FACTORS INFLUENCING THE UPTAKE OF HARM REDUCTION SERVICES BY PEOPLE WHO INJECT DRUGS IN NAIROBI CITY COUNTY, KENYA

BY

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DECLARATION

I declare that this thesis is my original work and has not been presented for a degree in any other university.

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ABBREVIATIONS AND ACRONYMS

HBM	Health Believe Model
HRS	Harm Reduction Services
GRADE	Grading of Recommendations, Assessment, Development and Evaluation
IDUs	Injecting Drug Users
MAT	Medically Assisted Treatment with methadone
MMT	Methadone Maintenance Treatment
NAADAC	National Association for Alcoholism and Drug Abuse Counsellors
NACC	National AIDS Control Council
NASCOP	National AIDS and STI Control Programme
NSP	Needle and Syringe Pack
NSDCC	National Syndemic Disease Control Council
OST	Opioid Substitution Therapy
OUD	Opioid use disorders
PWIDs	People Who Inject Drugs
SAPTA	Support for Addiction Prevention Treatment in Africa
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNODC	United Nations Office on Drugs and Crime
VMMC	Voluntary Medical Male Circumcision
WHO	World Health Organization

Note: MAT and MMT are often used interchangeably

DEFINITION OF TERMS

People who inject drugs	persons who inject non-medically indorsed psychoactive/ psychotropic) substance
Harm reduction	practices, policies and programs aimed at reducing the legal, health and social impacts of using drugs, laws related to drug use
White crest	high grade heroine
Single with partner	an individual who has a regular sexual partner but not legally married to that partner
Single without partner	Not legally married and does not have a regular sexual partner

ABSTRACT

The use of injected drugs leads to significant health and social problems, and harm reduction is the mainstay of managing the effects of the resultant addiction. Currently, there exist two models for the delivery of harm reduction services to the people who inject drugs (PWIDs): drop-in-center (DIC) from where the drug users pick their commodities, and, outreach, in which peer educators collect and deliver commodities to drug users at home or designated areas. This study investigated the uptake of harm reduction services among PWIDs in Nairobi. A mixed methods approach was used to collect primary quantitative and qualitative data from 231 injecting drug users. Questionnaires and key informant interviews were used for 8 peer educators and 4 service providers, respectively. Quantitative data was summarized using descriptive statistics, then inferential statistics derived using SPSS (v. 23) to determine the association between variables (α=0.05). Qualitative data was subjected to thematic analysis. Of the 231 participants, 189 (81.82%) were male, and 158 (68.40%) were aged $\geq$ 25 years. Up to 109 (47.19%) respondents had been using drugs for a period of 4-10 years, and only 26 (11.26%) spent less than KSh. 200/ on drugs each day. Only 94 (40.69%) of the participants had used harm reduction services (HRS) for more than 3 years. Knowledge on the organizations that offer HRS (OR= 2.19; p = 0.042), mode of transport to reach the centre (OR=2.04; p = 0.002), always attending each scheduled visit to the centre (OR=1.24, 95% CI 0.28-1.98; p = 0.015), changing the centre for HRS (OR=1.13; p = 0.004), and quality of services from the centre (OR=2.86; p = 0.002) were the individual factors significantly likely to influence HRS utilization. Clients accessing HRS at both DICs and outreaches were 1.34 (p = 0.012) times more likely to utilize HRS than those who only accessed HRS from centres only. In addition, the time taken to get served at a DIC (OR= 3.19; p = 0.001), and quality of services from the DIC (OR=1.43; p = 0.031) were the program related factors significantly most likely to result in HRS utilization. Uptake of HRS was low with poor adherence, although most patients did not change their treatment center, and were generally satisfied with the services offered. Individuals who had used drugs for a shorter duration exhibited higher tendencies to adhere to treatment. Distance to the nearest harm reduction facility, cost of transport, time spent at the facility, and the overall quality of service influenced service uptake. The Ministry of Health, in partnership with various stakeholders, should device mechanisms of identifying persons newly introduced to injection drugs, and promptly initiate harm reduction. It should also map out those who inject drugs, and eradicate outlets for illicit drugs. In addition, it should improve access and quality of service by initiating more treatment centers, and employing more providers with adequate skills.

CHAPTER ONE: INTRODUCTION

1.1 Background

The term drug is wide in context, and its definition ranges from alcohol to medications, and street drugs, any of which is likely to be abused (Craine *et al.*, 2010). Drugs prescribed by professionals are abused when used outside the intended purpose, or when used by a person other than the one prescribed for. On the other hand, drugs like cocaine and heroin are abused any time they are used (Ahamad *et al.*, 2015). In 2015, approximately 250,000,000 of the world adult population used drugs at least once (UNODC, 2017). In addition, 28 years of healthy lives (daily adjusted life years) were lost globally to disabilities and premature death resulting from use of illegal drugs in 2015. Heroin was legalised in 1895 but was reported to be increasingly addictive and often abused in the 20^{th} century, where those using the drug developed tolerance and suffered symptoms of withdrawal whenever they stopped using it (Chen *et al.*, 2016b).

According to a report by the United Nations Office of Drugs and Crime (UNODC), about 29.5 million people around the globe suffer from disorders associated with use of drugs with those using Opioids being mostly affected. In addition, 15.3 million Injecting Drug Users(IDU) are from 120 countries out of 148 countries that are host to this population (UNODC, 2017). The WHO has declared drug abuse a public health problem facing the world, and working with other organizations, have created guidelines for the plan of action towards an integrated as well as balanced strategy to fight the global drug menace, encompassing the use of methadone treatment (WHO/UNODC/UNAIDS, 2004).

The United States of America, China and Russia accounts for half of the world's PWIDs population (Moore *et al.*, 2019). People who inject drugs (PWIDs), commonly referred to as injecting drug users (IDUs), contribute to the most problematic users of illegal drugs, with an estimate of 15.9 Million out of which 3 million are living with HIV and AIDs. The ever- increasing prevalence of PWIDs, coupled with unmet needs of harm reduction interventions is disheartening given the strong correlation between infections such as Hepatitis C, Hepatitis B as well as HIV and the use of unsafe injecting (WHO, 2015).

Harm reduction refers to practices, policies and programs aimed at reducing the legal, health as well as social impacts of using drugs, laws related to drug use as well as accompanying policies (Global-Fund, 2022). The approaches used in harm reduction focuses on supporting positive impact to the people who inject drugs without needing them to discontinue with drug use. Thus, harm reduction is a critical component of addressing the wider social and public health agenda by improving programs, policies and practices (SAMHSA, 2023).

Research has demonstrated that provision of harm reduction services, especially the provision of sterile needles and syringes, as well as methadone maintenance treatment (MMT), are effective for the treatment for heroin and prescription narcotic addiction, as reflected in reduction in the use of illicit drugs, reduction in criminal activity, reduction in needle sharing, reduction in HIV infection rates and transmission, cost-effectiveness, reduction in sex work, reduction in the number of reports of multiple sex partners, improvement in social health and productivity, improvement in health conditions, retention in addiction treatment, reduction in suicide, and reduction in lethal overdose (Biello *et al.*, 2020; Gregg, 2019; NACADA, 2019; Tran *et al.*, 2018). Reports show that up to 4.9 million Kenyans abused drugs, the youth being the most important group, where alcohol, tobacco, khat, bhang and heroin were the most used (Ghaddar & Ghaly, 2016; NACADA, 2019). Heroin has been found to be the least available illicit drug followed by cocaine and finally bhang at 49%, although each had significant association with related disorders (NACADA, 2019).

Most (98%) of the PWIDs in Nairobi use heroin with the rest using cocaine (Masese *et al.*, 2022). Again, studies have shown that women in Nairobi report to have had their first injection administered by their fellow women. Since 2013, harm reduction services have averted approximately between 15.1% - 20.6% and 29.0% - 31.6% of HIV and hepatitis infections in Nairobi and coastal regions (Akiyama *et al.*, 2019). There is however limited studies conducted in Nairobi county and this is an area that needs to be explored for future studies.

1.2 Statement of the Problem

Generally, PWID have a high risk of contracting HIV and other blood related infections among the key populations. This is made worsened by punitive laws and policies that criminalize and stigmatize PWIDs hindering access to HIV treatment and

care services (UNAIDS, 2017). The use of drugs leads to significant health and social problems. Since the beginning of HIV epidemic injecting drugs has been pinpointed as being a facilitator of HIV transmission. Studies have indicated that one in every five PWIDs is living with HIV (Akiyama *et al.*, 2019; Broady *et al.*, 2023; Cepeda *et al.*, 2020). In Kenya, PWID are at risk of contracting and spreading blood related infections including HIV and heptatitis viruses given the limited harm reduction services targeting this population coupled with already overstretched healthcare system (Baker *et al.*, 2021; Brener *et al.*, 2022).

In Kenya, heroin use been on the rise since late 1990s due to the incoming of 'white crest' which replaced 'brown crest' leading to change of behavior from using vapor to injecting (Ayon *et al.*, 2018; Masese *et al.*, 2022). This is problematic to the users due to the cost implication in acquiring high grade heroine such as increased risky injection behaviors such as of sharing used needle, stealing to get money to buy the drug. Studies have also noted that PWID face a myriad of challenges including stigma and discrimination (Ayon *et al.*, 2018; Dunleavy *et al.*, 2019). This is because drug use has been criminalized and linked to theft as a means of funding these behaviors. The legal sytem does not favour the PWIDs either, since injection marks on the PWIDs bodies form a basis of arrest and on the other hand possession of any injecting paraphernalia linked to any drug is an offence (Baker *et al.*, 2021; Masese *et al.*, 2022).

Currently, methadone is promoted globally as an essential medicine for treating drug (particularly, heroin) addiction (Ahamad *et al.*, 2015; Amato *et al.*, 2005; Bazazi *et al.*, 2017; Chou *et al.*, 2014; Gossop *et al.*, 2003a; Marienfeld, 2016). Kenya is the third Sub-Saharan African country to have introduced opioid substitution treatment (OST), but there are challenges, especially on interventions among young PWIDs. The NSP delivered through community service organisations is estimated to reach only about 10-20% of PWIDs in Nairobi. On the other hand, drug treatment largely comprises private residential rehabilitation, offering detoxification. The Ministry of Health and NASCOP, in collaboration with non-government agencies, and with international funding support, initiated the provision of harm reduction services through specifically-tailored clinics in four sites: Malindi and Mombasa (Mombasa County) Nairobi and Kilifi. The HIV prevalence rates amongst PWID are

significantly higher than national average (18.3% vs 5.9%) and this makes them part of key populations for whom urgent and consistent interventions to reduce new infections is essential (NACC, 2016).

The PWIDs in Kenya are underserved with harm reduction programs, making the lives and even recovery for those on treatment difficult, especially given recovering addicts are often generally regarded as community outcasts (Wilson *et al.*, 2014; Zhang *et al.*, 2017). According to UNAIDS, evidence has shown punitive policies and laws hindering access to harm reduction services do not work. Rather, advocating for alternative policies and laws to imprisonment and prosecution for possession and use of drugs tends to reduce the negative impact of drug use and does not lead to increased drug use (UNAIDS, 2017). Due to their lifestyle, PWIDs need specialized monitoring in retention to harm reduction services including adherence to MMT (Moran *et al.*, 2018) and correct injecting practices.

Currently, there exist two models for the delivery of harm reduction services (HRS) to the PWIDs: drop-in-centre (DIC) from where the PWIDs pick their commodities, and, outreach, in which peer educators collect and deliver commodities to PWIDs at home or designated areas. Even with this multifaceted approach, the uptake of harm reduction services remains generally low. Particularly, an organization called Support for Addiction Prevention and Treatment in Africa (SAPTA) has been running a harm reduction program in Nairobi, with operational sites at Pangani, Githurai, Kayole and Kawangware, where a total of 5353 PWIDs are enrolled. To date, there is no published data on the uptake and challenges linked to the harm reduction exercise in Kenya. This study therefore intends identify the facilitators and barriers to the uptake of harm reduction services among PWIDs in Nairobi, by looking into the factors from DIC and outreach context. The study as such provides insight into the most appropriate approach in different context, thereby informing policy on enhanced delivery of harm reduction and the management of drug use in Nairobi and elsewhere.

1.3 Objectives

1.3.1. Broad Objective

To investigate the factors that influence the uptake of harm reduction services by people who inject drugs in Nairobi

1.3.2. Specific Objectives

1. To determine the uptake of harm reduction services by people who inject drugs in Nairobi
2. To identify the individual factors that influence the uptake of harm reduction services by people who inject drugs in Nairobi
3. To establish the program-related factors that influence the uptake of harm reduction services by people who inject drugs in Nairobi

1.4 Research Questions

1. What is the level of uptake of harm reduction services by people who inject drugs in Nairobi?
2. What individual factors influence the uptake of harm reduction services by people who inject drugs in Nairobi?
3. What program-related factors influence the uptake of harm reduction services by people who inject drugs in Nairobi?

1.5 Justification

The issue of people who inject drugs remains a growing concern globally, and it is compounded by high-risk injecting and risky sexual behaviours (Bowring *et al.*, 2013). Presently, harm reduction packages for PWIDs, including those infected with HIV, are cost-effective but have not been scaled up globally (Lalmuanpuii *et al.*, 2013). Opioid agonist therapy using methadone, an effective treatment of opioid use disorders (OUD) for PWIDs, is recommended by the WHO as essential to curtail the impacts of injected drugs, but methadone therapy has not yet been implemented in many parts of the world (Idrisov *et al.*, 2017). Poor adherence and high rates of discontinuation of MMT have previously been reported among PWIDs (Hayashi *et al.*, 2017), but little is known about the factors related to the observation, especially in the study setting. Therefore, this study will be conducted using a mixed-methods design to examine the uptake of harm reduction services by PWIDs, considering the intricate role of individual patient and therapy-related factors, as well as that of the community in managing therapy among PWIDs.

1.6 Significance

This study unveils the factors that boost the use of harm reduction services by PWIDs, thereby helping advise on customized means of scaling up these measures and factors

for wider, higher access and use. Understanding the bottlenecks to the uptake of harm reduction services by PWIDs now informs the introduction or modification of existing guidelines, in order to improve access and proper use of these services, especially understanding the personal factors that drive poor uptake of harm reduction. The management of drug abuse, particularly injected drugs, depends a lot on the efficiency of delivery and sustenance of the harm reduction services, which in turn depend on the system used. This study presents the aspects of the programs that may be modified to improve service delivery, thereby promoting uptake harm reduction.

1.7 Study Limitation

The limitation of this study was recalling bias from Participants. PWIDs had difficulties recalling past events as well as behaviours accurately thus having a likely hood of affecting the reliability of the data. This was taken care of by the KIIs through triangulation.

1.8 Scope

This study was conducted between March 1, 2023 to April 31, 2023 and focused mainly on access to harm reduction services provided at DIC and outreach sites as a way of assessing the factors associated with access to harm reduction services, and only involved PWIDs linked to SAPTA programmes operating within Nairobi City County.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

Globally, injecting drug use is a growing concern, which further complicated by reports of high-risk injecting and sexual risk behaviours among people who inject drugs (Lalmuanpuii *et al.*, 2013). The challenge of HIV infection in PWIDs remains a significant public health concern globally, especially in areas with high HIV prevalence. In addition, these behaviours have implications for transmission of blood-borne pathogens, notably HIV (Sullivan *et al.*, 2005) and hepatitis C virus-HCV (Bowring *et al.*, 2013; Lalmuanpuii *et al.*, 2013). A behavioural survey administered alongside repeated rapid HIV and HCV antibody testing among PWIDs in Tanzania, for example, revealed that 34.8% and 27.7% tested positive for HIV and HCV, respectively (Bowring *et al.*, 2013). A report from USA showed a 45% prevalence of abortion and miscarriage among women who used drugs (Broady *et al.*, 2023).

Previous studies revealed risky injection and sexual practices persisting among PWIDs, including frequent reuse of needles and syringes, shared use of needles and syringes with one or more persons and unprotected sexual relationships with other at-risk for HIV networks (Dunleavy *et al.*, 2019; Ghaddar *et al.*, 2017). Limited evidence suggests that younger PWIDs engage in high-risk injecting behaviours (Horyniak *et al.*, 2013). In Iran, three key actors have been shown to shape the management of drug addiction, namely the family, the environment and the support available. The three are important as they together influence the sociocultural acceptance needed to overcome stigmatization due to drug addiction (Aghakhani *et al.*, 2017). Important to note is that most people in areas where PWIDs are common only know about certain risks associated with the practice. For example, a Tanzanian study (Bowring *et al.*, 2013) showed that almost all (97%) participants were aware of HIV, and 34% of HCV.

Because the high prevalence of HIV and HCV has been reported in the population of PWIDs (Aghakhani *et al.*, 2017; Beg *et al.*, 2015), rapid scale-up of targeted primary prevention and testing and treatment services for PWIDs is key to preventing further transmission and consequent morbidities. Effective HIV prevention and care programs for PWIDs require several enabling contexts (WHO, 2009), that include supportive government policy on harm reduction programs (including in prisons), proper conduct and reduced harassment by the police, and anti-drug groups, with the education of these entities regarding harm reduction, creation of partnerships with the

public health sector, and accountability to government policies that protect PWIDs' human rights, adequate and sustained funding for NSPs to cover all PWID populations, including prisoners, and non-discriminatory access by PWIDs to affordable needles/syringes in pharmacies (Bowring *et al.*, 2013).

The introduction of needle and syringe programs (NSPs) during the 1980s is credited with averting an HIV epidemic in the United Kingdom and Australia, but hepatitis C (HCV) incidence continues to rise among injecting drug users (Jones *et al.*, 2010). Access to sterile syringes to PWIDs reduces sharing behavior and prevents the transmission of infectious agents like HIV and HCV. In the UK, needle and syringe programs (NSP) are delivered via community pharmacies (Craine *et al.*, 2010).

A proper understanding of the profile of PWIDs primarily using different sources of injecting equipment can help service design, since differences exist in the populations primarily accessing different NSP and commissioning of services must reflect these differences. In addition, injecting drug users relying on secondary exchange should be targeted to improve health service contact (Chen *et al.*, 2016b). A study in Australia reported that pharmaceutical outlets often deny access to sterile syringes to PWIDs, who are frequently stigmatized and intimidated at the outlets. While no large gender differences in pharmacists' attitudes and practices were observed, inequalities in syringe access were noticed, with male PWIDs more often denied purchase (Craine *et al.*, 2010).

Several reasons have been presented for reduced access to NSPs, and by extension to addiction treatment (Bowring *et al.*, 2013; Ghaddar *et al.*, 2017; Turner *et al.*, 2011; UNODC, 2017). These, however, may vary with geographic locations, and populations in question. In Australia pharmacists had several barriers to sell syringes to PWIDs including fear of disease spread, increased drug use, inappropriately discarded syringes, staff and customer safety, and business concerns. The PWIDs also had several challenges purchasing syringes, including stigmatization, intimidation, physical harassment, concern to reveal identity, fear of arrest and syringe price abuse (Ghaddar *et al.*, 2017).

2.2 Harm Reduction

The concept of harm reduction includes treatment and prevention approaches (rather than abstinence), as a public health strategy for managing opioid abuse, and is a fairly new strategy for many healthcare professionals, and gaps in knowledge and practices may hinder optimal treatment for opioid use by PWIDs (Gugala *et al.*, 2022). Generally, the harm reduction services offered to the PWIDs are categorized into behavioral, structural and biomedical interventions. The behavioral interventions include peer education and outreach, the promotion, demonstration and distribution of male and female condoms, provision of information, education and communication material, risk assessment and counselling, prevention counselling, evidence-based interventions, addiction counselling, health education sessions, and support groups. The biomedical interventions include HIV testing and counselling, anti-retroviral therapy both PEP and PrEP, needle and syringe program, TB screening and referral for treatment, medically maintenance therapy referral and follow up, comprehensive sexual and reproductive health services, viral hepatitis screening, vaccination and treatment, and management of minor ailments. On the other hand, structural interventions involve nutritional support, hygiene services, and a safe space and entertainment (Biello *et al.*, 2020; Ghaddar & Ghaly, 2016; Hussey *et al.*, 2019; Sawitri *et al.*, 2016).

Because the diverse nature of the possible harms associated with injecting drug use, the approaches are often used in integrated manner, in order to maximize on the benefits (Ayon *et al.*, 2019; Hussey *et al.*, 2019; Ijioma *et al.*, 2021). While harm-reduction programs have been reported to provide benefits within months to a year, the greatest benefit may only become evident after several years of intervention (Ijioma *et al.*, 2021). In Estonia, just 4.8% (95% CI 2.3-9.7) of the sexually active women with main partners used effective contraception, while 52.7% (95% CI 42.5-62.7) used less-effective or no contraception, and up to 42.5% (95% CI 32.7-52.9) relied on condoms for contraception (Uuskula *et al.*, 2018). Dunleavy *et al.* (2019) reported that, skin and soft tissue infection (SSTI), as an injecting drug-related harm, has received less policy attention compared to HCV and HIV, and recommended that policy makers should address SSTI harm reduction within enabling environments, like safer environment interventions, with peer support, improved NSP provision and medically supervised injecting facilities.

Despite the reported high pre-exposure prophylaxis (PrEP) acceptability among people who inject drugs (PWID) and PrEP providers in a study in North Carolina, USA, PrEP uptake remains low, and little is known about how to optimally promote PrEP among PWID (Hershow *et al.*, 2019). Incidence of HCV and HIV were 35.6/100 person-year and 1.5/100 person-year, respectively in Kabul, Afghanistan (Todd *et al.*, 2015). A study in Tijuana, Mexico, revealed that without intervention, HIV incidence among PWID could increase from 0.72 to 0.92 per 100 person-years in 10 years, and it was estimated that over 10 years, opioid agonist therapy scale-up could avert 31% and 22% new HIV infections and fatal overdoses, respectively (Cepeda *et al.*, 2020).

Methadone maintenance treatment (MMT) is the best researched of all of the treatments for opioid dependence, and it is the only treatment for opioid dependence which has been clearly demonstrated to reduce illicit opiate use more than either no-treatment, drug-free treatment, placebo medication, and detoxification in randomised controlled trials. These trials have been conducted by different research groups in markedly differing cultural settings, yet have converged to provide similar results, suggesting a robust effect (Newman, 2014; Rozanova *et al.*, 2017; Ti *et al.*, 2018; Uebelacker *et al.*, 2016; UNODC, 2017; WHO/UNODC/UNAIDS, 2004; Zhao *et al.*, 2013). It is a cost-effective mainstay for treating opioid use disorder and preventing and managing HCV, HIV and other injection-related infections among PWIDs

There is consensus that the major outcomes of the harm reduction interventions, especially cessation of illicit drug use and lifestyle stabilization, apply to both men and women (Stewart *et al.*, 2003). Since the earliest HRS programs in the United States, women have been treated more successfully, especially with methadone, through all phases of their lives (Jansson *et al.*, 2004; Rayburn & Bogenschutz, 2004). Previous research suggested high rates of discontinuation of MMT among PWID in Thailand (Hayashi *et al.*, 2017).

While drug use has been linked to criminal activity, reduced drug use is not necessarily accompanied by reduced criminal behaviour (Healey *et al.*, 2003; Wilson *et al.*, 2014). However, a return to gainful employment, study, successful parenting, improved relationships with community, and increased residential stability are all desirable goals for treatment. With improved social functioning, clients should also

become more financially independent and, ultimately, detached from the criminal drug-using milieu (Fiellin *et al.*, 2001; Gossop *et al.*, 2003b; Hayashi *et al.*, 2017).

Barriers to accessing the comprehensive HRS package vary with different settings, and include lack of information and knowledge of services, age restrictions on services, belief that services were not needed, fear of law enforcement, fear of stigma, lack of concern, high cost, lack of outreach, lack of knowledge of HCV/TB and lack of youth friendly services (Krug *et al.*, 2015).

2.3 Factors Associated With Uptake of Harm Reduction Services

Although the use of different approaches for addiction treatment and harm reduction have been widely used, the low adherence at the HRS clinics remains a great challenge (Yu *et al.*, 2020). Globally, adherence to HRS has been reported to be generally poor (Kinsky *et al.*, 2019; Lin *et al.*, 2018; Metrebian *et al.*, 2020; Parpouchi *et al.*, 2018; Shrestha *et al.*, 2019; Shrestha & Copenhaver, 2018; Tran *et al.*, 2018; Yu *et al.*, 2020), including among special populations like homeless adults with mental illnesses (Parpouchi *et al.*, 2017). In Nepal, however, up to 72.1% adherence to a HRS has been reported (Sharma *et al.*, 2016). A study in Canada found that while the factors associated with methadone use were similar between sexes, the rates of use were lower among male PWIDs in community-recruited PWIDs (Bach *et al.*, 2015). In order to achieve significant adherence to HRS, it is necessary to address the complex health care demands of drug users, their difficulties to be rehabilitated into society and workforce, and the stigmatization that they always face (Tran *et al.*, 2018).

Poor adherence to international guidelines for opioid agonist therapies, aggressive law enforcement, and a lack of specific supplies in special areas like prisons need to be addressed to optimize intervention uptake and reduce harms associated with untreated opioid use disorder (Hayashi *et al.*, 2017; Lalmuanpuii *et al.*, 2013; Sawitri *et al.*, 2016).

2.3.1 Personal /Individual Factors

People who inject drugs have been demonstrated to often begin drug use and injecting practices in adolescence (Krug *et al.*, 2015). The effectiveness of interventions to treat opioid dependence, and improve harm reduction outcomes among PWIDs cannot be

underscored, and spread from the effects of the drugs themselves to infections due to the methods of injection, and to the social well-being of the drug users (Zamudio-Haas *et al.*, 2016). In Ho Chi Minh City, significantly higher level of adherence to harm reduction interventions was found in young participants who had used drugs for a longer period of time, those who had comorbidity, those who were on antiretroviral therapy, and those satisfied with HRS time. However, lower odds of adhering to HRS were found in participants with higher educational level who were married, those who spent more than 30 min to get to the clinic, and those were currently using illicit drugs (Le *et al.*, 2022).

A report from Kabul, Afghanistan, showed that 79.71% of enrolled male PWIDs (median age of 28 years and a median duration of injecting of 2 years) completed one or more follow-up visits (483.8 person-years), and the reported NSP use among the participants ranged from 60-71% in the first year, and was 48% and 55% at 18 and 24 months, respectively (Todd *et al.*, 2015). In Estonia, Uuskula *et al.* (2018) revealed that the odds for using effective contraception were higher among women with 10 or more years of education, and that no woman without health insurance had used effective contraception. In Kabul, Afghanistan, changing from injecting to smoking was protective for HCV acquisition (adjusted hazard ratio (AHR) = 0.53, 95 % CI 0.31-0.92), while duration of injecting (AHR = 1.09, 95 % CI 1.01-1.18/year) and sharing syringes (AHR = 10.09, 95 % CI 1.01-100.3) independently predicted HIV infection (Todd *et al.*, 2015). Sun *et al.* (2013) showed that in Yunnan Province, China, the leading cause of the drug users' failure to get HRSs was their lack of understanding about the services, with the profiles of women being better than those of men among the people who used to utilize the services.

A study of patients receiving HRSs in Xi'an, China (Zhou *et al.*, 2017) identified a number of factors that enhance adherence, including being aged 30 years and over, consistent with findings from Yunnan Province, China (Shen *et al.*, 2016). While Zhou *et al.* (2017) in Xi'an, China identified female sex as a factor for adherence to MMT, this was contrary to findings of the same being predictors of non-adherence (Roux *et al.*, 2014), perhaps due the different designs used. Also intriguing is the impact of education, employment and income, which have a negative correlation

(Nguyen *et al.*, 2017; Zhou *et al.*, 2017), when it would look like they should help improve adherence, singly or in concert.

Patients' participation and adherence to HRS may depend on their knowledge and perceptions about methadone doses and dose adjustments, and the different meanings that patients attach to their treatment, especially the possible treatment outcomes (Sanders *et al.*, 2013). A study on HRS use in China revealed that the adherence relied on self-efficacy, perceived benefits and barriers (Yu *et al.*, 2020). In Vietnam, patients with pain or depression were found to be more likely to report better adherence (Tran *et al.*, 2018). Also, patients with a good knowledge of the HRS have been shown to be nearly ten-fold more likely to be adherent to HRS (Sharma *et al.*, 2016). Nguyen *et al.* (2017) showed that patients with a longer duration HRS were more likely to adhere better to the therapy. On the other hand, a number of patient-related attributes deter adherence, including being single and never married (Parpouchi *et al.*, 2017; Zhou *et al.*, 2017), lack of stable income, not having stable housing, not living with family, frequently engaging in unauthorized drug use during HRS (including alcohol consumption and cocaine use), and perceiving methadone dose as inadequate (Roux *et al.*, 2014; Zhou *et al.*, 2017), a previous history of relapse (Sharma *et al.*, 2016) and being dissatisfied with HRSs (Zhou *et al.*, 2017).

In a study, living with HIV, having poor self-care and usual activities, and disclosure of health issues to partners were associated with non-adherence to HRS. Here, while disclosure of health status to spouse or partner increased the risk of incomplete adherence, disclosing to friends reduced the number of missed doses (Tran *et al.*, 2018). In another study, having no contact with peer drug users and no needle-sharing experience by PWIDs has been shown to improve adherence to HRS (Zhou *et al.*, 2017). In Guangzhou, China a study showed that club drugs and alcohol abuse predicted dropout and poor adherence among HRS patients (Liu *et al.*, 2017). These further explain the role of the environment, particularly the people the PWIDs interact more with, in shaping HRS adherence.

Education and intervention efforts should be focused on clients who are jobless, those with positive test results, and those who have never received treatment (Jiang *et al.*, 2014). It is also important that health education, psychological counseling and other

relevant measures are to be taken to reduce needle sharing and reverse the consequent dropping out of MMT (Yao *et al.*, 2018).

A survey in Kenya indicated that HCV prevalence, estimated incidence, and risk behaviours among PWIDs varied with region, with the highest estimated incidence being in coastal Kenya, where it was further revealed that history of incarceration, more years of drug injection, and more injections in the recent past were associated with increased risk of HCV, while in Nairobi, female sex, more years injecting, more injections in the past month, and regular use of a syringe with a detachable needle were associated with HCV risk (Akiyama *et al.*, 2019).

2.3.2 Program Related Factors

A number of factors related to the HRS provider have been shown to hinder its role in managing addiction among PWIDs (Moran *et al.*, 2018). In certain environments, PWIDs have reported being discouraged from using methadone because it is a 'Western medicine'(Hayashi *et al.*, 2017). There has also been reported a difficulty negotiating higher doses of methadone, and abrupt dose reductions without patient consultation. In addition, social, structural and environmental barriers to optimal HRS access have been shown to include intense police surveillance of HRS clinics, frequent incarceration of PWIDs and a lack of access to HRS in prisons (Hayashi *et al.*, 2017; Malliarakis, 2015; Moore *et al.*, 2019). It has been shown that shorter distance from a client's residence to HRS provider is positively related to both access and adherence to HRS, while proximity to alcohol and cannabis outlets may also negatively influence treatment adherence (Amiri *et al.*, 2020). Furthermore, a study suggested that hospital-based programs may improve access to health care services among PWIDs (Jones *et al.*, 2010).

Diversion is a risk to attaining harm reduction, especially during methadone treatment, for several reasons. A common scenario is where methadone is illicitly sold to supplement illicit opiate users' supplies of heroin, to function as a primary drug of dependence, or to supplement the doses of methadone maintenance clients whose prescribed dose is insufficient. In the latter case, the diverted methadone would appear to be dealing with an unmet demand (Johnson & Richert, 2014, 2015a, 2015b; Jones *et al.*, 2016; Reddon *et al.*, 2018; Winstock *et al.*, 2008). Of course, diversion which functions to meet a legitimate (although illicit) demand is an argument for ensuring

that prescribed doses are adequate to meet clients' needs, and that methadone maintenance treatment is readily available, so that additional opioids are not required to keep off withdrawal symptoms. The extent to which methadone is diverted is unclear, as are the reasons for whatever diversion that occurs.

A study in Yunnan province identified factors influencing access to HRS among injecting drug users as being female, high educational level, having been diagnosed with HIV infection for a long time, and being HCV positive, which were found to positively influence access to HRS by PWIDs, while being married or being employed had negative influence on access to HRS by PWIDs (Chen *et al.*, 2016a). Personal experiences with medications and the street narrative surrounding them have been shown to play an important role in harm reduction in an urban, equal-access system (Gryczynski *et al.*, 2013), making the environment and thus the interactions the PWIDs make an important factor in both access and likelihood of adherence to HRS. In Tijuana, Mexico, PWIDs who experienced police extortion were more likely to access HRS at baseline, though this association decreased, with up to about 39.2% dropping out of HRS in just six months (Werb *et al.*, 2015).

In many models, at the beginning of treatment, PWIDs take their daily dose of methadone under supervision at a HRS outlet. The supervision guarantees methadone is taken as directed by the individual for whom it has been prescribed, helps to ensure individuals take their correct dose every day, and safeguards against diversion and overdose (Berg *et al.*, 2011). However, individuals often fail to attend the pharmacy to take their methadone, which when repeated several days leads the PWIDs to start to experience opiate withdrawal and cravings and are more likely to relapse (Berg *et al.*, 2011; Metrebian *et al.*, 2020).

For MMT, the adequacy of the dose level is probably the most influential determinant of outcome in MMT as a component of HRS, with doses ranging 50-120 mgs resulting in better retention and less illicit opioid use than those in the lower range of 20-40 mgs. In most studies, high methadone dosage (> 60 mg) has been demonstrated to be a significant predictor of good adherence to MMT (Amato *et al.*, 2005; Gossop *et al.*, 2001; Gossop *et al.*, 2003a; Nguyen *et al.*, 2017; Shen *et al.*, 2016; Yao *et al.*, 2017, 2018; Zhou *et al.*, 2017). Another very influential determinant of adherence to HRS is the duration of treatment, which is partly related to ensuring the adequacy of

daily dose levels (Tran *et al.*, 2018). In Guangxi Zhuang, insufficient dosage was found to be significantly correlated with high drop-out of treatment in patients with access to HRS (Yao *et al.*, 2017).

The role played by the HRS provider in shaping access and adherence has been described (Gugala *et al.*, 2022). Distance to service providers also plays a key role on adherence to HRS, as long travel times to the clinic have been shown to lead to high non-adherence and drop-out (Werb *et al.*, 2015; Zhou *et al.*, 2017). In Vietnam, patients attending clinics with comprehensive services had a lower level of adherence compared to those enrolling in clinics with only HRS and general health care (Tran *et al.*, 2018). However, a major challenge to proper adherence among PWIDs to HRS is the lack of re-admission in some facilities following initial treatment (Zhou *et al.*, 2017). Still, there is need to reduce negative attitude of HRS providers towards PWIDs in order to achieve greater consistency in practice, and thereby raise adherence (Lin *et al.*, 2018). The likelihood of HRS adherence has been shown to be about 4.5 times more likely when methadone treatment services are always available at the HRS clinic (Sharma *et al.*, 2016).

The HRS programs have expanded rapidly, but variance in service providers' practice affects the quality of care received by the patients (Gugala *et al.*, 2022), especially regarding communications with patients or families (Lin *et al.*, 2018). It is also important to address the convenience of the HRS clinic time for the PWIDs, as this has been identified as a deterrent factor to adherence (Zhou *et al.*, 2017). Programs that ensure patients are being reminded by mobile phone and family members are likely to achieve better adherence (Nguyen *et al.*, 2017). In addition, the use of incentives has been shown to be effective for medication adherence and reduction of costs in methadone patients with HIV, where up to 78% adherence was recorded (Barnett *et al.*, 2009).

In Ukraine, for the engagement of PWIDs alongside their peers showed a 3-fold increase of HIV testing among PWIDs (Kravchenko *et al.*, 2019). Hussey *et al.* (2019) also concluded that placing peers at the center of HRS programs is essential to ensure the materials are appropriate and do not stigmatize or alienate the intended

target population, which proved significant as stigmatization has been linked a lot to drug addiction, mostly affecting efforts towards treatment (Aghakhani *et al.*, 2017).

Folch *et al.* (2021) reported a higher attrition of migrant PWID in all HCV care cascade stages in a study among Spanish-born and migrant PWIDs in Catalonia, with limited linkage to care and treatment for PWIDs who attended the HRS network. A survey in USA and Canada showed that during the first year of the COVID-19 pandemic, geographic differences in service and policy contexts influenced the avoidance of health and harm reduction services by PWIDs more than individual differences between the people (Feder *et al.*, 2022). In Xichang, China, the acceptance rates toward pharmacy-delivered harm reduction services among PWID was shown to be about 91%. On the other hand, a survey of 30 European countries showed the availability and coverage of harm reduction interventions in European prisons were limited, compared to that at the community, with a gap between international recommendations on the availability of interventions and their actual implementation (Stover *et al.*, 2021).

In Nevada, USA, a higher proportion of younger (18-35 years old) drug users preferred to access HRS from programs, and not hospital settings (De Leon *et al.*, 2021). Appreciating the role of technology, an mHealth application platform has been projected to have a high potential to address the harm reduction needs of PWIDs given the suboptimal access to and use of SSPs among PWID (Shelby *et al.*, 2021). This further strengthens the confidence built when direct contacts between PWIDs and healthcare providers is avoided.

Emergent phenomena that outstretch or dodge the conventional health systems, like the COVID-19 pandemic, have been shown to have negative impacts on health, behaviours and access to essential harm reduction, testing and treatment services among PWIDs (Croxford *et al.*, 2021). Negative encounters with law enforcement has shown to present significant barriers to access and use of HRSs by PWIDs, since PWID who experienced police extortion have been reported to be more likely to access HRS at baseline but drastically drop out within a period of HRS (Baker *et al.*, 2021; Werb *et al.*, 2015). Conversely, positive police involvement has equally been

demonstrated to facilitate the same better adherence and uptake of HRSs (Baker *et al.*, 2021).

Peer educators (PEs) play a vital role in harm reduction and HIV, HCV service delivery in Kenya, often exceeding their job descriptions by offering additional support to PWIDs. Normally, the expected responsibilities include locating clients, establishing rapport, educating and escorting clients to addiction care facilities. Additional roles include attending to clients outside of work hours, escorting clients to medical appointments and facilitating patient-provider discussions (Masese *et al.*, 2022).

2.4 Health Believe Model

This study was based on the Health Believe Model (HBM) which is a theoretical model widely used in guiding disease prevention and Public health programs (RHIhub, 2024) was developed in early developed in the 1950s by social psychologists Hochbaum, Rosenstock, and Kegels to help explain health behaviours . The model postulates that one's willingness to adopt a new health behaviour emanates primarily from their perceptions about health (Boskey, 2023). The model operates on 6 tenets namely Perceived susceptibility; perceived severity; perceived benefits; perceived barriers; cue to action and finally Self-efficacy (RHIhub, 2024). The HBM was critical in this study since previous studies have shown a relationship between perceived severity, self-efficacy and benefits to have used in predicting PWIDs behaviour in adopting NSP practices that reduced the risk of contracting HIV (Broady *et al.*, 2023; Cepeda *et al.*, 2020; Kravchenko *et al.*, 2019).

2.5 Conceptual Framework

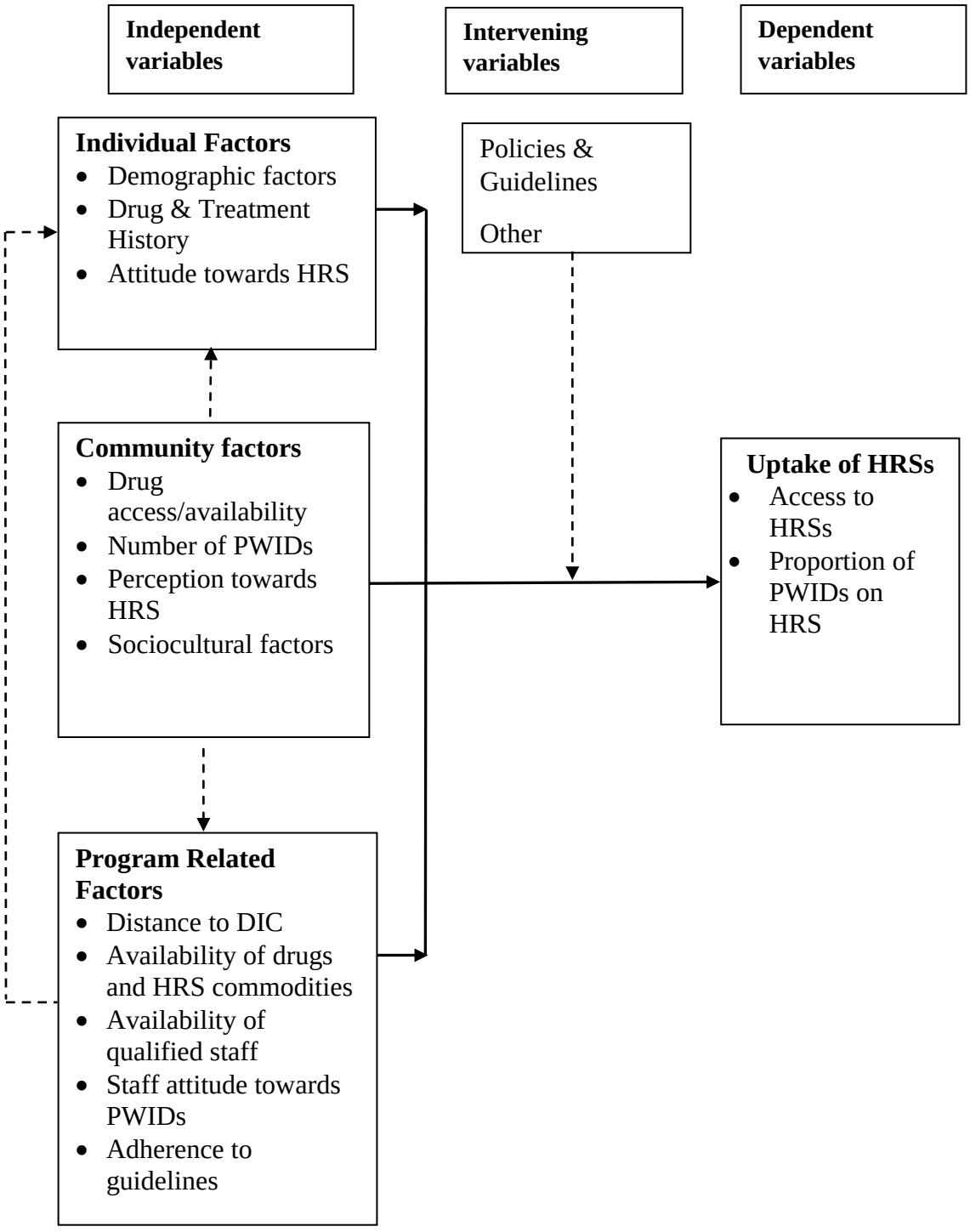

Figure 2.1 *Conceptual framework* **(Source: Author)**

CHAPTER 3: METHODOLOGY

3.1 Study Setting

This study was conducted in parts of Nairobi city county, specifically at the sites where an organization dealing with addiction called Support for Addiction Prevention and Treatment in Africa (SAPTA) has been running a harm reduction program in Nairobi, which inhabited by people from different regions, in and outside Kenya. The four (Pangani, Guthurai, Kayole and Kawangware) sites selected are slum setting most inhabitants are people of low socioeconomic status. The sites were selected based on having been reported to be hot spots for people who use drugs mostly injecting drugs. As an organization, SAPTA has specialised in providing harm reduction services to people who inject drugs in Nairobi city county. The organization is accredited by National association of alcoholism and drug abuse counsellors (NAADAC), use a peer-led model in providing services. Harm reduction services are provided to the PWIDs by their peers and other recovering addicts.

3.2 Research Design

This cross-sectional study adopted a mixed-methods approach, in which both qualitative and quantitative data was collected from PWIDs, peer educators dealing with PWIDs, and service providers (program officer, outreach workers and addiction counsellor) who were key informants. The study data was collected between March 1, 2023 to April 31, 2023.

3.3 Study Population

This population is characterised by subsidence use disorder involving use of injected drugs such as heroin and cocaine. Addition to these drugs tends to drive their behaviour irrespective of the negative consequences. They are marginalised facing poverty, incarceration and homelessness as well as suffer from stigma and discrimination resulting from drug use. Stigma and discrimination coupled with fear of legal consequences negatively affects IDUs from seeking harm reduction services. Furthermore, these population suffer from multiple vulnerabilities like engaging in risky sexual behaviours, inadequate stable housing, mental health challenges; trauma or violence. They are mostly found in slums as well as areas of low socia-economic setting.

3.4 Target Population

This study targeted all the 5353 PWIDs enrolled at the SAPTA centers within Nairobi city.

3.5 Sample Size Determination

About 18.42% of PWIDs have been reported to adequately access harm reduction services in Nairobi city county (SAPTA records, 2021). Sample size was determined using Cochran formula, as below:

$n = Z^2pq/e^2$

where n = desired sample size;

p = proportion of PWIDS who access harm reduction services (0.1842);

q = 1-p;

e = margin of error (0.05)

Substituting,

n = 1.96*1.96*0.1842*0.8158/0.0025

= 230.9114 = **231 PWIDs**

3.6 Sampling Procedure

The respondents were sampled through snow-ball by their peers for instance those willing to participate and volunteer. This is because the peers know the PWIDs and are able to reach them in spite being a hidden community. Hidden community often suffer from rejection, fear, criminal prosecution as well as social stigma, as such these populations tend to withhold information regarding their peer. Once the PWIDs had been selected by the peers, the potential respondent would then move to a private room to be screened by a psychosocial counsellor for psychosocial wellness using Patient Health Questionnaire-9 (PHQ-9) for depression screening to determine the suitability to participate in the study. The screening run concurrently in all the four sites and a total of 231 PWIDs were successfully cleared for psychological wellness and were allowed to take part in the study (Table 3.1). The distribution of the respondents was based on the saturation of the respondents who met the criteria for selection per site. The PWIDs were interviewed by clinicians based at each of the site since they had experience to handle them. Each interview lasted about 25 minutes.

Table 3.1: *Participant Distribution* (ns=number sampled)

SAPTA	Male	ns	Female	ns	Total	ns
Pangani	1695	77	312	11	2007	88
Githurai	1064	46	153	7	1217	53

Kayole	990	42	100	5	1090	47
Kawangware	916	37	123	6	1039	43
Total	**4665**	**232**	**688**	**33**	**5353**	231

In addition, 106 peer educators engaged in harm reduction were interviewed via questionnaires, while 7 key informants were also interviewed. The Peer Educators were conveniently sampled since they are the ones that provide health education and distribute commodities to the PWID. Each interview with the peer educators lasted approximately 25-30 minutes. The key informants were sampled using purposive sampling targeting service providers for HRS and because of the valuable information they were to provide based on their interaction with the PWID and the Peer Educators. Key informant interviews were conducted on 7 (male=3) individuals with a mean age of 36.43 (26-49) years, comprising 5 outreach workers, 1 addiction counsellor and one program manager, of whom 1 had secondary education, 4 had diploma while 2 had bachelor level training, and who had worked with PWIDs for between 2 to 16 (mean = 7.29) years. The KII lasted approximately 45 minutes (Table 3.2).

Table 3.2: Distribution of Peer Educators by site

Region	**M**	**F**	**Total**
Githurai	7	0	**7**
Pangani	24	10	**34**
Kayole	6	2	**8**
Kawangware	47	10	**57**
Total	**84**	**22**	**106**

3.7 Inclusion and Exclusion Criteria

Inclusion criteria

All PWIDs who have been enrolled for at least 12 months, and willing to give consent to participate in the study; an adult aged 18 years and above, and either a PWID, or a person working with PWIDs as a program implementer or peer educator. For the last two, respondent must have been working in the program for not less than 6 months

Exclusion criteria

PWIDs who have never been enrolled within Nairobi city , were not psychologically or physiologically stable to take an interview, or not willing to participate in the study.

3.8 Data Collection

Semi-structured questionnaires were administered to PWIDs and peer educators. These took approximately 25-30mins per interview. For each of the IDU the purpose of the study was explained to them by the data collector who also sought their consent to participate in the study. Only those who met the inclusion criteria and consented to the study was interviewed. Key informant interviews were conducted to 5 Outreach workers who supervise Peer Educators; 1 addiction counsellor (service providers) providing harm reduction services to PWIDs, and 1 Program Manager for SAPTA. The time taken for each KII was approximately 45minutes. Patient Health Questionnaire-9 (PHQ-9) for Depression Screening tool which is an MOH tool as used to screen for the psychological wellness for the PWIDs.

All the data collection tools were pretested and areas that had issues corrected before the commencement of the study.

3.9 Data Analysis

Quantitative data was analyzed using both descriptive and inferential statistics. The descriptive statistics was used to describe and summarize the data in form of tables, frequency counts, and percentages. Inferential statistics were used to make inferences and draw conclusions; statistical tests including the Chi-square test and Odds Ratios were used to test for associations. The Statistical Package for Social Sciences (SPSS v. 23) was used to analyze the data. Qualitative data was coded and subjected to thematic analysis, and the findings were triangulated with the quantitative analysis results to derive associations between the uptake of harm reduction services by PWIDs, and its association with individual and health system factors.

3.10 Ethical Considerations

Authority to conduct this study was obtained from the Board of Postgraduate Studies, JOOUST. Ethical clearance was obtained from the University of Eastern Africa Baraton Ethics Review Committee. Permission to conduct the study was sought from the management of the DICs. The local administration was requested to provide authority and protection to allow the research to be done within the community. Prior to enrolment, the purpose of the study was explained to each prospective study participant, and a written informed consent obtained. The study participants were assured that the information they provided would be kept confidential and that their identities would not be revealed in the association with the information they provided. Due diligence was accorded to the entire data collection process, given the sensitive nature of the study participants, and the subject under study, in order to prevent any perception of stigmatization of the participants. Study findings were relayed to the community through feedback meetings at the community level, hot spots , injecting dens and Drop in centres. At least two peer-reviewed journal article publications are expected at the conclusion of the study.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter presents the findings and interpretation of the study. The chapter has been sub-divided into sections and subsections. The demographic information of the respondents such as gender, age category, marital status, highest level of education completed, occupation, monthly income in the household in Kenya shillings (KSh), time taken to live within the place of interview, type of house living in, Mode of transport to reach nearest health facility, time taken to use drugs, on average, amount spent on the drugs per day in KSh, and whether any of the respondent's close contacts used drugs before.

4.2 Characteristics of the Respondents

The data used in this research was drawn from a sample of 231 PWID participants of whom 189 (81.82%) were male, and majority of the participants (158; 68.40%) were aged 25 years and above, followed by 55 (23.81%) who were aged between 20-24 years. Only 24 (10.39%) of the respondents were married, as 95 (41.13%) were single but with partners, while 82 (35.50%) were single without partners. Only 15 (6.49%) and 47 (20.35%) of the respondents had completed primary and secondary level of education, respectively. Furthermore, more than half (160; 69.26%) of the respondents were self-employed while almost a quarter; 51 (22.05%) were not employed at all.

On average, most respondents (121; 52.38%) had a monthly household income of less than KSh. 3000/. Almost half of the respondents (111; 48.05%) had lived for more than 5 years in their current place of residence. More than half (130; 56.28%) of the respondents were living in semi-permanent houses (walls of mud, wood or iron sheets roof), and only 42 (18.18%) were living in permanent houses (walls made of concrete with roof of iron sheets or tiles). Walking was the main mode of transport to the nearest health facility, as reported by 161 (69.70%) followed by public transport (van/bus), which was used by 55 (23.81%). Nearly half (109; 47.19%) of the respondents had been using drugs for a period of 4-10 years. Up to 54 (23.38%) of the respondents had been using the drugs for a period of 1-3 years, while 49 (21.21%) had used them for more than 10 years. On the associated costs, more than half (127; 54.98%) of the respondents averagely spent between KSh. 200-1000 on the drugs per

day, and only 26 (11.26%) spent less than KSh. 200 each day. Furthermore, this study found that majority (120; 51.95%) of the respondents confirmed that their close contacts had used drugs before. The characteristics of the participants are summarized (Table 4.1).

Table 4.1:*Distribution of the Respondents by their Characteristics* **(n=231)**

Indicator	Freq	%
Gender		
Female	42	18.18
Male	189	81.82
Age (years)		
< 20	18	7.79
20-24	55	23.81
≥ 25	158	68.40
Marital status		
Divorced/Separated	17	7.36
Married	24	10.39
Single (with partner)	95	41.13
Single (without partner)	82	35.50
Widowed	8	3.46
Not stated	5	2.16
Highest level of education		
None	15	6.49
Primary completed	69	29.87
Primary not completed	40	17.32
Secondary completed	47	20.35
Secondary not completed	55	23.81
University/College	5	2.16
Occupation		
Employed	20	8.66
Self-employed	160	69.26
Not employed	51	22.08
Monthly income in the household in KSh		
< 3000	121	52.38
3000 - 10,000	87	37.66
> 10000	16	6.93
Not stated	7	3.03
Time taken to live within the place of interview in years		
< 1	48	20.78
1-5	57	24.68
> 5	111	48.05
Not stated	15	6.49
Type of the house living in		
Semi-permanent (walls of mud, wood or iron sheets roof)	130	56.28
Permanent (walls made of concrete with roof of iron sheets or tiles)	42	18.18
Temporary (Mud house with grass thatched roof)	31	13.42
Others	28	12.12
Mode of transport to reach nearest health facility		

Walking	161	69.70
Public transport (matatu/bus)	55	23.81
Others including motorcycle	15	6.49
Time taken to use drugs (years)		
<1	1	0.43
1 - 3	54	23.38
4-10	109	47.19
> 10	49	21.21
Not stated	18	7.79
On average, amount spend on the drugs per day (KSh)		
< 200	26	11.26
200-1000	127	54.98
1001-5000	57	24.68
> 5000	11	4.76
Not sure	10	4.33
Whether any close contacts used drugs before		
No	70	30.30
Yes	120	51.95
Not stated	41	17.75

Analysis shows that the PWIDs had lived in the stated residential places for varied durations, with only 38 (16.45%) having been there for 12 months or less, and up to 95 (41.13%) having stayed for 5 years or more. In terms of the reasons for the use of these drugs, many were mentioned, that ranged from their mere availability, use of the same by peers, need to ease mental pressure, or just for fun. Some of the sentiments were as stated below:

"They are available; Others were using"[PWID, Male, 25years]

"Being with friends who used the drugs" [PWID, Male, 20years]

"No reason; Others are using; To feel good; To reduce stress"[PWID, Female, 25years]

"To overcome pressure and relax my mind, To reduce stress" [PWID, Male, 30years]

"People don't accept you in the society, you will be bullied by the gangs as they run the town" [PWID, Male, 27years]

The source of these drugs were varied, from friends, peddlers, shops, among others. There were however more prominent sources, notably Masimba (10%), Dandora10 (%), Kayole (25%), Mathare (3%), Saika (7%), Mailisaba (20%), Lucky Summer (5%), Kosovo (12%), Hotspot (in different locations)(8%), among others. When Asked if any of their close contacts had ever used drugs, the respondents identified workmates (92; 39.83%), schoolmates (63; 27.27%), friends (51; 22.08%) and relatives-mainly cousins- (25; 10.82%) as those involved.

4.3 The Uptake of Harm Reduction Services by PWIDs

At least each participant acknowledged having received a form of harm reduction service and commodities, notably the needle and syringe (186; 80.52%), methadone therapy (96; 41.56%), addiction counselling (145; 62.77%), condoms (101; 43.72%), HIV testing (117; 50.65%), tuberculosis screening (39; 16.88%), medical services (73; 31.60%), food (58; 25.11%), and bath (22; 9.52%). All (100%) respondents reported having received these services from the SAPTA DICs, although 51 (22.08%) had in addition received some of the services during outreaches by SAPTA peer educators.

A total of 94 (40.69%) of the participants had used harm reduction services (HRS) for more than 3 years, while 79 (34.20%) of the respondents had used HRS for 1-3 years. More than half; 131 (56.71%) of the respondents recognized the drop-in centres as the only places where HRS were offered, compared to 81 (35.06%) who mentioned both centres and outreaches as places where HRS are offered. Only about one-third (77; 33.33%) of the respondents knew other organizations that offered HRS. Most (165; 71.43%) respondents' main mode of transport to the nearest drop-in centre (DIC) remained walking, while only 64 (27.71%) of the respondents used public transport (van/bus) to reach nearest DIC.(Table 4.2)

The waiting time to be served at the centre for most (128; 55.41%) respondents was 10-45 minutes, while only 50 (21.65%) of the respondents had a waiting time less than 10 minutes. In addition, up to 188 (81.39%) attended each scheduled visit at the DIC. Majority, comprising 201 (87.01%) of the respondents had not changed the DIC from which they got harm reduction services and commodities compared to 20 (8.66%) who had at least once changed the DIC. The reasons advanced for the change of DIC by PWIDs were diverse, from convenience, migration/relocation, to security and safety (and likely link to crime), as illustrated by the sentiments below:

> *"Because I was around Nairobi Outreach services Trust(NOSET) so I decided to change*"[PWID, Male, 25years]
> *"I had migrated from my initial residence since I got a job elsewhere*"[PWID, Male, 30years]

"I realized I had more centers from my normal living area" [PWID, Male, 18years]

"I went to NOSET organization because some of my friends went there too"[PWID, Male, 25years]

"It depends where I am and which center is nearly available"(PWID, Male, 31years)

"I was wanted at that place I moved to another place" [PWID, Male, 25years]

*"Lack of good services, lack of food, lack of medicine, lack of classes and jobs" [*PWID, Female, 25years]

"Migration because of change for good quality of heroine"[PWID, Female, 19years]

"Sometimes commodities are not available for example the needle and syringe which need to look for it somewhere else"[PWID, Female, 25years]

"When am around town I used services from another center"[PWID, Male, 23years]

Most respondents (188; 81.39%) always attended each outreach activities related to drug use and harm reduction. The main organizations named as convenors of these outreaches were SAPTA and NASCOP. The outreaches also know as hot spots were regular in occurrence, as the respondents indicated, although with a variation which could have largely depended on the residency of the respondent: once every week (6.70%), once every two weeks (26.26%), once every month (23.46%), and once every 3 months (33.52%). The main reasons for not attending the outreaches were equally diverse, but revolved mainly around availability and resources, as captured in some of the respondents' reactions, below:

"Busy looking for money to buy drugs"[PWID, Male, 20years]

"I have never seen them"[PWID, Female, 25years]

"It sometimes happen in different hotspots"[PWID, Male, 25years]

"Lack of communication with peer educators, lacking enough money for the day, or sickness"

"Far from home"[PWID, Male, 22years]

"Since I am not the only one in the program, I only attend the required outreaches"[PWID, Male, 21years]

"Sometimes I come late coz I was looking for money or have been looking drugs coz am restless without it"[PWID, Male, 20years]

"Sometimes I am far from the outreach area" [PWID, Male, 30years]

"Unavailability due to work"[PWID, Female, 25years]

"Sometimes I don't know they are being conducted"[WID, Male, 26years]

A total of 91 (39.39%) respondents said they got high quality of services at the DIC, while majority (102; 44.16%) held that they got low quality of services at the DIC.

Furthermore, only 27 (11.69%) of the respondents believed that they got adequate support while utilizing HRS. These findings are summarized on Table 4.2.

Table 4.2: *Uptake of Harm Reduction Services (***n=231)**

Indicator	Freq	%
Time taken to use/access harm reduction services (years)		
<1	30	12.99
1 - 3	79	34.20
> 3	94	40.69
Not stated	28	12.12
Where harm reduction services offered		
Center only	131	56.71
Center and outreach	81	35.06
Outreach only	13	5.63
Others	6	2.60
Know other organization/s that offer these services		
No	118	51.08
Yes	77	33.33
Missing	36	15.58
Mode of transport to reach nearest DIC		
Walking	165	71.43
Public transport (van/bus)	64	27.71
Others including Motorcycle	2	0.87
Waiting time to be served at the Centre		
< 10 minutes	50	21.65
10 - 45 minutes	128	55.41
45-1 hour	31	13.42
>1 hour	6	2.60
Not stated	16	6.93
Always attend each scheduled visit to the center		
No	33	14.29
Yes	188	81.39
Not stated	10	4.33
Ever changed the center you get harm reduction commodities from		
No	201	87.01
Yes	20	8.66
Not stated	10	4.33
Always attend each outreach		
No	41	17.75
Yes	188	81.39
Not stated	2	0.87
Quality of services got at the center		
High	91	39.39
Moderate	30	12.99
Low	102	44.16
Not stated	8	3.46
Support received while utilizing harm reduction services		
High	27	11.69
Moderate	82	35.50
Low	110	47.62
Not stated	12	5.19

A chi-square analysis was conducted to investigate whether there is evidence that the support/treatment received significantly differs by the HRS. On average, over 50% believed that they got adequate support from parents, teachers, workmates, police among others while utilizing HRS. Again, parents, teachers at school, workmates, and police positively influenced utilization of HRS given that their individual means outweigh the grand means while brothers, sisters, students at school and local/county administration negatively influenced HRS utilization given that their individual mean scores were lower than the grand means. From the results above, there is no significant association between the support from brothers and sisters and the treatment from Local/County administration and HRS (Table 4.3).

Table 4.3: *Respondents' opinion of the support to utilization of harm reduction* **services**

Indicator	Supportive n(%)	Very Supportive n(%)	Not Supportive n(%)	Not stated n(%)	Mean	SD	P-value
Parents	65 (28.14)	81 (35.06)	74 (32.03)	11 (4.76)	3.02	2.91	0.001
Brothers and sisters	80 (34.63)	52 (22.51)	91 (39.39)	8 (3.46)	2.64	1.95	0.058
Teachers at school	72 (31.17)	46 (19.91)	101 (43.72)	12 (5.19)	3.48	2.21	0.018
Students at school	42 (18.18)	38 (16.45)	148 (64.07)	8 (3.46)	1.72	2.28	0.073
Workmates	60 (25.97)	78 (33.77)	78 (33.77)	15 (6.49)	3.41	2.04	0.003
Treatment from Police	53 (22.94)	67 (29.00)	102 (44.16)	9 (3.90)	3.17	1.88	0.021
Local/County admin.	41 (17.75)	34 (14.72)	152 (65.80)	4 (1.73)	1.35	0.89	0.052

Grand Mean= 2.89, SD= 1.41

While there was a mixed reaction to the role of the police, majority felt the police impacted negatively on their harm reduction efforts. Some respondents had the following to say:

> *"At first police don't give you a chance to explain yourself on harm reduction. They appear sorry later after realising your intension on harm reduction"*[PWID, Male, 25years]
>
> *"Bad services; they are very harsh to us junkies"*[PWID, Male, 28years]
>
> *"Badly because many have not been sensitized about harm reduction"*[PWID, Male, 25years]
>
> *"They have criminalized us"*[PWID, Female, 20years]
>
> *"Fairly as some policemen are aware of harm reduction"*[PWID, Male, 25years]
>
> *"Harassment and illegal arrests"*[PWID, Male, 25years]
>
> *"They mishandle, and are mostly rude to us"*[PWID, Female, 24years]

"Friendly if you describe yourself and when you provide right documentation like MAT card or number"[PWID, Male, 25years]

"Harassment and sometimes arresting of the PWIDs with no cause"[PWID, Male, 25years]

Comparatively, the local/county administration seemed to have had a positive influence, with many respondents hailing some of the treatments they often received, albeit with some few negative observations, some of which were:

"A bit accommodative and open to the PWIDs"[PWID, Female, 25years]

"Advocate for continuity of service and more linkage to the service" [PWID, Female, 19years]

"Are quite supportive"[PWID, Male, 21years]

"Good treatment; the chief supports our community"[PWID, Male, 22years]

"A bit too lenient with PWIDs"[PWID, Female, 25year]

"Have no knowledge about harm reduction service and therefore isolate us"[PWID, Male, 27years]

"A lot of harassment as they have no knowledge"[PWID, Male, 29years]

4.4 Individual factors influencing the uptake of harm reduction services

Odds ratio analysis was conducted to identify individual factors influencing the uptake of HRS by PWIDs. Respondents who had used HRS for less than 1 year 2.43 (95% CI 1.80-3.09) times more likely to utilize HRS than the respondents who had used them for more than 3 years (p=0.002). Knowledge on the organizations that offer HRS (OR= 2.19, 95% CI 1.4-3.95; p = 0.042), mode of transport to reach the centre (OR=2.04, 95% CI 1.21-3.92; p = 0.002), always attending each scheduled visit to the centre (OR=1.24, 95% CI 0.28-1.98; p = 0.015), changing the centre for HRS (OR=1.13, 95% CI 0.54-1.84; p = 0.004), and quality of services from the centre (OR=2.86, 95% CI 0.84-3.99; p = 0.002) were the individual factors significantly likely to influence HRS utilization (Table 4.4).

Table 4.4: *Individual factors influencing HRS uptake*

Individual factors			95% CI	
Main Effect	**Odds Ratio**	***p***	**Lower**	**Upper**
Time taken to use/access HRS (in years)				
>3	1			
<1	2.427	0.002	1.802	3.093
Knew other organization/s offering HRSs				
No	1			
Yes	2.194	0.042	1.413	3.945
Mode of transport to reach nearest Centre				
Public transport (van/bus)	1			
Walking	2.035	0.002	1.214	3.924
Always attended each scheduled center visit				
No	1			
Yes	1.237	0.015	0.284	1.983
Ever changed center they got HRSs from				
Yes	1			
No	1.129	0.004	0.538	1.835
Always attend each outreach				
No	1			
Yes	1.892	0.062	0.926	3.053
Quality of services got at the center				
Low	1			
High	2.862	0.003	0.835	3.987
Support received while utilizing HRSs				
Low	1			
High	2.084	0.073	0.983	3.094

At a personal level, the PWIDs had factors attributed to them that tended to hinder their access to HRSs, according to the interviewed PEs. The scope of these personal factors still differed between individuals, mainly guided by the individual microenvironments, but ignorance and fear stood out among many factors. Some of the PEs expressed their opinions, as captured below:

> *"Discouragement from negative people, lack of time to spare to get services due to work, resistance regarding their ways of life, social exclusion from the society i.e. stigma, lack of help groups for the PWIDs"(PE, Male, 20years)*
>
> *"Bad influence from their peers; they influence one another especially in condom use, Ignorance - the PWIDs know importance of harm reduction services/commodities but they do not adhere to them" "(PE, Female, 22years)*
>
> *"Few harm reduction centers around, but there is increase in number of drug users" "(PE, Male, 28years)*
>
> *"Idleness, being too busy hustling, lack of awareness, and negative influence by other PWIDs" "(PE, Male, 30years)*
>
> *"Ignorance; refusal to adhere to harm reduction advice, Arrogance - Some PWIDs are too arrogant to listen to advice on harm reduction some even become very hostile if pushed" "(PE, Male, 30years)*

"Ignorance - Refusal to keenly follow advice we give them, incitement as those who want to reform are incited to continue doing drugs by their peers who are not ready to reform" (PE, Male, 25years)

"Ignorance and recklessness, lack of enough information and knowledge, always intoxicated and drug mixture" "(PE, Male, 32years)

"Illiteracy among PWIDs on the services available and importance of not sharing for example needles and syringes, Stigma, they preferer to remain hidden from community and authorities including the police for fear of being criminalized and stigmatized" (PE, Male, 28years)

"Incitement amongst the PWIDs, Lack of motivation especially when their family disown them, Ignorance refusing to adhere without any proper reason" "(PE, Male, 20years)

4.5 Program-related factors that influence the uptake of HRS by PWIDs

As shown on Table 4.5, up to 224 (96.97%) respondents rated the availability of commodities to be generally good, and that it positively (mean = 4.41±2.08; p =0.004) influenced the utilization of HRS. In summary, all the program related factors including availability of commodities, staff attitude, service environment, confidentiality, technology, and accessibility of services positively influenced the utilization of HRS by PWIDs since the individual mean scores outweighs the group means and that the factors were statistically significant.

Table 4.5: Quality of services got at the centre

Quality of services at DIC	Good, n(%)	Very Good, n(%)	Neutral, n(%)	Poor, n(%)	No response, n(%)	Mean	SD	*p*
Commodity availability	184 (79.65)	40 (17.32)	1 (0.43)	6 (2.60)	-	4.41	2.08	0.004
Staff attitude	110 (47.62)	85 (36.80)	16 (6.93)	4 (1.73)	16 (6.93)	3.87	1.78	0.036
Service environment	127 (54.98)	81 (35.06)	8 (3.46)	1 (0.43)	14 (6.06)	3.21	3.09	0.002
Confidentiality	107 (46.32)	86 (37.23)	19 (8.23)	3 (1.30)	16 (6.93)	3.94	1.92	0.018
Technology	100 (43.29)	47 (20.35)	34 (14.72)	25 (10.82)	25 (10.82)	3.19	2.41	0.031
Service accessibility	120 (51.95)	79 (34.20)	12 (5.19)	4 (1.73)	16 (6.93)	3.23	3.71	0.009

Grand Mean=3.08, SD= 2.84

Overall, the respondents accessing HRS at both DICs and outreaches were 1.34 (95% CI 1.31-2.72; p = 0.012) times more likely to utilize HRS than the respondents who only accessed HRS from centres only. In addition, the time taken to get served at a DIC (OR= 3.19, 95% CI 2.96-4.04; p = 0.001), and quality of services from the DIC

(OR=1.43, 95% CI 1.08-2.68; p = 0.031) were the program related factors significantly most likely to result in HRS utilization (Table 4.6).

Table 4.6: Program related factors

Program related factors			**95% CI**	
Main Effect	**Odds Ratio**	**p-value**	**Lower**	**Upper**
Where harm reduction services offered				
Only Center	1			
Center & Outreach	1.341	0.012	1.312	2.723
Waiting time to be served at the Centre				
10 - 45 minutes	1			
< 10 minutes	3.187	0.001	2.962	4.041
Quality of services got at the center				
Low	1			
High	1.432	0.031	1.083	2.681

The PEs were also asked to point out some community-related (societal) factors that hinder the PWIDs from using the available harm reduction services or commodities, and the PEs held varying opinions and observations, which mainly revolved around lack of trust, hostility and lack of support to the PWIDs. Some of the sentiments expressed are quoted below:

"Communities perceive these services as a way of promoting drugs use"[PE, Male, 28years]

"Community is hostile towards PWIDs; many community members are against the PWIDs settling among them" [PE, Male, 27years]

"Community perception that harm reduction services promote injection drug use and bad behaviour" [PE, Male, 29years]

"Difficulty to collect them all and educate them about harm reduction services" [PE, Male, 28years]

"Discrimination and hostile attitude from the community. This is because PWIDs are known to do petty crime offences, which sometimes rubs people the wrong way"[PE, Male, 32years]

"Discrimination as many see them as thieves and cannot attend public hospital" [PE, Male, 28years]

"Discrimination especially at local health facilities makes them not seek medical assistance" [PE, Male, 30years]

"Discrimination from local people i.e. to the PWIDs way of life i.e. dirty so when they go especially to health facilities they are looked down upon" [PE, Male, 30years]

"Discrimination leading to low self-esteem hence unwillingness to uptake all available harm reduction services and commodities" [PE, Male, 32years]

"Lack of proper inclusion in the day to day communal practices in the society e.g. ***Kazi Mtaani*** *projects being issued to selected populations not to PWIDs, harsh treatment from the locals due to PWIDs living habits and conditions"* [PE, Male, 30years]

"Large numbers of used syringes disposed around injecting dens as this affects the people around" [PE, Female, 28years]

"Non-involvement of PWIDs in beneficial projects such as ***Kazi Mtaani,*** *among others, brings discrimination and emotions among the PWIDs and hostility of the general population"* [PE, Male, 27years]

"Mostly, PWIDs are not accepted by the family, and are at times feared for being with bad company. There is also lack of education on the benefits of the harm reduction services" [PE, Male, 25years]

4.6 Summary of Peer Educator interviews

The PEs were aged 20-52 (mean = 33.98) years, of whom 47 (46.53%) were single, 40 (39.60%) were married, 12 (11.88%) were divorced (separated), while 2 (1.98%) were widowed. About one-third of the PEs had at least secondary education and over, as shown on Table 4.7.

Table 4.7. Education level of participating Peer Educators

Education level	n (%)
None	3 (2.83)
Primary completed	27 (25.47)
Primary not completed	4 (3.77)
Secondary completed	30 (28.30)
Secondary not completed	31 (29.25)
University/College	11 (10.38)
Total	**100 (100)**

The PEs had undergone different trainings relating to drug addiction management, offered by different organizations from time to time, with some having variably attended multiple trainings. The different aspects of harm reduction trained on included addiction management, first aid, naloxone use/overdose management, HIV prevention, HIV management, PrEP and PEP sensitization, anger management,

financial management, stress management, cervical cancer screening, hepatitis (A, B, C), and peer education. The main actors in the raining included SAPTA, NASCOP and Kenya Red Cross Society.

Of the 106 PEs, only 6 (5.66%) had no formal employment, and those of the majority who were self-employed were engaged in a wide range of activities, the prominent of which were business, casual work, hawking, laundry, construction, commercial motorbike operation, and public service van touts. The PEs had generally low monthly household earning, as only 6 (5.66%) of them earned more than KSh. 10,000/.

Up to 101 (95.28%) of the PEs reported having previously used addictive drugs, and all except 1 had stopped using them, majority having stopped more than 2 years before the study, mostly after they started treatment for the addiction. The main reason for stopping drug use by the PEs revolved around their quest be fit well in the society, as illustrated by some of the statements below:

> "*I wanted to become a more productive individual in society*" (*PE, Male, 26years)*
> *"Wanted to make my family proud of me for reforming"(PE, Female, 27years)*
> *"I wanted to become a better person and stop using heroin and start using methadone"(PWID, Male, 30years)*
> *"My family plea for me to become a better individual in life"(PE, Male, 28years)*
> *"I needed to restart my life and become a productive member of society"(PE, Female, 30years)*

Up to 80 (75.47%) of the peer educators had lived in the study are for at over 2 years, with 17 (16.04%) having been there for over 10 years. In terms of their engagement with persons who inject drugs, the PEs had varied durations of experience (Figure 4.1).

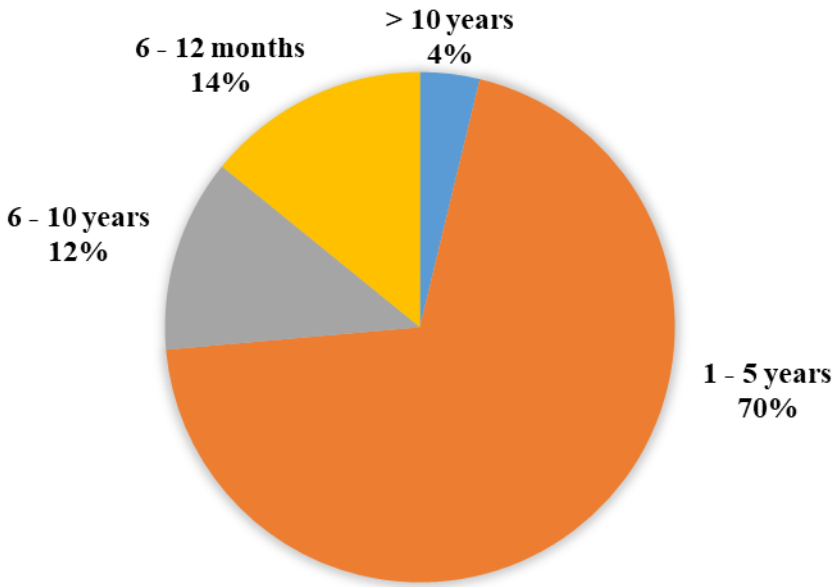

Figure 4.1. *Duration of work of PEs with PWIDs*

Majority of the PEs attended to between 17 and 69 (mean = 43.62) PWIDs, with the modal number being 45 (44; 41.51%), followed by 40 (19; 17.92%). Only 2 PEs manage a much higher number of PWIDs, of 150 and 300, respectively.

The PEs were all supported by SAPTA, which they unanimously identified as working together with NASCOP.

The PEs reported a variety (but generally similar) of products they offered to the PWIDs, mainly including clean NSP kits, male condoms, peer education, and client follow-ups, especially on PWIDs living with HIV. The other services mentioned as offered to PWIDs by the PEs included hygiene packs, food, washing (body and cloths), VCT, and psychosocial counselling.

The PEs generally acknowledged the availability of the commodities, as 67 (63.21%) said they were mostly available, 35 (33.02%) said they were always available, while 4 (3.77%) described them as fairly available. However, the only mentioned challenge was occasional stock-outs (which varied across the centers), as reflected in the sentiment as captured below:

"Sometimes the center does not have NSP kits in stock"[PE, Male, 25years]

On the availability of the PWIDs whenever the PEs wanted them, 68 (64.15%) said they were mostly available, 25 (23.58%) said they were always available, while 13 (12.26%) felt that they were fairly available.

The PEs expressed a mixed variety of challenges they faced in performing their work as peer educators for PWIDs. These ranged from PWIDs' individual traits, community-related factors, the criminal justice system, among others. Some of the challenges mentioned were as listed below:

"Abusive language from the PWIDs; others do not accept our work as peer educator"[PE, Female, 30years)

"Aggressiveness of the PWIDs some are too hostile and don't want to listen to any harm reduction advise, PWIDs become disappointed with us when we can't provide for all of their requests such as proper accommodation and money"[PE, Male, 31years]

"Challenges is that sometime when you go to hotspot you find police, second sometimes you cannot find your client" "[PE, Female, 30years]

"Availability of PWIDs because they are always busy and not easily available" [PE, Male, 32years]

"Being dragged back into my past life by drug user" [PE, Male, 29years]

"Discouragement by society, harassment by law officers, Resistance by PWIDs, Reluctance by PWIDs towards treatment" [PE, Male, 31years]

"Getting them at the sites, Convincing them for services at the center, Violence, Police harassment" [PE, Male, 33years]

"PWIDs requesting the money from us to buy heroine, anti-narcotics officers sometimes come to the injecting dens and arrest PWIDs for using drugs at the site" [PE, Male, 34years]

"Ignorance among PWIDs; they are not willing to adhere to all harm reduction protocols, harassment from drug peddlers, this is coz we fear we might win them out of business" [PE, Male, 28years]

"PWIDs changing hotspots this leads to inconsistency in maintaining regular contact with the PWIDs; commodities sometimes are out of stock" [PE, Male, 34years]

"Insecurity, stigmatization, disease exposure, and relapse, which a few major issues" [PE, Male, 29years]

"Change of hotspot by PWIDs leading to a long search for them to receive the required services" [PE, Female, 29years]

"Distributing harm reduction commodities during rainy seasons. We need to be given rain coats and reflectors to put on when going to the hotspot" [PE, Female, 31years]

"Police harassment around the hotspot, harassment from the drug peddlers; sometimes, controlling crowds during outreaches is a challenge" [PE, Male, 35years]

4.7 Summary of key informant interviews (KIIs)

All 7 KIs were unanimous that the uptake of harm reduction services was good, and also identified women, people living with HIV, and sex workers as special groups among PWIDs accessing HRSs at the SAPTA clinics, some of the main reasons being poor uptake, exposure and comorbidities, as reflected in sentiments by KIs, below:

> *"Women are especially important to look at carefully because of their tendency to default on their visits"* [Addiction Counsellor, male, 40 years]

> *"Among the most important key populations are PLHIVs, since they are also struggling with many other problems, including co-infections, poverty, etc* [Program Manager, female, 49 years]

> *"Sex workers at more risks so more attention must be paid to them"* [Outreach worker, male, 38 years]

Each KI recognized the provision of sterile needles and syringes as the key commodities offered to each IDU, although there was also mention of condoms, lubricants and ice cubes, the latter being in the larger context of harm reduction services package. In addition, the KIs singled out the Kenya government (through the Ministry of Health) and the Global Fund, as the main sources of the commodities used for harm reduction services by PWIDs in the study setting, although there was also a mention of other *donors*, who were not identified in this study. According to the KIs, the commodities for harm reduction were generally available, some even opining they were readily available, as captured below:

> *"They are usually readily available except, when there are national shortages which also affect other places"* [Outreach worker, female, 30 years]

Asked about what they felt influenced the uptake of harm reduction services by PWIDs, the KIs gave mixed reactions, but the key points raised were the free provision of these services, need for client-friendly services, provision of food and hygiene services, clinical and psychosocial support, the desire for change (desire to quit) by drug users, and government acceptance of the programs and PWIDs

CHAPTER 5: DISCUSSION

5.1 Introduction

This study investigated the factors associated with the uptake of harm reduction services by people who inject drugs (PWIDs), also commonly referred to as injecting drug users (IDUs) in Nairobi, the capital city of Kenya, and one of the most prominent cities in Africa. One of the key approaches to management of drug use is harm reduction for the PWIDs (Ijioma *et al.*, 2021; Newman, 2014), which intervention has different actions, and face several challenges that span personal, environmental, and programmatic issues, including purchasing of syringes, stigmatization, intimidation, physical harassment, concern to reveal identity, fear of arrest, lack of commodities, care provider-related issues, among others (Bowring *et al.*, 2013; Ghaddar *et al.*, 2017; Sullivan *et al.*, 2005; Tran *et al.*, 2018).

This study used a sample in which about 82% being male, a sharp contrast from Vancouver, Canada, where females formed 68% of a cohort of PWIDs who accessed harm reduction using methadone therapy (Bach *et al.*, 2015). The difference here is likely due to the extreme sociocultural diversity between the two study settings, including the level of awareness on opioid drug addiction management and health-seeking character. In addition, a study in Yunan previously showed that being female was one of the factors likely to positively influence PWIDs' access to methadone treatment (Chen *et al.*, 2016a).

Majority of the respondents in the current study were aged 25 years and above, which was consistent with a previous finding in which (Naji *et al.*, 2017) reported a mean age of 38.8±11.07 years among 627 patients on methadone maintenance in Canada. Furthermore, Zhou *et al.* (2017) showed that being aged 30 years or more enhanced adherence to methadone treatment in Xi'an, China. In addition, Le *et al.* (2022) reported higher level of adherence among participants who had used drug for a longer period of time in Vietnam.

Only about 10% of the respondents were married, as also described by the peer educators, and a reflection of the previously reported negative consequences of drug addiction on the society and family (Amiri *et al.*, 2020; Kinsky *et al.*, 2019; Yu *et al.*, 2020), and consistent with findings by that being married had negative influence on

access by PWIDs to HRS (Chen *et al.*, 2016a; Tran *et al.*, 2016). In terms of the propensity to access harm reduction services, the participants seemed well placed, as Chen *et al.* (2016a) previously demonstrated that having high educational level was positively influence PWIDs' access to HRS in Yunan, China.

Only 6.5% of the respondents had no formal education, indicating that the population starts drug use at least while in school, or after completion, especially primary education. The possible influence of the low education was also alluded to by some of the peer educators interviewed in this study. This is consistent with previous reports that high educational attainment positively influences access to harm reduction by PWIDs (Chen *et al.*, 2016a). In contrast, some earlier studies reported a negating impact of education on adherence to harm reduction interventions, when it would look like they should help improve adherence (Nguyen *et al.*, 2017; Zhou *et al.*, 2017).

While the respondents were generally educated, up to 69% were self-employed while another 22% were not employed at all. This could be attributed to the local strains in the job market, which has kept individuals qualified different specializations and in different cadres. Even among the employed, the monthly earnings were low, with more than 50% earning less than KSh. 3000/ against a rapidly increasing cost of living. The low employment eventually translates to low economic status, and poor living conditions, with 56% living in semi-permanent structures, and about 70% walking to health facilities. These in concert with the idea that addictive drug use is a recipe for tendencies to engage in crime (Krug *et al.*, 2015; Newman, 2014; UNODC, 2017). About 55% of the respondents in this study averagely spent between KSh. 200-1000 on the drugs per day, further impoverishing the user and family, and poverty is known to both drive the use of drugs and hamper access to treatment for addicts (Amiri *et al.*, 2020; Kinsky *et al.*, 2019; Rhodes *et al.*, 2015; Yu *et al.*, 2020). Slightly over half of the respondents had their close contacts who had used drugs before, which is common phenomenon since most drug users are often introduced to the act by close contacts, mostly relatives (Biello *et al.*, 2020; Kinsky *et al.*, 2019; NACADA, 2019).

Most of the respondents in this study had long years of drug use, as only about 23% had been on drugs for 1-3 years, the rest longer, with some having done so for over 10

years. This was an important observation for this study as patients with a longer duration of methadone treatment were previously shown to be more likely to adhere harm reduction treatment (Nguyen *et al.*, 2017).

5.2 Uptake of harm reduction services by PWIDs

Only 40.69% of the participants had used harm reduction services (HRS) for more than 3 years, which could be attributable to the fact that some may have recently started using the same; either having only been previously introduced to them, or having started using drugs only recently (Wilson *et al.*, 2014). This study did not delve into the duration one spent between onset of drug use and the point of initiation of harm reduction, although Naji *et al.* (2017) earlier illustrated that the younger a PWID begins to use opioids, the greater their chance of having a psychiatric or physical harm. Generally, the low level of utilization of these important services was not different from reports previously presented from different geographic locations (Ghaddar & Ghaly, 2016; Gugala *et al.*, 2022; Kinsky *et al.*, 2019; Metrebian *et al.*, 2021; Parpouchi *et al.*, 2017; Roy *et al.*, 2017; Yu *et al.*, 2020).

Slightly more than half of the respondents only recognized the drop-in centres (DICs) as the places where HRS were offered, while just about one-third mentioned both DICs and outreaches as sources of these services. Such awareness is important to access, as those who know of the different options have the chance to choose, especially where logistic challenges may hamper access, as earlier demonstrated in China (Liu *et al.*, 2017). Further to this, only about 33% of the respondents in the current study knew other organizations that offered HRS, which illustrates the low level of awareness of the correctional service centres among drug users, and paints a worrying picture of the possible low level of such knowledge in the general population.

The most popular mode of transport to the nearest drop-in centre was walking, cited by about 71.43% of the study respondents, and only 27.71% used public transport to reach nearest DIC. Apart from economic factors rendering the majority unable to use paid-for means (Nguyen *et al.*, 2017; Yang *et al.*, 2011), some could have opted to avoid the public due to the stigmatization common among this group, especially

among those with other comorbidities, notably HIV infection (Cepeda *et al.*, 2020; Shrestha *et al.*, 2019).

About 55% of the respondents spent 10-45 minutes waiting to be served at the centers, and only about 22% had a waiting time less than 10 minutes. This is important as a determinant of adherence, as earlier studies reported both time taken to reach a center and that taken to get the services as playing important roles on the likelihood on PWIDs' ability to keep going for the services (Le *et al.*, 2022; Zhou *et al.*, 2017). Interestingly, up to 81% of the respondents in the current reported having attended each scheduled visit at the DIC. Comparable to DIC schedule attendance, about 81%of the respondents reported having attended each outreach activities related to drug use and harm reduction.

Another important observation was that about 87% of the respondents had not changed the DIC from which they got harm reduction services and commodities. This was despite the fact that only about 40% of the respondents acknowledged receiving high quality of services at the DIC, while only 12% of the respondents believed that they got adequate support while utilizing HRS. While a justification of this was not presented, it is highly likely it resulted from either the comfort the clients had with the services offered by the respective DIC, or the stigma associated with introducing one to a new environment, or, still, that there were simply not so many options easily available and accessible to the PWIDs, as earlier reported by Todd *et al.* (2015) in Kabul, Afghanistan. Such was the explanation equally advanced from the analysis of KIIs, who confirmed little PWID migrations between DICs, although they held that the quality and availability of service was generally good. This study equally could not find any documented reasons for PWIDs switching DICs, and this may remain an important area for future studies.

Overall, most respondents believed that they got adequate support from parents, teachers, and workmates, who positively influenced their utilization of HRS, while brothers, sisters, students at school and local/county administration negatively influenced HRS utilization given that their individual mean scores were lower than the grand means. While there was no significant association between the support from brothers and sisters and the uptake of HRS, links between service uptake and the

family environment were earlier described (Li *et al.*, 2014; Lin *et al.*, 2017). The differences observed may be due to the overall variation in population between the current study setting and Vietnam, including norms, culture and the healthcare and HRS infrastructure.

5.3 Individual factors influencing the uptake of harm reduction services

Poor uptake has been reported to various harm reduction approaches, with Le *et al.* (2020) showing that only 43.3% of participants reported complete adherence to the HRS program in public and private HRS clinics in northern Vietnam. In the present study, the respondents who had used HRS for less than 1 year 2.43 (95% CI 1.80-3.09) times more likely to utilize HRS than the respondents who had used them for more than 3 years, an observation supported by the peer educators and key informants, who agreed that maintaining PWIDs in the first stages of harm reduction was a challenge, but those staying longer had better uptake of the services. This is consistent with findings from Vietnam that demonstrated that longer duration on treatment was a predictor of poor adherence to methadone treatment (Nguyen *et al.*, 2017). Closely related to this is the history of treatment, where respondents without a previous history of relapse were variously demonstrated to be more likely to adhere to the MMT program than those with a history of relapse (Bazazi *et al.*, 2017; Durand *et al.*, 2021; Moore *et al.*, 2019; Sharma *et al.*, 2016; Zhang *et al.*, 2019).

Knowledge of PWIDs on the organizations that offer HRS was established as an important determinant of HRS use in the area. This is likely because this knowledge may also reflect on the level of general knowledge of the individual on the management of PWIDs using a variety of approaches, MMT being the most prominent. (Sawitri *et al.*, 2016) This was further confirmed by the fact that all PEs were supported by SAPTA, working together with NASCOP. In conformity, Sharma *et al.* (2016) previously demonstrated that knowledge and availability of MMT services were key drivers to both the uptake and adherence to HRS Nepal.

On the other hand, the mode of transport to reach the DIC was recorded to significantly likely to influence HRS utilization, and this is ultimately connected to the distance to the nearest facility, which has been demonstrated to play a key role. For example, Amiri *et al.* (2020) showed that shorter distances from clients' residence

to the facility was associated with a decreased number of missed methadone, although this was effectively negated by the presence cannabis retail outlets and off-premise alcohol outlets. It is important to point out that whereas the PWIDs identified certain factors that affected their uptake of the HRSs, the peer educators equally cited challenges attributable to the PWIDs' personal characters, like poor attitude, hostility, asking for cash when being offered services, and reluctance, and those due to the surrounding community, including police harassment. These, together, have a general negating effect on the efforts and approaches used by organizations offering harm reduction interventions. This is important, since even as there is an effort to help those already on drugs, more new PWIDs are recruited.

5.4 Program-related factors that influence the uptake of HRSs by PWIDs

The respondents in this study rated the availability of commodities to be generally good, and this positively influenced the utilization of HRS. This agrees with earlier findings that the likelihood of MMT use and adherence were several times higher when treatment services were available than those where the availability of the treatment services were graded as either low or moderate (Amiri *et al.,* 2020; Jancaitis *et al.,* 2020; Sharma *et al.,* 2016). In addition, the quality of service offered by staff, as depicted in staff attitude, service environment, confidentiality, and use of technology, also positively influenced the utilization of HRS. this reflects earlier reports from Nam Dinh, Vietnam, where patients in MMT private clinic had higher complete adherence than that of public MMT (Le *et al.*, 2020), most likely due to the differences between the two settings.

Overall, the respondents accessing HRS at both DICs and outreaches were 1.34 times more likely to utilize HRS than the respondents who only accessed HRS from outreach centres only, since the former group has an alternative source, and can conveniently access treatment, whether due to personal or health system issues, as was earlier reported (Durand *et al.,* 2021; Komasi *et al.*, 2018; Zhang *et al.*, 2017). In addition, the KIIs revealed the provision of sterile needles and syringes as the most prominent commodities offered to each PWID, although also mentioned were condoms, lubricants and ice cubes. The low use of contraceptives in this study reflected previous reports from Estonia, where (Uuskula *et al.*, 2018) had recorded However, a study in Russia showed that providing these services just within the health

facility was still cost-effective (Idrisov *et al.*, 2017). Another outstanding factor influencing overall uptake (and adherence in particular) of HRS by PWIDs was the time taken to get served, which agrees to a number of older findings (Lin *et al.*, 2017; Madden *et al.*, 2018).

This study thus reveals gaps in the way the HRS delivery is designed, in conformity with the result of a review by Gugala *et al.* (2022), which concluded that system-level gaps could be remedied by increasing patient access to care, creating policies favorable to harm reduction, and extending resources to provide harm reduction strategies. This, in the current setting, could be achieved if the government takes a central position in the interventions for harm reduction, and relevant organizations (like SAPTA) provide support to government efforts.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Because IDUs are a hidden community majority, of participants in this study had used illicit drugs for over 3 years, and the level of uptake of harm reduction services among people who inject drugs in Nairobi city county, was relatively low at only 41%, and with higher tendencies to poor adherence. Still, most clients did not change their treatment centre, and had a general satisfaction with the services offered there. Individuals who had used drugs for a shorter duration exhibited higher tendencies to adhere to treatment, just like those who were aware of the different sources of these services in their surroundings. On the other hand, distance to the nearest treatment facility, the cost of transport, time taken to get served at the facility, and the overall quality of service, all influenced the uptake of these important services.

6.2. Recommendations

1. To increase Uptake of harm reduction services the Ministry of Health, in partnership with various stakeholders like SAPTA, should device mechanisms of identifying persons newly introduced to injection drugs, and promptly initiate harm reduction, as the prognosis is greater. At the same time, those who initiate harm reduction after a long time of drug use need to be monitored for adherence to prevent relapse.

2. The is need for stakeholders to advocate for removal of punitive laws that criminalise possession of any amount of drugs, by conducting a survey to map out those who inject drugs and meaningfully engage them in revising the legal framework to curb the drug use menance, as many, due to sociodemographic attributes, may not come out to seek harm reduction services. Key targets should include women, those in marriage, and younger drug users who may not have started seeking treatment.

3. The Ministry of Health and other stakeholders like SAPTA should design programs , policies and guidelines that will ensure availability of commodities, improve the access and quality of service by initiating more treatment centres, and employing more providers with adequate skills to also offer psychosocial counselling and support to the drug users and their families

6.3 Suggestion for Future Research

A more rigorous study that looks at all aspects of harm reduction should be conducted, which should ideally cover the entire Nairobi County and the surrounding counties. There should be included in this suggested study a qualitative analysis of the lived experiences of PWIDs, as a way to holistically tackling the menace.

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APPENDICES

Appendix A: Informed Consent

Study Title: Factors Associated With The Uptake Of Harm Reduction Services By People Who Inject Drugs In Nairobi, Kenya

Investigator: Joyce Wanyonyi

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Study funder: Personal sources

Introduction

Dear Respondent,

My name is Joyce Wanyonyi, a student of Master of Science in Epidemiology and Biostatistics in the School of Health Sciences at Jaramogi Oginga Odinga University of Science and Technology. I am carrying out a research on "*Factors Associated With The Uptake Of Harm Reduction Services By People Who Inject Drugs In Nairobi, Kenya*".

Study background

Globally, injecting drug use is a growing concern, which further complicated by reports of high-risk injecting and sexual risk behaviours among people who inject drugs (PWIDs), also known as injecting drug users (PWIDs). The challenge of injecting drug use remains a significant public health concern globally, especially due to implications for transmission of blood-borne pathogens, like HIV and hepatitis C virus-HCV. A combination of Harm Reduction services ranging from Structural, behavioral and biomedical services have proved cost effective in managing harmful effects of Injecting Drugs among the PWIDs. For instance, MMT is the cost-effective and mainstay for treating opioid use disorder and preventing and managing HIV among people who inject drugs. Methadone is an oral (tablet or syrup) synthetic opioid agonist, which produces effects in the body in the same way as heroin, morphine and other opioids. When an opioid-dependent person takes methadone, it relieves withdrawal symptoms and opioid cravings, and does not induce euphoria at a maintenance dose. The introduction of needle and syringe programs (NSPs) during the 1980s is credited with averting an HIV epidemic in many regions globally, although hepatitis C (HCV) incidence continues to rise among injecting drug users. Access to sterile syringes to injecting drug users (IDU) reduces sharing behavior and

prevents the transmission of infectious agents like HIV and HCV. In the UK, needle and syringe programs (NSP) are delivered via community pharmacies or substance misuse services (SMSNSP).

Proper understanding of the extent and factors influencing the uptake of harm reduction services by PWIDs primarily can help improve service design, since these differences vary with populations, yet must be addressed to allow optimal uptake of the services by PWIDS. There currently exist two models for the delivery of harm reduction services to the PWIDs: drop-in-centre (DIC) from where the PWIDs pick their commodities, and, outreach, in which peer educators collect and deliver commodities to PWIDs at home or designated areas. Even with this multifaceted approach, the uptake of harm reduction services remains generally low. This study therefore intends identify the facilitators and barriers to the uptake of harm reduction services among PWIDs in Nairobi, by looking into the factors from DIC and outreach context. The study will as such provide insight into the most appropriate approach in different context, thereby informing policy on enhanced delivery of harm reduction and the management of drug use in Nairobi and elsewhere.

Purpose

You are invited to participate in this study which seeks to unveil the uptake and factors that influence the use of harm reduction services for PWIDs in Nairobi, either supplied at drop-in-centers or delivered by peers in an outreach program. This is meant to help identify ways of improving access and use of these essential services in Nairobi and around, to help improve the management of drug addiction.

Enrolment requirements

To be enrolled in this study, you are an adult aged 18 years and above, and either a PWID, or a person working with PWIDs as a program implementer or peer educator. For the last two, you must have been working in the program for not less than 6 months.

Study duration and enrolment

This study will last for up to four (4) months, although you are only required to participate once during this period.

Study Procedure

You will be interviewed and specific questions will be asked about your experience as a IDU, access to Harm Reduction Services, related commodities, and other socioeconomic aspects of your life. During the research, paper-based, instantly administered questionnaires and oral, face-to-face interviews will be conducted, that will run for about 25-30 minutes.

Risks/discomfort

There are no significant risks associated with your participation in this study because it will not involve any invasive procedure and you will be assigned a study number that will be used on all study documents. However, there may be questions you may find uncomfortable answering, and which you are free to skip (although it is our wish that you may answer all). All study documents will be secured and will only be accessible to authorized study personnel.

Benefits

There will be no direct individual benefit to you for participating in the study, but the findings of the study will be used to strengthen the quality of services offered to PWIDs, especially in promoting harm reduction. This will consequently see improvement in the number of recoveries, and the restoration of most drug users to productivity with reduced crime within your community.

Compensation

There will be no direct compensation or benefits for participating in this study.

Participation and withdrawal from study

Your participation is entirely voluntary. There is no penalty for refusing to participate if you choose not to. You can withdraw at any point during the study. You may also decline to answer any question that you do not wish to. Any such decision will not compromise the services you ordinarily receive at the health facility, nor interfere with any benefits that is due to you as a participant in this study.

Confidentiality

All data will be kept under lock and key and will only be accessible to those involved in the data collection. Electronic files will be saved on Password. There will be no way to identify individual participants. We will not identify you or use any information that would make it possible for anyone to identify you in any presentations or written reports about this study.

Questions

Should you have questions about the content of this study or have been offended as a result of being in this study you may call or email the main researcher (Joyce Wanyonyi) on 0726-988-669 or joywanyonyi@gmail.com. If you have any questions about your rights as study participant you can contact the Jaramogi Oginga Odinga Teaching and Referral Hospital - Kisumu Ethics Committee, on *ercjootrh@gmail.com*.

Consent statement

I have read this consent form (or it has been read to me). The reason why this study is being performed has been explained to me, and I feel that all my questions have been answered. The risks and benefits of being in the study have also been clearly explained to me. I have chosen freely to take part in the study and I can also choose to opt out of the study at any time. It has been explained to me that my personal information will not be shared with anyone except the authorized study personnel. It has also been brought to my attention that when I sign this form, I do not give up my rights or deny the researcher from doing what they should do for me as a study participant. I will be given a signed copy of this consent form for my records.

If there is any portion of this consent agreement that you do not understand, please talk the interviewer before signing.

Are you willing to participate in this study? *circle clearly* **Yes** **No**
If ***yes***, please sign below:

Participant Name:……. Sign:……...

Date……..

Interviewer Name: …….. Sign:……...

Date……..

Appendix B. Questionnaire for PWIDs

Part A. General information

1. What is your gender?

☐ Male ☐ Female

2. Age…… years

3. Marital status

☐ Single (with partner) ☐ Single (without partner)

☐ Married ☐ Widowed ☐ Divorced/separated

4. How many children do you have?.....

5. Highest level of education

☐ None ☐ Primary completed ☐ Primary not completed

☐ Secondary completed ☐ Secondary not completed ☐ University/College

6. What is your occupation?

☐ Employed (specify)…….……..

☐ Self-employed (specify)……...

☐ Not employed

7. Marital partner's occupation

☐ Self-employed (specify)…….

☐ Employed (specify)…….

☐ Not employed

8. What is the range of the total monthly income of your household in KSh?

☐ <3,000 ☐ 3,000 – 5,000 ☐ 5,001-10,000 ☐ >10,000

9. In which estate/village/ward do you currently live?.....

How long have you been living there?

☐ < 3 months ☐ 3-6 months ☐ 7-12 months ☐ 13 months-5 years ☐ > 5 years

10. What type of a house do you live in?

- ☐ Temporary (Mud house with grass thatched roof)
- ☐ Semi-permanent (Walls of mud, wood or iron sheets with iron sheet roof)
- ☐ Permanent (Walls made of concrete with roof of iron sheets or tiles)
- ☐ Other……

11. How many occupants have lived in your house daily for the last one year? ……

12. Which mode of transport do you mostly use to reach the nearest health facility?

☐ walking ☐ bicycle ☐ motorcycle ☐ public transport (matatu/bus)

☐ Other (specify)……..

Part B. Drug use

13. How long have you been using drugs? ☐ 1-3years ☐ 4-10years ☐ > 10 years

14. Which drugs have you used ever since? *List in order from the most used, overall*

……

……

……

……

……

15. What reasons did/do you have for using the above drugs?

☐ to reduce stress ☐ to feel good ☐ others were using ☐ they are available

☐ no reason

☐ others (specify)…… ……

16. Where do you mostly get the drugs from? *List in order from the most frequent source*

……

……

……

17. On average, how much do you spend on the drugs per day? KSh. ……

18. Has any of your close contacts used drugs before? ☐ yes ☐ no

If *yes,* how are you related? *Tick all that apply*

☐ parent ☐ child ☐ sibling ☐ cousin ☐ schoolmate ☐ workmate

☐ others
(specify)……

19. Where do you mostly use the named drugs? *Please give as much detail as possible*

……

……

……

……

Part C. Uptake of harm reduction services

20. For how long have you used/accessed harm reduction services?.....

21. Name the harm reduction services you have used (or currently using)

……

……

……

……

22. Where do you get these services from?.....

23. Are these services offered at a facility (drop-in-center; DIC) or through outreach?

☐ center ☐ outreach

24. Do you know other organization/s that offer these services? ☐ yes ☐ no

Please name them

……

……

……

……

25. Which mode of transport do you mostly use to reach the *center* nearest from your home?

☐ walking ☐ bicycle ☐ motorcycle ☐ public transport (matatu/bus)

☐ Other (specify)……..

26. Approximately, how long does it take you to reach the center using the stated means?

☐ 5 - 10 minutes ☐ 20 – 45 minutes ☐ about 1 hour ☐ over 1 hour

27. When you visit the center, about how long does it take for you be served?

☐ < 10 minutes ☐ 15 – 45 minutes ☐ about 1 hour ☐ over 1 hour

28. How would you describe the quality of services you always get at the center?

Variable	**Response**				
Availability of commodities	always	most times	somehow	rarely	never
Staff attitude	very good	good	neutral	poor	very poor
Service environment	very good	good	neutral	poor	very poor
Confidentiality	very good	good	neutral	poor	very poor
Technology	very good	good	neutral	poor	very poor
Accessibility of services	very good	good	neutral	poor	very poor

29. Do you always attend each scheduled visit to the center? ☐ yes ☐ no

If *not*, what prevents you?

……

……

……

30. Have you ever changed the center you get harm reduction commodities from?

☐ yes ☐ no

If *yes*, what made you to change?

……

……

……

……

If *not*, what makes you stick to one center?

……

……

……

For the outreaches, name the organizations involved. *List in order from the most involved*

……

……

……

……

……

30. How frequently are the outreaches conducted?

▒ once weekly ▒ once in 2 weeks ▒ once a month ▒ once every 3 months

▒ Other (specify)……

31. Do you always attend each outreach? ▒ yes ▒ no

If *not*, what prevents you?

……

……

31. How would you describe the support from the following towards your utilization of harm reduction services? *Select the most applicable*

Support source	**Response**			
	Very supportive	Supportive	Not supportive	Remark for answer
Parents				
Brothers and sisters				
Other relatives (specify) …….				
Teachers at school				
Students at school				
Workmates				

32. How would you describe the treatment you get from the following, as a person seeking harm reduction services?

Police……

……

……...……

Local/County administration……

Appendix C: Questionnaire for peer educators

Part A. General information

1. What is your gender? ☐ Male ☐ Female

2. Age…… years

3. Marital status

☐ Single ☐ Married ☐ Widowed ☐ Divorced/separated

3 How many children do you have?.....

4 Highest level of education

☐ None ☐ Primary completed ☐ Primary not completed

☐ Secondary completed ☐ Secondary not completed ☐ University/College

Any other healthcare-related trainings attended:

S/N	Training name/nature	Trained by	Date of training
0	Example: TB management	KEMRI	July 2016
1			
2			
3			
4			
5			

6. What is your occupation, apart from being a peer educator?

☐ Employed (specify)…….……..

☐ Self-employed (specify)……...

☐ Not employed

7. What is the range of the total monthly income of your household in KSh?

☐ <3,000 ☐ 3,000 – 5,000 ☐ 5,001-10,000 ☐ >10,000

8. Have you used drugs before? ☐ yes ☐ no

If *yes*, when did you stop? ……

What made you to stop?.....

9. In which estate/village/ward do you currently live?.....

How long have you been living there?

☐ < 3 months ☐ 3-6 months ☐ 7-12 months ☐ 13 months-5 years ☐ > 5 years

10. What type of a house do you live in?

☐ Temporary (Mud house with grass thatched roof)

☐ Semi-permanent (Walls of mud, wood or iron sheets with iron sheet roof)

☐ Permanent (Walls made of concrete with roof of iron sheets or tiles)

☐ Other……

12. Which mode of transport do you mostly use to reach the nearest health facility?

☐ walking ☐ bicycle ☐ motorcycle ☐ public transport (matatu/bus)

☐ Other (specify)…….

13. For how long have you worked as a peer educator for PWIDs/PWIDs?

☐ 6 -12 months ☐ 1-5 years ☐ 6-10 years ☐ > 10 years

14. Approximately how many PWIDs do you serve?.....

15. Which institution/s facilitate your work as peer educator for PWIDs?

……

……

……

16. List the services/commodities that you supply them with

…….. …….

…….. …….

…….. …….

17. How readily available are these commodities whenever you want to pick them?

☐ always available ☐ mostly available ☐ fairly available ☐ rarely available

If the above does not apply to all commodities, explain briefly:

18. Generally, how reachable are the PWIDs whenever you look for them?

☐ always available ☐ mostly available ☐ fairly available ☐ rarely available

19. What are the main challenges in performing your work as a peer educator for PWIDs?

……

……

20. What factors associated with PWIDs can you say hinder their uptake of the available harm reduction services/commodities?

……

……

21. What community-related (societal) factors can you say hinder PWIDs from using the available harm reduction services/commodities?

……

……

……

22. What would you say are the most important challenges you face as a peer educator for PWIDs?

……

……

……

Appendix D: Key Informant Interview Guide

For: A harm reduction program officer, Addiction counsellor and 5 outreach workers serving the PWIDs

1. What is your gender? ☐ Male ☐ Female
2. Age…… years
3. Designation (job)……..

5 Highest level of education?

6 How long have you worked with drug users? PWIDs?

7 How would you describe the uptake of harm reduction services by PWIDs here?

8 Are there any special groups of PWIDs with regard to the uptake of harm reduction services by PWIDs here? *Elaborate.*

9 What commodities are used for harm reduction here? *Describe*..

10 What are the main sources of the commodities used for harm reduction services by PWIDs here?

11 How available are these commodities/services whenever they are needed?

12 What factors can you identify as enhancers/promoters/supporters of the uptake of harm reduction services by PWIDs here? *Elaborate.*

13 What factors can you identify as barriers to the uptake of harm reduction services by PWIDs here? *Elaborate.*

14 Have you worked in both DIC and outreach settings? Which model would you prefer for an IDU? Which model do you believe can work best here? Explain.

MINISTRY OF HEALTH
APPENDIX E: PATIENT HEALTH QUESTIONNIARE – 0 (PHQ – 9)
For Depression Screening

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9) FOR DEPRESSION SCREENING

Name of County: _____ Name of Sub-County: __ Ward: _____ Implementing Partner (CSO): _____ Facility/DIC Name: _____
Date (DD/MM/YYYY): _____/_____/_____ MFL Code:

General Information	
Client Name	
Sex	1=Male, 2=Female
Date of Birth (DD/MM/YYYY)	Age (Years)
KP Type	1=FSW, 2=MSM, 3=MSW, 4=PWID, 5=PWUD, 6=TRANSMAN, 7=TRANSWOMAN
KP Hotspot/ Injecting site	
Contact phone number	……. /Alternate……
KP Unique Identifier Code	

Ask the patient the questions below for each of the 9 symptoms and circle the response for each question. After asking all questions, add the points for each column at the bottom. The total score is the sum of the column totals. Interpretation and management recommendations are provided at the bottom of the table.

	Question: "Over the last 2 weeks, how often have you been bothered by any of the following problems?"	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
1	Little interest or pleasure in doing things	0	1	2	3
2	Feeling down, depressed, or hopeless	0	1	2	3
3	Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4	Feeling tired or having little energy	0	1	2	3
5	Poor appetite or overeating	0	1	2	3
6	Feeling bad about yourself, or that you are a failure, or that you have let yourself or your family down	0	1	2	3
7	Trouble concentrating on things (linked with patient's usual activities, such as reading the newspaper or listening to a radio programme)	0	1	2	3

8	Moving or speaking so slowly that other people could have noticed. Or the opposite, being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9	Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3
	Total ___ = (add the points from each column)	0	+	+	+

Interpretation of PHQ-9 Score and Recommended Management		
Total Score	**Provisional Diagnosis**	**Recommended Management**
0-4	Depression unlikely	Repeat screening in future if new concerns that depression has developed
5-9	Mild depression	• Provide counselling support and continue to monitor; refer to mental health team if available • If patient is on EFV, substitute with a different ARV after ruling out treatment failure IF APPLICABLE (See Managing Single Drug Substitutions for ART)
10-14	Moderate depression*	• Provide supportive counselling (refer to a psychologist if available) • If patient is on EFV, substitute with a different ARV after ruling out treatment failure IF APPLICABLE (See "Managing Single Drug Substitutions for ART") and • Refer to a medical officer, psychiatrist, or mental health team if available
15-19	Moderate-severe depression*	
20-27	Severe depression*	
*Symptoms should ideally be present for at least 2 weeks for a diagnosis of depression and before considering treatment with antidepressant medication. Severe depression may require patients to start on anti-depressants immediately		

Clinical Notes
Action Taken: _____ _____ Date: _____ Signature:

Appendix F :Ethical Approval Baraton University

OFFICE OF THE DIRECTOR OF GRADUATE STUDIES AND RESEARCH
UNIVERSITY OF EASTERN AFRICA, BARATON
P.O Box 2500-30100, Eldoret, Kenya, East Africa

B0638433021 February 23, 2021

TO: Joyce Wanyonyi
Department of Public Health, School of Health Sciences
Jaramogi Oginga Odinga University of Science and Technology

Dear Joyce,

RE: Factors Associated with Uptake of Harm Reduction Services by People who Inject Drugs in Nairobi, Kenya

This is to inform you that the Research Ethics Committee (REC) of the University of Eastern Africa Baraton has reviewed and approved your above research proposal. Your application approval number is UEAB/REC/23/02/2021. The approval period is 23rd February, 2021 - 23rd February, 2022.
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 (ammendments, deviations and violations) are submitted for review and approval by the Research Ethics Committee (REC) of the University of Eastern Africa Baraton.
iii. Death and life threatening problems and serious events or unexpected adverse events whether related or unrelated to the study must be reported to the Research Ethics Committee (REC) of University of Eastern Africa Baraton within 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 the Research Ethics Committee (REC) of the University of Eastern Africa Baraton within 72 hours.
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submissions 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 the Research Ethics Committee (REC) to the University of Eastern Africa Baraton.

Prior to commencing your study, you will be expected to obtain a research licence from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Sincerely Yours,

Prof. Jackie Kpeinzeh Obey, Phd
Chairperson, Research Ethics Committee

University of Eastern Africa, Baraton
23 FEB 2021
P.O Box 2500-30100
ELDORET
Research Ethics Committee

Appendix G: JOOUST BPS Approval

JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

BOARD OF POSTGRADUATE STUDIES
Office of the Director

Tel. 057-2501804
Email: bps@jooust.ac.ke

P.O. BOX 210 - 40601
BONDO

Our Ref: H152/4156/2016 **Date**: 11th January 2021

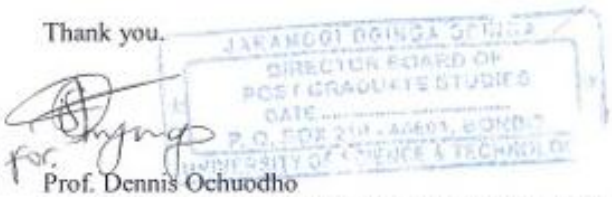
TO WHOM IT MAY CONCERN

RE: JOYCE WANYONYI – H152/4156/2016

The above person is a bonafide postgraduate student of Jaramogi Oginga Odinga University of Science and Technology in the School of Health Sciences pursuing Master of Public Health. She has been authorized by the University to undertake research on the topic: ***"Factors Associated with Uptake of Harm Reduction Services by People who Inject Drugs in Nairobi, Kenya".***

Any assistance accorded her shall be appreciated.

Thank you.



for.
Prof. Dennis Ochuodho
DIRECTOR, BOARD OF POSTGRADUATE STUDIES

Appendix H: SAPTA Approval

SUPPORT FOR ADDICTIONS PREVENTION
& TREATMENT IN AFRICA
SAPTA PROGRAMs
P.O Box 21761-00505
Nairobi, Kenya
Tel: 0724-511-709 0721-726-881
web: www.sapta.or.ke

Joyce Wanyonyi
Department of Public Health
School of Health Sciences
Jaramogi Oginga Odinga University of Science and Technology.

22nd April 2021

Dear Joyce,

Re: **Study on Factors Associated with Uptake of Harm Reduction Services by People who Inject Drugs in Nairobi, Kenya**.

SAPTA Center hereby approves your request to carry out the above study in our center where we provide WHO guided harm reduction services for people who inject drugs in Nairobi County. This is after you meeting the prerequisite requirements of obtaining research approval documents, which you have from the Research Ethics Committee of the University of Eastern Africa Baraton as well as the NACOSTI approval.

The period of your study data collection will be within the dates provided for in your ethical approvals and cannot go beyond February 23, 2022.

Yours Faithfully,

Esther Gitau
Head of Programs
SAPTA

SAPTA TRUST
TEL:023875045
Date: 22/04/2021
P.O. Box 21761-00505 NAIROBI

Appendix I: NACOSTI Approval

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **340419**

Date of Issue: **20/April/2021**

RESEARCH LICENSE

This is to Certify that Miss.. Joyce Nandako Wanyonyi of Jaramogi Oginga Odinga University of Science and Technology, has been licensed to conduct research in Nairobi on the topic: FACTORS ASSOCIATED WITH THE UPTAKE OF HARM REDUCTION SERVICES BY PEOPLE WHO INJECT DRUGS IN NAIROBI, KENYA for the period ending : 20/April/2022.

License No: **NACOSTI/P/21/9950**

340419

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

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