the respondents were requested to indicate whether they had ever been diagnosed with anal-genital warts. Based on the respondents' self-reporting, all (100%, n = 49) unanimously concurred that they had been diagnosed with anal-genital warts on multiple occasions. Most (85.7%, n = 42) indicated that they had been diagnosed with anal-genital warts on more than 10 times since they began engaging in sex work activities, as depicted in Figure 4.1.

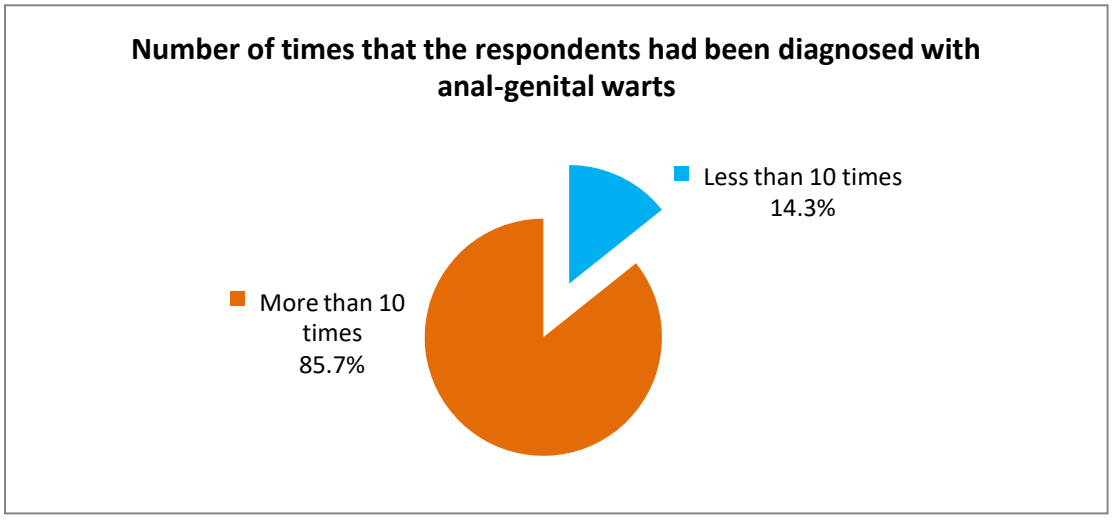

Figure 4.1: Number of times that the respondents had been diagnosed with anal-genital warts

The study also evaluated access to treatment services for anal genital warts among the study participants. The respondents were requested to indicate the kinds of health facilities from which they regularly sought treatment services for anal-genital warts. According to the study results, most (87.8%, n = 43) of the respondents indicated that they regularly sought treatment services for anal-genital warts from NGO-based health care facilities in the locality and only few (12.2%, n = 6) of the respondents indicated as regularly seeking treatment services for anal-genital warts from the public health care facilities in the locality. Results are as shown in Figure 4.2.

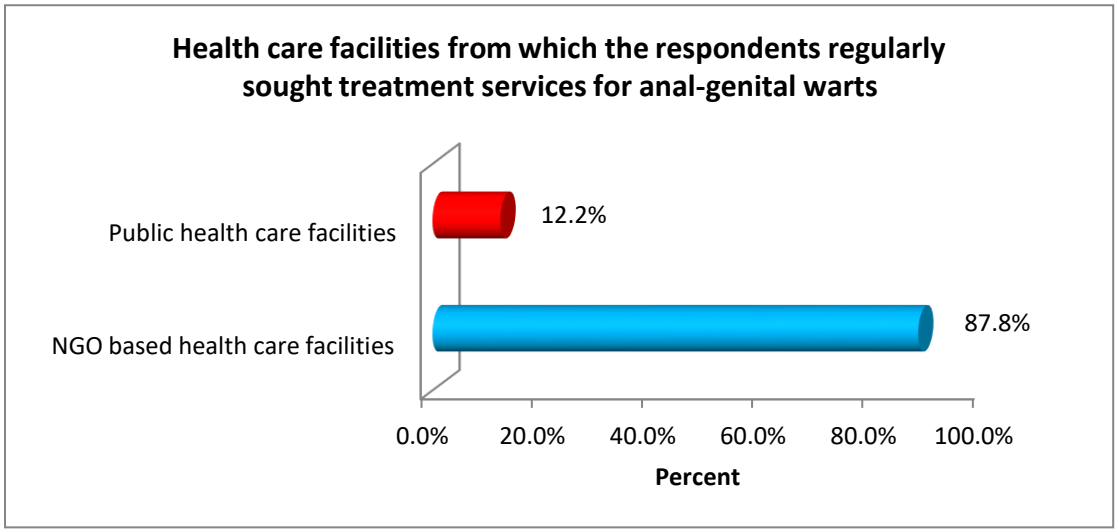

Figure 4.2: Proportion of the respondents that sought treatment services for anal-genital warts in public health care facilities

Socio-Cultural Related Factors Affecting Access to Treatment Services forAnal-Genital Warts among the Sex Workers

The second objective of the study sought to assess the socio-cultural related factors affecting access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County. The findings are as presented in the subsequent sub-sections.

Fear of Discrimination and Access to Treatment Services for Anal-GenitalWarts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to fear of discrimination. Most (83.7%, n = 41) of the respondents did agree that they had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to fear of discrimination. Figure 4.3 indicates the results.

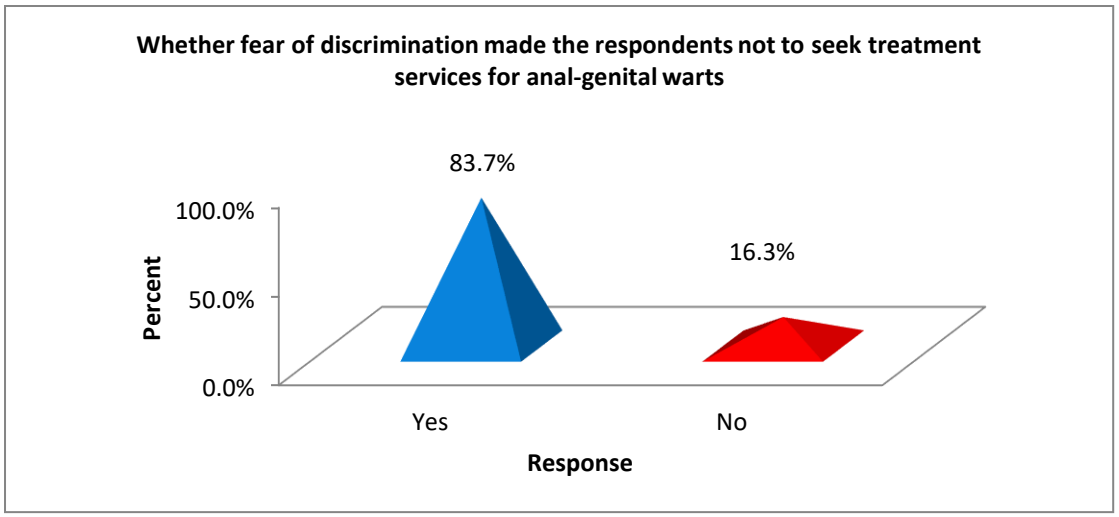

Figure 4.3: Whether fear of discrimination made the respondents not to seek treatment services for anal-genital warts

Further, a notable association was established between fear of discrimination and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 12.68, df = 1 and p = 0.000). The results are as presented in Table 4.2.

Table 4.2: Association of fear of discrimination with access to treatment services for anal-genital warts

Fear of discrimination as a barrier to access to treatment services	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes	No	Total	X^2	Sig. (p)

for AGWs	[N = 6]	[N = 43]			
Yes	2	39	**41**		
No	4	4	**8**	12.68	.000

Fear of Stigma and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to fear of stigma. Majority (93.9%, n = 46) of the respondents agreed that they had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to fear of stigma. Figure 4.4 shows the results.

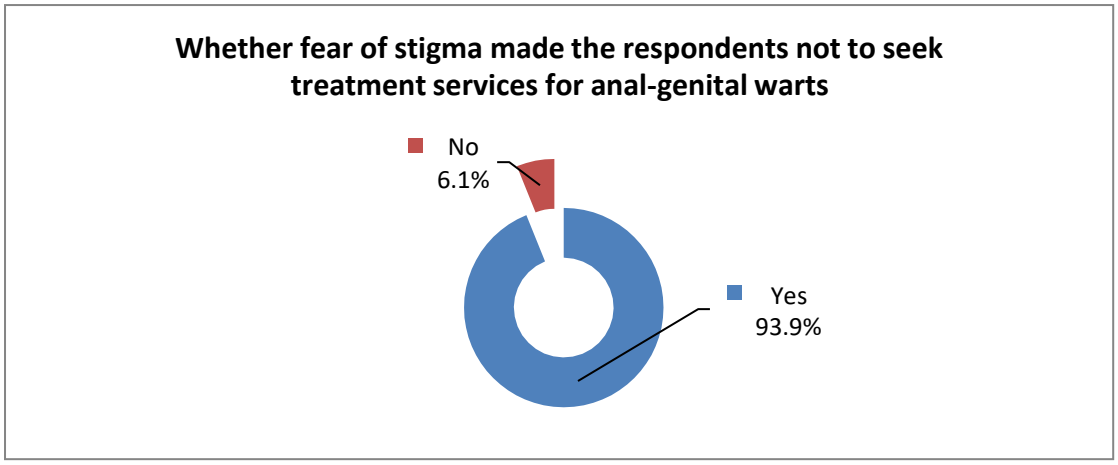

Figure 4.4: Whether fear of stigma made the respondents not to seek treatment services for anal-genital warts

Further, the association between fear of stigma and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital was established to be significant (X^2 = 8.81, df = 1 and p = 0.003). Table 4.3 illustrates the findings.

Table 4.3: Association of fear of stigma with access to treatment services for anal-genital warts

Fear of stigma as a barrier to access to treatment services	Sought AGWs treatment services from public health care facilities	Total	Chi-sq. p value (95% CI)

for AGWs	Yes [N = 6]	No [N = 43]		X^2	Sig. (p)
Yes	4	42	**46**		
No	2	1	**3**	8.81	.003

Fear of Violenceand Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to fear of violence. Most (71.4%, n = 35) of the respondents concurred that they had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to fear of violence. The results are as presented in Figure 4.5.

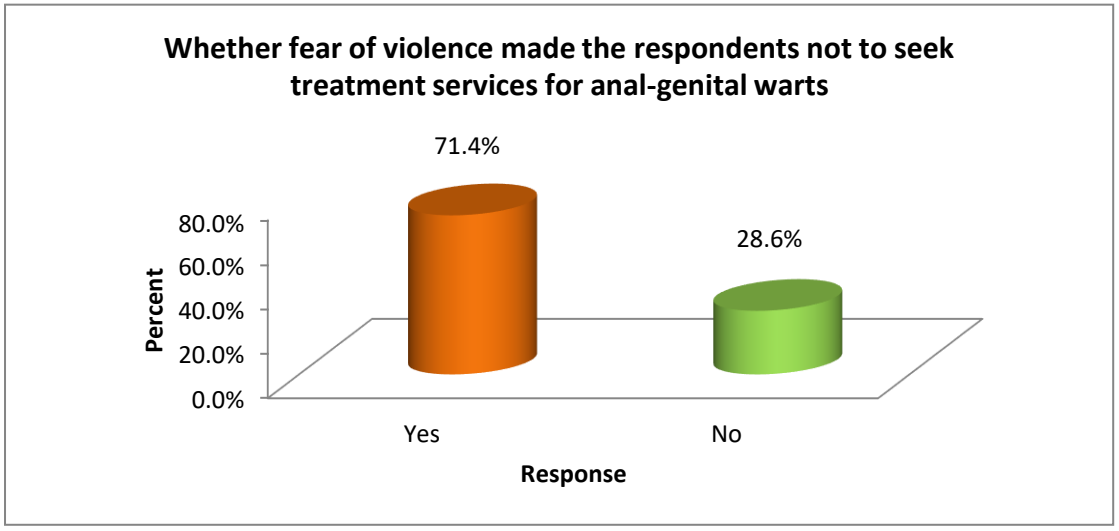

Figure 4.5: Whether fear of violence made the respondents not to seek treatment services for anal-genital warts

Further, there was association between fear of violenceand low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 4.86, df = 1 and p = 0.027). Table depicts the findings.

Table 4.4: Association of fear of violence with access to treatment services for anal-genital warts

Fear of violence as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	2	33	**35**		
No	4	10	**14**	4.86	.027

Fear of Social Isolation and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to fear of being socially isolated. Results showed that most (77.6%, n = 38) of the respondents indicated that they had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to fear of being socially isolated. The results are as shown in Figure 4.6.

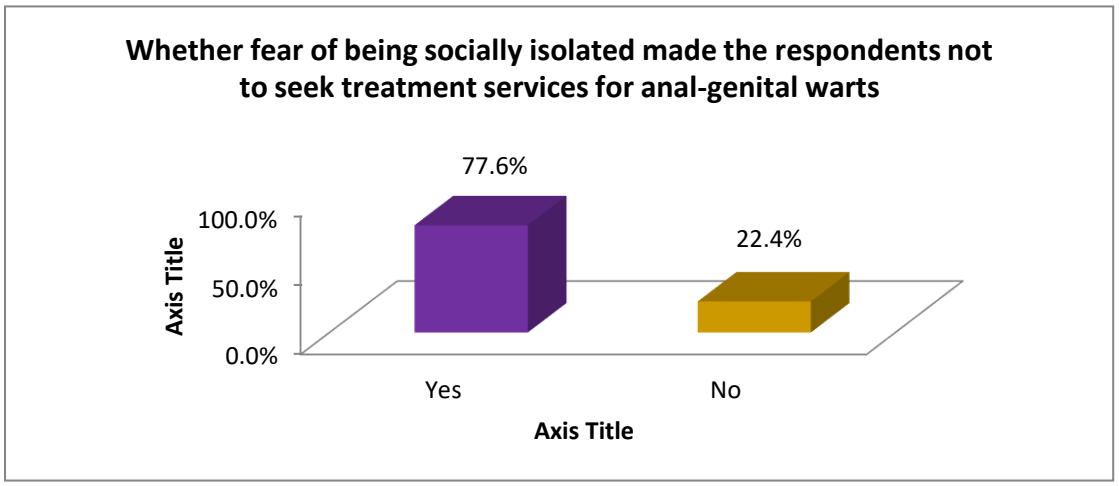

Figure 4.6: Whether fear of being socially isolated made the respondents not to seek treatment services for anal-genital warts

Further, a notable association was established between fear of being socially isolatedand low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 7.68, df = 1 and p = 0.006). The findings are as presented in Table 4.5.

Table 4.5: Association of fear of being socially isolated with access to treatment services for anal-genital warts

Fear of social isolation as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	1	37	**38**		
No	5	6	**11**	7.68	.006

Low Self-Esteem and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts due to having low self-esteem. Results showed that two-thirds (67.3%, n = 33) of the respondents indicated that they had failed to seek treatment services for anal-genital warts, on numerous occasions, due to having low self-esteem, as is outlined in Figure 4.7.

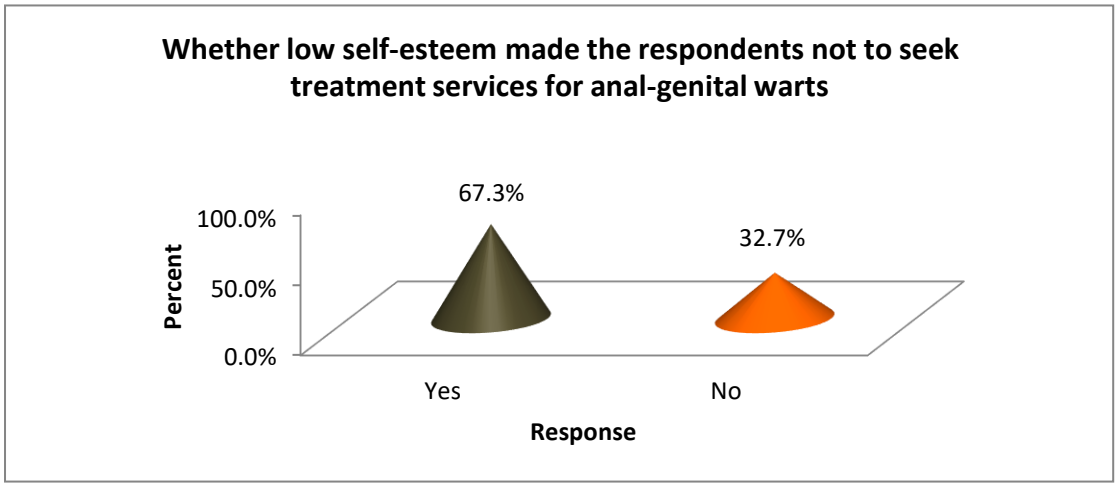

Figure 4.7: Whether low self-esteem made the respondents not to seek treatment services for anal-genital warts

Further, a statistically significant association was established between having low self-esteemand low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 7.99, df = 1 and p = 0.005) as depicted in Table 4.6.

Table 4.6: Association of having low self-esteem with access to treatment services for anal-genital warts

Low self-esteem as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	1	32	**33**		
No	5	11	**16**	7.99	.005

Lack of Knowledge Regarding Sexual Health Matters and Access toTreatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts in public health care facilities due to lack of knowledge regarding sexual health matters. Results showed that most (79.6%, n = 39) of the respondents agreed that they had failed to seek treatment services for anal-genital warts, on various occasions in public health care facilities, due to their lack of knowledge regarding sexual health matters. The results are as outlined in Figure 4.8.

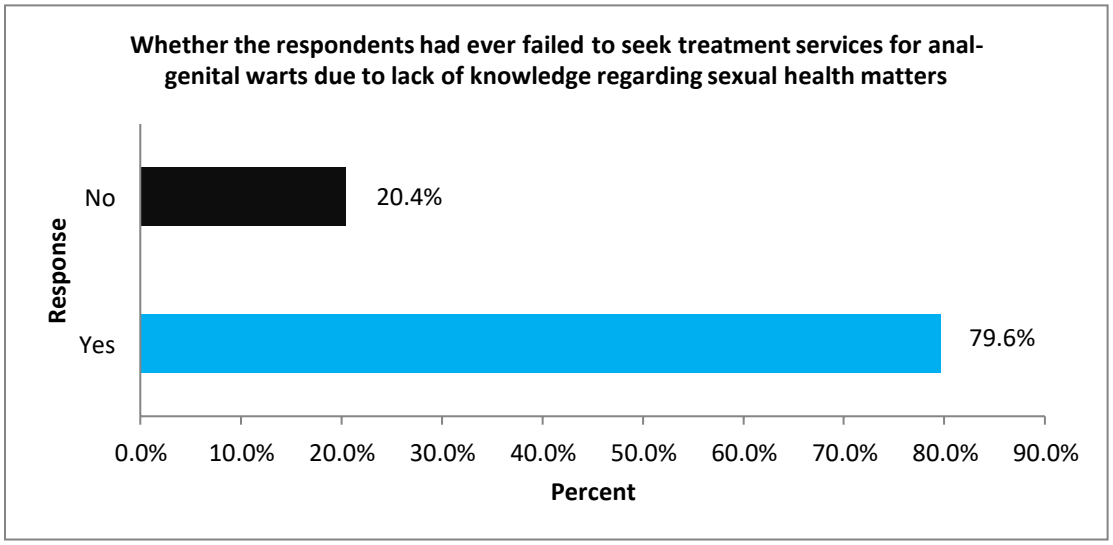

Figure 4.8: Whether the respondents had ever failed to seek treatment services for anal-genital warts due to lack of knowledge regarding sexual health matters

Further, lack of knowledge regarding sexual health matters was found to relate with low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 9.01, df = 1 and p = 0.003)as illustrated in Table 4.7.

Table 4.7: Association of lack of knowledge regarding sexual health matters with access to treatment services for anal-genital warts

Lack of knowledge regarding sexual health matters as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	2	37	**39**		
No	4	6	**10**	9.01	.003

Fear of Disapproval and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to fear of disapproval.

According to the results, most (69.4%, n = 34) of the respondents averred that they had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to fear of disapproval. Figure 4.9 outlines the results.

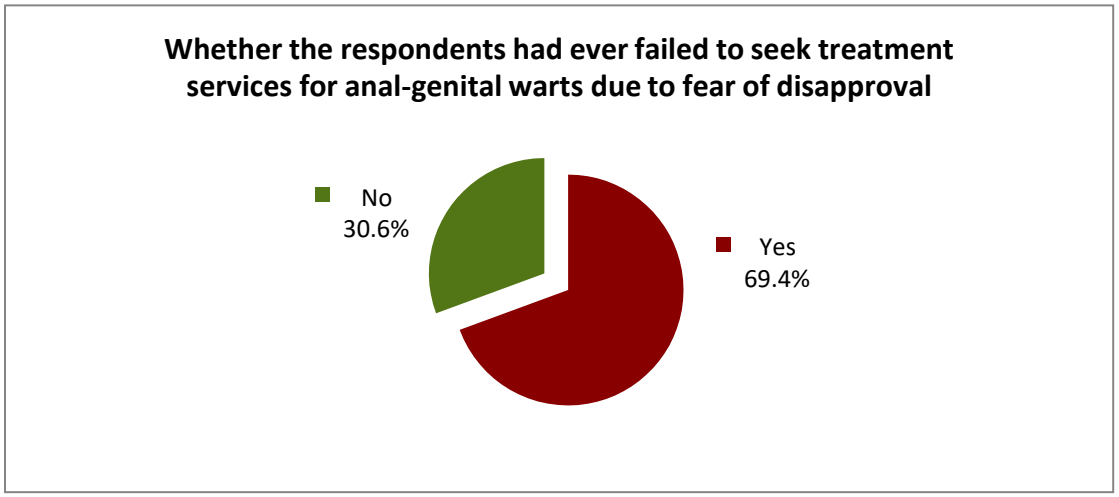

Figure 4.9: Whether the respondents had ever failed to seek treatment services for anal-genital warts due to fear of disapproval

Further, a relationship was established between fear of disapprovaland low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 4.18, df = 1 and p = 0.041) as shown in Table 4.8.

Table 4.8: Association of fear of disapproval with access to treatment services for anal-genital warts

Fear of disapproval as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	2	32	**34**		
No	4	11	**15**	4.18	.041

Lack of Social Support and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts due to lack of social support. According to the results, most (85.7%, n = 42) of the respondents indicated that they had failed to seek treatment services for anal-genital warts, on numerous occasions, due to lack of social support. Figure 4.10 outlines the results.

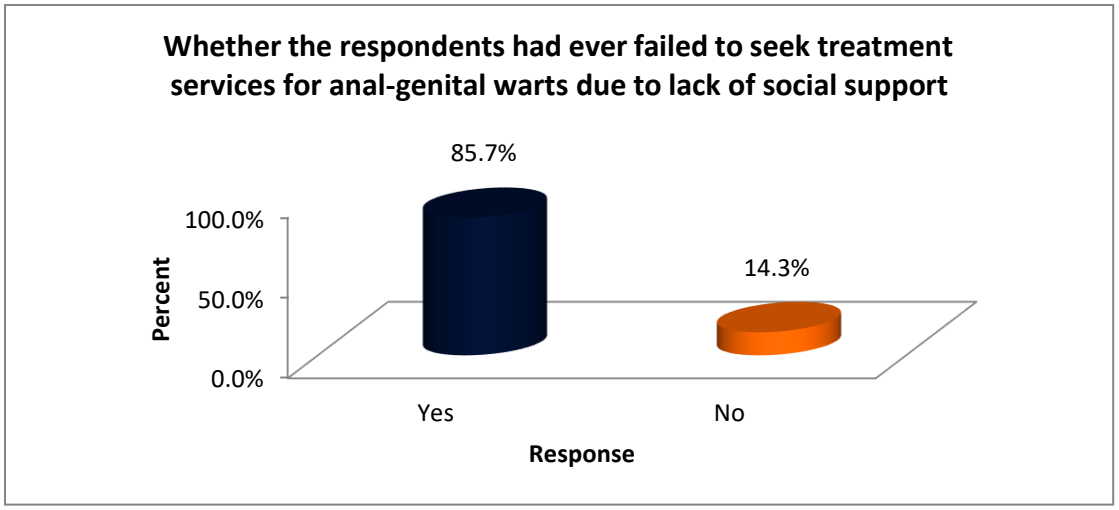

Figure 4.10: Whether the respondents had ever failed to seek treatment services for anal-genital warts due to lack of social support

Further, an association was established between lack of social supportand low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 7.12, df = 1 and p = 0.008). Table 4.9 shows the results.

Table 4.9: Association of lack of social support with access to treatment services for anal-genital warts

Lack of social support as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	3	39	**42**		
No	3	4	**7**	7.12	.008

Health System Related Factors Affecting Access to Treatment Services for Anal-Genital Warts among the Sex Workers

The third objective of the study sought to establish the health system related factors affecting access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County. The results are as presented in the subsequent subsections.

Inconvenient Clinic Schedules and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to inconvenient clinic schedules. From the findings, 73.5%, (n = 36) of the respondents acknowledged that they had failed to seek treatment services for anal-genital warts in public healthcare facilities, on numerous occasions, due to inconvenient clinic schedules. Results were as shown in Figure 4.11.

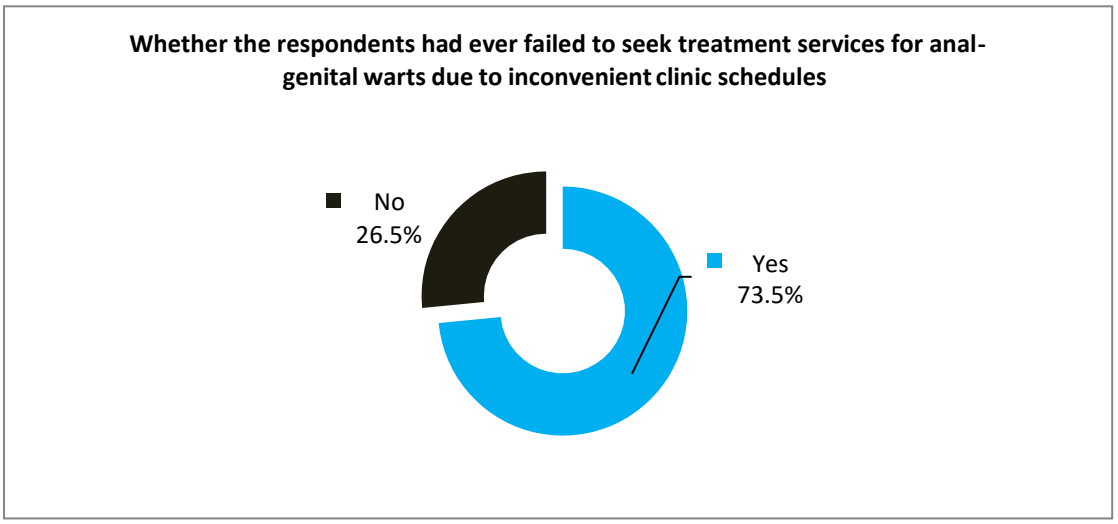

Figure 4.11: Whether the respondents had ever failed to seek treatment services for anal-genital warts due to inconvenient clinic schedules

Further, inconvenient clinic schedules were found to significantly relate with low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 11.32, df = 1 and p = 0.001). The results are as presented in Table 4.10.

Table 4.10: Association of inconvenient clinic schedules with access to treatment services for anal-genital warts

Inconvenient clinic schedules as a barrier to access to treatment services for AGWs	**Sought AGWs treatment services from public health care facilities**			**Chi-sq. p value (95% CI)**	
	Yes [N = 6]	**No [N = 43]**	**Total**	**X^2**	**Sig. (p)**
Yes	1	35	**36**		
No	5	8	**13**	11.32	.001

Quality of Services and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts due to poor quality of services in public healthcare facilities. All

(100%, n = 49) of the respondents unanimously agreed that they had failed to seek treatment services for anal-genital warts from public health care facilities, on numerous occasions, due to poor quality of services.

Further, a statistically significant association was established between poor quality of services and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 16.57, df = 1 and p = 0.000). Table 4.11 contains the findings.

Table 4.11: Association of poor quality of services with access to treatmentservices for anal-genital warts

Poor quality of services as a barrier to access to treatment services for AGWs	**Sought AGWs treatment services from public health care facilities**			**Chi-sq. p value (95% CI)**	
	Yes [N = 6]	**No [N = 43]**	**Total**	**X^2**	**Sig. (p)**
Yes	6	43	**49**		
No	0	0	**0**	16.57	.000

Long Waiting Times for Care and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts due to long waiting times for care in public health care facilities. Most (75.5%, n = 37) of the respondents did agree that they had failed to seek treatment services for anal-genital warts from public health care facilities, on numerous occasions, due to long waiting times for care. Figure 4.12 outlines the results.

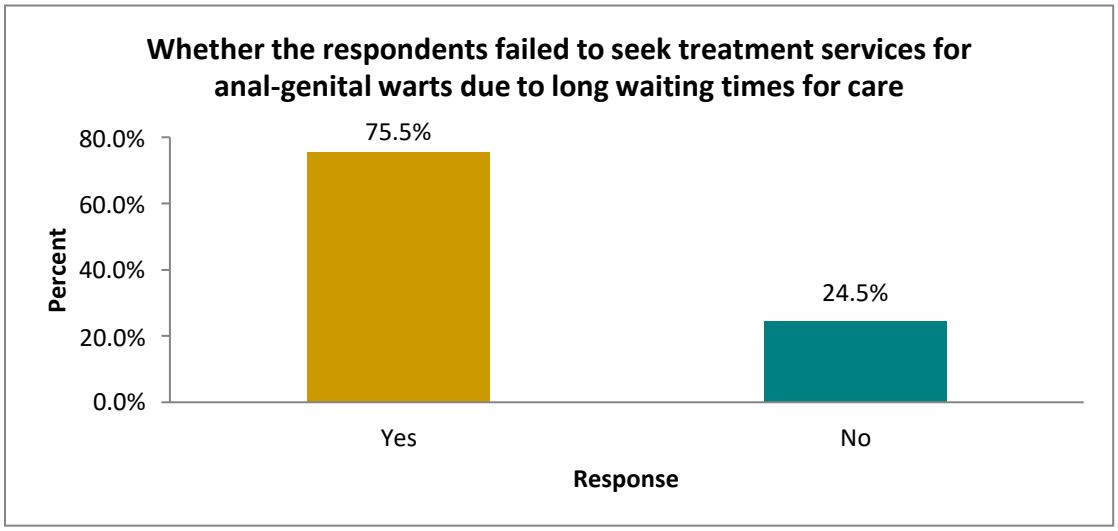

Figure 4.12: Whether the respondents failed to seek treatment services for anal-genital warts due to long waiting times for care

Further, long waiting times for care were established to have a statistically significant association with low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 6.58, df = 1 and p = 0.010). Table 4.12 shows the findings.

Table 4.12: Association of long waiting times for care with access to treatment services for anal-genital warts

Long waiting times for care as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	2	35	**37**		
No	4	8	**12**	6.58	.010

Negative Attitude towards Sex Workers among Health Care Providers andAccess to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts due to negative attitude towards sex workers among the health

care providers (HCPs) working in public health care facilities. Results in Figure 4.13 showed that most (81.6%, n = 40) of the respondents acknowledged that they had failed to seek treatment services for anal-genital warts from public health care facilities, on numerous occasions, owing to negative attitude towards sex workers among HCPs working in the facilities.

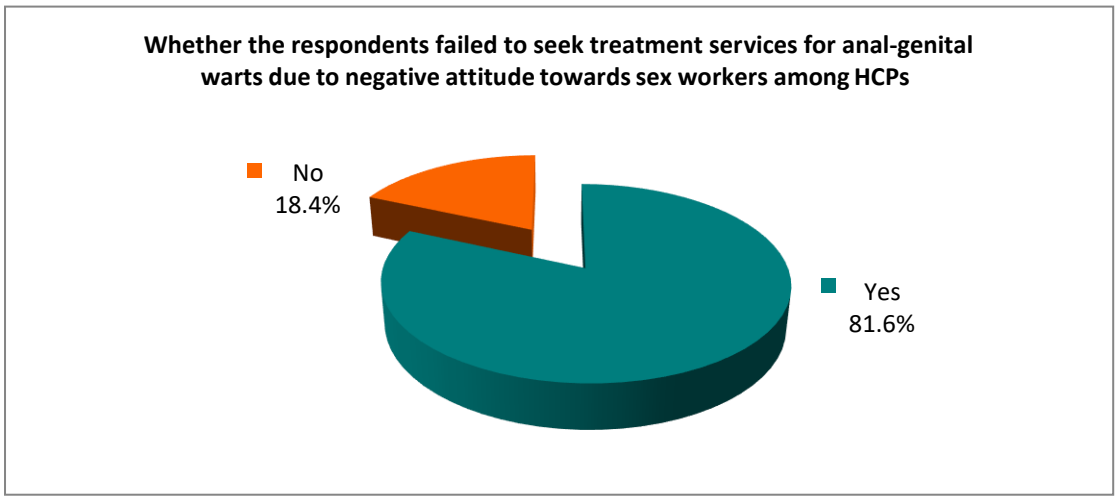

Figure 4.13: Whether the respondents failed to seek treatment services for anal-genital warts due to negative attitude towards sex workers among HCPs

Further, a notable relationship was established between negative attitude towards sex workers among HCPsand low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 4.56, df = 1 and p = 0.033). Table 4.5 indicates the findings.

Table 4.13: Association of negative attitude towards sex workers among HCPs with access to treatment services for anal-genital warts

Negative attitude towards sex workers among HCPs as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	3	37	**40**		
No	3	6	**9**	4.56	.033

Drugs Stock-Outs and Access to Treatment Services for Anal-GenitalWarts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to regular drugs stock-outs in these facilities. Most (83.7%, n = 41) of the respondents agreed that they had failed to seek treatment services for anal-genital warts from public health care facilities, on numerous occasions, due to regular drugs stock-outs in these facilities. Figure 4.14illustrates the findings.

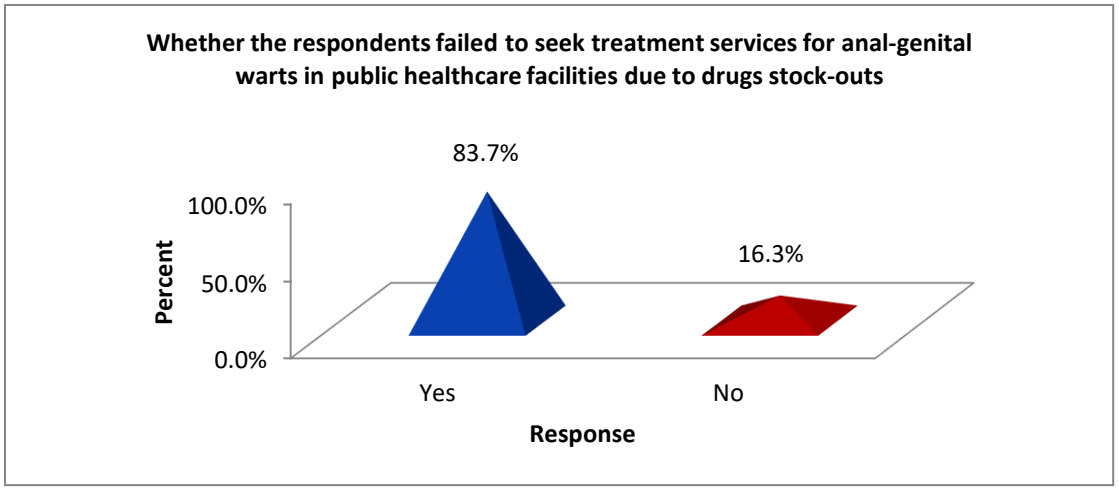

Figure 4.14: Whether the respondents failed to seek treatment services for anal-genital warts in public healthcare facilities due to drugs stock-outs

Further, the association between drugs stock-outs in public health care facilities and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital was found to be significant (X^2 = 11.07, df = 1 and p = 0.000) as shown in Table 4.14.

Table 4.14: Association of drugs stock-outs with access to treatment services for anal-genital warts

Drugs stock-outs as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	0	41	**41**		
No	6	2	**8**	11.07	.000

Breach of Confidentiality and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to breach of confidentiality. According to the results, majority (89.8%, n = 44) of the respondents concurred that they had failed to seek treatment services for anal-genital warts in public health care facilities, on various occasions, due to breach of confidentiality. The results are as outlined in Figure 4.15.

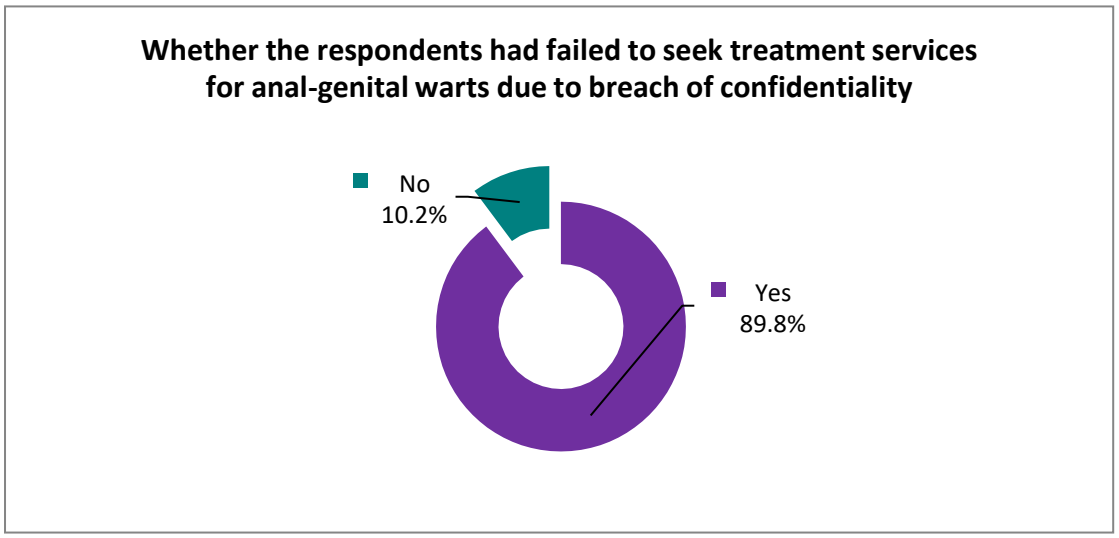

Figure 4.15: Whether the respondents had failed to seek treatment services for anal-genital warts due to breach of confidentiality

Further, an association was established between breach of confidentiality and low access to treatment services for anal-genital warts within the public health care facilities among the sex workers at Kitengela Sub County Hospital ($X^2 = 23.79$, df = 1 and p = 0.000). Table 4.15 contains the findings.

Table 4.15: Association of breach of confidentiality with access to treatment services for anal-genital warts

Breach of confidentiality as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	2	42	**44**		
No	4	1	**5**	23.79	.000

Lack of Privacy and Access to Treatment Services for Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to lack of privacy. Majority (91.8%, n = 45) of the respondents indicated that they had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to lack of privacy. Figure 4.16 outlines the results.

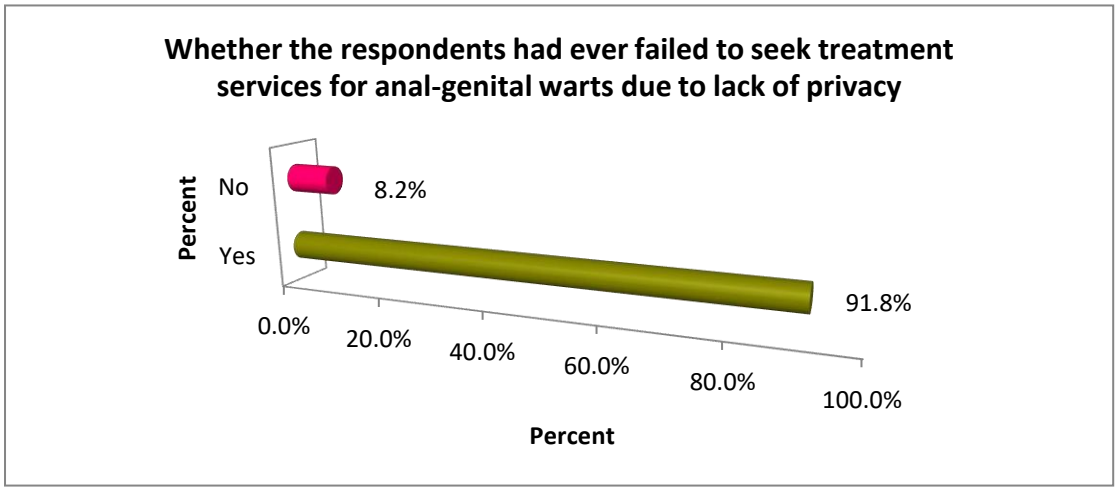

Figure 4.16: Whether the respondents had ever failed to seek treatment services for anal-genital warts due to lack of privacy

Further, an association was established between lack of privacy and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 25.31, df = 1 and p = 0.000) as shown in Table 4.16.

Table 4.16: Association of lack of privacy with access to treatment services for anal-genital warts

Lack of privacy as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	2	43	**45**		
No	4	0	**4**	25.31	.000

Unawareness about Service Availability and Access to Treatment Servicesfor Anal-Genital Warts

The respondents were asked whether they had ever failed to seek treatment services for anal-genital warts from public health care facilities due to unawareness about service availability. According to the results, most (71.4%, n = 35) of the respondents indicated that they had failed to seek treatment services for anal-genital warts in public health care facilities due to unawareness about service availability. Results are as shown in Figure 4.17.

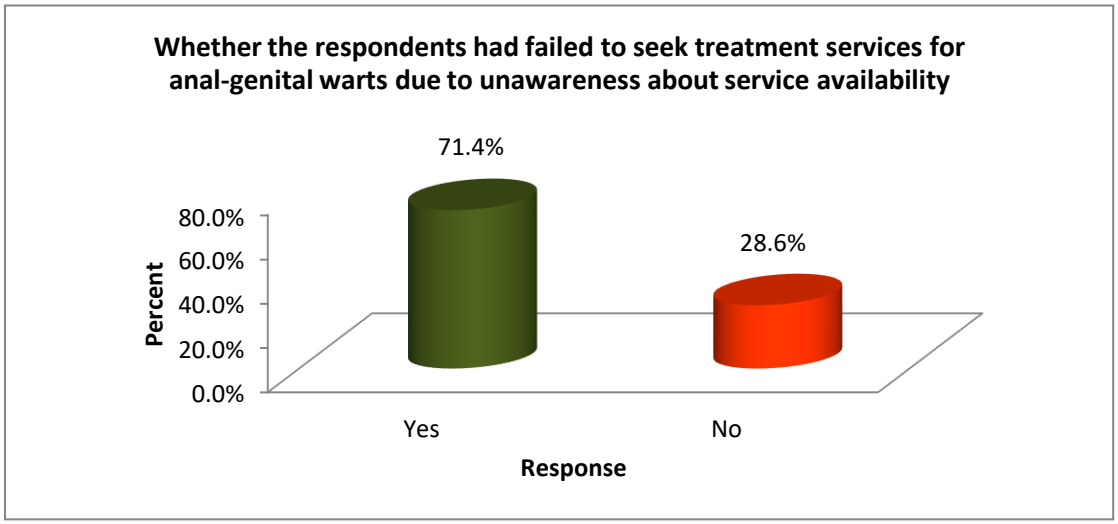

Figure 4.17: Whether the respondents had failed to seek treatment services for anal-genital warts due to unawareness about service availability

Further, an association was established between unawareness about service availability and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital (X^2 = 10.05, df = 1 and p = 0.002). Table 4.17 shows the results.

Table 4.17: Association of unawareness about service availability with access to treatment services for anal-genital warts

Unawareness about service availability as a barrier to access to treatment services for AGWs	Sought AGWs treatment services from public health care facilities			Chi-sq. p value (95% CI)	
	Yes [N = 6]	No [N = 43]	Total	X^2	Sig. (p)
Yes	1	34	**35**		
No	5	9	**14**	10.05	.002

Association between the Socio-Cultural and Health System Related Factorsand Access to Treatment for Anal-Genital Warts among the Sex Workers

The study tested the null hypothesis that socio-cultural and health system related factors did not affect access to treatment services for anal genital warts among sex

workers attending Kitengela Sub County Hospital, Kajiado County using the Chi-square test at 95% confidence interval.

Based on the results described in Sections 4.4 and 4.5, it is evident that the various socio-cultural and health system related factors yielded Chi-square p values of < 0.05 denoting a statistically significant association between these predictor variables and the study's outcome variable (access to treatment for anal-genital warts among the sex workers). Therefore, the null hypothesis that socio-cultural and health system related factors did not affect access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital, Kajiado County was rejected. Consequently, its alternate hypothesis that socio-cultural and health system related factors affected access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital, Kajiado County, was accepted. This study therefore concludes that socio-cultural and health system related factors were significant determinants of access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital, Kajiado County.

CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents discussion of findings, conclusions and recommendations of the study in line with the study objectives. The study assessed the determinants of access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital, Kajiado County.

Discussion of Findings

Proportion of the Respondents that Presented with Anal-Genital Warts

The findings indicated that all of the study participants indicated that that they had sought health care services for HPV related infection(s), on multiple occasions, in the last one year. Further, all of the respondents also indicated that they had been diagnosed with anal-genital warts on multiple occasions during their life as sex workers which denoted high prevalence of anal-genital warts among the male and female sex workers attending the Kitengela Sub County Hospital in Kajiado County. The researcher attributes the high prevalence of AGWs among the study participants to possible high risk sexual behaviours such as having multiple sexual partners, inconsistent condom use and engaging in sex work while under the influence of alcohol and/or drugs.

The findings agreed with those of Tounkara *et al*. (2020) who in a study of the prevalence of HPV related infections including anal-genital warts among sex workers in Benin and Mali reported high prevalence rates of AGWs among the sex workers in the two countries. The study averred that sex workers were a high risk population for anal-genital warts especially due to their high risk sexual behaviours such as having multiple sex partners and inconsistent use of protection. Studies by Chow *et al*. (2019), Shikova et *al*. (2019) and Stewart *et al*. (2018) also reported high prevalence of anal genital warts among male and female sex workers in Australia, Bulgaria and Peru respectively. These studies attributed the high prevalence of anal genital warts

among the sex workers largely to their risky sexual behaviours including having multiple sexual partners, inconsistent condom use during their sex work, rampant alcohol and/or drugs intoxication during sex work and their low sexual health literacy. The findings were however in contrast to those of Kavanaugh et *al*. (2012) and Makhakhe et *al*. (2019) who reported low prevalence rates of anal genital warts infections among surveyed sex workers, which they attributed to the sex workers' high uptake of HPV related vaccines and intense health advocacy work of non-governmental organizations among this population.

Socio-Cultural Related Factors Affecting Access to Treatment Services forAnal-Genital Warts among the Sex Workers

The findings showed the participants failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to fear of discrimination. Fear of discrimination was found to have a statistically significant association with low access to treatment services for anal-genital warts among the sex workers at Kitengela Sub County Hospital. This implied that fear of discrimination was a significant determinant of low access to treatment services for anal-genital warts among sex workers attending the Kitengela Sub County Hospital. Similarly, in studies by Wong *et al*. (2016) and Ghimire et *al*. (2019), surveyed male and female sex workers indicated that they barely utilized public health services for their health care needs due to being discriminated against on account of being sex workers. Fear of discrimination as a barrier to access of AGWs treatment services among sex workers was also reported by Ndung'u (2016), Lafort et *al*. (2017) and Nyato et *al*., (2019).

The findings, showed majority of the respondents had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions due to fear of stigma. In addition, a statistically significant association was established between fear of stigma and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital. This implied that fear of stigma was a significant determinant of low access to treatment services for anal-genital warts among sex workers attending the

Kitengela Sub County Hospital. Similarly, fear of stigma was identified as a major predictor for low uptake of treatment services for anogenital warts among persons who engaged in sex work in studies by Sharma *et al*. (2017) and Aggarwal *et al*. (2021). Similar observations were also made in studies by Ma and Loke (2019), Nyblade et *al*. (2015) and Kim *et al*. (2018) which identified stigma in the form of stereotyping and ill treatment as a leading barrier behind the low utilization of health care services among surveyed male and female sex workers.

The findings indicated that most of the study participants concurred that they had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to fear of violence. The association between fear of violence and low access to treatment services for anal-genital warts among the sex workers at Kitengela Sub County Hospital was also statistically significant. This denoted that fear of violence was a significant determinant of low access to treatment services for anal-genital warts among sex workers attending the Kitengela Sub County Hospital. Scorgie et *al*. (2018) also identified violence against sex workers as one of the leading reasons why they did not seek healthcare services from public health facilities. Similarly, studies by Paul *et al*. (2017), Sawicki et *al*. (2019) and Makhakhe et *al*. (2019) argued that violence in its diverse forms including physical, sexual, psychological, emotional and verbal or neglect constituted a leading determinant for the low utilization of AGW treatment services among sex workers.

The findings also revealed that fear of being socially isolated was also identified as a leading determinant for low access to treatment services among male and female sex workers at Kitengela Sub County Hospital. Indeed, fear of being socially isolated was established to strongly relate with low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital, denoting that fear of isolation was a major impediment to sex workers' access to treatment services for AGWs in the study area. Similar sentiments were shared by Asadi-Aliabadi et *al*. (2018) in Iran, Wong *et al*. (2016) in Hong Kong and Ghimire et *al*. (2019) in Nepal where fear of social isolation was cited as a

leading reason as to why sex workers failed to utilize sexual health services from public health facilities.

A significant proportion of the study participants also indicated that they had failed to seek treatment services for anal-genital warts, on numerous occasions, due to having low self-esteem. A statistically significant association was also established between having low self-esteem and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital, denoting that low self-esteem was a major impediment to access to treatment services for anal-genital warts among the male and female sex workers at Kitengela Sub County Hospital in Kajiado County. Similarly, in studies by Benoit *et al*. (2016), Ndung'u (2016) and Aggarwal *et al*. (2021), levels of utilization of health care services within health facilities were noted to be significantly lower among sex workers with low self-esteem. Lafort et *al*. (2017) and Reza-Paul *et al*. (2019) also identified low esteem among persons who engaged in sex work as a contributing factor to their low utilization of healthcare facility-based health services.

Results of the study also revealed that most of the respondents concurred that they had failed to seek treatment services for anal-genital warts from health care facilities, on various occasions, due to their lack of knowledge regarding sexual health matters. Further, the sex workers' lack of knowledge regarding sexual health matters was found to significantly relate with their low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital. This implied that lack of knowledge regarding sexual health matters was a significant determinant of low access to treatment services for anal-genital warts among the study participants. The findings agreed with those of Scheibe et *al*. (2016) who averred that sex workers' low knowledge of sexual health matters was a leading predictor for their low utilization of health services from health care facilities. Similar sentiments were also shared by Neme et *al*. (2015) and Sawicki et *al*. (2019) who also espoused that one of the reasons for the low uptake of anogenital warts treatment services among sex workers was their low knowledge on important aspects of their sexual and reproductive health.

The findings further indicated that fear of disapproval was another identified socio-cultural related factor that affected the study participants' access to treatment services for anal genital warts with most of the respondents indicating that they had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to fear of disapproval. A statistically significant association was established between fear of disapproval and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital, denoting that fear of disapproval was a significant determinant of low access to treatment services for anal-genital warts among the sex workers attending the Kitengela Sub County Hospital. Similar findings were reported by Scheibe et *al*. (2016) and Makhakhe et *al*. (2019) who also observed that fear of disapproval did contribute to sex workers reluctance to seek health care in public health facilities, sentiments also echoed by Sharma *et al*. (2017) and Shapiro and Duff (2021).

Lack of social support was another identified socio-cultural related factor that affected the study participants' access to treatment services for anal genital warts with most of the respondents indicating that they had failed to seek treatment services for anal-genital warts from public health care facilities, on numerous occasions, due to lack of social support. Further, lack of social support was found to have a statistically significant association with low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital. This implied that lack of social support was a significant determinant of low access to treatment services for anal-genital warts among the sex workers attending the Kitengela Sub County Hospital. Similar observations were also espoused by Ma *et al*. (2017) and Sweeney *et al*. (2020) who observed that higher levels of uptake of health care services among sex workers positively correlated with higher levels of social support received and vice-versa. On their part, Ghimire et *al*. (2019) and Nyato et *al*. (2019) also averred that lack of social support was one of the leading reasons for sex workers' low uptake of health services from healthcare facilities.

Health System Related Factors Affecting Access to Treatment Services forAnal-Genital Warts among the Sex Workers

The findings showed that inconvenient clinic schedules were impeding study participants' use of health care services. Most of the respondents acknowledged that they had failed to seek treatment services for anal-genital warts in public health care facilities, on numerous occasions, due to inconvenient clinic schedules. In addition, inconvenient clinic schedules were found to have a statistically significant association with low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital. This implied that inconvenient clinic schedules were a significant determinant of low access to treatment services for anal-genital warts among sex workers attending the Kitengela Sub County Hospital. This agreed with Wong *et al*. (2016) and Aggarwal *et al*. (2021) who noted that inflexible and inconvenient clinic schedules were indeed a barrier to sex workers' greater utilization of existing health care services. Makhakhe et *al*. (2019) and Reza-Paul *et al*. (2019) also attributed the low use of health services from public health care facilities among surveyed sex workers to inconvenient clinic schedules.

The results also identified poor quality of services as an impediment to access to AGWs' treatment services among surveyed sex workers. The respondents unanimously agreed that they had failed to seek treatment services for anal-genital warts from public health care facilities, on numerous occasions, due to poor quality of services. Poor quality of services in public healthcare facilities was also associated with low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital. Poor quality of services was therefore a major impediment to access to treatment services for anal-genital warts among the study participants. Studies by Asadi-Aliabadi et *al*. (2018) and Nyato et *al*. (2019) also attributed the low use of health services from public health facilities among sex workers to the low quality of services often offered in these facilities.

Most of the study participants did also agree that they had failed to seek treatment services for anal-genital warts from public health care facilities, on numerous occasions, due to long waiting times for care. Further, having to wait for long for care was established to be strongly associated with low access to treatment services for anal- genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital. This implied that long waiting times for care was a significant determinant of low access to treatment services for anal-genital warts among the surveyed sex workers. According to Aggarwal *et al*. (2021), having to wait for long durations, before being served at health facilities, also acted as a barrier for utilization of health services in public health facilities among sex workers. Lafort et *al*. (2017) and Paul *et al*. (2017) also cited long waiting periods for care as a major impediment to access and utilization of health services in public health facilities among sex workers.

Another health system factor established to be an impediment to access to treatment services for anal-genital warts among sex workers was negative attitude towards sex workers among the HCPs. Indeed, most of the respondents acknowledged that they had failed to seek treatment services for anal-genital warts from public health care facilities, on numerous occasions, owing to negative attitude towards sex workers among HCPs working in the facilities. Further, a statistically significant association was established between negative attitude towards sex workers among HCPs and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital. This implied that negative attitude towards sex workers among HCPs were a significant determinant of low access to treatment services for anal-genital warts among the surveyed sex workers. HCPs' negative attitude towards individuals engaged in sex work was also cited as a significant barrier to sex workers' access and use of hospital-based health services in reviews performed by Ma *et al*. (2017), Kim *et al*., (2018) and Scorgie et *al*. (2018).

Further, the findings indicated that most of the respondents agreed that they had failed to seek treatment services for anal-genital warts from public health care facilities, on numerous occasions, due to regular drugs stock-outs in these facilities. The study also

established that there was a statistically significant association between drugs stock-outs in public health care facilities and low access to treatment services for anal-genital warts within public health care facilities among the sex workers at Kitengela Sub County Hospital. This denoted that regular drugs stock-outs in public health care facilities was a significant determinant of low access to treatment services for anal-genital warts among sex workers. Studies by Scheibe et *al*. (2016) and Asadi-Aliabadi et *al*. (2018) in South Africa and Iran respectively also attributed low access to treatment services in public health care facilities among sex workers to the facilities' regular drugs stock-outs, sentiments also shared by Lafort et *al*. (2017) and Makhakhe et *al*. (2019) that problems of drugs stock-outs in public health care facilities impeded access to SRH care services among persons engaged in sex work in numerous settings.

The findings also showed that breach of confidentiality and lack of privacy were other health system related factors established as impediments to access to treatment services for anal-genital warts among sex workers. Indeed, majority of the respondents concurred that they had failed to seek treatment services for anal-genital warts from public health care facilities, on various occasions, due to breach of confidentiality and lack of privacy in these facilities.Further, the association between breach of confidentiality as well as lack of privacy and low access to treatment services for anal-genital warts in public health care facilities among the sex workers at Kitengela Sub County Hospital was found to be statistically significant. This implied that breach of confidentiality andlack of privacy constituted significant determinants of low access to treatment services for anal-genital warts among the surveyed sex workers. Studies by Wong *et al*. (2016) and Sawicki et *al*. (2019) also established lack of privacy and breach of confidentiality in healthcare settings as leading factors that impeded use of health care services among street-based sex workers. Similar views were espoused by Ghimire et *al*. (2019), Benoit *et al*. (2016) and Sweeney *et al*. (2020) that breach of confidentiality and lack of privacy constituted major barriers to sex workers' use of health services in public health facilities.

Unawareness about service availability in public health care facilities was another health system factor established to be an impediment to access to treatment services for anal-genital warts among sex workers in the current study. indeed, most (71.4%, n = 35) of the respondents indicated that they had failed to seek treatment services for anal-genital warts in public health care facilities due to unawareness about service availability. Further, the association between unawareness about service availability and low access to treatment services for anal-genital warts within public health care facilities among the surveyed sex workers was found to be statistically significant. This implied that unawareness about service availability was a significant determinant of low access to treatment services for anal-genital warts among the sex workers attending the Kitengela Sub County Hospital. This agreed with the findings of Lafort et *al*. (2017) and Paul *et al*. (2017) who also pointed that sex workers' unawareness about service availability was a barrier to their access of health services in public healthcare settings. Similar views were also espoused by Russo (2017), Dareng et *al*. (2019) and Shapiro and Duff (2021) who argued that low access to treatment services in public health care facilities among sex workers could be attributed to the sex workers' unawareness about service availability in these facilities.

Conclusions

Based on the findings of the study, the following conclusions can be drawn:

The proportion of male and female sex workers that had ever presented with anal-genital warts was high. However, access to treatment services for anal-genital warts among the sex workers in public health facilities in the area was low.

Fear of discrimination, stigma, violence, disapproval and social isolation, low self-esteem, low sexual health literacy and lack of social support were the socio-cultural related factors that led to poor access to treatment services for anal-genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County.

Inconvenient clinic schedules, poor quality of services, long waiting times for care, negative attitude towards sex workers among the health care providers, regular drugs stock-outs, breach of confidentiality, lack of privacy and unawareness about service

availability were the health system related factors that led to poor access to treatment services for anal-genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County.

Recommendations

1. Efforts are required to increase access to treatment services for anal-genital warts among sex workers attending Kitengela Sub-County Hospital.

2. Efforts are required at household, community and national level to address the socio-cultural related barriers/challenges of discrimination, stigma, violence, disapproval, social isolation and low social support faced by sex workers that impede their access to treatment services for anal-genital warts.

3. Due emphasis on quality health care services for sex workers is needed with emphasis on a safe, respectful and friendly care environment that observes utmost confidentiality and privacy and delivers care on a timely and convenient basis.

Suggested Areas for Further Studies

1. This was a single hospital study that assessed the determinants of access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County. Therefore, to facilitate a broader comparison and generalization of the study findings, a wider study involving other hospitals in the country is hereby recommended.

2. Further, an investigation of the psychosocial support needs of male and female sex workers attending Kitengela Sub County Hospital in Kajiado County would equally be illuminating.

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APPENDICES

Appendix 1: Participant Consent Explanation Form

Title of Study: Determinants of access to treatment services for anal-genital warts among sex workers attending Kitengela Sub County Hospital, Kajiado County

Principal Investigator\and institutional affiliation: Joshua Kimathi Parmeres, University of Nairobi

Supervisors: Dr. Samuel Kimani & Dr. Sabina Wakasiaka, University of Nairobi

Introduction

My name is Joshua Kimathi Parmeres a student at the University of Nairobi pursuing a Masters of Science Degree in Oncology Nursing. I am carrying out a research study entitled: Determinants of access to treatment services for anal-genital warts among sex workers attending Kitengela Sub County Hospital, Kajiado County.

Purpose of the study

The purpose of this study is to establish the determinants of access to treatment services for anal-genital warts among sex workers attending Kitengela Sub County Hospital in Kajiado County.

Description of the research

I'm requesting your participation in this study by giving your views and opinions about the research subject through the study tool. If you consent to participate, the researcher will request you to respond to a series of questions based on the research objectives.

Confidentiality

All information provided will be handled and processed with utmost confidentiality. All information given herein will only be used for purposes of the research study.

Your name or anything else that may identify you will not appear anywhere in the study.

Voluntary participation

Your participation in this study is voluntary i.e. on your own free will and without any coercion.

Right of withdrawal

Should you feel/wish to terminate your participation in this study, you have the right to do so at any time without facing any consequences/penalties.

Benefit

This research work is for academic purposes only and if you agree to participate, the information that you will provide will be of great importance in informing development of appropriate strategies and interventions to improve health services provision and access among sex workers attending Kitengela Sub County Hospital. However, there will be no monetary gains or any other form of payment for participating.

Risks

In view of the sensitivity of the study subject, there is a possibility of psychological discomfort because some information or responses from the participant will be very personal; they may feel their personal privacy is breached. However, due care and respect will be observed while administering the tool and utmost confidentiality will be maintained for all information you provide.

Contacts

For any queries regarding this research study, kindly contact;

Principal researcher		**Lead supervisor**		**Secretary**
Joshua Parmeres		Dr. Samuel Kimani		KNH-UoN ERC
Cell: 0728 283472		Cell: 0722384917		Telephone: 020-2726300
Email: parmeresjoshua@students.uonbi.ac.ke	OR	Email: tkimani@uonbi.ac.ke	OR	Email: uonknh_erc@uonbi.ac.ke
				P.O. Box 19676 – 00202 Nairobi

Appendix 2: Informed Consent FormRespondent's Declaration

I have been fully informed about the nature of the study, I know the benefits, and understand that there are no risks involved. I hereby give my consent to participate in this study.

Signature of participant ……. Date …….

Researcher's Declaration

I have fully disclosed all the relevant information concerning this study to the study respondent.

Signature of researcher ……. Date ……

Appendix 3: Questionnaire

Study title: Determinants of access to treatment services for anal-genital warts among sex workers attending Kitengela Sub County Hospital, Kajiado County

Code ……. **Date** …….……..

Instructions;

- Do not write your name or any personal identification on the questionnaire.
- Answer all the questions by putting a tick (√) in the preferred box.
- Information obtained will be handled and processed in strict confidence.

Section A: Demographic characteristics of the respondents

1. What is your gender? Male ( ) Female ( )

2. What is your age (in completed years)? ….……

3. What is your education level?

No formal education ( ) Primary education ( )

Secondary education ( ) Tertiary education ( )

4. What is your marital status?

Single ( ) Married ( ) Separated ( )

Divorced ( ) Widowed ( )

5. Do you smoke? Yes ( ) No ( )

6. Do you take alcohol? Yes ( ) No ( )

7. How often do you engage in sex work?

Regularly ( ) Occasionally ( )

8. For how long have you been engaged in sex work? …….

9. Do you consistently use condom with your clients?

Yes ( ) No ( )

Section B: Proportions presenting with anal-genital warts

10. Within the last one year, have you sought health care services for any HPV related infection(s)?

Yes ( ) No ( )

11.11.

a) Have you ever been diagnosed with anal-genital warts?

Yes ( ) No ( )

b) If yes, how many times? ……..

Section C: Socio-cultural related factors affecting access to treatment services for anal-genital warts

13. Kindly indicate whether you have ever failed to seek treatment services for anal-genital warts due to any of the following socio-cultural related factors.

a) Fear of discrimination

Yes ( ) No ( )

Kindly elaborate your answer?

…….....……

……..……

b) Fear of stigma

Yes ( ) No ( )

Kindly elaborate your answer?

……..……

……..……

c) Fear of violence

Yes ( ) No ( )

Kindly elaborate your answer?

……..……

……..……

d) Fear of being socially isolated or excluded

Yes ( ) No ( )

Kindly elaborate your answer?

……..……

……..……

e) Having low self esteem

Yes ( ) No ( )

Kindly elaborate your answer?

……..……

……..……

f) Lack of knowledge regarding sexual health matters

Yes ( ) No ( )

Kindly elaborate your answer?

……

……

g) Fear of disapproval

Yes ( ) No ( )

Kindly elaborate your answer?

……

……

h) Lack of social support

Yes ( ) No ( )

Kindly elaborate your answer?

……

……

Section D: Health system related factors affecting access to treatment services for anal-genital warts

14. Kindly indicate whether you have ever failed to seek treatment services for anal-genital warts due to any of the following health system related factors.

a) Inconvenient clinic schedules

Yes ( ) No ( )

Kindly elaborate your answer?

……

……

b) Poor quality of services

Yes ( ) No ( )

Kindly elaborate your answer?

…….....……

……..……

c) Long waiting times

Yes ( ) No ( )

Kindly elaborate your answer?

…….....……

……..……

d) Negative attitude towards sex workers among HCPs

Yes ( ) No ( )

Kindly elaborate your answer?

…….....……

……..……

e) Drugs stock-outs

Yes ( ) No ( )

Kindly elaborate your answer?

…….....……

……..……

f) Breach of confidentiality

Yes ( ) No ( )

Kindly elaborate your answer?

…….....……

……..……

g) Lack of privacy

Yes ( ) No ( )

Kindly elaborate your answer?

…….....……

……..……

h) Unawareness about service availability

Yes ( ) No ( )

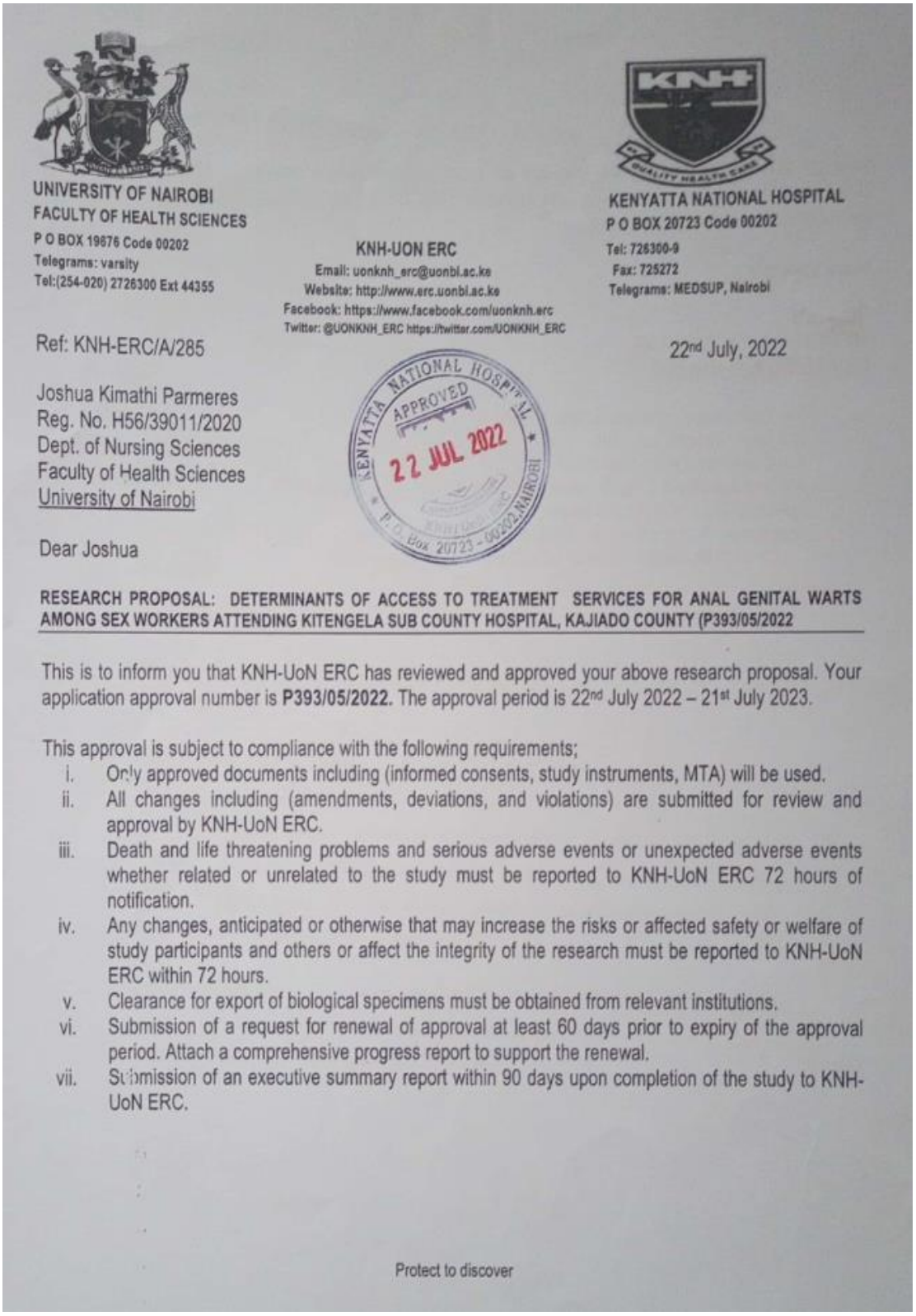
Kindly elaborate your answer?

…….....……

……..……

End Thank you

Appendix 4: Approval Letter from KNH-UoN ERC



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22nd July, 2022

KENYATTA NATIONAL HOSPITAL APPROVED 22 JUL 2022 P. O. Box 20723 - 00202, NAIROBI

Joshua Kimathi Parmeres
Reg. No. H56/39011/2020
Dept. of Nursing Sciences
Faculty of Health Sciences
University of Nairobi

Dear Joshua

RESEARCH PROPOSAL: DETERMINANTS OF ACCESS TO TREATMENT SERVICES FOR ANAL GENITAL WARTS AMONG SEX WORKERS ATTENDING KITENGELA SUB COUNTY HOSPITAL, KAJIADO COUNTY (P393/05/2022

This is to inform you that KNH-UoN ERC has reviewed and approved your above research proposal. Your application approval number is **P393/05/2022.** The approval period is 22nd July 2022 – 21st July 2023.

This approval is subject to compliance with the following requirements;

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by KNH-UoN ERC.
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KNH-UoN ERC 72 hours of notification.
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH-UoN ERC within 72 hours.
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days upon completion of the study to KNH-UoN ERC.

Protect to discover

Appendix 5: Approval Letter from County Government of Kajiado

COUNTY GOVERNMENT OF KAJIADO

DEPARTMENT OF HEALTH SERVICES
OFFICE OF THE COUNTY DIRECTOR OF HEALTH SERVICES
P. O. BOX 31, KAJIADO

REF: CGK/MEDICAL SERVICES/01/VOL.11/052 1st August 2022

JOSHUA KIMATHI PARMERES
REG.NO.H56/39011/2020
UNIVERSITY OF NAIROBI

RE: RESEARCH AUTHORIZATION

Reference is made to your letter dated 1st August 2022 on the above subject for the period ending 1st August 2023 in Kajiado County.

The Department has no objection in you carrying out research on **'Determinant of access to treatment services for anal genital warts among sex workers attending Kitengela Sub County Hospital and Pretesting of the questionnaires at Ngong Sub County Hospital**. You are however required to share findings of your research with this office.

Thank you.

COUNTY DIRECTOR OF HEALTH
01 AUG 2022
KAJIADO

DR. EZEKIEL KAPKONI
COUNTY DIRECTOR OF HEALTH SERVICES

CC:

CHIEF OFFICER FOR MEDICAL SERVICES
CHIEF OFFICER FOR PUBLIC HEALTH & SANITATION SERVICES
MEDICAL SUPERINTENDENT, KITENGELA SCH
MEDICAL SUPERINTENDENT, NGONG SCH

Appendix 6: Work Plan

Activity	2022							
	Mar	Apr - Jul			Aug	Sep	Oct	Nov
Development of the concept								
Proposal writing and presentation								
Submitting the proposal to ERC								
Pretesting the study tool								
Collecting the study data								
Data analysis, report writing and corrections								
Defense of the project								

Appendix 7: Budget

Item	**Quantity**	**Unit Cost**	**Total Cost**
Assorted stationeries			Ksh. 6,000
Questionnaires	60	@Ksh.5 per page x 6 pages	Ksh. 1,800
Proposal writing			
Fair copies printing	3 copies, 60 pgs	@Ksh.(5per page x 60)3	Ksh. 900
Final copy printing	2 copies, 60 pgs	@ Ksh.(5 per page x 60)2	Ksh. 600
Final copies photocopy	4 copies, 60 pgs	@Ksh.(5 per page x 60)4	Ksh. 1,200
Binding	6 copies	@ Ksh. (1,000 per copy)	Ksh. 6,000
Project Writing			
Statistician's charge	1		Ksh.50,000
Fair copies printing	2 copies, 100 Pgs	@ Ksh.(5 per page x100)2	Ksh. 1,000
Final copy printing	4 copies, 100 Pgs	@Ksh.(5 per page x100)4	Ksh. 2,000
Binding	3 copies	@ Ksh. (1000 per copy)3	Ksh. 3,000
Research Assistants	Pilot - 1 Main - 2	Ksh. 5,000 @ Ksh. 10,000	Ksh. 25,000
Transport cost	1 person for 24 Days	@ Ksh 500 x 24 days	Ksh. 12,000
Meals	@300 per day	@300 x 24 days	Ksh. 7,200
Project results dissemination			
Journal publishing		@Ksh. 40,000	Ksh. 40,000
		Sub-total	**Ksh. 156,700**
Contingencies	10%		Ksh. 15,670
		Grand Total	**Ksh. 172,370**

Appendix 8: plagiarism report

DR SAMUEL KIMATU
29/11/2022

2/12/2022

Determinants Of Access To Treatment Services For Anal Genital Warts Among Sex Workers Attending Kitengela Sub County Hospital, Kajiado County

ORIGINALITY REPORT

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3	Polly H. X. Ma, Zenobia C. Y. Chan, Alice Yuen Loke. "The Socio-Ecological Model Approach to Understanding Barriers and Facilitators to the Accessing of Health Services by Sex Workers: A Systematic Review", AIDS and Behavior, 2017 Publication	1%
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Submitted to Mount Kenya University

2/12/2022

Appendix 9: Nacosti Certificate

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **784063**

Date of Issue: **27/September/2022**

RESEARCH LICENSE

This is to Certify that Mr.. JOSHUA kimathi PARMERES of University of Nairobi, has been licensed to conduct research in Kajiado on the topic: Determinants of Access To Treatment services For Anal Genital warts Among sex workers Attending Kitengela Sub county Hospital ,Kajiado county for the period ending : 27/September/2023.

License No: **NACOSTI/P/22/20384**

784063

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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